

2016

Community Health Needs Assessment
for Beth Israel Deaconess Hospital-Needham



Produced by John Snow Inc.



Beth Israel Deaconess Hospital
Needham



Executive Summary

Purpose and Background

Beth Israel Deaconess Hospital-Needham (BID-Needham) is a leading acute care community hospital in Needham, MA. BID-Needham's mission is to provide safe, high-quality, community-based health care which treats all patients, regardless of ability to pay, race, color, religion, sex, sexual orientation, national origin, ancestry, age, or disability. BID-Needham is committed to its mission by providing the highest quality care focused on patient safety. The entire BID-Needham team, including employees, physicians, volunteers and students, is committed to exceeding the expectations of our patients and their families, the community and each other.¹

This Community Health Needs Assessment (CHNA) report along with the associated Community Health Improvement Plan (CHIP) is the culmination of nine months of work and was conducted so that BID-Needham could better understand and address the health-related needs of those living in its service area, with an emphasis on those who are most disadvantaged. This project also fulfills Massachusetts Attorney General's Office and Federal Internal Revenue Service (IRS) requirements that dictate that BID-Needham assess community health need, engage the community, and identify priority health issues every three years. The Commonwealth and Federal requirements further direct BID-Needham to create a community health strategic plan that will guide how BID-Needham, in collaboration with the community, their network of health and social service providers, and the region's local health departments will address the needs and the priorities identified by the needs assessment.

With respect to Community Benefits, BID-Needham focuses its efforts on creating opportunities for residents of the service area to lead healthy lives. This is achieved through coalition partnerships dedicated to reduce the burden of mental illness and substance use, increasing access to evidence-based chronic disease management and prevention efforts, and supporting efforts to support healthy aging. Demographically and socio-economically, BID-Needham focuses activities to meet the needs of all segments of the population with respect to age, race/ethnicity, income, and sexual orientation to ensure that all residents have the opportunity to live healthy, happy, and fulfilling lives. However, its Community Benefits activities are focused particularly on youth, adults with behavioral health and chronic health conditions, low-income families, and older adults.

Approach and Methods

The CHNA was conducted by the BID-Needham's Community Relations Department in three phases, which allowed BID-Needham to: 1) compile an extensive amount of quantitative and qualitative data, 2) engage and involve key stakeholders, BID-Needham clinical and administrative staff, and the community at-large, 3) Develop a report and detailed strategic plan, and 4) comply with all Commonwealth Attorney General and Federal IRS Community Benefit requirements.

¹ BID-Needham Mission and Values. <http://www.bidneedham.org/your-visit/our-mission-and-values>

BID-Needham Service Area

BID-Needham's Community Benefits primary service area includes Dedham, Dover, Needham, and Westwood. This primary service area encompasses a population of 75,000. The CHNA analysis focuses on this primary service area but also includes secondary service area comparisons. BID-Needham's secondary service area includes Framingham, Medfield, Natick, Newton, Norwood, Sharon, Waltham, and Wellesley.

Key Health-Related Findings

- **Opportunities to Decrease Alcohol and Substance Use.** Data from the Centers for Disease Control and Prevention suggests that approximately one in four (25%) adults in the United States has a mental health disorder² and an estimated 22 million Americans struggle with drug or alcohol problems.³ In Norfolk County, 16% engaged in binge drinking and 8% reported heavy drinking.⁴ Furthermore, almost one in five adults (18%) in Norfolk County has been diagnosed with depression.⁵ Although utilization related to mental disorders and substance use was not high across all towns in the primary service area, Dedham had significantly higher hospital utilization for all alcohol/substance use diagnoses as well as higher mental disorder and mental disorder-related hospitalization rates than the Commonwealth overall.⁶
- **Rapidly Increasing Opioid Use.** Opioid use is of particular concern among residents of the service area. Opioid use was the number one health issue identified by the majority of the interviewees and community forum participants. The number of opioid related deaths in Norfolk County increased by over 400% from 24 in 2000 to 124 in 2014⁷. Within the primary service area, Dedham had significantly higher rates of admissions to DPH-funded programs where heroin was the primary substance, opioid-related discharges, and opioid-related ED discharges compared to the Commonwealth overall. Westwood also had significantly higher opioid related discharges than the state.⁸
- **High Prevalence of Chronic Disease.** Throughout the United States, chronic diseases such as heart disease, stroke, cancer, respiratory diseases, and diabetes are responsible for approximately 7 of 10 deaths each year, and treating people with chronic diseases accounts for 86% of our nation's health care costs. Half of all American adults have at least one chronic condition, and one in four at least two chronic conditions.⁹ A chronic condition is defined as a health condition or disease that lasts a year or more and requires ongoing medical attention or that limits activities of daily living.¹⁰ Prevalence of chronic disease in Norfolk County and the

² <http://www.nimh.nih.gov/health/publications/the-numbers-count-mental-disorders-in-america/index.shtml>

³ <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=40>

⁴ MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data

⁵ MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data

⁶ Mass CHIP, crude rates per 100,000, 2011-2013

⁷ <http://www.mass.gov/eohhs/docs/dph/quality/drugcontrol/county-level-pmp/overdose-deaths-by-county-including-map-may-2016.pdf>

⁸ Mass CHIP, 2008-2012

⁹ Ward BW, Schiller JS, Goodman RA. Multiple chronic conditions among US adults: a 2012 update. *Prev Chronic Dis.* 2014;11:130389. DOI:<http://dx.doi.org/10.5888/pcd11.130389>

¹⁰ <http://www.cdc.gov/chronicdisease/overview/>.



Commonwealth overall are similar. In Norfolk County, just under a third of adults reported they had been told they have hypertension, 14% been told they ever had asthma, one in 10 had been told they had diabetes, 4% had been told they had a myocardial infarction, and 3% had been told they had a stroke.¹¹ While hospital and ED utilization for the majority of the chronic diseases in all four service towns were comparable to the state, there were some exceptions. Dedham had higher hospitalization utilization for hypertension and higher ED discharges due to hypertension-related diagnoses and heart disease than the state, while Needham had higher ED discharges due to heart disease.¹²

- **High Cancer Incidence.** Cancer is the second leading cause of death in the United States and the first leading cause of death in the Commonwealth and Norfolk County. According to 2013-2014 BRFSS data, 15% of Norfolk County residents reported ever receiving a diagnosis of cancer, significantly higher than Massachusetts overall (12%).¹³ With respect to incidence, the town of Westwood had significantly higher rates for all types of cancer compared to the Commonwealth overall. Westwood and Needham had significantly higher incidence rates of breast cancer in women compared to the state, while Needham also had higher rates of prostate cancer.¹⁴ Efforts need to be made to screen for and identify those with cancer, with an emphasis on those facing barriers to care. Furthermore efforts should be made to ensure that those who have cancer have access to the highest quality care and the supportive services they need to manage and cope with their illness.
- **Infectious Disease: Concerns around Lyme Disease.** Lyme disease is of particular concern in the primary service area. Lyme disease incidence rates are significantly higher in two of four primary service area towns (Dover and Westwood) and two of eight secondary service area towns (Medfield and Sharon). All of these towns have Lyme disease incidence rates of over double the Commonwealth overall.¹⁵
- **Need for Increased Support for Older Adults.** During the qualitative interviews and the community forum, participants identified older adults as a high risk population as all four towns have high populations of seniors. Participants cited the following concerns for older adults: need more support for aging in the home; not enough providers with expertise in geriatric primary care or mental health; the need for better coordination of care for elders, linkages between hospitals, housing, better post-acute system; lack of transportation; lack of affordable housing; elder isolation; and prevention of falls. Dedham and Needham had higher rates of hip fracture hospitalizations than the Commonwealth overall while Dedham also had higher rates of hospitalizations due to falls overall.¹⁶
- **Youth Mental Health and Substance Use.** Community and provider stakeholders identified youth mental health as an issue in the area, in particular anxiety, stress, and depression. There is limited data available for youth on mental health. Needham specific data¹⁷ reveals that almost

¹¹ MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data

¹² Mass CHIP, 2008-2012

¹³ MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data

¹⁴ Mass CHIP, 2007-2011

¹⁵ Mass CHIP, 2008-2012

¹⁶ United States Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

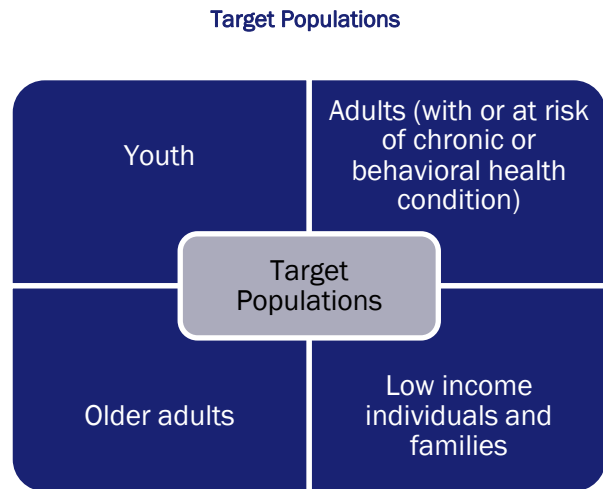
¹⁷ Highlights from the MetroWest Adolescent Health Survey. Needham High School 2014 Data. Spring 2015.



one-third of high school youth had reported that their life was very stressful in the last 30 days, while one fifth reported depressive symptoms in the past 12 months (defined as feeling sad or hopeless for two or more weeks in a row). Twelve percent reported a self-injury (defined as cutting, burning, or bruising oneself on purpose) in the past 12 months. Just over 1 in 10 youth reported that they had seriously considered suicide in the past 12 months, and 3% had made a suicide attempt. This data also found that females are more likely than males to report stress and other mental health problems. The MetroWest Adolescent Health Survey also captured data on substance use finding that 4% of high school youth had misused prescription drugs in the past 30 days and 20% had reported binge drinking in the past 30 days.

Priority Target Populations

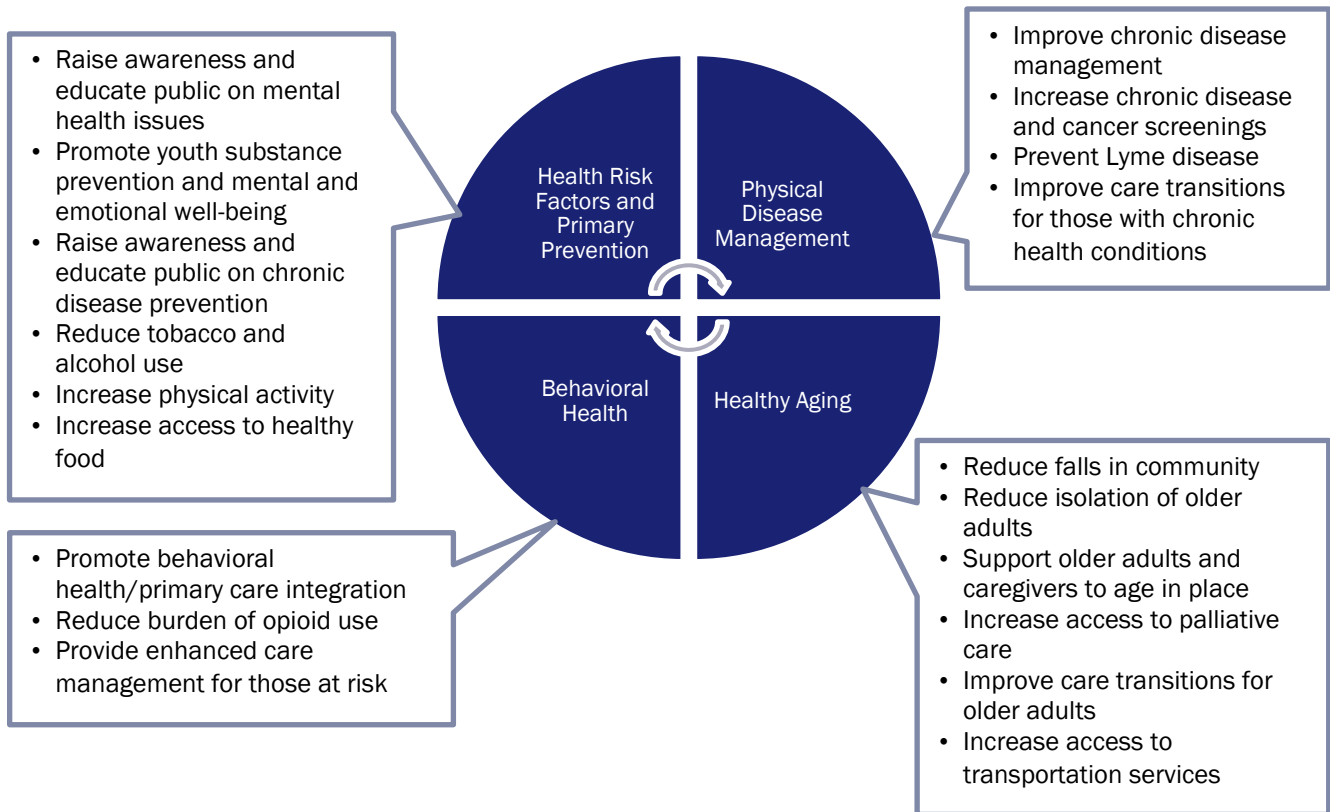
Demographically and socio-economically, BID-Needham focuses activities to meet the needs of all segments of the population with respect to age, race/ethnicity, income, and sexual orientation to ensure that all residents have the opportunity to live healthy, happy, and fulfilling lives. However, its Community Benefits activities are focused particularly on youth, adults with or at risk of behavioral health and chronic health conditions, low-income individuals and families, and older adults. As a result, BID-Needham will focus its community health/Community Benefits efforts primarily on these demographic and socio-economic segments of the population.



Community Health Priorities

The CHNA's approach and process provided ample opportunity to vet the quantitative and qualitative data compiled during the assessment. Ultimately, there was little debate that the most significant health-related issues facing the communities that are part of BID-Needham's service area were: 1) Health risk factors and primary prevention, 2) Behavioral health (mental health and substance use), 3) Physical disease management, and 4) Healthy aging. Focusing its efforts on these areas of common need will allow BID-Needham and its community partners to ensure that it has the greatest possible impact on those most at-risk. It should be noted that BID-Needham will also invest in and support a handful of other issues that fall outside of these priority areas but are critical to addressing community need and the underlying determinants of health.

Community Health Improvement Plan Framework



The following is a summary of the goals for each of these priority areas.

Summary Community Health Improvement Plan (CHIP) (Priority Areas and Major Goals)

Priority Area 1: Health Risk Factors and Primary Prevention

- Goal 1: Raise awareness and educate public on mental health issues
- Goal 2: Promote youth substance prevention and mental and emotional well-being
- Goal 3: Raise awareness and educate public on chronic disease prevention
- Goal 4: Reduce tobacco and alcohol use
- Goal 5: Increase physical activity
- Goal 6: Increase access to healthy food



Priority Area 2: Physical Disease Management

- Goal 1: Improve chronic disease management
- Goal 2: Improve care transitions for those with chronic health conditions
- Goal 3: Prevent Lyme Disease
- Goal 4: Increase chronic disease and cancer screenings

Priority Area 3: Behavioral Health

- Goal 1: Promote behavioral health/primary care integration
- Goal 2: Reduce burden of opioid use
- Goal 3: Identify those at risk and provide and enhanced care management

Priority Area 4: Healthy Aging

- Goal 1: Reduce falls in community
- Goal 2: Reduce isolation of older adults
- Goal 3: Support older adults and caregivers to age in place
- Goal 4: Increase access to palliative care
- Goal 5: Improve care transitions for older adults
- Goal 6: Increase access to transportation services



Acknowledgements

This community health needs assessment (CHNA) was developed through a collaborative assessment process with four affiliated Beth Israel Deaconess hospitals – Beth Israel Deaconess Medical Center (BIDMC), Beth Israel Deaconess Hospital-Milton, Beth Israel Deaconess-Hospital Needham, and Beth Israel Deaconess Hospital-Plymouth.¹⁸

John Snow, Inc. (JSI) would like to acknowledge the great work, support, and commitment of the CHNA Advisory Committee, with representation from each hospital including BID-Needham. The Advisory Committee met periodically throughout the assessment in order to keep abreast of the assessment's progress and to provide feedback that was absolutely vital to its outcome.

Since the beginning of the assessment in early October 2015, more than 50 individuals participated in meetings and/or were interviewed by JSI. These participants included representatives from health and social service provider organizations, public health departments, community advocacy groups, community businesses, and many other types of community organizations, as well as from the community at-large. The information gathered as part of these efforts allowed JSI and BID-Needham to engage the community and gain a better understanding of community capacity, strengths, and weaknesses as well as community health status, barriers to care, service gaps, underlying determinants of health, and overall community need.

JSI would like to thank everyone that was involved in this assessment, but particularly the region's service providers, health departments, advocacy groups, and community members who invested their time, effort, and expertise through interviews and community forums to ensure the development of a comprehensive, thoughtful, and quality assessment. This group is committed to strengthening the regions system of care, particularly for those segments of the population who are most at-risk. This assessment would not have been possible or nearly as successful without the support of the all of those who were involved. Please accept our heartfelt appreciation and thanks for your participation in this assessment.

John Snow, Inc. (JSI). JSI is a public health management consulting and research organization dedicated to improving the health of individuals and communities throughout the world. JSI's mission is to improve the health of underserved people and communities and to provide a place where people of passion and commitment can pursue this cause.

¹⁸ JSI was contracted by the four affiliated Beth Israel hospitals to facilitate the CHNA process.

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Introduction

Purpose and Background

Hospitals play essential roles in the delivery of health care services to the residents of the communities in which they operate and as a result are often afforded a range of benefits, including State and Federal tax-exempt status. There are certain fiduciary and public obligations that come with this status. The primary obligation of tax-exempt hospitals is that they provide charity care to all-comers, regardless of their ability to pay. Another obligation is that they are expected to conduct periodic community health needs assessments and support the implementation of community-based programs geared to improving health status and strengthening the health care systems in which they operate, otherwise known as “Community Benefits” activities. The Massachusetts Attorney General’s Office voluntary Community Benefits Guidelines for Non Profit Acute Care Hospitals and the federal Internal Revenue Service requirements, mandated as part of the Patient Protection and Affordable Care Act (PPACA), and outlined in Schedule H, Form 990, clearly delineate these obligations. More specifically, the Massachusetts Commonwealth’s Attorney General’s Office and the IRS directives charge tax-exempt hospitals with conducting a community health needs assessment (CHNA) and to develop an associated community health improvement plan (CHIP) every three years. Furthermore, it is expected that these activities will be done in close collaboration with the hospital service area’s health, social service providers, the local public health departments, other key stakeholders, and the public at-large.

Figure 1 - Commonwealth and Federal Community Benefits Requirements

Massachusetts Voluntary Guidelines	Federal IRS Requirements
Hospitals are required to provide charity care as a condition of Massachusetts licensure – maintaining or increasing the percentage of patient revenues allocated to free care	The Patient Protection and Affordable Care Act (PPACA) established requirements for non-profit hospitals under § 501(r) of the Internal Revenue Code. The federal code requires that tax-exempt hospitals:
The Attorney General’s Office has developed a set of Voluntary Guidelines for non-profit hospitals and health plans. Specifically, non-profit hospitals are expected to:	Conduct a Community health needs assessment
<ul style="list-style-type: none">• Affirm and publicize a community benefits mission statement• Demonstrate institutional support / involvement• Demonstrate involvement of the community• Involve local public health departments• Conduct a Community Health Needs Assessment• Identify target populations, specific programs that meet identified need, and measurable goals• Submit a community benefits report to the AG’s office	<ul style="list-style-type: none">• Engage community stakeholders including local health departments• Prioritize leading health issues• Conduct evidence-based planning activities addressing key health issues• Implement a community health improvement strategy Community Benefits expenditure categories include: <ul style="list-style-type: none">• Uncompensated Care• Medical, Education & Training• Medical Research• Community Health Programming

BID-Needham recognizes the merit and importance of these activities and its efforts over the past year extend far 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 BID-Needham to fulfill its public requirements, but allows BID-Needham to explore ways to more effectively leverage their Community Benefits activities and resources to further organizational business and strategic objectives. The CHNA process facilitates community and regional partnerships and fosters broad community

engagement. If done effectively, these efforts can promote the development of more targeted, integrated, and sustainable Community Benefits activities. Ultimately, this will lead to program efficiencies, promote greater program impact, and ease long-term evaluation and reporting burdens.

Included below are further details regarding BID-Needham’s Community Benefits service area and target population as well as detailed descriptions of how the CHNA and CHIP efforts were implemented.

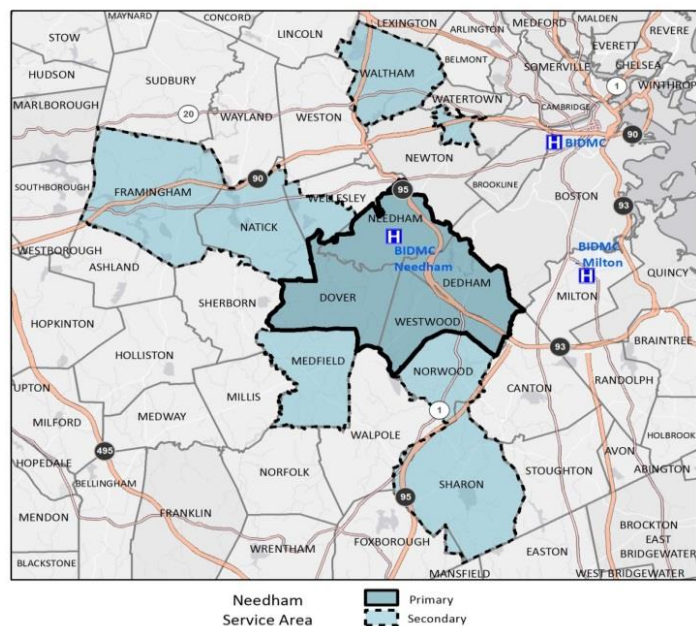
Overview of Community Benefits Services Area and Target Population

In 1912, the Glover Home and Hospital opened in Needham, MA to fulfill the will of Needham resident Frederick P. Glover¹⁹. Initially an 11 bed facility, the hospital was bought by the Town of Needham in 1929, and renamed Glover Memorial Hospital. In 1994, the hospital was sold to Deaconess Hospital and became a direct affiliate of Beth Israel Deaconess Medical Center (BIDMC) in 2002 to become BID-Needham. BID-Needham is not-for-profit hospital, which treats all patients, regardless of ability to pay. BID-Needham provides inpatient, outpatient, and trauma services, along with a broad network of other ambulatory and community-based programs.

BID-Needham’s Community Benefits primary service area includes Dedham, Dover, Needham, and Westwood (Figure 2) which are all part of Norfolk County. This primary service area encompasses a population of 75,000.²⁰ The CHNA analysis focuses on this primary service area but also includes secondary service area comparisons. BID-Needham’s secondary service area includes Framingham, Medfield, Natick, Newton, Norwood, Sharon, Waltham, and Wellesley which has a population of approximately 340,800.²¹

BID-Needham focuses activities to meet the needs of all segments of the population with respect to age, race/ethnicity, income, sexual orientation, and the broad range of other ways that population’s characterize themselves to ensure that all residents have the opportunity to live healthy, happy, and fulfilling lives. However, its community benefits activities are focused particularly on youth, adults with behavioral health and chronic health conditions, low-income families, and older adults. The body of evidence and academic literature has shown that these populations are more likely to face disparities with respect to social determinants of health, access to care, and health outcomes.

Figure 2 – BID-Needham Primary and Secondary Service Area



¹⁹ <http://www.bidmc.org/timeline/index.html>

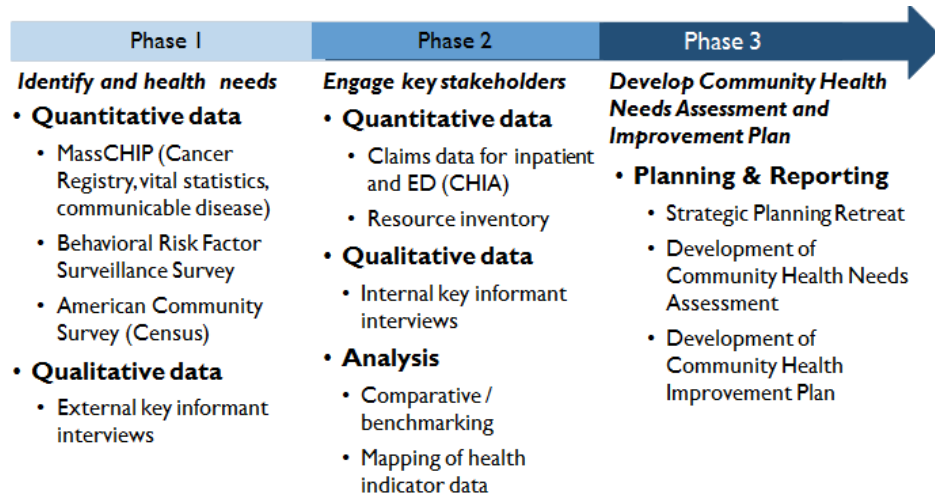
²⁰ United States Census Bureau, 2010-2014 American Community Survey 5-Year Estimates.

²¹ United States Census Bureau, 2010-2014 American Community Survey 5-Year Estimates.

Approach and Methods

The CHNA was conducted in a three-phased process beginning with a rigorous and comprehensive review of quantitative and qualitative data to characterize community needs, followed by soliciting of community input, and concluding with a priority setting session that drew from the findings of the first two phases. Data collection took place between October 2015 and February 2016. Reporting out of findings and priority setting took place in March 2016 (Figure 3).

Figure 3 - CHNA Approach and Methods



Characterize Population and Community Need

In Phase I and Phase II, the JSI Project team accessed the 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, when possible, an analysis of changes over time using trend data and information from previous assessments.

Community-specific health data analysis. JSI characterized health status and need at the town, zip-code, or census tract level. JSI collected data from a number of sources to ensure a comprehensive understanding of the issues. JSI produced GIS maps that facilitated analysis and helped the Project Team to visually present the data.

- 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 IP Discharges (2008-2012)
- MA Hospital ED Discharges (2008-2012)
- MA Cancer Registry (2007-2011)
- MA Communicable Disease Program (2011, 2012, 2013)
- Massachusetts Vital Records (2008-2012)
- Massachusetts Bureau of Substance Abuse Services (BSAS) (2013)

Key informant interviews with stakeholders. JSI conducted 23 stakeholder interviews in the hospital's service area. Interviewees included staff at BID-Needham, primary care providers, behavioral health and mental health providers, community-based service organizations, community leaders, and local health officials. Interviews were conducted using a standard interview guide, and information was gathered related to major health issues, mortality/morbidity, barriers to care, underlying determinants of health, and service gaps that could not be identified through quantitative data. One JSI staff person was the lead on all interviews to ensure continuity of understanding of the service area's needs and resources. Interview notes were reviewed and extracted into a Google Spreadsheet. A list of the interviewees is included in Appendix A.

Partner survey. There were some key stakeholders that were unable to participate in an interview. Therefore JSI developed a survey for those stakeholders to complete at their convenience. The survey gathered information related to major health issues, mortality/morbidity, barriers to care, underlying determinants of health, and service gaps. In addition, they were asked to qualitatively describe the pressing health concerns, at risk populations, strategies that have worked, and suggested strategies to address the identified needs. A total of 9 individuals completed the survey. A list of the organizations represented by respondents is included in Appendix B.

Resource Inventory. To understand community need and underlying risks as well as to appropriately target strategies, JSI inventoried existing resources in the hospital's service area. JSI reviewed the hospital's prior annual report of Community Benefits activities to the MA Attorney General, which included a listing of partners, as well as publicly available lists of providers (primary care, behavioral health, councils on aging etc.) The goal of this process was to identify key partners who may or may not be already partnering with the hospital.

Capture Community Input

JSI conducted a community forum at the Needham Public Library to gather community input. During this meeting, JSI discussed findings of the data and posed a range of questions that solicited input on community ideas, perceptions and attitudes, including: 1) Does the data reflect what you see as the major needs and health issues in your community? 2) Are the identified gaps the right ones? 3) What segments of the populations are most at-risk? 4) What are the underlying social determinants of health status? 5) What strategies would be most effective to improving health status and outcomes in these areas? A list of the participants is included in Appendix C.

Use Data to Prioritize Needs and Set Goals

The goal of the final phase of the assessment was to review the results, identify priorities, review existing Community Benefits activities and determine a range of proven, feasible, evidenced-based interventions that hospitals and other key providers believed would address the issues that identified community health priorities. One of the major goals of this phase was to develop a Community Benefits strategic framework that would clarify community health priorities and identify the range of health issues and sub-components within each priority area. Drawing on the information gathered in Phases I and II, JSI presented CHNA findings, reviewed BID-Needham's current Community Benefits programming, and explored how BID-Needham could refine or augment

what it is currently doing to better address community need. These strategic planning activities involved BID-Needham's clinical, administrative leadership, and senior leadership; community service providers; local public health officials; and other community leaders..

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 Community Health Information Profile (MassCHIP) data system²², an online, internet-based resource provided by the Massachusetts Department of Public Health (MDPH).²³ MassCHIP makes a broad range of health-related data available to health and social service providers and the public at-large. The data compiled for this assessment represented nearly all of the health-related data that was made available through MassCHIP. 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 CHIP development process. One major challenge was that much of the epidemiologic data that is available, particularly at the sub-county or municipal-level, was four to five 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 us to identify 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 gathered through interviews and community forums engaging service providers, other community stakeholders, and/or community residents 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 and the nature of the questioning the results are not generalizable to the larger population. While every effort was made to advertise the community forum and to select a broadly representative group of stakeholders to interview, the selection or inclusion process was not random.

²² Massachusetts Community Health Information Profile (MassCHIP) system.
<http://www.mass.gov/eohhs/researcher/community-health/masschip/>

²³ The MassCHIP portal was down due to technical difficulties at the Massachusetts Department of Public Health but JSI Staff made a formal, comprehensive request in writing, which was met by staff at MDPH. This process limited our ability to do multiple, iterative data draws but the JSI staff still was able to capture ample data through the MassCHIP system.

Overview of Geographic Service Area

BID-Needham's Community Benefits primary service area includes Dedham, Dover, Needham, and Westwood (Figure 2) which are all part of Norfolk County. This primary service area encompasses a population of 75,000, with Dedham and Needham accounting for almost three quarters of the population (54,600)²⁴ The CHNA analysis focuses on this primary service area but also includes secondary service area comparisons. BID-Needham's secondary service area includes Framingham, Medfield, Natick, Newton, Norwood, Sharon, Waltham, and Wellesley which has a population of approximately 340,800.²⁵ All but Framingham, Natick, Newton and Waltham are part of Norfolk County; these cities and towns are part of Middlesex County.

Population Characteristics, Determinants of Health, and Health Equity

An understanding of community need and health status in BID-Needham's Community Benefits Service Area began with knowledge of the population's characteristics as well as the underlying social, economic, and environmental factors that impacted health and health equity. This information was critical to: 1) recognizing disease burden, health disparities and health inequities; 2) identifying target populations and health-related priorities; and 3) targeting strategic responses. This assessment captured a wide range of quantitative and qualitative data related to age, gender, sexual orientation, race/ethnicity, income, poverty, family composition, education, violence, crime, unemployment, recreational facilities, and other determinants of health. The data provided valuable information that characterized the population as well as provided insights into the leading determinants of health and health inequities.

The following is a summary of key findings related to community characteristics and the social, economic, and environmental determinants of health for BID-Needham's Community Benefits Service Area. Conclusions were drawn from quantitative data and qualitative information collected through interviews, a survey, and a community forum. Summary data tables are included below.

- **Age and Gender:** BID-Needham's primary service area had a significantly larger proportion of older adults (65+) compared to the Commonwealth overall at 14% (19%, Dedham; 16%, Dover; 17%, Needham; 19%, Westwood).²⁶ Older adults have unique health needs, and an increasingly aging population has implications for the distribution and types of morbidity in the population, as discussed later. In addition, three of the towns had significantly higher youth populations (age under 18) than the state as a whole at 21% (31%, Dover; 27%, Needham; 28%, Westwood). A common theme throughout interviews, and community forum was that older adults and youth represented two of most vulnerable populations in the service area. This is not to say middle-aged adults, 19 – 64 years of age, did not face important health issues. However, when community participants were asked to identify population cohorts most at-risk, they were more likely to cite youth and older adult populations. The specific needs of these populations will be discussed in greater detail later in the report.

²⁴ United States Census Bureau, 2010-2014 American Community Survey 5-Year Estimates.

²⁵ United States Census Bureau, 2010-2014 American Community Survey 5-Year Estimates.

²⁶ United States Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

- Race/Ethnicity, Foreign Born Status, and Language:** There is an extensive body of research and evidence that illustrates the health disparities that exist for racial/ethnic minorities, foreign-born populations, and individuals with limited English language proficiency. According to the 2010-2014 ACS, overall, BID-Needham's service area had a relatively homogeneous, white, non-Hispanic population. All towns had significantly higher numbers of white, non-Hispanic populations compared to the state as a whole at 75% (Dedham, 82%; Dover, 84%; Needham, 87%; Westwood, 89%). All towns had significantly lower numbers of those foreign born (with the exception of Dedham) and those that spoke a language other than English when compared to the state overall.

Table 1 - Distribution by Race/Hispanic Identify, Foreign Born Status and Language (Source: US Census Bureau. American Community Survey, 5-year averages, 2010-2014)

	MA	Dedham	Dover	Needham	Westwood
Asian alone (%)	6%	4%	8%	7%	7%
Black alone (%)	6%	6%	4%	2%	0%
White alone (%)	75%	82%	84%	87%	89%
Hispanic / Latino (%)	10%	6%	3%	3%	3%
Foreign Born (%)	15%	15%	11%	13%	13%
Language other than English spoken at home	22%	18%	12%	15%	16%

Source:
 Orange indicates statistically higher than statewide rate
 Blue indicates statistically lower than statewide rate

- Income, Education, and Employment:** Socio-economic status has long been recognized as a critical determinant of health. Higher socio-economic status, as measured by income, employment status, occupation, and education, is closely linked to health status, overall well-being, and premature death. Research shows that communities with lower socio-economic status bear a higher disease burden and have a lower life expectancy. Residents of these communities are less likely to be insured, less likely to have a usual source of primary care, more likely to use the emergency department for non-emergent care, and less likely to access health services of all kinds, particularly routine and preventive services. Moreover, research shows that children born to low income families are, as they move into adulthood, less likely to be formally educated, less likely to have job security, more likely to have poor health status, and less likely to rise and move up to higher socio-economic levels.

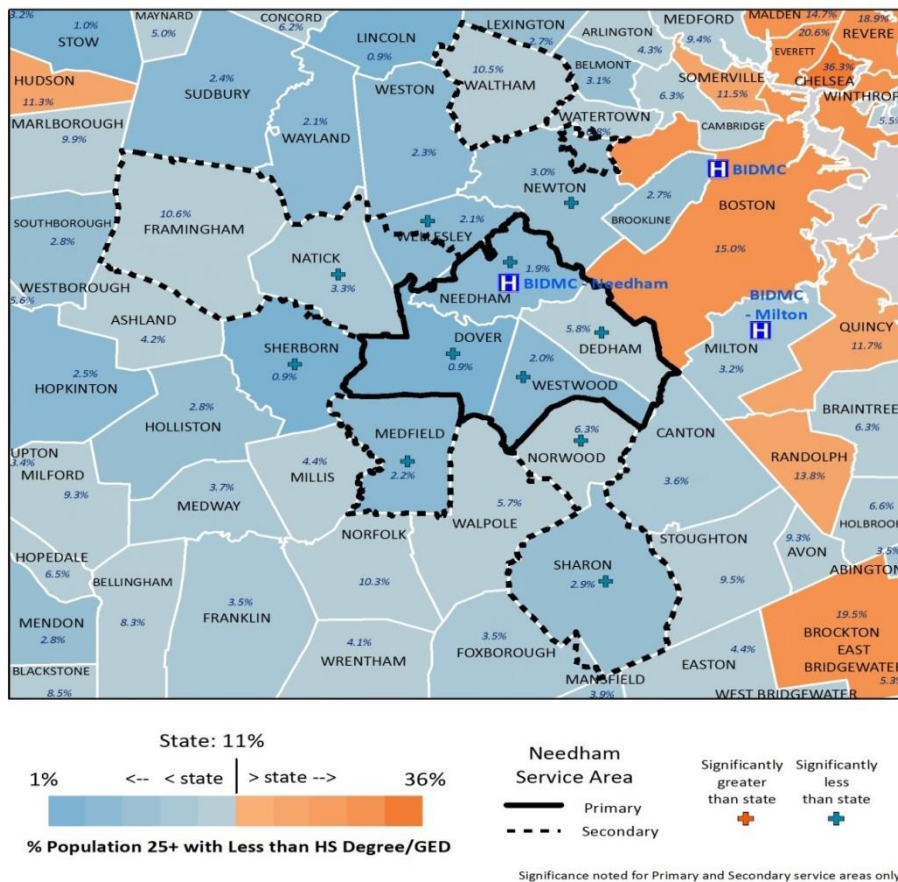
Overall, BID-Needham's service area had a high median income compared with the Commonwealth with a significantly lower proportion of low income population (those living at 200% or below of the federal poverty level - see Table 2 below).

Table 2 - Distribution of Population Living Below 200% of the Federal Poverty Level (Source: US Census Bureau. American Community Survey, 5-year averages, 2010-2014)

Living Below Poverty Level (past 12 months)	MA	Dedham	Dover	Needham	Westwood
All families	8%	3%	0%	2%	2%
Female Householder, no husband present	26%	10%	0%	13%	6%
All people	12%	4%	0%	3%	3%
People 65+	9%	6%	0%	7%	6%

In addition, all towns in the service area have significantly higher rates of educational attainment compared to the state (see Figure 4): 40% of the state's population has a bachelor's degree or higher, compared to Dedham (47%), Dover (84%), Needham (74%), and Westwood (70%).

Figure 4 - Percentage of Population with Less than a High School Degree (Source: US Census Bureau. American Community Survey, 5-year averages, 2010-2014)



- **Crime, Violence, and Community Cohesion.** Crime and violence are major issues that can have intense and far reaching impacts on health status. These impacts can include death,

injury, and economic loss but they also include emotional trauma, anxiety, isolation, lack of trust, and an absence of community cohesion. Overall, according to quantitative data from the 2013 FBI Uniform Crime Reports and anecdotal information from the interviewees, crime and violence were not a leading concern in BID-Needham's service area.

- Unstable Housing and Homelessness.** An increasing body of evidence has associated housing quality with poor overall health status and illness due to infectious diseases, chronic illnesses, injuries, poor nutrition, substance abuse, and mental health conditions. These health issues have also proven to be more common in low income (<200% FPL) cohorts of the population who often struggle to decide between paying for safe housing, healthy food, needed health care services, and other needs. There are also clear links between poor housing conditions and the illnesses listed above, which confound and exacerbate overall health status and emotional well-being. At its extreme are those without housing, either living on the street or in some transient housing situation, who have been shown to have significantly higher rates of illness and shorter life expectancy. Lack of affordable housing also has an impact on poverty and the ability of individuals and families to pay for food and other essential household items.

According to the 2010-2014 ACS, residents of BID-Needham's service area had significantly higher owner occupied housing compared to the state as a whole at 62% (69%, Dedham; 93%, Dover; 83%, Needham; 87%, Westwood). However, based on the community interviews and the provider/community forum, participants reported the growing lack of affordable housing in the area, in particular for single individuals or for elders who want to remain in the community after they downsize.

Mortality and Premature Mortality

Cancer, cardiovascular disease (heart disease), chronic lower respiratory disease (COPD), cerebrovascular disease (stroke), and unintentional accidents were the leading causes of death in the United States and in Massachusetts (Table 3). Other leading causes of death include diabetes, influenza/pneumonia, kidney disease, and Alzheimer's. While Massachusetts overall ranks in the top half of all states in terms of mortality rates due to influenza/pneumonia and kidney disease, it rates in the bottom half for the other eight leading causes of death, and in the bottom five states for accidents, chronic lower respiratory diseases, stroke, diabetes, and suicide.

Table 3 - Leading Causes of Death in Massachusetts and the United States, 2013 -

US Leading Cause of Death	Death Rate in MA	Total Deaths in MA	State Rank	US Rate	US Ranking
Cancer	159.6	12,858	31	163.2	2
Heart Disease	141.5	12,023	43	169.8	1
Accidents	32.5	2,393	45	39.4	4
Chronic Lower Respiratory Diseases	31.7	2,572	46	42.1	3
Stroke	27.7	2,354	47	36.2	5
Alzheimer's Disease	19.4	1,699	38	23.5	6

US Leading Cause of Death	Death Rate in MA	Total Deaths in MA	State Rank	US Rate	US Ranking
Influenza/pneumonia	18	1,551	16	15.9	8
Kidney Disease	15.1	1,261	18	13.2	9
Diabetes	14.1	1,142	50	21.2	7
Suicide	8.2	572	48	12.6	10

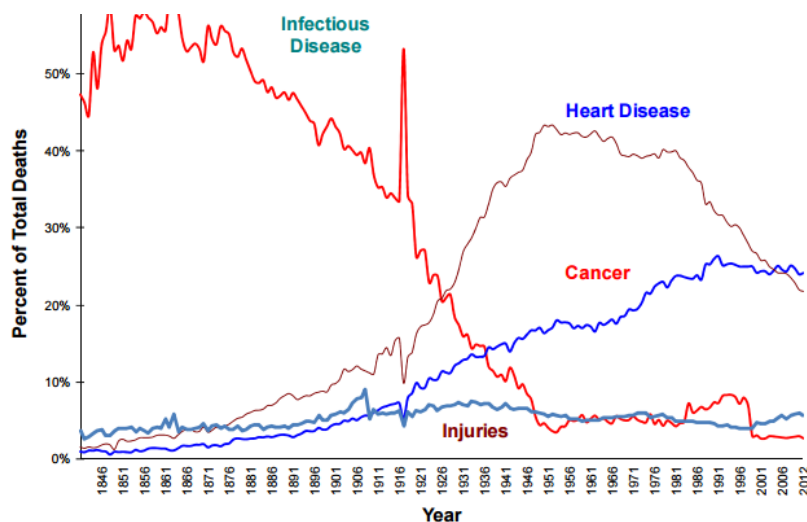
Source: Centers for Disease Control and Prevention, *Stats of the State of Massachusetts*. Accessed at: http://www.cdc.gov/nchs/pressroom/states/MA_2015.pdf

Note: Data source is National Vital Statistics Reports, Vol. 64, No. 2; and rankings and rates are based on 2013 age-adjusted death rates.

US Ranking: Ranking of cause of death in the US overall

State Rank: Ranking of MA compared to other states. Rates for the U.S. include the District of Columbia and (for births) U.S. territories.

Figure 5 - Deaths from Selected Causes in Massachusetts, 1842 – 2012
(Source: Massachusetts Departments of Public Health)



In 2012, the life expectancy for a resident in Massachusetts was 81 years. In 1950, it was 70 years, and in 1900 it was 45 years.²⁷ This change is dramatic, and is due largely to improvements in the ability to prevent maternal/child deaths at pregnancy and manage infectious diseases, such as influenza. Since 1950, there have also been major improvements in our ability to prevent deaths due to heart disease, stroke, and cancer but there is still a great deal of work

to do in this area, as these conditions are still among the top three leading causes of death (see Figure 5).

Cancer is the leading cause of death in Massachusetts and has seen a marked increase over the past century. In 1900, cancer was the cause of death in only 4-5% of deaths. In 2014 nearly 25% of all deaths were attributable to cancer.²⁸ Cancer was also the leading cause of death in Norfolk County (see Table 4 below).

All of these leading causes of death, individually and collectively, have a major impact on people living in BID-Needham's primary service area but cancer, cardiovascular disease (heart disease), chronic lower respiratory disease (COPD), cerebrovascular disease (stroke), and diabetes are the most important for BID-Needham to consider as they are the most prevalent conditions and are, to a

²⁷ Massachusetts Department of Public Health. *Massachusetts Deaths 2012: Data Brief*. January 2015. Accessed at <http://www.mass.gov/eohhs/docs/dph/research-epi/death-data/death-databrief-2012.pdf>

²⁸ Massachusetts Department of Public Health. *Massachusetts Deaths 2012: Data Brief*. January 2015. Accessed at <http://www.mass.gov/eohhs/docs/dph/research-epi/death-data/death-databrief-2012.pdf>

large extent, preventable. All of these chronic conditions also share the health risk factors discussed above - obesity/overweight, lack of physical exercise, poor nutrition, tobacco use, and alcohol abuse.

Table 4 - Leading Causes of Death in Norfolk County (2012)

Cause of Death	Number of Norfolk County Deaths, 2012
All Cancer	1,317
<i>Lung Cancer</i>	338
<i>Female Breast Cancer</i>	122
Heart Disease	1,200
Stroke	241
Chronic Lower Respiratory Disease	241
Influenza and pneumonia	145
Diabetes	96
Opioids-related	67
Suicide	66
Motor vehicle	38
Homicide	5
Source: Massachusetts Department of Public Health. <i>Massachusetts Deaths 2012: Data Brief</i> . January 2015. Accessed at http://www.mass.gov/eohhs/docs/dph/research-epi/death-data/death-databrief-2012.pdf	

More recent data has shown that opioid related deaths in Norfolk County continues to increase, from 24 in 2000, 67 in 2012, to a high of 124 in 2014.²⁹ This trend is consistent with increases in other counties in Massachusetts and confirms the opioid epidemic in the state. While addiction is a complex disease, opioid addiction and deaths can be reduced with appropriate prevention, treatment, and recovery support.

While examining mortality rates is important, perhaps a more useful indicator is premature death. Putting a greater emphasis on premature death, rather than overall mortality, supports the underlying intention of the Community Benefits program to improve health status and focusing attention on the morbidity and mortality that can be prevented. Premature death is calculated as the years of potential life lost before age 75. Every death occurring before age 75 contributes to the total number of years of potential life lost.³⁰ Overall, Massachusetts has an age-adjusted premature death rate per 100,000 of 5,100 compared to 4,400 per 100,000 in Norfolk County. Within BID-Needham’s primary service area, Dover, Needham and Westwood have significantly lower premature death rates than the state (while Dedham’s numbers were comparable to the state).³¹ Similarly, all but two towns in BID-Needham’s secondary service area had significantly lower premature death rates than the state as a whole.

²⁹ <http://www.mass.gov/eohhs/docs/dph/quality/drugcontrol/county-level-pmp/overdose-deaths-by-county-including-map-may-2016.pdf>

³⁰ County Health Rankings 2016. Accessed at www.countyhealthrankings.org. 2016

³¹ Massachusetts Vital Records, 2008-2012

Major Findings by the Leading Areas of Health-Related Need

At the core of the CHNA process is an understanding of access to care issues, the leading causes of illness and death, and the extent that population segments and communities participate in certain risky behaviors. This information is critical to assessing health status, clarifying health-related disparities, and identifying community health priorities. The assessment captured a wide range of quantitative data from Federal, Commonwealth, and local data sources, including from the US Census Bureau and the Massachusetts Department of Public Health. Qualitative information gathered from the assessment's interviews, a survey, and a community and provider forum greatly informed this section by providing community perceptions on the confounding and contributing factors of illness, health priorities, and strategic responses to the issues identified.

The following are key findings related to health insurance coverage and access to primary care, health risk factors, overall mortality, health care utilization, chronic disease, cancer, infectious disease, behavioral health (mental health and substance abuse), elder health, and maternal and child health. Summary data tables/graphs are included below, along with a narrative review of the assessment's qualitative findings.

Health Risk Factors and Primary Prevention

Insurance Coverage and Usual Source of Care of Primary Care (including medical, oral health, and behavioral health services)

The extent to which a person has insurance that helps to pay for needed acute services, as well as access to a full continuum of high quality, timely, and accessible preventive and disease management or follow-up services, has shown to be critical to overall health and well-being. Access to a usual source of primary care is particularly important as it greatly impacts one's ability to receive regular preventive, routine, and urgent care, and chronic disease management services.³²

Norfolk County has a strong and robust healthcare system that provides comprehensive services that span the full healthcare continuum, including outreach and screening services, primary medical care, medical specialty care, hospital emergency and trauma services, inpatient care, and outpatient surgical and post-acute/long-term care services. Access to dental and behavioral health services are more problematic, but relative to other regions in Massachusetts, Norfolk County is better situated than other communities. Based on information gathered from the interviews and the community forum, there were no absolute gaps in services across any of these categories, even for low income and racial/ethnic minority populations that often struggle with access to health care services. Massachusetts leads the nation with the lowest Commonwealth/state uninsurance rates in the nation. In 2014, only 4% of residents in Massachusetts lacked medical health insurance, compared to 10% nationally, due to the state's early health reform efforts which began in 2006.³³ The uninsured rate was even lower in Norfolk County at 2.8%.

³² <http://iom.edu/~media/Files/Report%20Files/2003/Coverage-Matters-Insurance-and-Health-Care/Uninsurance8pagerFinal.pdf>

³³ Kaiser Family Foundation, Health Insurance Coverage of the Total Population. <http://kff.org/other/state-indicator/total-population/>

In 2014, according to the Massachusetts Behavioral Risk Factor Surveillance System (BRFSS), it was estimated that 91% of Norfolk County adults (18+) had a primary care provider (PCP), slightly higher than the Commonwealth overall (88%).³⁴ Comparable numbers of individuals reported having had a routine check-up with a PCP in the past year (Massachusetts, 78%; Norfolk County, 80%). Only 6% of Norfolk County residents reported not being able to see a doctor at some point due to cost, only slightly lower than the Commonwealth overall (8%).³⁵

Overall, these findings indicate that residents in Norfolk County and Massachusetts have access to primary and other medical services. However, this does not mean that everyone in Massachusetts or Norfolk County receives the highest quality services when they want it and where they want it. Low income, racial/ethnic minority populations, and older adults often 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 patients covered by MassHealth or those that are uninsured.

Even among the insured, our qualitative results from the interviews and community forum revealed that individuals across all socio-demographic groups struggle to access behavioral health services in particular, including finding adequate treatment services appropriate for youth, older adults, and culturally competent providers. Massachusetts has very high medical health insurance rates, but benefit packages often do not adequately cover behavioral health services, forcing consumers to go without needed services or pay out of pocket. These factors limit access and drive inappropriate use of the hospital emergency department.

Health Behaviors

There is a growing appreciation for the effects that certain health risk factors, such as obesity, lack of physical exercise, poor nutrition, tobacco use, and other substance abuse have on health status and the burden of physical disease and mental/emotional health problems. A discussion and review of available data and information drawn from quantitative and qualitative sources from this assessment is below.

- **Overweight/Obesity:** Over the past two decades, obesity rates in the United States have doubled for adults and tripled for children.^{36 37} These trends have spanned all segments of the population, regardless of age, sex, race, ethnicity, education, income, or geographic region. While there are segments that have struggled more than others, no segment has been unaffected. In 2013-2014, according to data from the Massachusetts BRFSS, more than one-half of adults (18+) in Massachusetts (58%) and in Norfolk County (57%) and are either obese or overweight.³⁸ According to the 2014 Massachusetts Youth Risk Behavior Survey (YRBS), nearly one-quarter

Over half (58%) of Norfolk County adults are overweight or obese. Statewide, nearly one quarter of high school youth are overweight or obese.

³⁴ MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data

³⁵ MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data

³⁶ Fryar DC, Carroll MD, Ogden CL. [Prevalence of overweight, obesity, and extreme obesity among adults: United States, 1960-1962 through 2011-2012](#). National Center for Health Statistics Health E-Stat. 2014.

Odgen CL. [Childhood Obesity in the United States: The Magnitude of the Problem](#). Power Point.

³⁷ <http://stateofobesity.org/obesity-rates-trends-overview/>

³⁸ MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data

of high school youth (23%) are obese or overweight.³⁹ While youth overweight and obesity data is not available at the county level, findings from the 2014 MetroWest Adolescent Health Survey reveal that 13% and 17% of middle school and high school students, respectively, in Needham are obese or overweight.^{40 41}

- **Physical Activity and Healthy Eating:** Physical inactivity and poor nutrition are the leading risk factors associated with obesity and chronic health issues, such as heart disease, hypertension, diabetes, cancer, and depression. 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. Approximately one in five adults (18+) in Massachusetts (19%) and in Norfolk County (21%) ate the recommended five servings of fruits and vegetables per day⁴². Seventy-eight percent of Massachusetts adults and 80% of adults in Norfolk County reported any leisure time physical activity in the past 30 days.⁴³
- **Tobacco Use:** Tobacco use is the single most preventable cause of death and disease in the United States. Each year, approximately 443,000 Americans die from tobacco-related illnesses. For every person who dies from tobacco use, 20 more people suffer with at least one serious tobacco-related illness, such as chronic airway obstruction, heart disease, stroke, or cancer.⁴⁴ About 1 in 6 adults in Massachusetts (16%) were current smokers, according to Massachusetts BRFSS data in 2013-2014.⁴⁵ In comparison, the rate of current smokers in Norfolk County was significantly lower than the state at 12%. The 2014 Massachusetts YRBSS revealed that 17% of high schoolers (grades 9-12) used tobacco products in 2013.⁴⁶ While this data for youth is not available the county level, findings from the 2014 MetroWest Adolescent Health Survey reveal that 19% of high schoolers had ever smoked a cigarette and 8% had smoked within the last 30 days. ⁴⁷
- **Alcohol Abuse:** Risky behaviors related to alcohol are strongly correlated with chronic medical and mental health issues. Alcohol abuse raises the risk of developing chronic illnesses and increases the severity of illnesses once they emerge. In 2013, approximately 7% of adults in Massachusetts and 8% of adults in Norfolk County reported heavy drinking, defined as drinking 15 or more drinks per week for men, or 8 or more drinks per week for women.⁴⁸ Approximately 1 in 5 adults (18%) in Massachusetts reported binge drinking, defined as drinking 5 or more drinks on an occasion for men or 4 or more drinks on an occasion for women. Slightly less (16%) reported binge drinking in Norfolk County.

³⁹ Massachusetts Department of Elementary and Secondary Education & Massachusetts Department of Public Health. Health and Risk Behaviors of Massachusetts Youth, 2013.

<http://www.doe.mass.edu/cnp/hprograms/yrbs/2013report.pdf>

⁴⁰ Highlights from the MetroWest Adolescent Health Survey. Needham High School 2014 Data. Spring 2015.

⁴¹ Highlights from the MetroWest Adolescent Health Survey. Poggard Middle School 2014 Data. Spring 2015.

⁴² MA Behavioral Risk Factor Surveillance System, 2013 only

⁴³ MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data

⁴⁴ <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=41#five>

⁴⁵ MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data

⁴⁶ Massachusetts Department of Elementary and Secondary Education & Massachusetts Department of Public Health. Health and Risk Behaviors of Massachusetts Youth, 2013.

<http://www.doe.mass.edu/cnp/hprograms/yrbs/2013report.pdf>

⁴⁷ Highlights from the MetroWest Adolescent Health Survey. Needham High School 2014 Data. Spring 2015.

⁴⁸ MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data

Physical Disease Management: Chronic Disease, Cancer, and Infectious Disease

Chronic Disease

Throughout the United States, chronic diseases such as heart disease, stroke, cancer, respiratory diseases, and diabetes are responsible for approximately 7 of 10 deaths each year, and treating people with chronic diseases accounts for 86% of our nation's health care costs. Half of all American adults have at least one chronic condition, and one in four at least two chronic conditions.⁴⁹ A chronic condition is defined as a health condition or disease that lasts a year or more and requires ongoing medical attention or that limits activities of daily living.⁵⁰ Perhaps most significantly, despite the high prevalence and dramatic impact of the most prevalent chronic disease, they are largely preventable, which underscores the need to focus on the health risk factors, primary care engagement, and evidence-based chronic disease management. Participants from the qualitative interviews also identified chronic diseases as pressing health concerns, including diabetes and heart disease.

Estimated prevalence of chronic disease and utilization of services as a result of chronic diseases were assessed. Prevalence rates are based on self-reported data of ever being told they have a chronic condition, reported by adults in the BRFSS (Table 5). Prevalence of chronic disease in Norfolk County and the Commonwealth overall are similar, with the exception of asthma. In Norfolk County, 14% of the adult population reported that they had been told they ever had asthma compared to 17% in the state, while 9% currently had asthma compared to close to 12% in the state. However, these lower asthma rates were not statistically significant.

Table 5 - Prevalence of Chronic Disease (2013-2014 BRFSS)

BRFSS Indicator	Commonwealth	Norfolk County
Ever had asthma	17.2	14.3
Currently with asthma	11.7	9.2
Ever told they have diabetes	9.1	9.6
Ever told they have high blood pressure/hypertension (2013 only)	29.4	30.4
Ever told they had a myocardial infarction (MI)	4.0	3.7
Ever told they had angina/coronary heart disease (CHD)	3.8	3.9
Ever told they had a stroke	2.5	3.0

Source: MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data

In terms of utilization of health care services, Dover, Needham, and Westwood had significantly lower age-adjusted hospitalization utilization rates for all chronic diseases compared to the Commonwealth overall with the exception of diabetes and hypertension in Dover and heart disease in Needham which were comparable to the state (see table 6 below). When compared to the state, Dedham had lower or comparable hospitalization utilization for all chronic diseases with the exception of hypertension where the age adjusted rate was significantly higher.

⁴⁹ Ward BW, Schiller JS, Goodman RA. Multiple chronic conditions among US adults: a 2012 update. *Prev Chronic Dis.* 2014;11:130389. DOI:<http://dx.doi.org/10.5888/pcd11.130389>

⁵⁰ <http://www.cdc.gov/chronicdisease/overview/>.

Table 6 - Rate of Hospitalizations due to Chronic Diseases (Mass CHIP, 2008-2012)

Rate (per 100,000) of Hospitalizations due to:	MA	Dedham	Dover	Needham	Westwood
Diabetes	135	117	NA*	70	64
Diabetes-related	1,846	1,733	612	1,118	1,068
Hypertension	45	33	NA	17	28
Hypertension-related	4,025	4,139	2,468	3,012	3,267
Major cardiovascular disease	1,344	1,326	913	1,036	1,142
Heart disease	980	962	701	764	858
Cerebrovascular disease	228	225	139	178	185
COPD	364	343	72	134	184
Asthma	152	129	32	49	68

Mass CHIP, Age-adjusted rates per 100,000, 2008-2012
 Orange indicates statistically significantly higher than state
 Blue indicates statistically significantly lower than state

* MassCHIP marks cells with the tag "NA" if one of more of the following is true:

- The data are suppressed for confidentiality reasons.
- The particular combination of data elements, selector value, or statistical calculation is not available.
- The population on which a particular cell is based is too small to calculate reliable results.

ED utilization due to chronic diseases for all towns was either significantly lower than, or comparable to, the state overall with the exception of hypertension-related and heart disease (see table 7 below). In Dedham, ED discharges due to hypertension-related diagnoses and heart disease were significantly higher than the state, while in Needham ED discharges due to heart disease were significantly higher than the state.

Table 7 - Rate of ED Discharges due to Chronic Diseases (Mass CHIP, 2008-2012)

Rate (per 100,00) of ED Discharges due to:	MA	Dedham	Dover	Needham	Westwood
Diabetes	133	86	NA*	46	40
Hypertension	121	88	51	75	78
Hypertension-related	2,831	2,944	2,328	2,365	2,188
Major cardiovascular disease	402	396	351	405	335
Heart disease	215	253	230	253	212
Asthma	573	468	150	187	199
Asthma-related	1,444	1,222	436	476	601

Mass CHIP, Age-adjusted rates per 100,000, 2008-2012

Orange indicates statistically significantly higher than state

Blue indicates statistically significantly lower than state

* MassCHIP marks cells with the tag "NA" if one of more of the following is true:

- The data are suppressed for confidentiality reasons.
- The particular combination of data elements, selector value, or statistical calculation is not available.
- The population on which a particular cell is based is too small to calculate reliable results.

Cancer

Cancer is the second leading cause of death in the United States and the first leading cause of death in the Commonwealth and Norfolk County.⁵¹ While experts have an idea of the risk factors and causal factors associated with cancer, the majority of cancers occur in people who do not have any known risk factors. The major known risk factors for cancer are age, family history of cancer, smoking, overweight/obesity, excessive alcohol consumption, excessive exposure to the sun, unsafe sex, exposure to fumes, second hand cigarette smoke, and other airborne environmental and occupational pollutants. As with other health conditions, there are major disparities in outcomes and death rates across all forms of cancer, which are directly associated with race, ethnicity, income, and whether one has comprehensive medical health insurance coverage.

According to 2013-2014 BRFSS data, 15% of Norfolk County residents reported ever receiving a diagnosis of cancer, which is significantly higher than the Commonwealth overall (12%).⁵² With respect to incidence, the town of Westwood had significantly higher rates for all types of cancer compared to the Commonwealth overall. Westwood and Needham had significantly higher incidence rates of breast cancer in women compared to the state, while Needham also had higher rates of prostate cancer (Table 8, Figure 6).

Figure 6 shows a number of cancer indicators in one map of the service area. The base layer shows the range in all cancer incidence in the service area, with orange indicating rates higher than the Commonwealth and blue indicating rates lower than the Commonwealth. Markers indicate significantly different rates from the Commonwealth on this and other cancer measures. Taken together, this map demonstrates that cancer is a concern across the service area.

⁵¹ Massachusetts Department of Public Health. *Massachusetts Deaths 2012: Data Brief*. January 2015. Accessed at <http://www.mass.gov/eohhs/docs/dph/research-epi/death-data/death-databrief-2012.pdf>

⁵² MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data

Figure 6 - Cancer Indicators in BID-Needham Service Area (Source: MassCHIP)

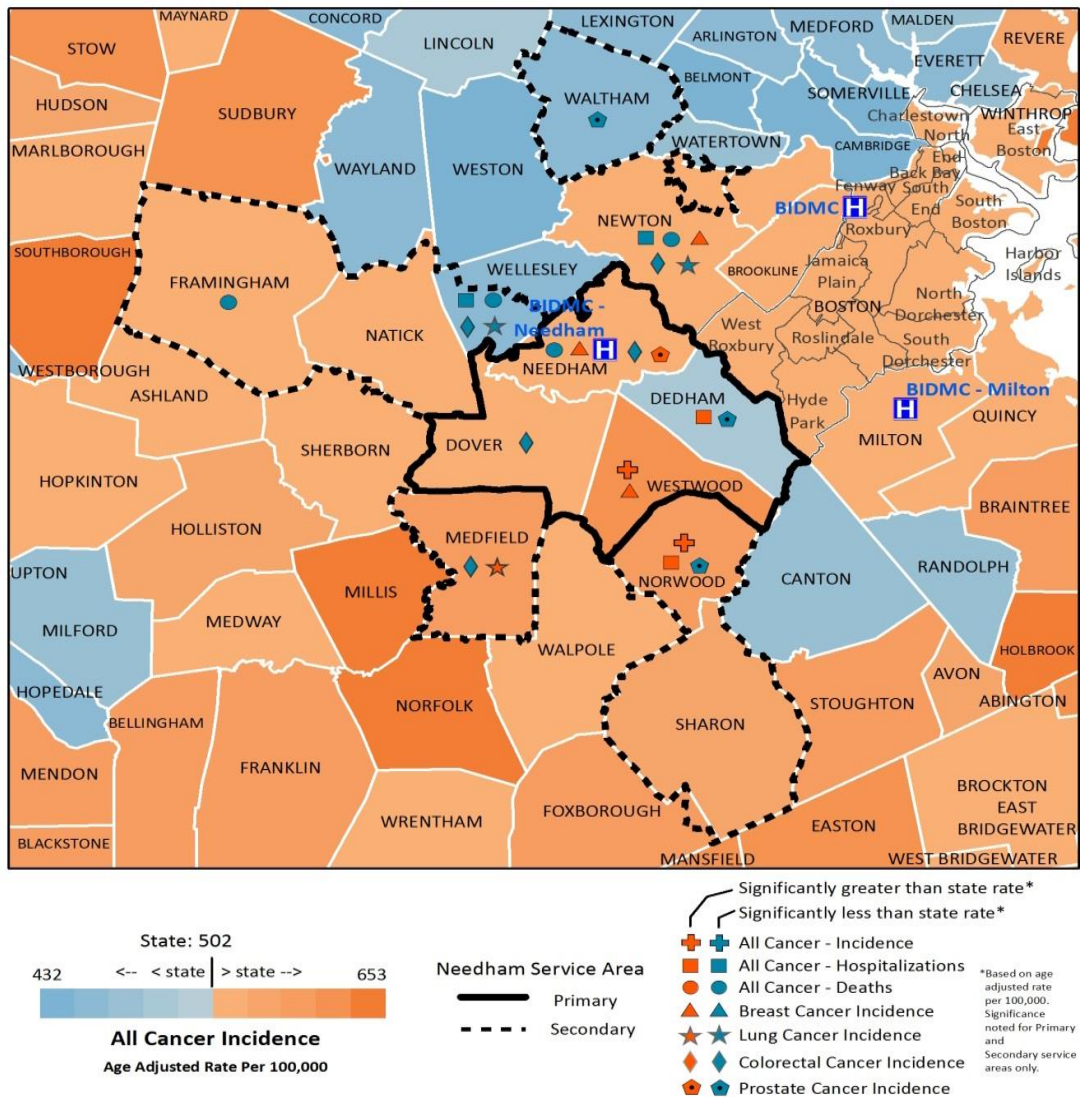


Table 8 - Incidence of Cancer (Age-adjusted rates, 2007-2011)

Incidence of cancer (age-adjusted rate per 100,000, invasive) (2007-2011)	MA	Dedham	Dover	Needham	Westwood
All types	502	498	515	520	572
Breast cancer – women only	136	137	134	166	181
Colorectal cancer	42	40	30	34	52
Lung cancer	69	81	40	45	60
Prostate cancer – men only	151	119	188	187	164

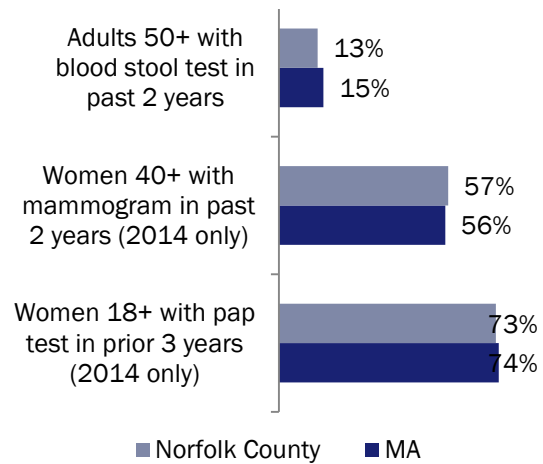
Mass CHIP, Age-adjusted rates, 2007-2011
 Orange indicates statistically significantly higher than state
 Blue indicates statistically significantly lower than state

In Massachusetts overall, the cancer death rate is 170 per 100,000. Needham has a significantly lower rate of cancer deaths (all types), at 136 per 100,000 while Dedham, Dover and Westwood all had cancer death rates that were comparable to the state. When looking at specific types of cancer deaths, all four towns had significantly lower or comparable death rates when compared to the state for breast, colorectal, lung and prostate cancer.⁵³

Norfolk County and Massachusetts had comparable cancer screening rates (Figure 7). However, there are opportunities for improvement, as just 13% residents over 50 in Norfolk County had a blood stool test in the past two years, and over a quarter (27%) of women 18+ had not had a Pap test in the past 3 years.⁵⁴

Efforts need to be made to screen for and identify those with cancer, with an emphasis on those facing barriers to care. Furthermore efforts should be made to ensure that those who have cancer have access to the highest quality care and the supportive services they need to manage and cope with their illness.

Figure 7 - Cancer Screening Rates in Massachusetts and Norfolk County (BRFSS 2013-2014 aggregate data)



Infectious Disease

Increases in life expectancy and decreases in the mortality rate during the 20th century are largely due to reductions in infectious disease mortality, as a result of immunization. However, infectious diseases remain a major cause of illness, disability, and even death. Sexually transmitted diseases (i.e., chlamydia and HIV/AIDS), diseases transmitted through needle injection (i.e., HIV/AIDS and hepatitis B and C), tick-borne illnesses (Lyme disease), and pneumonia are among the infectious diseases that have the greatest impact on the population. The assessment captured data on all of the conditions referenced above.

Lyme disease is of particular concern in the primary service area. Lyme disease incidence rates are significantly higher in two of four primary service area towns (Dover and Westwood) and two of eight secondary service area towns (Medfield and Sharon). All of these towns have Lyme disease incidence rates of over double the Commonwealth overall.⁵⁵

All towns in the primary and secondary service area had significantly lower or comparable hospitalization rates or deaths due to pneumonia/influenza compared to the state overall. According to BRFSS 2013-2014 data, similar rates of older adults (65+) in Massachusetts and in Norfolk County reported ever having a pneumonia vaccination or having a flu shot in the past year.⁵⁶

⁵³ Mass CHIP, Age-adjusted rates, 2008-2012
⁵⁴ MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data
⁵⁵ Mass CHIP, 2008-2012
⁵⁶ MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data

Chlamydia, gonorrhea, and hepatitis C crude incidence rates in all the primary and secondary service area towns were all significantly lower or comparable to the Commonwealth overall.⁵⁷

Great strides have been made with respect to HIV/AIDS, and for most it is considered to be more of a chronic condition that can be managed with medications than a terminal condition. Rates of illness, death, and HIV transmission have declined dramatically over the past decade. However, HIV/AIDS still has a major impact on the lesbian, gay, bisexual and transgender (LGBT) community as well as on injection drug users. Within the primary service area, limited data was available with regards to HIV/AIDS hospitalizations, related hospitalizations, and deaths due to small sample size. In the town of Dedham, where the sample was large enough, the rates of HIV-related hospitalizations and deaths were significantly lower than the Commonwealth overall.⁵⁸

Behavioral Health

Mental illness and substance use have a profound impact on the health of people living throughout the United States. Data from the Centers for Disease Control and Prevention suggests that approximately one in four (25%) adults in the United States has a mental health disorder⁵⁹ and an estimated 22 million Americans struggle with drug or alcohol problems.⁶⁰ According to the 2013-2014 BRFSS, 18% percent of adults in Norfolk County had ever been diagnosed with depression, comparable to the Commonwealth overall (21%).⁶¹ 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. For Dover, Needham, and Westwood, the majority of the data show that the behavioral health indicators are lower or comparable to the state averages. In contrast, the data for Dedham indicated the significant impact of mental health and substance use in that community (Figure 8, Tables 9 and 10).

Figure 8 (on the next page) shows a number of behavioral health-related indicators in one map of the service area. The base layer shows the range in the rate of substance use-related ED visits in the service area, with orange indicating rates higher than the Commonwealth and blue indicating rates lower than the Commonwealth. Markers indicate significantly different rates from the Commonwealth on this and other behavioral health measures. Taken together, this map demonstrates the concern for behavioral health in Dedham, as well as the secondary service area town of Norwood.

However, although the majority of rates for Dover, Needham, and Westwood may be lower or comparable than state averages, during the qualitative interviews and community forum, participants overwhelmingly identified behavioral health as the number one need in all of BID-Needham's service area. Participants noted:

- Behavioral health needs **impact physical health**, leading to higher morbidity and mortality

⁵⁷ Mass CHIP, 2008-2012

⁵⁸ Mass CHIP, 2008-2012

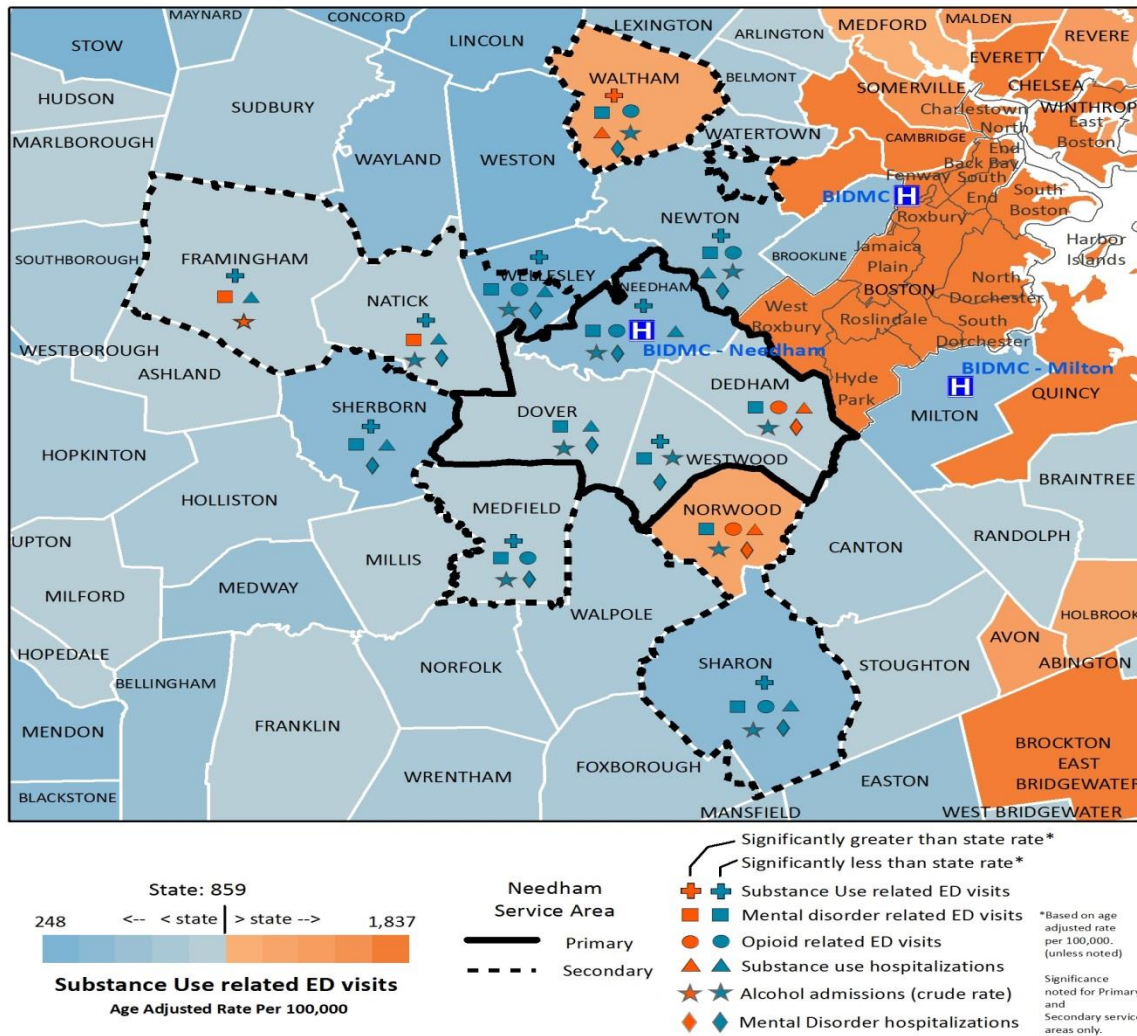
⁵⁹ <http://www.nimh.nih.gov/health/publications/the-numbers-count-mental-disorders-in-america/index.shtml>

⁶⁰ <http://www.healthypeople.gov/2020/topicobjectives2020/overview.aspx?topicid=40>

⁶¹ MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data

- **Lack of behavioral health providers**, especially those that understand the issues of older adults and or will treat the low income population.
- Lack of understanding about the dangers of prescriptions drugs, need for more **education and preventive services**.
- Depression and anxiety growing concern among **youth and older adults**
- **Stigma** continues to prevent those from getting needed care
- Need for better **integration of behavioral health and primary care**
- **Alcohol use** in adults

Figure 8 - Behavioral Health Indicators in BID-Needham Service Area (Source: MassCHIP)



Opioid use is of particular concern among residents of the service area. Within the primary service area, Dedham had significantly higher rates of admissions to DPH-funded programs where heroin was the primary substance, opioid-related discharges, and opioid-related ED discharges compared to the Commonwealth overall. Westwood also had significantly higher opioid related discharges than the state.

Table 9 - Opioid-Related Health Care Utilization and Mortality (Age-adjusted rates, 2008-2012)

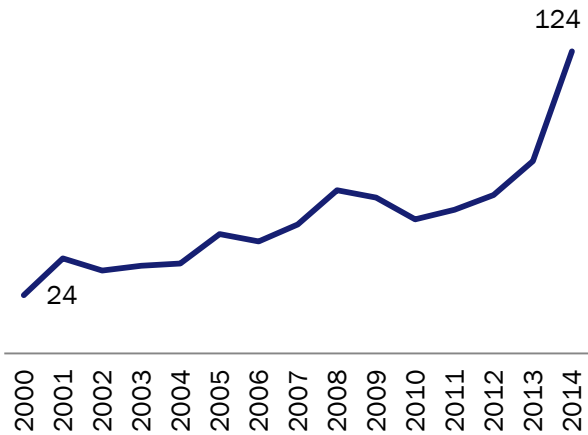
Opioid use indicator	MA	Dedham	Dover	Needham	Westwood
Admissions to DPH funded programs where heroin was the primary substance*	791	918	NA ⁺	66	123
Opioid-related hospitalizations**	316	497	126	112	391
Opioid-related ED discharges**	260	326	NA ⁺	119	254
Opioid-related fatal overdoses***	9	10	NA ⁺	1	2

*Massachusetts Bureau of Substance Abuse Services (BSAS), 2013
 **Age-adjusted rates per 100,000, 2008-2012; Massachusetts Hospital Inpatient Discharges (UHDDS), 2008-2012 & Massachusetts Hospital Emergency Visit Discharges, 2008-2012
 ***Age-adjusted rate per 100,000, Massachusetts Vital Records 2008-2012
 Orange indicates statistically significantly higher than state
 Blue indicates statistically significantly lower than state
 +MassCHIP marks cells with the tag "NA" if one of more of the following is true:

- The data are suppressed for confidentiality reasons.
- The particular combination of data elements, selector value, or statistical calculation is not available.
- The population on which a particular cell is based is too small to calculate reliable results.

As described above, the number of opioid related deaths in Norfolk County increased by over 400% from 24 in 2000 to 124 in 2014 (Figure 9)⁶². In the same period, total MA deaths increased from 338 to 1,282.⁶³

Figure 9 - Number of Unintentional Opioid Overdose Deaths, 2000-2014 (Mass DPH, May 2016)



With respect to alcohol and all substance use, rates of alcohol/substance-related hospitalizations and ED discharges in the primary service area towns were generally lower or comparable to the Commonwealth overall.⁶⁴ However, Dedham had significantly higher hospital utilization for all alcohol/substance use diagnoses (data not shown).

While utilization rates in primary service area towns were generally lower or comparable than the state, there were a couple of exceptions for Dedham: mental disorder and mental disorder-related hospitalization rates were significantly higher than the Commonwealth overall. In addition, age adjusted mortality related to mental disorder diagnosis (71) was significantly higher than that state (49).

⁶² <http://www.mass.gov/eohhs/docs/dph/quality/drugcontrol/county-level-pmp/overdose-deaths-by-county-including-map-may-2016.pdf>

⁶³ <http://www.mass.gov/eohhs/docs/dph/quality/drugcontrol/county-level-pmp/data-brief-overdose-deaths-may-2016.pdf>

⁶⁴ Mass CHIP, Age-adjusted rates per 100,000, 2008-2012

Table 10 - Mental Health-Related Health Care Utilization and Mortality (Age-adjusted rates, 2008-2012)

Mental health indicator	MA	Dedham	Dover	Needham	Westwood
Mental disorders – hospitalizations*	838	1,043	563	562	769
Mental disorders - all related hospitalizations*	3,840	4,157	2,044	2,633	2,908
Mental disorder ED discharges**	2,092	1,794	1,268	1,080	1,590
Mental disorder related ED discharges**	4,990	4,429	2,665	2,315	3,433
Mental Disorders: All – Deaths***	49	71	21	54	49
Suicide Deaths***	8	6	31	8	13

*Massachusetts Hospital Inpatient Discharges (UHDDS), 2008-2012
 **Massachusetts Hospital Emergency Visit Discharges, 2008-2012
 ***Massachusetts Vital Records 2008-2012
 Orange indicates statistically significantly higher than state
 Blue indicates statistically significantly lower than state

Special Populations

Older Adults

Across the country, 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, Parkinson’s disease, and dementia. By 2030, the CDC and the Healthy People 2020 Initiative estimates that 37 million people nationwide (60% of the older adult population 65+) will manage more than one chronic medical condition. Many experience hospitalizations, nursing home admissions, and low-quality care. They also may lose the ability to live independently at home. Chronic conditions are the leading cause of death among older adults.⁶⁵

As mentioned above in the section on population characteristics, all four of BID-Needham’s primary service area towns have significantly higher proportions of the population that are over 65, compared to the Commonwealth overall (Figure 10).⁶⁶

When considering elder health, it is important to understand that if the assessment had access to crude rates of chronic disease by age, we would find that elders 65+ have rates of diabetes and the leading chronic health conditions that are nearly twice the rates for the adult population overall. The older you get, the more likely it is that you have one or more chronic conditions: 49% of those aged 45-64 and 80% of people 65 and older live with one or more chronic conditions⁶⁷.

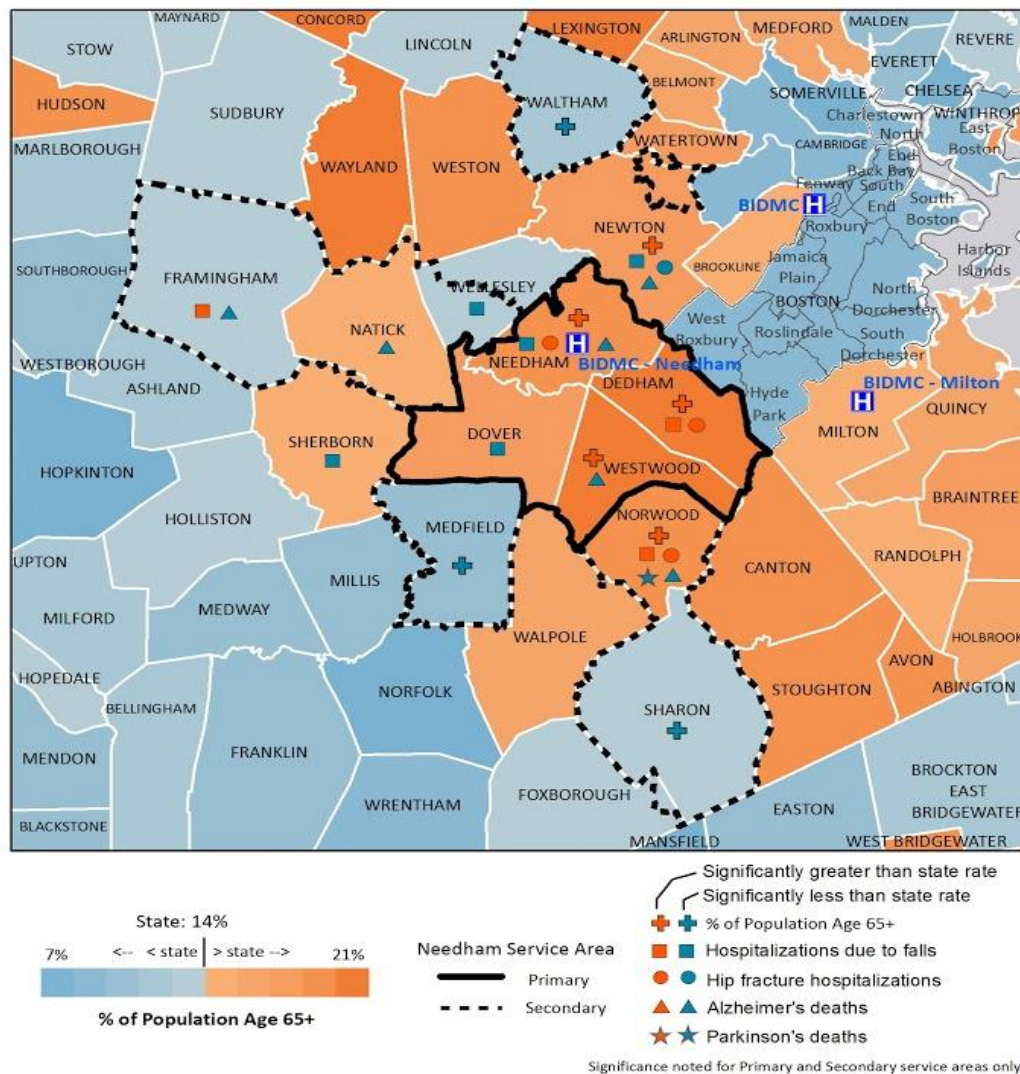
⁶⁵ <https://www.healthypeople.gov/2020/topics-objectives/topic/older-adults#two>

⁶⁶ United States Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

⁶⁷ Gerteis J, Izrael D, Deitz D, LeRoy L, Ricciardi R, Miller T, Basu J. Multiple Chronic Conditions Chartbook. AHRQ Publications No. Q14-0038. Rockville, MD: Agency for Healthcare Research and Quality. April 2014.

Figure 15 (prior page) shows a number of indicators specific to older adult health in one map of the service area. The base layer shows the range in the proportion of the town's population over the age of 65, with orange indicating rates higher than the Commonwealth and blue indicating rates lower than the Commonwealth. Markers indicate significantly different rates from the Commonwealth on this and other older health measures. Taken together, this map demonstrates that the primary service area was significantly older than the Commonwealth, and that older adult issues are a particular concern in Dedham, and the secondary service area town of Norwood.

Figure 10 - Population Over 65+ and Elder Health Indicators in BID-Needham Service Area (Source: Mass CHIP 2008-2012)*



A leading concern for older adults is falls. Dedham and Needham had higher rates of hip fracture hospitalizations than the Commonwealth overall while Dedham also had higher rates of hospitalizations due to falls overall (Table 11). All four towns in the BID-Needham service area had comparable rates to the state of deaths due to Alzheimer's or Parkinson's disease.

Table 11 - Elder Health Indicators (Mass CHIP)

Elder health indicators	MA	Dedham	Dover	Needham	Westwood
Hospitalizations*	367	425	284	331	369
ED discharges**	2,764	2,753	2,341	2,520	2,301
Hip fracture hospitalizations*	84	100	91	103	75

*Massachusetts Hospital Inpatient Discharges (UHDDS), 2008-2012
 **Massachusetts Hospital Emergency Visit Discharges, 2008-2012
 Orange indicates statistically significantly higher than state
 Blue indicates statistically significantly lower than state

During the qualitative interviews and the community forum, participants identified the following concerns for older adults:

- More support for **aging in the home**
- Not enough **providers with expertise** in geriatric primary care or mental health
- Need better **coordination of care** for elders, linkages between hospitals, housing, better post-acute system.
- **Transportation** needs
- **Elder isolation**

Maternal and Child Health

Maternal and child issues are of critical importance to the overall health and well-being of a geographic region and at the core of what it means to have a healthy, vibrant community. Infant mortality, childhood immunization, rates of teen pregnancy, rates of low birth weight, and rates of early, appropriate prenatal care for pregnant women are among the most critical indicators of maternal and child health. Data compiled on maternal and child health from MA DPH showed that there were no communities in BID-Needham’s primary or secondary service areas that were significantly worse than the Commonwealth on infant mortality, pre-term births, or low-birthweight births.⁶⁸

Youth

Mental Health: There is an unfortunate lack of data available on youth at the county or town levels. One exception is data for Needham youth from the MetroWest Adolescent Health Survey (see Figure 11).^{69 70} In the most recent reported findings, almost one-third of high school youth had reported that their life was very stressful in the last 30 days, while one fifth reported depressive symptoms in the past 12 months (defined as feeling sad or hopeless for two or more weeks in a row). Twelve percent reported a self-injury (defined as cutting, burning, or bruising oneself on purpose) in the past 12 months. Just over 1 in 10 youth reported that they had seriously considered suicide in the past

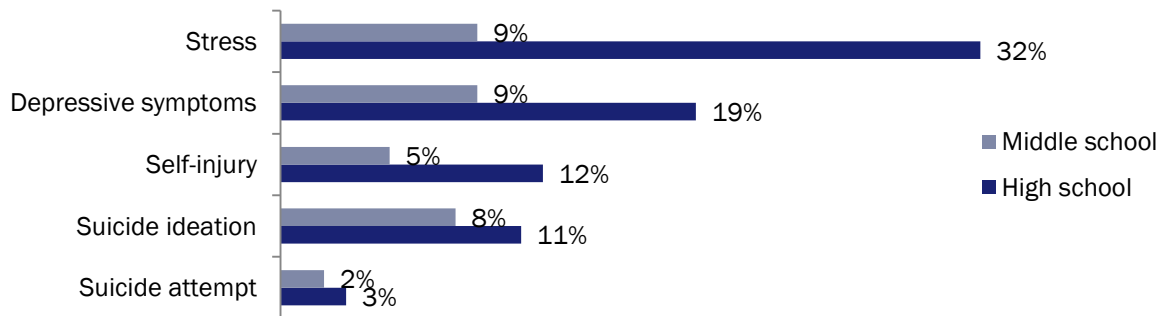
⁶⁸ Massachusetts Vital Records Natality, 2008-2012

⁶⁹ Highlights from the MetroWest Adolescent Health Survey. Needham High School 2014 Data. Spring 2015.

⁷⁰ Highlights from the MetroWest Adolescent Health Survey. Pollard Middle School 2014 Data. Spring 2015.

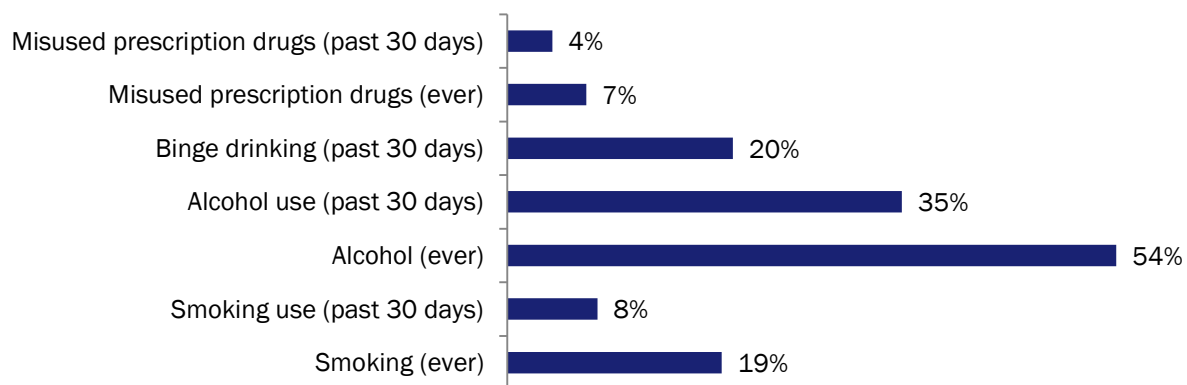
12 months, and 3% had made a suicide attempt. When looking at the data longitudinally, the data suggests that mental health issues decreased from 2006 to 2012, but returned to higher levels in 2014. The 2014 data also found that females are more likely than males to report stress and other mental health problems.

Figure 11 - Self-Reported Mental Health Indicators (MetroWest Adolescent Health Survey, 2014)



Substance Use: The MetroWest Adolescent Health Survey also captured data on Needham youth substance use (Figure 12) finding that 4% of high school youth had misused prescription drugs in the past 30 days and 20% had reported binge drinking in the past 30 days. This behavioral health data was supported by the qualitative interviews and the community forum where participants cited concern about growing behavioral health needs among youth.

Figure 12 - Self-Reported Substance Use Indicators (MetroWest Adolescent Health Survey, 2014)



Obesity/Overweight and Physical Activity: As reported previously in this report, findings from the 2014 MetroWest Adolescent Health Survey reveal that 13% and 17% of middle school and high school students, respectively, in Needham are obese or overweight.^{71 72} Fifty-six percent of high school aged youth meet national recommendations for physical activity, defined as exercising moderately for 60 minutes on 5 or more occasions in the past week.⁷³

⁷¹ Highlights from the MetroWest Adolescent Health Survey. Needham High School 2014 Data. Spring 2015.

⁷² Highlights from the MetroWest Adolescent Health Survey. Pollard Middle School 2014 Data. Spring 2015.

⁷³ Highlights from the MetroWest Adolescent Health Survey. Needham High School 2014 Data. Spring 2015.

Community Health Priorities and Target Populations

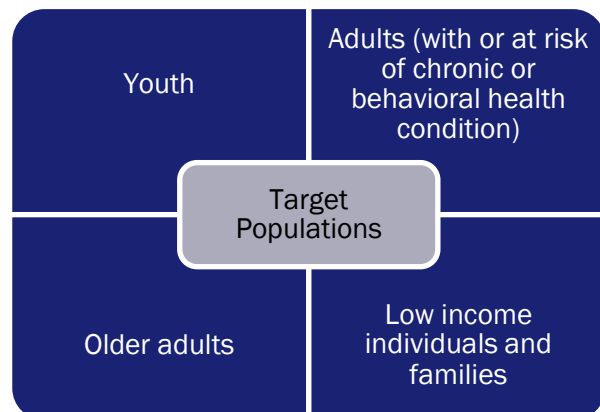
Once all of the assessment's findings were compiled, hospital and community participated in a strategic planning process that integrated data findings from Phases I and II of the project, including information gathered from the interviews and forums. Participants engaged in a discussion of: 1) the assessment findings, 2) current Community Benefits program activities, and 3) emerging strategic ideas that could be applied to refine their Community Benefits strategic response. From this meeting, community health priorities were identified, as were target populations and core strategies to achieve health improvements.

Following is a brief summary of the target populations and community health priorities that were identified with the support of community stakeholders. Also included below is a review of the goals, objectives, and core elements of BID-Needham's Community Health Improvement Plan (CHIP).

Target Populations

BID-Needham, along with its other health, public health, social service, and community health partners, is committed to improving the health status and well-being of those living throughout its service area. BID-Needham's CHIP, summarized in the next section, includes many activities that will support and impact all residents in their efforts to live healthy, active, independent, and fulfilling lives. However, based on the assessment's quantitative and qualitative findings, including discussions with a broad range of community stakeholders, there was broad agreement that BID-Needham's CHIP should target certain demographic and socio-economic target populations that have complex needs, face barriers to care and service gaps, as well as other adverse social determinants of health that can put them at greater risk, limit their access to needed services, and that can often lead to disparities in health outcomes. More specifically, the assessment identified youth, adults with or at risk of physical or behavioral health condition, low income individuals and families, and older adults (especially frail or socially isolated adults) as primary target populations.

Figure 13 - Target Populations



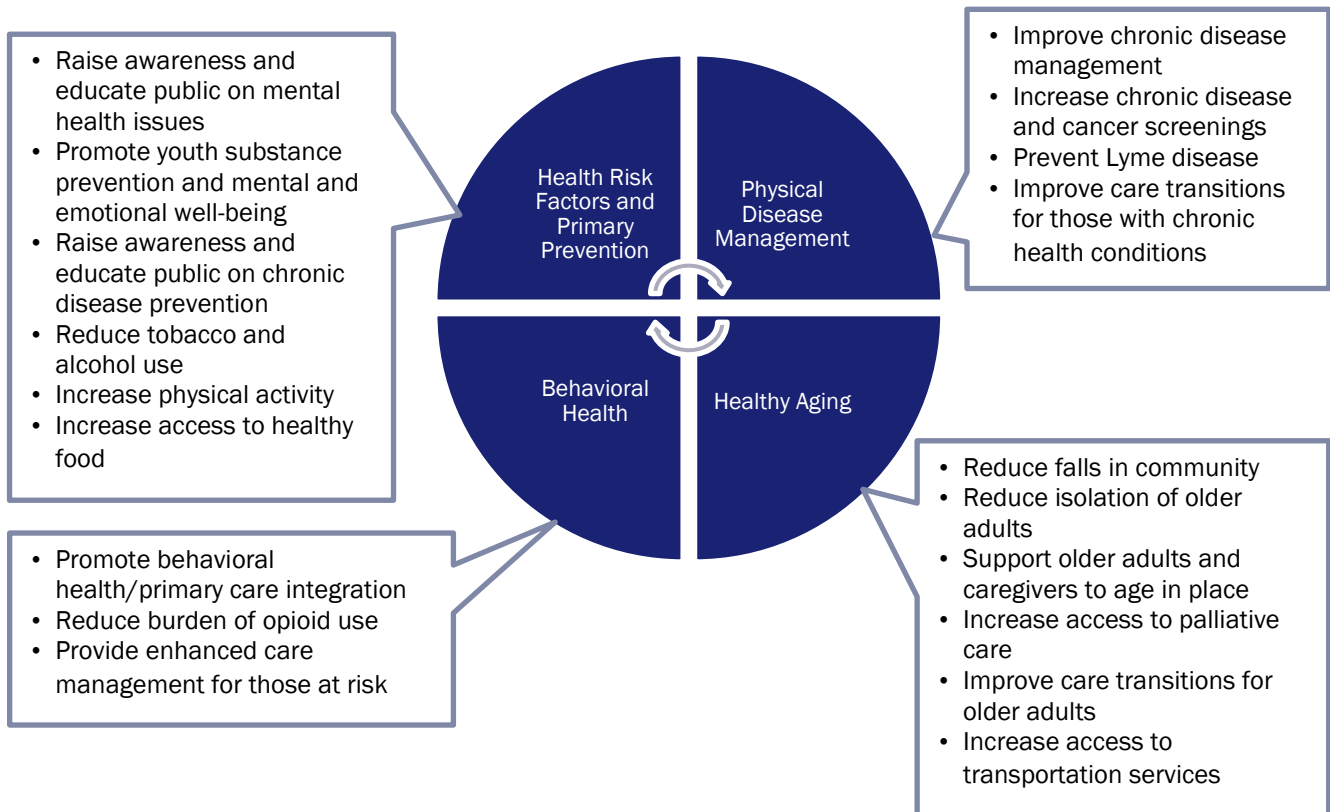
Community Health Priorities

The CHNA's approach and process provided ample opportunity for key stakeholders to vet the quantitative and qualitative data compiled during the assessment. In addition, interview and community/provider forum participants were asked what they perceived to be the leading community health priorities. Ultimately, there was little debate that the most significant health-related issue facing the communities fell into the following four priority areas: 1) Primary prevention and health risk factors, 2) Behavioral health (mental health and substance use), 3) Physical chronic disease management, and 4) Healthy aging. A fifth area was identified – Community Benefits

infrastructure – with the goal of this area to support implementation of efforts in the other three areas.

These health priorities have directed BID-Needham’s community health improvement planning process, and have helped identify target populations most in need of programs and services. The priorities outlined below are designed to promote community-based wellness and disease prevention, and ensure ongoing self-management of chronic diseases and behavioral health disorders. The goals and activities drawn from these priorities will make extensive use of existing partnerships, resources and programs in order to make the largest possible health impact.

Figure 14 - Community Health Improvement Plan Framework



Questions or comments on the BIDMC Community Health Needs Assessment or Community Health Implementation Plan may be submitted to:

Alyssa Kence

Community Relations Coordinator

Beth Israel Deaconess Hospital–Needham

148 Chestnut Street

Needham, MA 02492

akence@bidneedham.org

781-453-5460



Appendix A. List of Key Informant Interviews

19 Community interviews

- Needham Dept. of Public Health (3): Timothy McDonald, Carol Read, Donna Carmichael
- Dedham Board of Health: Catherine Cardinale
- Needham Police Department (2): Lieutenants John Schlittler and Chris Baker
- Needham Town: Kate Fitzpatrick
- Norfolk County DA Office: Jennifer Rowe
- State Representative: Denise Garlick
- Affiliated Physician Group: Jane Fogg
- Needham Council on Aging: Jamie Brenner Gutner
- Needham Housing Authority: Penny Kirk
- YMCA: Joann Donnelly
- Walker School: Jennie Shaw
- Atrius Health: Abby Flam
- Needham Public Schools: Tom Denton
- Riverside Community Care: Marsha Medalie
- Dover Police Department: Peter McGowan
- Westwood Public Health Department: Linda Shea

4 internal interviews

- Sam Sherman, Chief Development Officer
- John Fogarty, CEO
- Kathy Davidson, Chief Nursing Officer
- Meg Femino, Director of Emergency Management

Appendix B. List of Partner Survey Respondent Organizations

9 survey respondents (2 respondents did not provide org name)

- Hispanic-American Institute
- BID-Needham
- Needham Housing Authority
- Dedham Council on Aging
- Needham Public Health
- Needham Community Council

Appendix C. List of Community & Provider Forum Participants

- Laura Leventhal, Dedham Council of Aging
- Sandra Robinson, Needham Community Council
- Debbie Winnick, Needham Community Council
- Kathy Jurgens, Northeastern University
- Kristen Batchelor, Walker School
- Carol O'Neil, Dedham Housing Authority
- Karen Shannon, Needham Public Health Department
- Rachel Masser, Needham Public Health Department
- Edie Kelly, BID Volunteer
- Jon Mattleman, Needham Youth Services
- Jhana Wallace, CHNA 18
- Gail Kelley, Public Health Nurse, Dedham
- Jessica Gardner, Public Health Nurse, Dedham
- Catherine Cardinale, Dedham Public Health Director
- Timothy McDonald, Needham Public Health Director
- Carol Read, Needham Public Health
- Karen Mullen, Needham Public Health
- Tom Denton, Needham Public Schools
- Penny Kirk, Needham Housing Authority
- Jeff Friedman, Needham Farmers Market
- Michael D O'Neal, Resident

