



Beth Israel Deaconess
Medical Center

COMMUNITY HEALTH NEEDS ASSESSMENT

Final Report

**Approved by the
Beth Israel Deaconess Medical Center
Board of Directors**

September 20, 2016

2016

Community Health Needs Assessment for Beth Israel Deaconess Medical Center



Beth Israel Deaconess
Medical Center

Produced by John Snow Inc.



Executive Summary

Purpose and Background

Beth Israel Deaconess Medical Center (BIDMC) is one of the nation's preeminent academic medical centers. BIDMC is committed to excellence in clinical care, bio-medical research and education and to the health and wellness of its patients and the communities it serves¹. BIDMC is a major teaching hospital of Harvard Medical School and is a fully integrated medical center providing adult services. BIDMC attracts leading clinicians in all medical fields. BIDMC experts not only provide gold standard treatments to help a patient get better, they also help educate the public on disease prevention. BIDMC clinicians feel a responsibility to do more than make patients better when they are sick — they want to help the community stay healthy.

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

With respect to community benefits, BIDMC works with these partners and collaborators to increase access to primary and obstetrical care and other needed services, healthy foods, physical activity, and chronic disease management and prevention services. BIDMC also works with partners to reduce the burden of mental illness, substance use, and infectious diseases. This work is done in partnership with an extensive array of health, social service, and other community-based organizations throughout BIDMC's CBSA. BIDMC also collaborates with the Boston Public Health Commission, community coalitions, and the Community Care Alliance (CCA), which is a network of community health centers committed to serving underserved populations in BIDMC's CBSA. Demographically and socio-economically, BIDMC focuses its activities to meet the needs of all segments of the population but it focuses its efforts particularly on those who may face disparities due to race, ethnicity, socioeconomic status, age, sexual orientation or gender identity.

Approach and Methods

The CHNA was conducted in three phases, which allowed BIDMC to: 1) compile an extensive amount of quantitative and qualitative data, 2) engage and involve key stakeholders, BIDMC 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 benefits

¹ <http://www.bidmc.org/About-BIDMC/Protecting-Patients-and-Families/External-Vendors/BIDMC-Mission.aspx>

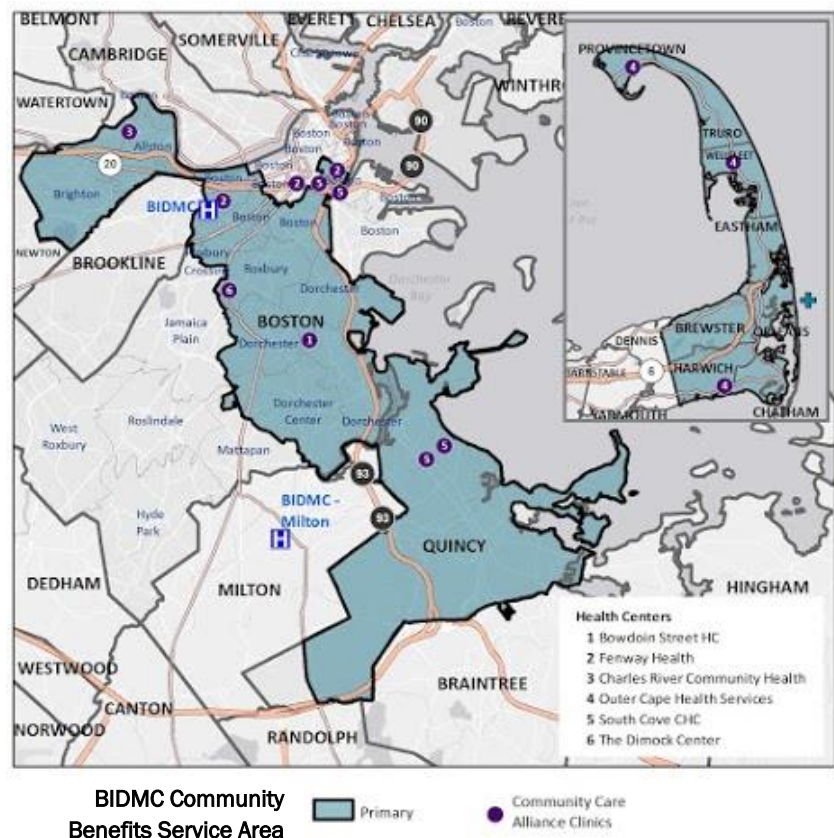
requirements. Data sources included a broad array of publicly available secondary data, key informant interviews, and four community forums.

BIDMC Community Benefits Service Area

BIDMC focuses its community benefits efforts on improving the health status of the diverse and/or low income, vulnerable populations living in many of Boston's most vulnerable neighborhoods as well as the city of Quincy adjacent to Boston. In addition, BIDMC supports the four isolated towns that make up the Outer Cape portion of Cape Cod: Harwich, Wellfleet, Truro, and Provincetown. These neighborhoods, cities, and towns have large proportions of low income, racially and ethnically diverse, foreign born immigrant, and/or geographically isolated residents. The challenges that these cohorts face with respect to social determinants of health and access to care are often intense and are at the root of the poor health outcomes that are seen for these communities.

BIDMC's support of these neighborhoods, cities, and towns has been funneled through the network of health centers that are part of the Community Care Alliance (CCA).² The six health centers that are part of the CCA are all rooted in their communities and are dedicated to serving underserved, vulnerable populations, primarily from the neighborhoods in which they are located.³ Five of these clinics are federally qualified health centers (FQHCs) and are mandated to serve the low income, underserved populations in BIDMC's CBSA.

BIDMC Community Benefits Service Area (CBSA)



² More on BIDMC's Community Care Alliance can be found at the following link. http://www.bidmc.org/Medical-Education/DiversityInclusion/~/.link.aspx?_id=AC81F6F38EDF47BEC731B693E29DCC8&z=z

³ Fenway Community Health and South Cove Community Health Center serve low income, underserved residents from the communities adjacent to their service sites but because of their unique ability to serve certain population segments well (i.e., Asian populations for South Cove and the LGBT community for Fenway Community Health) draw patients from throughout the Greater Boston Area.

A map showing the locations of the CCA clinics and the specific neighborhoods, cities, and towns that are part of BIDMC's CBSA is included above.

Key Health-Related Findings

This section summarizes the key health-related findings after the comprehensive review of secondary data analysis and primary data collection.

Social Determinants and Health Risk Factors

- **Social Determinants of Health (e.g., economic stability, education, and community/social context) Continue to Have a Tremendous Impact on Many Segments of the Population.** The dominant theme from the assessment's key informant interviews and community forums was the continued impact that the underlying social determinants of health are having on the CBSA's low income, underserved, diverse population cohorts. More specifically, determinants such as poverty, employment opportunities, violence, transportation, racial segregation, literacy, provider linguistic/cultural competency, social support, and community integration limit many people's ability to care for their own and/or their families' health.
- **Disparities in Health Outcomes Exist in BIDMC CBSA by Race/Ethnicity, Foreign Born Status, and Language:** As was established in the 2013 BIDMC Community Benefits CHNA Report, there are major health disparities for residents living in BIDMC's CBSA. This is particularly true for racially/ethnically diverse, foreign born, and non-English speaking residents living in the neighborhoods in Boston that are part of BIDMC's CBSA (i.e., Allston/Brighton, Dorchester, Fenway, Roxbury, and South End/Chinatown). The impact of racism, barriers to care, and disparities in health outcomes that these populations face are widely documented in the literature and are confirmed by numerous national, Commonwealth, and local data sources, including data from the Boston Public Health Commission 2014-15 Health of Boston Report.⁴

It is crucial that these disparities be addressed and, to this end, BIDMC's CHIP continues to include a myriad of programs, strategic interventions, and services that are carefully targeted to address these disparities. However, it is critical to note that there is a multitude of individual, community and societal factors that work together to create these inequities. The underlying issue is not only race/ethnicity, foreign born status, or language but rather a broad array of inter-related issues including economic opportunity, education, crime, and community cohesion. Arguably, these are the leading determinants of health for all urban communities in the United States, and they are daunting challenges. Many of Boston's major academic and health care institutions, including BIDMC, have been at the heart of this national dialogue for decades. BIDMC is committed to doing what it can to address these factors and every priority area and goal in BIDMC's CHIP is structured to address health disparities and inequities in some way.

⁴ http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf

- **Limited Access to Primary Care Medical and Specialty Care, Oral Health, and Behavioral Health Services for Low Income, Medicaid Insured, Uninsured, and Other Population Segments Facing Barriers to Care.** Despite the fact that 1) Massachusetts has one of highest rates of health insurance and 2) the communities that make up BIDMC's CBSA have strong, robust safety net systems there are still substantial numbers of low income, Medicaid insured, uninsured, and otherwise vulnerable individuals who face health disparities and are not engaged in essential medical and behavioral health services. Efforts need to be made to expand access, reduce barriers to care, and improve the quality of primary care and specialty medical, oral health, and behavioral health services.
- **High Rates of the Leading Health Risk Factors (e.g., Lack of Nutritional Food and Physical Activity, Alcohol/Illicit Drug Abuse, and Tobacco Use).** One of the leading findings from the assessment is that many communities and/or population segments in BIDMC's CBSA have high rates of chronic physical and behavioral health conditions. In some people these conditions have underlying genetic roots that are hard to counter. However, for most people these conditions are widely considered to be preventable or manageable. Addressing the leading risk factors is at the root of a sound chronic disease prevention and management strategy.

Behavioral Health

- **High rates of Substance Abuse (e.g., Alcohol, Prescription Drug/Opioids, Marijuana) and Mental Health Issues (e.g., Depression, Anxiety, and Stress).** If the impact of social determinants was the leading finding, a close second was the profound impact that behavioral health issues (i.e., substance abuse and mental health) are having on individuals, families and communities in every geographic region and every population segment in BIDMC's CBSA. Depression/anxiety, suicide, alcohol abuse, opioid and prescription drug abuse, and marijuana use, particularly in youth, are major health issues and are having a tremendous impact on the population as well as a burden on the service system. The fact that physical and behavioral health are so intertwined compounds the impact of these issues. Of particular concern are the increasing rates of opioid abuse.
- **Limited Access to Behavioral Health Services, Particularly for Low Income, Medicaid Insured, Uninsured, and those with Complex, Multi-faceted Issues.** Despite the burden of mental health and substance abuse on all segments of the population, there is an extremely limited service system available to meet the needs that exist for those with all mild to moderate episodic issues or those with more serious and complex, chronic conditions. Efforts need to be made to expand access, reduce barriers to care (including stigma), and improve the quality of primary care and specialized behavioral health services.

Chronic Disease Management

- **High Rates of Chronic and Acute Physical Health Conditions (e.g., heart disease, hypertension, cancer, and asthma).** The assessment's quantitative data clearly shows that many communities in BIDMC's CBSA have high rates for many of the leading physical health conditions (e.g., heart disease, hypertension, cancer, and asthma). In many communities these rates are statistically higher than Commonwealth rates, indicating a particularly significant problem. However, even for

those communities where the rates are not statistically higher, these conditions are still the leading causes of premature death.

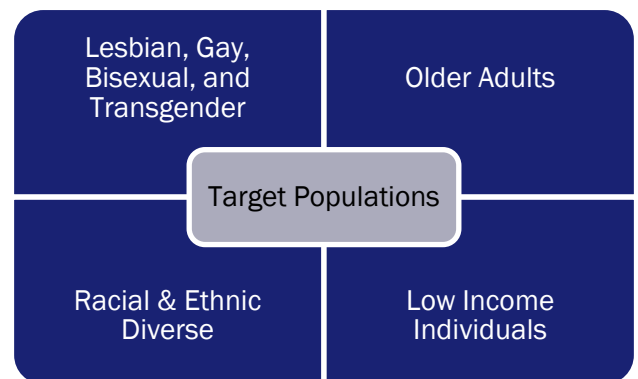
- **Limited Access to Cancer Screening for Racial/Ethnic Diversity and Other At-risk Populations.** Many of the communities that are part of BIDMC's CBSA have high cancer mortality rates. This is particularly true for certain cancers in specific communities in specific Boston neighborhoods, such as Roxbury, Dorchester, and South End/Chinatown that have a high proportion of racial/ethnic diversity. At the root of addressing high mortality is screening, early detection and access to timely treatment.
- **High Rates of HIV/AIDS Particularly on the Outer Portion of Cape Cod and in a Number of Boston Neighborhoods that are Part of BIDMC's CBSA.** Great strides have been made in controlling and managing HIV/AIDS, and for many it is managed as a chronic condition with medications. Rates of illness, death, and HIV transmission declined overall in the past decade. However, HIV/AIDS still has a major impact on certain segments of the population, including men who have sex with men and injection drug users. In BIDMC's CBSA, rates of HIV/AIDS are particularly high in the outer portion of Cape Cod and a number of Boston's neighborhoods.

Access to Care

- **Limited Access to Primary Care Medical, Medical Specialty, and Oral Health Care Services for Low Income, Medicaid Insured, Uninsured, and Other Vulnerable Populations Facing Health Care Disparities and Barriers to Care.** Despite the fact that 1) Massachusetts has one of highest rates of health insurance and 2) the communities that make up BIDMC's CBSA have strong, robust safety net systems there are still substantial numbers of low income, Medicaid insured, uninsured, and otherwise vulnerable individuals who face health disparities and are not engaged in essential medical and oral health services. Efforts need to be made to expand access, reduce barriers to care, and improve the quality of primary care medical, medical specialty, and oral health services.
- **Barriers to Access and Disparities in Health Outcomes Continue to Challenge Three Special Populations (Infants/Mothers/Fathers, Frail Older Adults, and Lesbian, Gay, Bi-sexual, and Transgender (LGBT) Populations.** Based on information gathered primarily from the interviews and community forums, the assessment identified a number of special populations that face barriers to care and disparities in access. More specifically, infants/mothers/fathers, frail older adults, and the lesbian, gay, bi-sexual, and transgender (LGBT) populations face disparities in access and outcome and are particularly at-risk. If these disparities are going to be addressed then care needs to be taken to tailor identification/screening and preventive services as well as acute and chronic disease management services for these special populations.

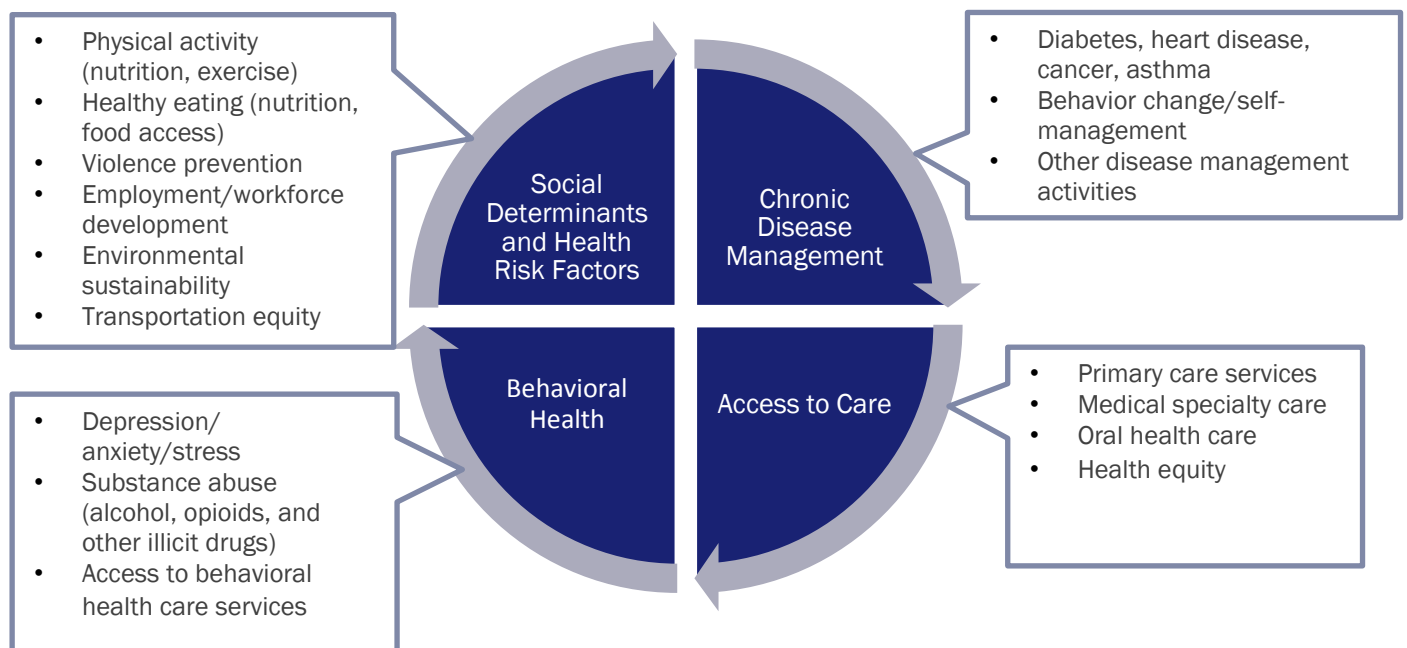
Priority Target Populations

BIDMC focuses its activities to meet the needs of all segments of the population with respect to age, race, ethnicity, income, gender identity and sexual orientation to ensure that all residents have the opportunity to live healthy lives. However, its community benefits activities are focused particularly on low income, racially/ethnically diverse, and older adult populations as well as the lesbian, gay, bi-sexual, and transgender population that are more likely than other cohorts to face disparities in access and health outcomes.



Community Health Priorities

BIDMC's CHNA approach and process provided ample opportunity to vet the quantitative and qualitative data compiled during the assessment. BIDMC has framed the community health needs in four priority areas, which together encompass the broad range of health issues and social determinants of health facing BIDMC's CBSA. These three areas are: 1) Social Determinants, Health Risk Factors and Equity, 2) Chronic Disease Management and Prevention, 3) Access to Care, and 4) Behavioral Health (mental health and substance abuse). BIDMC already has a robust community health implementation plan that has been addressing all of the issues identified. However, this CHNA has provided new guidance and invaluable insight on quantitative trends and community perceptions that can be used to inform and refine BIDMC's efforts. The following are the core elements of BIDMC's updated Community Health Implementation Plan (CHIP).



Summary Community Health Implementation Plan (CHIP)

The following outlines BIDMCs goals for addressing the target populations and community health priorities identified above.

Priority Area 1: Social Risk Factors and Health Equity

Goal 1: Increase Physical Activity

Goal 2: Promote Healthy Eating (Nutrition and Food Access)

Goal 3: Promote Violence Prevention (Safe Neighborhoods and Community Cohesion)

Goal 4: Support Workforce Development and Creation of Employment Opportunities

Goal 5: Promote Environmental Sustainability

Goal 6: Promote Transportation Equity

Priority Area 2: Chronic Disease Management

Goal 1: Improve Chronic Disease Management

Goal 2: Improve Care Transitions for Those with Chronic Health Conditions

Goal 3: Increase Cancer Screening

Goal 4: Support Cancer Patients and Caregivers

Goal 5: Support Older Adults to Age in Place

Priority Area 3: Access to Care

Goal 1: Increase Access to Quality Medical Services (Inc. PC, OB/GYN, & Medical Specialty Care)

Goal 2: Increase Access to Quality Oral Health Services

Goal 3: Increase Quality and Efficiency of Clinical Services at CCA Clinics

Goal 4: Promote Equitable Care and Support for those with Limited English proficiency

Priority Area 4: Behavioral Health

Goal 1: Promote behavioral health (BH)/ primary care integration

Goal 2: Reduce burden of opioid use

Goal 3: Increase Access to Quality Behavioral Health Care Services

Goal 4: Identify those at risk for BH condition and provide enhanced care management

Acknowledgements

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

Beth Israel Deaconess Medical Center (BIDMC) would like to acknowledge the great work, support, and commitment of the Beth Israel Deaconess (BID) Hospital CHNA Advisory Committee, with representation from each of BID's hospitals including BIDMC. The Advisory Committee met periodically throughout the assessment in order to keep abreast of the assessment's progress and to provide feedback on the process.

The assessment was also greatly informed and supported by staff and clinicians at the health centers that are part of BIDMC's Community Care Alliance (CCA). These health centers are a major part of Boston's health care safety net and do tremendous work on behalf of some of Boston's most vulnerable populations. The administrative and clinical staff from the health centers provided valuable insights on community need and helped to organize the community forums. Special thanks particularly to Adela Margules from Bowdoin Street Health Center who was interviewed, helped to organize a community forum, and participated on BIDMC's Community Benefits Retreat. JSI would also like to thank Sherman Zemler Wu, BIDMC's Senior Director of Clinical Program Planning and Strategy. Mr. Wu supported the assessment by compiling and analyzing hospital utilization data provided by the Massachusetts Center for Health Information and Analysis.

Since the beginning of the assessment in early October 2015, dozens of individuals participated in interviews and community forums. These participants included representatives from health and social service organizations, public health departments, community advocacy groups, and community businesses, as well as from the community at-large. The information gathered as part of these efforts allowed BIDMC to engage the community and gain a better understanding of community capacity, strengths, and challenges as well as community health status, barriers to care, service gaps, underlying determinants of health, and overall community need.

BIDMC 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. While it was not possible for this assessment to involve all of the community's stakeholders, care was taken to ensure that a representative sample of key stakeholders was engaged through the interviews and community forums. Those involved showed a real commitment to strengthening the region's 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 all those who were involved. Please accept our heartfelt appreciation and thanks for your participation in this assessment.

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Purpose, Background, and Community Benefits Service Area

Beth Israel Deaconess Medical Center (BIDMC) is one of the nation's preeminent academic medical centers and is nationally recognized for its world-class clinical expertise, education and research. BIDMC prides itself on its ability to combine exceptional, compassionate patient care with advanced medical knowledge, research, and technology in ways that allow it to achieve the best outcomes for its patients. In addition to its commitment to clinical excellence, BIDMC is committed to being active in its community. Community service is at the core of the religious traditions of both of its founding hospitals and is still an important part of its mission today. The Medical Center has a covenant to care for the underserved and works to address disparities in health care access and outcomes across the communities and population segments it serves.

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

BIDMC provides services to residents throughout Greater Boston and beyond. However, in recognition of its long-standing ties to specific Boston neighborhoods and the health disparities that exist for these communities, BIDMC focuses its community benefits efforts on improving the health status of the low income, underserved populations living in Allston/Brighton, Chinatown, Dorchester, Fenway/Kenmore, and Roxbury. BIDMC also has historical ties to working with the Greater Boston's LGBT population and underserved communities in Quincy, as well as with some of the most isolated, vulnerable areas of Cape Cod, specifically the Outer Cape (Harwich, Wellfleet, Truro, and Provincetown). These communities make up BIDMC's Community Benefits Service Area (CBSA) and target population.

BIDMC currently supports numerous educational, outreach, and community-strengthening initiatives targeting those living in its CBSA. In the course of these efforts BIDMC collaborates with many of Boston's leading healthcare, public health, and social service organizations. BIDMC has particularly strong relationships with many of the primary care clinics that operate in its CBSA, many of which are affiliated with BIDMC's Community Care Alliance (CCA). These health centers are ideal community benefits partners as they are rooted in their communities and are dedicated to serving low income, underserved populations. These clinic partners have been a vital part of BIDMC's community health strategy since 1968, when Beth Israel Hospital first joined forces with The Dimock Center to address maternal and child health issues.

Over the past year, BIDMC has contributed \$13,640,537 in in-kind and grant funding to support community initiatives operated by BIDMC and its partners to improve the health of some of Boston's most underserved, vulnerable communities. Additionally, BIDMC has leveraged \$6,088,585 in grant and other funds to address health disparities and health inequities, and provided more than

\$16,113,439 in charity care to low income individuals who were unable to pay for care and services at BIDMC.

Purpose and Background

Tax-exempt hospitals like BIDMC play essential roles in the delivery of health care services and as a result are afforded a range of benefits, including State and Federal tax-exempt status. With this status come certain fiduciary and public obligations. The primary obligation of tax-exempt hospitals is that they provide charity care to all qualifying individuals. Another obligation is that they are expected to conduct periodic community health needs assessments and to support the implementation of community-based programs geared to improving health status and strengthening the health care systems in which they operate. More specifically the IRS requires tax-exempt hospitals to conduct a community health needs assessment (CHNA) and to develop an associated community health implementation plan (CHIP) every three years. Finally, it is expected that these activities be done in close collaboration with the area's health and social service providers, the local public health departments, other key stakeholders, and the public at-large.

Massachusetts Voluntary Guidelines 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 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: <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	Federal IRS Requirements 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: Conduct a Community health needs assessment <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
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Figure 1. Commonwealth and Federal Community Benefits Requirements

BIDMC recognizes the merit and importance of these activities and as such, BIDMC's 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 BIDMC to fulfill its public requirements, but also allows BIDMC to explore ways to more effectively leverage its community benefits activities and resources and align these with the organization's broader business and strategic objectives. The CHNA process facilitates community partnerships and fosters broad community engagement. These efforts can promote the development of more targeted, integrated, and sustainable community benefits activities.

This report along with the associated CHIP is the culmination of nearly a year of work. It summarizes the findings from BIDMC's CHNA and provides the core elements of BIDMC's CHIP, including the major goals, objectives, community health strategies, key action steps, and evaluation metrics that will guide the plan. BIDMC's Community Benefits Department, with the full support of BIDMC's Board of Directors, looks forward to working with the CCA and other community partners, the Boston Public Health Commission (BPHC), and with Boston residents to address the issues that arose from the CHNA and to implement the CHIP.

Included below are further details regarding BIDMC's CBSA and target population as well as detailed descriptions of how the CHNA was completed and CHIP developed.

Overview of Community Benefits Services Area and Target Population

Decades before Beth Israel and Deaconess Hospitals came together as Beth Israel Deaconess Medical Center, each was a leader in health care with a long history of personalized patient care and community service. In 1896, as part of their missionary charter, Methodist deaconesses founded Deaconess Hospital to care for the city's residents. In 1916, Beth Israel Hospital was established by the Boston Jewish community to meet the needs of the growing immigrant population.

In 1996, these two great institutions, neighbors for more than 50 years, merged to form Beth Israel Deaconess Medical Center. The new organization maintains and strengthens excellence in patient care, education and research in today's rapidly changing health care environment.

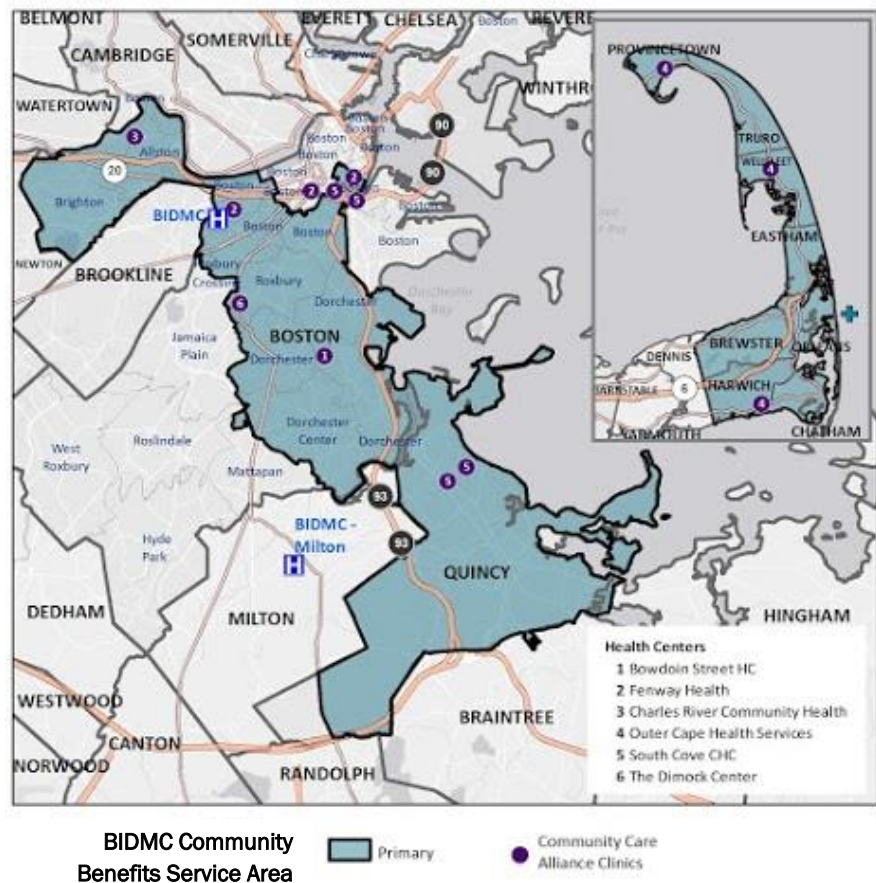


Figure 2. BIDMC Community Benefits Service Area

Today, with nearly three quarters of a million patient visits annually in and around Boston, Beth Israel Deaconess Medical Center is rated as one of the top hospitals in the country. Through its affiliates, Beth Israel Deaconess Hospital-Milton, Beth Israel

Deaconess Hospital-Needham, and Beth Israel Deaconess-Plymouth, it also serves a growing number of patients in Boston's western and southern suburbs. In addition to these four hospital campuses, BIDMC offers outpatient services through multi-practice, multi-specialty centers in Lexington and Chelsea as well as several primary care practices in the greater Boston area. BIDMC is also affiliated with community health centers in downtown Boston, Dorchester, Roxbury, Allston/Brighton, Quincy and the outer portion of Cape Cod.

BIDMC focuses its community benefits efforts on improving the health status of low income, underserved, or otherwise vulnerable populations living in specific Boston neighborhoods as well as the city of Quincy adjacent to Boston. In addition, BIDMC's Community Benefits program supports the four isolated towns that make up the outer portion of Cape Cod: Harwich, Wellfleet, Truro, and Provincetown. All of these neighborhoods, cities, and towns have large proportions of low income, racially/ethnically diverse, foreign born, immigrant, older adult, geographically isolated, or LGBT residents. The disparities that these population segments face with respect to social determinants of health, access to care, gender identity, sexual orientation, and health outcomes are often intense and are at the root of the poor health outcomes that are seen in these communities. With respect to LGBT segments of the population, merely capturing valid information on gender identity and sexual orientation in patient records could have an impact.

Historically, BIDMC's support of these neighborhoods, cities, and towns has been largely funneled through the network of independent primary care clinics that are part of the Community Care Alliance (CCA).⁵ The six clinics that are part of the CCA are all rooted in their communities and are dedicated to serving underserved, vulnerable populations, primarily from the neighborhoods in which they are located.⁶ Five of these clinics are federally qualified health centers (FQHCs) and are mandated to serve the low income, underserved populations in their communities.

A map showing the locations of the CCA clinics and the specific neighborhoods, cities, and towns that are part of BIDMC's CBSA is included above in Figure 2.

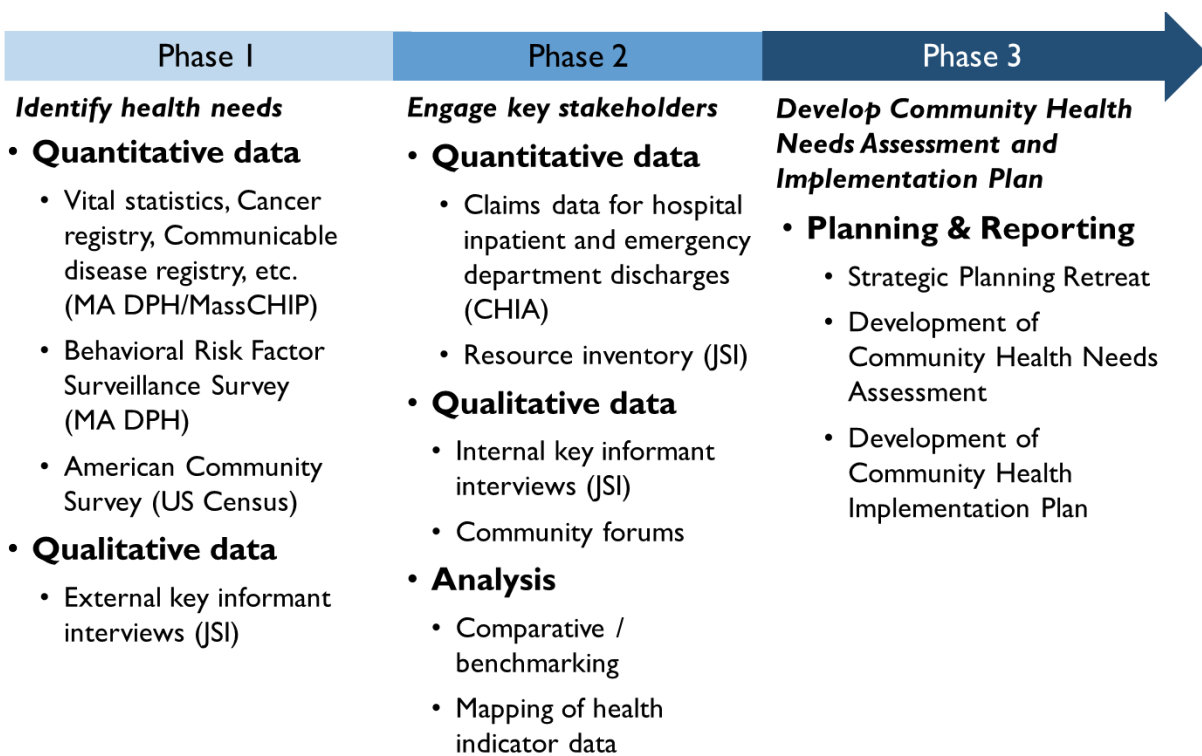
⁵ More on BIDMC's Community Care Alliance can be found at the following link. http://www.bidmc.org/Medical-Education/DiversityInclusion/~/.link.aspx?_id=AC81F6F38EDF47BEB731B693E29DCC8&_z=z

⁶ Fenway Health and South Cove Community Health Center serve low income, underserved residents from the communities adjacent to their service sites but because of their unique ability to serve certain population segments well (i.e., Asian populations for South Cove and the LGBT community for Fenway Health) draw patients from throughout the Greater Boston Area.

Assessment Approach/Methods and Data Limitations

The CHNA was conducted in a three-phased process. Phase I involved a rigorous and comprehensive review of existing quantitative data along with a series of interviews with community stakeholders. Phase II involved a more targeted assessment of need and broader community engagement activities that included listening sessions with health, social service, and public health service providers as well as forums that included the community at-large. Phase III involved a series of strategic planning and reporting activities that involved a broad range of internal and external stakeholders. This phase also included a range of community forums, whereby BIDMC communicated the results of the CHNA and outlined the core elements of its current and revised CHIP (Figure 3). Following below is a more detailed discussion of these components.

Figure 3. CHNA Approach and Methods



Characterize Population and Community Need

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

Community-specific health data analysis. JSI characterized health status and need at the town, or zip-code level. JSI collected data from a number of sources to ensure a comprehensive understanding of the issues and produced a series of Geographic Information System (GIS) maps which are included in this report. The primary source of secondary data was through the

Massachusetts Community Health Information Profile (MassCHIP) data system. Tests of significance were performed, and statistically significant differences between BIDMC's CBSA and the Commonwealth overall are noted when applicable. The list of secondary data sources included:

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

Key informant interviews with internal and external stakeholders. JSI conducted internal stakeholder interviews with seven senior leaders and key staff at BIDMC. JSI also conducted 13 lengthy interviews with a representative group of community leaders with experience and insight on the health of the communities in BIDMC's CBSA. Interviews were conducted using a standard interview guide. Interviews focused on pressing health concerns, as well as possible strategies to address those concerns.

Resource Inventory. To understand community need and underlying risks as well as to appropriately target strategies, JSI inventoried existing resources in BIDMC's CBSA. 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.) to complete this inventory. 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 series of five community and provider forums in BIDMC's CBSA to gather critical community input from service providers, community leaders and residents from BIDMC's CBSA. These forums were organized in collaboration with BIDMC's CCA health centers in order to leverage their community connections and help to ensure the strongest community participation. One of the forums was conducted in collaboration with BID Hospital-Milton as BIDMC and BID Hospital -Milton both serve the town of Quincy. The community forums were also conducted in partnership with the Conference of Boston Teaching Hospitals (COBTH), under the auspices of COBTH's Community Benefits Committee.⁷ COBTH is a coalition of fourteen Boston-area teaching hospitals that work collectively to ensure quality care, advocate for advances in medical education and research, and foster economic development. COBTH's partners are all obligated to conduct community

⁷ The mission of the COBTH's Community Benefits Committee is to enhance the ability of COBTH member hospitals individually, and collectively, to: 1) improve access to care for underserved populations and eliminate healthcare disparities, 2) achieve systemic change in core health issues, 3) using evidence based practices, promote the health and wellness of communities they serve; and 4) address the social determinants of health.

engagement efforts as part of their individual CHNA activities. With this in mind, two of BIDMC's forums were jointly sponsored by BIDMC, Dana Farber Cancer Institute, Brigham and Women's Hospital and Boston Children's Hospital. This was done in large part due to the efforts of Nancy Kasen who, in addition to being Director of BIDMC's Community Benefits Department, is Vice Chair of COBTH's Community Benefits Committee.

During the community forums, JSI discussed findings of the data and posed a range of questions developed by the COBTH Community Benefits Committee 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? Are the identified gaps the right ones? What segments of the populations are most at-risk? What are the underlying social determinants of health status? 2) What strategies would be most effective to improving health status and outcomes in these areas? The provider forums captured similar information but more time was dedicated to discussing service gaps and strategies for improving health status and outcomes.

Overall, four forums were conducted, three with the community and one with providers specifically, although providers were also present at community forums (Table 1).

Table 1. Internal Staff/Clinicians and External Community Forums

Event	Audience(s)
BIDMC Community Benefits Committee	BIDMC Internal Staff Community Leaders and Advocates
Bowdoin-Geneva Alliance Community Advisory Committee Meeting	Health and Social Service Providers Community Leaders and Advocates Community Residents
Chinatown/South End Community Forum	Health and Social Service Providers Community Leaders and Advocates Community Residents
Outer Cape Community Forum	Health and Social Service Providers Community Leaders and Advocates Community Residents
Quincy Community Forum	Community Providers and Residents
Roxbury Community Forum	Community Providers and Residents

Use Data to Prioritize Needs and Set Goals

The main objectives of Phase III of the assessment were to: 1) review the assessment's major findings, 2) identify BIDMC's community benefits target populations and community health priorities, 3) review BIDMC's existing community benefits activities, and 4) determine if the current range of community benefits activities needed to be augmented or changed to respond to this year's assessment. The key health issues identified by the assessment are discussed below in the assessment's findings sections (Overview of Geographic Community Benefits Service Area and Major Findings by the Leading Areas of Health-Related Need). The community health priorities that have

been identified are discussed below in the report's final section (Community Benefits Target Populations and Community Health Priorities)

During Phase III, JSI facilitated a Community Benefits Retreat that included senior staff from BIDMC as well as staff from BIDMC's CCA. During this retreat, participants reviewed the findings in depth, identified the leading health-related issues, and determined BIDMC's community benefits priorities. The retreat participants also began to review its existing Community Health Implementation Plan and explored ways in which it could be augmented or changed.

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 system⁸, an automated, interactive resource provided by the Massachusetts Department of Public Health (MDPH).⁹ 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 implementation plan development process. One major challenge was that much of the epidemiologic data that is available, particularly at the sub-county, municipal-, neighborhood-, or zip code-level data was at least two years old. The list of data sources included in this report provides the dates for each of the major data sets provided by the Commonwealth. The data was still valuable and allowed the identification of health needs relative to the Commonwealth and specific communities. However, older datasets may not reflect recent trends in health statistics. The age of the data also hindered trend analysis, as trend analysis required the inclusion of data that may have been up to ten years old, which challenged any current analysis.

With respect to qualitative data, information was gathered through stakeholder interviews and community forums, which engaged service providers, community leaders/advocates, and community residents. These interviews and forums provided invaluable insights on major health-related issues, barriers to care, service gaps, and at-risk target populations. However, given the relatively small sample size and the nature of the questioning the results are not necessarily generalizable to the larger population. While every effort was made to promote the community forums to the community at-large and to identify a representative sample of interviewees the selection or inclusion process was not very large, scientific, or random.

⁸ Massachusetts Community Health Information Profile (MassCHIP) system.

<http://www.mass.gov/eohhs/researcher/community-health/masschip/>

⁹ 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 Community Benefits Service Area

Population Characteristics, Determinants of Health, and Health Equity

An understanding of community need and health status in BIDMC's CBSA begins with knowledge of the population's characteristics as well as the underlying social, economic, and environmental factors that impact health and health equity. This information is 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, race/ethnicity, income, poverty, family composition, education, violence, crime, unemployment, access to food and recreational facilities, and other determinants of health. These 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 of this review. Conclusions were drawn from quantitative data and qualitative information collected through the interviews and community/provider forums. Summary data tables and maps are included below and more expansive data tables are included in the Data Appendices included with this report.

- **Age and Gender:** Understanding the distribution of the population by age is one of the most fundamental factors in determining scope of need and targeting community health interventions. Similar to BIDMC's 2013 assessment, Boston's population is considerably younger than the Commonwealth's population.

With respect to age, low income or otherwise vulnerable children/youth (0-17 years old) and older adults (65+ years old) across all socio-economic strata are inherently more at-risk. This was a theme from the assessment's interviews and community forums. Interviewees and meeting participants discussed the challenges faced by children and young adults (0-20 years old) in Boston's low income families. Nationally, black/African American, American Indian, and Hispanic/Latino children comprise a disproportionate share of the low income population under age 18. Together, they represent 38 percent of all children but more than one-half (54 percent) of low income children. They are also more than twice as likely to live in a low income family compared to white, non-Hispanic/Latino and Asian children.¹⁰

- Boston's median age in 2014 was 31.7 compared to 39.4 for the Commonwealth.
- The City of Boston overall has larger proportions of children/youth (0-17 years old) and young adults (18-44 years old), and smaller proportions of middle-aged (45-64 years old) and older adults (65+ years old) than the Commonwealth.
- In Quincy there are smaller proportions of children/youth (0-17 years old) and young adults (18-44) and larger proportions of middle aged- and older adults (44 years old or older).

¹⁰ Basic Facts About Low income Children, 2010 Children Under Age 18, Sophia Addy | Vanessa R. Wight. National Center for Children in Poverty, Mailman School of Public Health, Columbia University. February 2012
http://www.nccp.org/publications/pdf/text_1049.pdf

- Barnstable County had the highest median age of all counties in the Commonwealth of Massachusetts with a median age of 50.8 compared to 39.4 for the Commonwealth. All four of the towns in BIDMC's CBSA on Cape Cod had a proportion of older adults that was statistically higher than the Commonwealth's proportion. See Table 2 for further details.

Table 2. Age Characteristics of BIDMC CBSA

	MA	Boston	Harwich	Provincetown	Quincy	Truro	Wellfleet
Age under 18 (%)	21%	25%	15%	4%	17%	9%	10%
Age over 65 (%)	14%	14%	28%	25%	15%	30%	43%

Orange indicates statistically higher than the state
Source: US Census Bureau, ACS 5-Year Estimates

Interviewees and forum participants also discussed the challenges faced by older adults who are often depressed, anxious, and isolated and are more likely to struggle with chronic physical health conditions. They all face barriers that limit their access to needed services and overall mobility, including lack of public transportation, low income status, cultural/linguistic barriers, and lack of family or community support. Also services for older adults is often fragmented and poorly coordinated. In the urban communities, many of these older adults are also caring for young children, which is often a substantial burden and tends to lead to the children being less active and more house bound.

- **Race/Ethnicity, Foreign Born Status, and Language:** As was established in the 2013 BIDMC Community Benefits CHNA Report, there are major health disparities for residents living in BIDMC's CBSA. This is particularly true for racially/ethnically diverse, foreign-born, and non-English speaking residents in Boston's neighborhoods. The impact of racism, barriers to care, and disparities in health outcomes that these populations face are widely documented in the literature and are confirmed by numerous national, Commonwealth, and local data sources, including data from the Boston Public Health Commission 2014-15 Health of Boston Report.¹¹

It is crucial that these disparities be addressed and, to this end, BIDMC's CHIP continues to include a myriad of programs, strategic interventions, and services that are carefully targeted to address these disparities. However, it is critical to note that there is a multitude of individual, community and societal factors that work together to create these inequities. The underlying issue is not only race/ethnicity, foreign born status, or language but rather a broad array of inter-related issues including economic opportunity, education, crime, and community cohesion. Arguably, these are the leading determinants of health for all urban communities in the United States, and they are daunting challenges. Many of Boston's major academic and health care institutions, including BIDMC, have been at the heart of this national dialogue for decades.

¹¹ Boston Public Health Commission. *Health of Boston Report 2015* http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf Accessed 6/1/16

BIDMC is committed to doing what it can to address these factors and every priority and goal area in BIDMC's CHIP is structured to address health disparities and inequities in some way.

- BIDMC's CBSA is extremely diverse and has large proportions of racially/ethnically diverse populations that often struggle with access and face disparities in health outcomes. In Boston, a majority of Roxbury's, Dorchester's, and South End/Chinatown's populations are either black/African American, Hispanic/Latino, or Asian.

From 2000 to 2012¹², the largest population increase was among Hispanic/Latino residents, who made up 14.4% of the population in 2000 and 18.6% of the population in 2012. During the same time period, the percentage of Asian residents rose from 7.5% to 9.1%. From 2000 to 2012, the percentage of white, non-Hispanic/Latino residents decreased from 49.5% to 46.0% while the percentage of black/African American residents was relatively stable. In 2012, 63.4% of residents spoke English exclusively, while 15.9% of residents reported speaking Spanish or Spanish Creole. Among other commonly spoken languages, French Creole, Chinese, and Vietnamese figured prominently.¹³ It should be noted that a recent article published in the Journal of the American Medical Association (JAMA) studied life expectancy across the United States and identified demographic and socio-economic factors that were correlated more or less strongly with low life expectancy. One of the strongest determinants of low life expectancy is whether you are an immigrant or foreign born. Low income populations were even more likely to face disparities in life expectancy and other indicators, which is discussed in more depth below.¹⁴ Table 3 provides detailed information on race and ethnicity in BIDMC's CBSA.

Table 3. Race and Ethnicity Characteristics of BIDMC CBSA

	MA	Boston	Harwich	Provincetown	Quincy	Truro	Wellfleet
Asian alone (%)	6%	6%	3%	1%	26%	0%	0%
Black alone (%)	6%	13%	2%	3%	5%	0%	1%
White alone (%)	75%	75%	92%	89%	63%	96%	97%
Hispanic / Latino (%)	10%	5%	2%	5%	3%	2%	0%
Foreign Born (%)	15%	27%	7%	7%	29%	10%	4%
Language other than English spoken at home (%)	22%	37%	7%	10%	34%	6%	5%
Orange indicates statistically higher than the state Source: US Census Bureau, ACS 5-Year Estimates							

¹² Many of the key findings with respect to demographic characteristics and social determinants are drawn from the 2015 Health of Boston Report, which drew census data from 2012. While this is quite old, we still feel it provides strong analytic value.

¹³ Boston Public Health Commission. *Health of Boston Report 2015* http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf Accessed 6/1/16

¹⁴ McGinnis J. Income, Life Expectancy, and Community Health: Underscoring the Opportunity. JAMA. 2016;315(16):1709-1710. doi:10.1001/jama.2016.4729.

- **Income, Education, and Employment:** Socio-economic status, as measured by income, employment status, occupation, education, has long been recognized as a critical determinant of health. Research shows that communities with lower socio-economic status bear a higher disease burden and have lower life expectancy. 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 emergent and non-emergent care, and less likely to access health services of all kinds, particularly routine and preventive services. Moreover, children born to low income families are, as they move into adulthood, less likely to be formally educated, less likely to have job security, and less likely to rise and move up to higher socio-economic levels.¹⁵

As mentioned above, according to a recent study in JAMA, lower than average life expectancy is highly correlated with low income status. This is true nationally and it is certainly true in Boston. It should be noted that nationally, since 2001, the life expectancy of an average 40-year-old grew by about two years. But the researchers found the growth to be highly uneven, with most of the increases among the wealthiest. Life expectancies for the poor in the United States stayed mostly flat. Poor residents in the Boston area, however, gained about 2.5 years of life expectancy since 2001.¹⁶

While Boston has numerous extremely affluent neighborhoods, large portions of the City's population live in poverty, have less than average amounts of formal education, are unemployed, and struggle to afford food and other essential household items.

- In 2014, 22% of the City of Boston's population was living in poverty, which was twice the Commonwealth's rate of 11%.
- With respect to education, 15% of Boston's residents had less than a high school diploma or GED equivalency, compared to only 10% for the Commonwealth of Massachusetts.
- Unemployment rates were lower for the City of Boston overall compared to the Commonwealth but rates were considerably higher for certain demographic segments and neighborhoods living in Boston.
- According to data collected from the Bureau of Labor Statistics (BLS), in April 2015, Boston's unemployment rate overall was only 3.7%, compared to 4.7% for the Commonwealth overall, which represented the lowest unemployment rate in more than 15 years.¹⁷
- Despite Boston's low unemployment rate, additional analyses suggest that certain diverse cohorts face much higher rates of unemployment furthering income and

¹⁵ Alexander, K., Entwistle, D., and Olson, L. *Family Background, Disadvantaged Urban Youth, and the Transition to Adulthood*, Russell Sage Foundation. June 2014

¹⁶ "The Association Between Income and Life Expectancy in the United States, 2001-2014", The Journal of the American Medical Association; healthinequality.org

¹⁷ Data from U.S. Bureau of Labor Statistics. Available at <https://www.google.com/url?q=http://www.bls.gov&sa=D&usg=AFQjCNEpzEyRwS9DwMWeSDSBwVhcPF4HKQ> Last updated: April 2016

unemployment disparities. According to a study published by the Boston Redevelopment Authority (BRA) in March 2014, the unemployment rate for Boston overall was 9.6% but for the black/African American population the rate was 13.5%, for the Hispanic/Latino population the rate was 11.4%, and for the Asian population it was 10.7%. Additionally the study showed that the rate was nearly double for recent immigrants (20.8%) and more than 50% higher for individuals who did not graduate from high school (16.1%). By neighborhoods, the unemployment rates were highest in Mattapan (17.3%), Roxbury (16.8%) and Dorchester (16.2%).¹⁸

(Just to clarify, the BLS report and the BRA study used different methodology and definition of unemployment, so one cannot compare the BLS and BRA figures.)

Table 4 provides detailed information on the demographic characteristics of BIDMC's CBSA.

Table 4. Income Characteristics of BIDMC CBSA

	MA	Boston	Harwich	Provincetown	Quincy	Truro	Wellfleet
Below 200% of federal poverty line (%)	25%	38%	20%	43%	26%	25%	38%
Below federal poverty line - all residents (%)	12%	22%	7%	14%	10%	13%	14%
Below federal poverty line - age 65+ (%)	9%	20%	6%	15%	12%	7%	8%
Families below federal poverty line (%)	8%	17%	4%	8%	8%	12%	10%
Families below federal poverty line - female head of household (%)	26%	34%	9%	10%	19%	34%	39%

Orange indicates statistically higher than the state
Source: US Census Bureau, ACS 5-Year Estimates

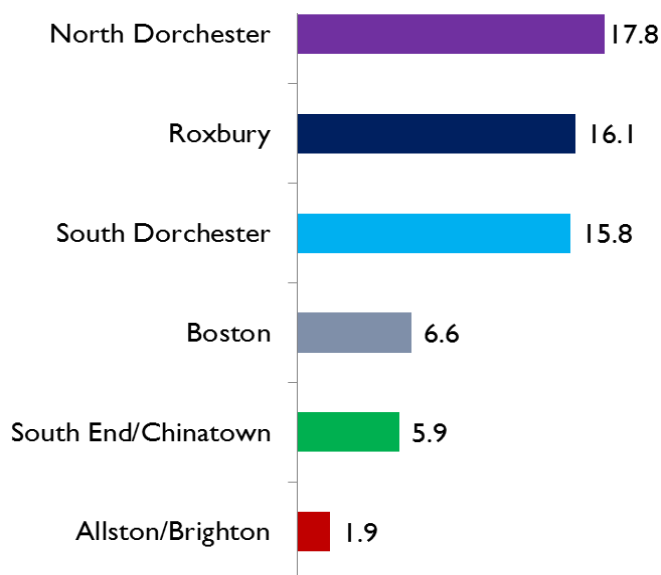
¹⁸ Unemployment in Boston. Boston Redevelopment Authority/Research Division, March 2014. Data drawn from US Census Bureau, 2012 American Community Survey.

- **Crime, Violence, and Community Cohesion.** Crime and violence are major issues, particularly in Boston, with their impacts being intense and far reaching. The consequences of crime and violence include physical injury and death, but there are also major social and emotional consequences. These issues affect the victims and those who are directly impacted by the crime or violence and also impact the emotional and social well-being of the victims' and perpetrators' families, friends and communities. Post-traumatic stress, social isolation and lack of mobility, lack of physical fitness, academic problems, substance abuse, and other indirect or secondary health or health-related problems are examples of these impacts. These impacts often have a ripple effect that negatively impacts families, schools, and entire communities longitudinally.

Figure 4. Homicide by Neighborhood, 2009-2013 (Average annual age-adjusted rate per 100,000; Source American Community Survey 5-Year Estimates)

The impact of violence was a major theme in the assessment's interviews and community forums. The discussion revolved primarily around youth violence and the impact that violence had on families. Participants talked at length about how violence limits a community's ability to connect, bind together, and realize the benefits that come from a strong, supportive community.

While there have been considerable improvements over the past 5-10 years, homicide rates are very high in Roxbury and Dorchester compared to the City overall and the Commonwealth. The homicide rates in Roxbury, North Dorchester, and South Dorchester in 2013 were nearly three times the rate for City of Boston overall.



Note: Fenway <5

- **Lack of Timely and Effective Transportation Services.** Lack of transportation was a major finding from the assessment's key informant interviews and community forums. Lack of transportation has a major impact on access to health care services but also an individual's or family's ability to live a productive, fulfilling life. Transportation equity is a civil and human rights priority. Access to affordable and reliable transportation widens opportunity and is essential to addressing poverty, unemployment, and goals such as access to good schools, healthy foods, and health care services
- **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, 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. 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.

- In 2010-2012, 67% of Boston residents lived in renter-occupied units. Compared to white, non-Hispanic/Latinos (57.9%), a higher percentage of Asian (75.6%), black/African American (72.4%) and Hispanic/Latino (84.6%) residents lived in renter-occupied units during the same time period
- For 51% of Boston residents, their rent was 30% or more of their household income
- After adjusting for differences in age, race/ethnicity and gender, renters were more likely to report asthma, diabetes, hypertension, persistent anxiety and persistent sadness and were more likely to be obese compared to those who own homes.¹⁹
- **Food Access.** “Food is one of our most basic needs. Along with oxygen, water, and regulated body temperature, it is a basic necessity for human survival. But food is much more than just nutrients. Food is at the core of humans’ cultural and social beliefs about what it means to nurture and be nurtured.”²⁰ Issues related to food insecurity, food scarcity, hunger and the prevalence and impact of obesity are at the heart of the public health discourse in urban and rural communities across the United States. While there is not much quantitative data on food access, lack of access to healthy foods was one of the leading findings from the interviews and community forums, particularly for low income individuals and families and those living in Roxbury and Dorchester who often struggled to find stores to buy fresh fruits and vegetables. This finding mirror what was found in BIDMC’s 2013 CHNA, which found through a Community Health Survey that blacks/African Americans and Hispanics/Latinos living in Boston neighborhoods were considerably more likely to report having limited access to fresh fruits and vegetables compared to white, non-Hispanic/Latino populations. According to the 2013 survey, 65% of Hispanics/Latinos and 64% of blacks/African Americans reported having limited access to fresh fruits and vegetables compared to only 45% of white, non-Hispanics/Latinos. In FY 2013, on a neighborhood level, 68% of respondents from Roxbury and 69% of respondents from North Dorchester reported limited access.
- **Access to Recreational Facilities.** As the body of research related to obesity and chronic disease has grown so has the appreciation for the impact that having readily accessible recreation areas or facilities may have on communities. When people have access to safe local playgrounds, pools, and trails, they are more likely to choose physical activity and less likely to be overweight or obese. In Boston, many of the recreational sites, particularly in the communities that make up BIDMC’s CBSA, are perceived to be unsafe and are not used. Increasingly, health and public health strategies targeted at decreasing obesity are working to support opening or improving accessibility to recreational sites (e.g., parks, playgrounds, trails) as a way of increasing the rates

¹⁹ Boston Public Health Commission. *Health of Boston Report 2015* http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf Accessed 6/1/16

²⁰ Feeding America: Child Food Insecurity: The Economic Impact on Our Nation. 2009 <https://www.nokidhungry.org/sites/default/files/child-economy-study.pdf>

of adequate physical activity. For example, opening elementary school playgrounds after school hours, developing bike or walking trails, cleaning up or better maintaining playgrounds, and developing/supporting community recreational centers are common city-wide strategic initiatives.

Mortality and Premature Mortality

In 2012, the life expectancy for a resident in the Commonwealth of Massachusetts was 81 years. In 1950, it was 70 years, and in 1900 it was 45 years.²¹ 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. In 1900, cancer was the known cause of death in only 4-5% of deaths; today nearly 25% of all deaths can be attributed to cancer. See Figure 5 below.

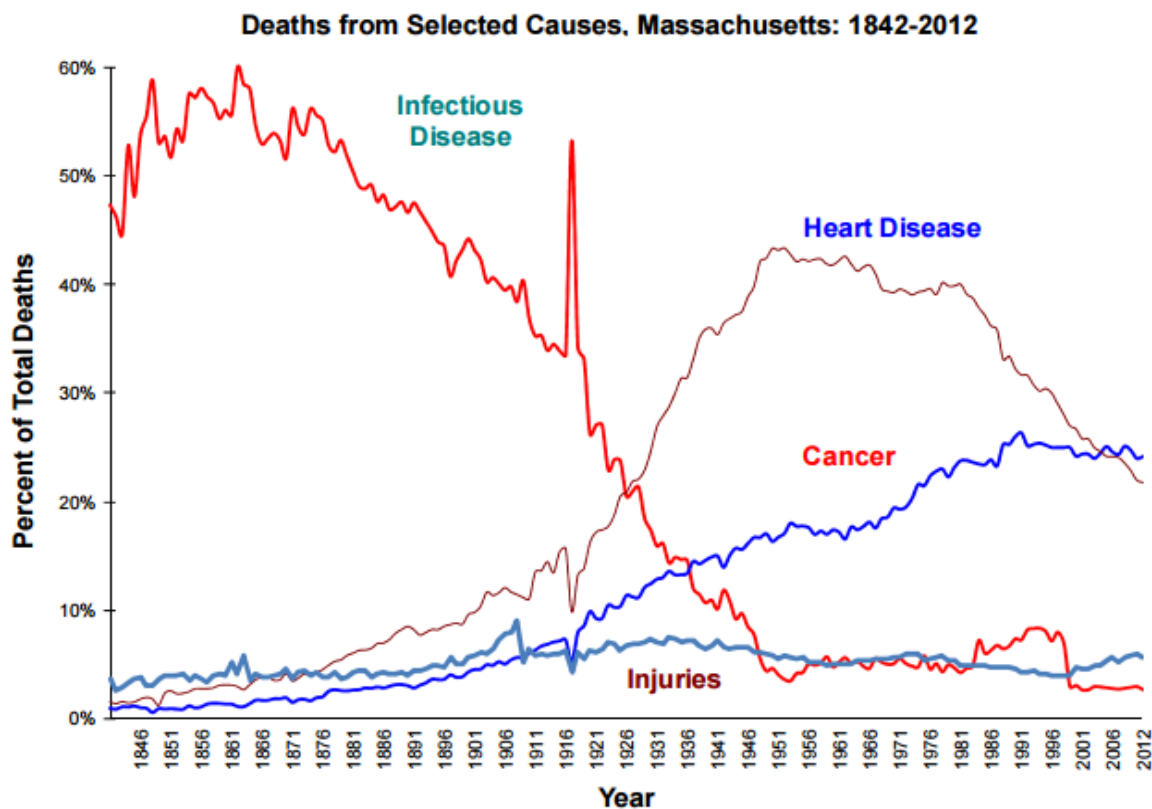


Figure 5. Deaths from Selected Causes in Massachusetts, 1842 – 2012

Source: Massachusetts Department of Public Health. *Massachusetts Deaths 2012: Data Brief*. January 2015. <http://www.mass.gov/eohhs/docs/dph/research-epi/death-data/death-databrief-2012.pdf> Accessed 5/11/2016)

Since 1950, there have been major improvements in the ability to prevent premature deaths due to heart disease, stroke, and even cancer. However, there is still a great deal of work to do in this area, as these issues are still among the top three leading causes of premature death. Even if city- or

²¹ Massachusetts Department of Public Health. *Massachusetts Deaths 2012: Data Brief*. January 2015. <http://www.mass.gov/eohhs/docs/dph/research-epi/death-data/death-databrief-2012.pdf> Accessed 5/11/2016

neighborhood-level rates of illness are not higher than the county, Commonwealth, or national benchmarks, it is still important that BIDMC and its community health partners address these issues if they are to improve health status and well-being.

According to data from the Massachusetts Department of Public Health, in 2012 cancer, cardiovascular disease (heart disease), cerebrovascular disease (stroke), and chronic lower respiratory disease (COPD) were the leading causes of death in Boston (Table 5). Other leading causes of death include diabetes, influenza/pneumonia, Opioid-related issues, homicide, suicide, and motor vehicle-related deaths.

Table 5. Leading Causes of Death in Boston (2012)

Cause of Death	Number of Boston Deaths, 2012	Death Rate per 100,000
All Cancer	996	186.3
<i>Lung Cancer</i>	238	44.4
<i>Female Breast Cancer</i>	52	9.7
Heart Disease	709	131.1
Stroke/Cerebrovascular Disease	184	34.0
Chronic Lower Respiratory Disease	123	23.4
Diabetes	107	20.0
Influenza and pneumonia	86	16.0
Opioids-related	67	12.5
Homicide	53	9.9
Suicide	34	6.3
Motor vehicle	31	5.8
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		

As was discussed above, there is a strong correlation between income and where you live on the one hand and life expectancy, death, and overall health status on the other. According to a study published in April 2016, in the *Journal of the American Medical Association*, Suffolk County residents, essentially dominated by Boston, living in households less than \$100,000 per year are expected to die about 7 years before their wealthier counterparts. That's roughly equivalent to the difference in life expectancy between an average man in the United States and one in Egypt. The report underscores the role of geography and wealth in attaining longevity. The essential point is that if you live in communities with large proportions of low income residents than you have lower health status and a lower life expectancy.²²

All of these leading causes of death have a major impact on people living in BIDMC's CBSA but cancer, cardiovascular disease (heart disease), chronic lower respiratory disease (COPD), cerebrovascular disease (stroke), and diabetes are the most important for BIDMC to consider as they

²² The Health Inequality Project. How can we reduce disparities in health? Accessed at <https://healthinequality.org> Accessed 6/2/16

are the most prevalent conditions and are, to a large extent, preventable. These chronic conditions share health risk factors discussed later in this report - obesity, inactivity, poor nutrition, tobacco use, and alcohol use.

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, the Massachusetts Department of Public Health, and Center for Disease Control and Prevention. Qualitative information gathered from interviews and community forums 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, physical health (including chronic disease, cancer, and infectious disease), behavioral health, and considerations for special populations (youth, older adults, and lesbian, gay, bi-sexual, transgender (LGBT) groups), as well as mothers, fathers, infants, and young families.

Summary data tables/graphs are included below, along with a narrative review of the assessment's qualitative findings. More expansive data tables are included in the Data Appendices.

Health Risk Factors

Insurance Coverage and Usual Source of Care of Primary Care

Access to health insurance that helps to pay for needed preventive, acute, and disease management services, as well as access to comprehensive, timely accessible primary care has shown to have a profound effect on one's ability to prevent disease and disability, increase life expectancy, and perhaps most importantly, increase quality of life.²³ Nationally, disparities in access and health outcomes exist for many population segments, including those in low income brackets, certain racially/ethnically diverse segments, and LGBT populations, just to name a few. Due to a range of mostly social factors, these groups are less likely to have a usual source of primary care, less likely to have a routine check-up, and less likely to be screened for illnesses, such as breast cancer, prostate cancer, or colon cancer. Data also suggests that those that face disparities are more likely to use hospital emergency departments and inpatient services for care that could be avoided or prevented altogether with more accessible primary care services.²⁴

²³ Healthy People 2020. Access to Health Services. <https://www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Access-to-Health-Services> Accessed 6/2/16

²⁴ Institute of Medicine. Coverage Matters: Insurance and Health Care. <http://iom.edu/~media/Files/Report%20Files/2003/Coverage-Matters-Insurance-and-Health-Care/Uninsurance8pagerFinal.pdf> Accessed 6/2/16

Due to the Patient Protection and Affordable Care Act (Obamacare) and tremendous efforts by Commonwealths/States across the nation, including Massachusetts, tremendous strides have been made with respect to health insurance access. Six years ago, approximately 1 in 5 American children and adults under the age of 65 years old (20%) did not have medical insurance. Today, this ratio has improved to approximately 1 in 8 or 13%. In Massachusetts, the rate of uninsurance is considerably lower. In fact, Massachusetts leads the nation with the lowest commonwealth/state uninsurance rate. In 2013, only approximately 3% of the Commonwealth's population lacked medical health insurance.

With respect to access, according to the Centers for Disease Control and Prevention's Healthy People 2020 Initiative, nearly 1 in 4 Americans (23%) nationally do not have a primary care provider (PCP) or health center where they can receive regular medical services. Increasing access to both routine medical care and medical insurance are vital steps in improving the health of all Americans. Once again, in Massachusetts this rate is better and approximately 1 in 7 residents have a usual source of primary care. In fact, the Greater Boston area continues to have one of the strongest and most comprehensive healthcare systems. This system is particularly strong, relative to other areas, for low income, diverse, and vulnerable population segments who typically struggle to access needed health-related services. The Greater Boston area, including Quincy, has a robust network of federally qualified health centers and other safety net clinics that operate dozens of clinics and practice sites which provide comprehensive medical services. Even on the outer portion of Cape Cod, there are three safety net clinic sites. Access to dental and behavioral health services are more problematic but still, relative to other geographies, the Greater Boston region and Cape Cod is better situated.

It is important to note that this does not mean that everyone in Greater Boston and in BIDMC's CBSA receives the highest quality services where and when they want it. In fact, despite the overall success of the Commonwealth's health reform efforts, data captured for this assessment shows that large segments of the population, particularly low income, diverse, and vulnerable populations, face significant barriers to care and struggle to access services due to lack of and/or adequacy of insurance, cost, transportation, cultural/linguistic barriers, and shortages of providers willing to serve Medicaid insured or low income, uninsured patients.

According to the 2015 Health of Boston Report, 6% of Boston residents did not have health insurance coverage. Among BIDMC's Community Care Alliance clinics, the uninsured rate ranges from 4% at South Cove Community Health Center to 44% at Charles River Community Health attesting to the burden that still exists for a large number of Boston residents and for the safety net providers that serve these populations.

According to data captured from the Commonwealth's Inpatient Hospital Discharge Database²⁵ residents of North and South Dorchester, Roxbury, and Chinatown/South End were more likely to receive inpatient services for hypertension, heart failure, asthma, pneumonia, and chronic obstructive pulmonary disease than residents of Boston and Massachusetts overall. Based on a standard analysis developed by the Federal Agency for Healthcare Research and Quality (AHRQ), these services are considered preventable or avoidable with regular, primary care services and

²⁵ Inpatient hospital discharge database, outpatient emergency department database, and Outpatient hospital observation database, MA Center for Health Information and Analysis (CHIA)

therefore are indicative of poor or limited access to primary care. In some cases residents of these communities were two and three times more likely to receive hospital services for these conditions compared to other residents.

Even among the insured, our qualitative results from the interviews and community forums revealed that individuals across all socio-demographic groups struggle to access essential health care services either due to shortage of providers willing to take certain insurances (particularly Medicaid), high out-of-pocket expenses, lack of evening or weekend hours, or lack of access to culturally appropriate services. These factors limit access and often are at the heart of inappropriate use of the hospital emergency department. According to the assessment's interviews and community forums, this is especially true in the case of residents seeking behavioral health and oral health services. Insurance benefit packages often do not adequately cover oral health and behavioral health services. Also, in these services areas, it is even more difficult to find providers willing to serve Medicaid or uninsured patients. These factors force consumers to go without needed services or pay for services out-of-pocket, which is often impossible for those with limited income.

Health Behaviors

There is a growing appreciation for the effects that certain health risk factors, such as obesity, inactivity, poor nutrition, tobacco use, and other substance use have on health status and the burden of chronic 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.

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

Over the past two decades, obesity rates in the United States have doubled for adults and tripled for children.^{27 28} These trends have spanned all segments of the population, regardless of age, sex, race, ethnicity, education, income, or geographic region.

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

²⁷ 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.

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

²⁸ State of Obesity. Obesity Rates and Trends Overview. <http://stateofobesity.org/obesity-rates-trends-overview/> Accessed 6/1/16

Obesity/Overweightness

- In 2014, more than half (58%) of Massachusetts adults (18+) and nearly one-quarter (23%) of children and youth (0-18) were either obese or overweight. The percentage of Boston's residents who were overweight or obese was similar to the Commonwealth with more than half of all Boston adults being either overweight or obese.^{29 30}
- There was considerable variation by race/ethnicity and by neighborhood. Thirty-three percent of black/African American adults and 27% of Hispanic/Latino adults were obese compared to only 16% of white, non-Hispanics/Latinos, and 15% of Asians. In Roxbury, 30% of adults were obese and in North and South Dorchester approximately 27% of adults were obese, compared to 22% for the South End/Chinatown and 12% for Allston/Brighton and Fenway/Kenmore.³¹
- Data specifically for Quincy and the Outer Cape were not available but the percentage of adults in Norfolk and Barnstable Counties that were either overweight or obese mirrored the rate for the Commonwealth, 57% (Norfolk County) and 61% (Barnstable County) respectively. The Commonwealth's percentage was 58%.³²

Physical Activity and Nutrition

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.

- In 2013, 25% of Boston adults reported consuming vegetables less than once a day. White, non-Hispanics/Latinos were less likely to consume vegetables less than once a day (32%), compared to blacks/African Americans, Hispanics/Latinos, and Asians who were all approximately equally likely to only consume one vegetable a day (42%).³³
- In 2013, 58% of Boston adults met the CDC recommendation for aerobic physical activity of 150 minutes in the past week. Once again, blacks/African Americans (53%) and Hispanics/Latinos (47%) were less likely to meet the CDC recommendations for adequate physical activity than white, non-Hispanics/Latinos (62%) and Asians (60%).³⁴

²⁹ MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data

³⁰ 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/yrbys/2013report.pdf> Accessed 6/1/16

³¹ Boston Public Health Commission. *Health of Boston Report 2015* http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf Accessed 6/1/16

³² MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data

³³ Boston Public Health Commission. *Health of Boston Report 2015* http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf Accessed 6/1/16

³⁴ Boston Public Health Commission. *Health of Boston Report 2015* http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf Accessed 6/1/16

- **Tobacco Use:** Tobacco use is the single most preventable cause of death and disease in the United States. Each year, approximately 450,000 Americans die from tobacco-related illnesses. For every person who dies from tobacco use, 30 more people suffer with at least one serious tobacco-related illness, such as chronic airway obstruction, heart disease, stroke, or cancer.³⁵ Today, nearly all adults who regularly smoke started before the age of 26, making adolescents and young adults a key demographic in reducing smoking-related disease and death in the future.³⁶ Nationally, rates of cigarette smoking for youth and adults have slowed or leveled off in the last decade. In fact, in some areas, like Boston, the rates of youth smoking have declined substantially. Just the same, given the magnitude of the risks and implications related to tobacco use and smoking, it still cannot be ignored.
 - Between 2005 and 2013, the percentage of Boston public high school students who smoked cigarettes decreased from 15.9% to 7.9%. During the same period, the percentage of adults that smoked cigarettes essentially remained the same. 19.4% in 2005 and 18.4% in 2013.³⁷
 - According to Boston's Youth Risk Behavior Survey (2011 and 2013), white, non-Hispanic/Latino youth were most likely to smoke cigarettes (22%), followed by black/African Americans (10%), Hispanics/Latinos (5%), and Asians (4%).³⁸
 - In the adult population (18+), white, non-Hispanics/Latinos, and blacks/African Americans were equally likely to smoke cigarettes (19%), followed by Hispanics/Latinos (16%) and Asians (15%).³⁹

Chronic Disease Management

Chronic Disease

Treating people with chronic diseases accounts for 86% of the nation's health care costs.⁴⁰ Half of all American adults have at least one chronic condition, and almost one of three have multiple chronic conditions.⁴¹ Chronic diseases are largely preventable, which underscores the need to focus on health risk factors, primary care engagement, and evidence-based chronic disease management.

³⁵ Healthy People 2020: Tobacco Use.

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

³⁶ U.S. Department of Health and Human Services. Preventing Tobacco Use Among Youth and Young Adults: Fact Sheet. [Online] [Cited: December 30, 2013.] <http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/factsheet.html>.

³⁷ Boston Public Health Commission. *Health of Boston Report 2015* http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf Accessed 6/1/16

³⁸ Boston Public Health Commission. *Health of Boston Report 2015* http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf Accessed 6/1/16

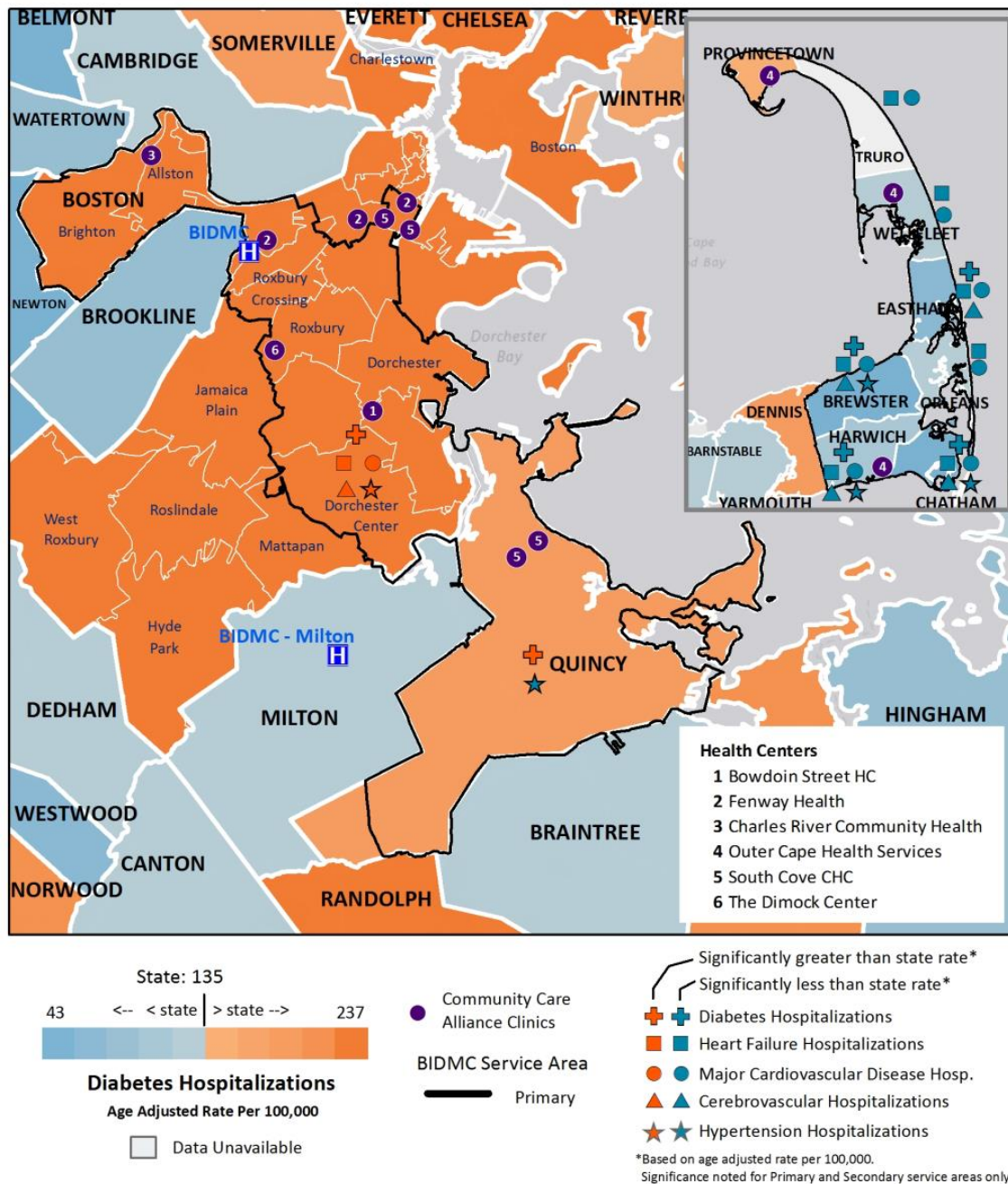
³⁹ Boston Public Health Commission. *Health of Boston Report 2015* http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf Accessed 6/1/16

⁴⁰ Centers for Disease Control and Prevention: Chronic Disease Prevention and Health Promotion. <http://www.cdc.gov/chronicdisease/> Accessed 5/13/16

⁴¹ A chronic condition is a human health condition or disease that lasts a year or more and requires ongoing medical attention or that limits activities of daily living. <http://www.cdc.gov/chronicdisease/overview/>. Accessed 5/13/16

Figure 6 summarizes a number of chronic disease indicators in one map of BIDMC's CBSA. The base layer shows the range in diabetes hospitalization rates, 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 chronic disease measures. Taken together, this map demonstrates that chronic disease is a serious issue across BIDMC's CBSA, especially in the neighborhoods of Boston that are part of BIDMC's CBSA.

Figure 6. Chronic Disease Indicators in BIDMC CBSA
(Source: Massachusetts Hospital Inpatient Discharges (UHDDS), 2008-2012)



Data from the Boston Public Health Commission's 2015 Health of Boston Report underscores the fact that the rates are even higher in Boston neighborhoods of Roxbury, Dorchester, and the South End/Chinatown (Table 6).

- Boston adults have higher rates of diabetes hospitalizations, emergency department visits, and deaths compared to the Commonwealth with the highest rates in Boston being in Roxbury, North Dorchester, and South Dorchester
- In 2013, 24% of Boston residents reported having been told by their doctor that they had hypertension.
- Boston had higher rates of hospital utilization (per 100,000 pop.) for hypertension and higher mortality rates for heart disease compared to the Commonwealth with the highest rates being in Dorchester and Roxbury

Table 6. Hypertension, Heart Disease, and Diabetes Indicators in Boston Neighborhoods, 2013

Area	Percent of Adults with Hypertension	Heart Disease Hospitalizations*	Heart Disease Mortality*	Percent of Adults with Diabetes	Diabetes Hospitalizations, (age-adjusted rate per 1,000)
Boston	24.0 (22.3-25.6)	9.1	133.6	8.6 (7.7-9.6)	1.9
Allston/Brighton	14.5 (9.9-19.0)	8.1	128.9	3.9 (1.8-6.1)	1.7
Fenway	14.0 (7.8-20.2)	7.2	103.8	‡	0.8
North Dorchester	28.5 (23.1-33.9)	11	133.2	12.4 (8.9-15.8)	3.0
Roxbury	28.3 (22.1-34.5)	13.2	148.3	15.1 (10.3-19.9)	3.5
South Dorchester	30.3 (25.2-35.3)	9.5	123.1	10.0 (7.0-12.9)	2.8
South End/Chinatown	23.7 (16.5-30.8)	9.6	98.3	7.7 (3.6-11.9)	2.5

*Age-adjusted rate per 100,000

‡ Insufficient sample

Sources: Boston Behavioral Risk Factor Surveillance Survey, 2013 and Hospital Case Mix Database, MA Center for Health Information and Analysis (CHIA)

Analysis: Boston Public Health Commission Research and Evaluation

Data on respiratory diseases shows similar findings (Table 7).

- 11% of Boston adults have asthma. Asthma prevalence is especially high in North Dorchester.
- There are higher rates of hospitalizations and ED visits due to Asthma in Boston vs. Commonwealth for adults 18 years old or older.
- Adult crude asthma hospitalization (PQI) rates are higher for the BIDMC CBSA with the highest rates coming from: Roxbury, South Dorchester, and North Dorchester

Table 7. Respiratory Disease Indicators in Boston Neighborhoods, 2013

	Percent of Adults with Asthma	Asthma Emergency Department Visits*	Asthma Hospitalizations*
Boston	11.1 (9.7-12.5)	9.0	2.6
Allston/ Brighton	8.3 (3.4-13.2)	5.8	1.3
Fenway	‡	6.5	1.6
North Dorchester	17.7 (12.4-23.0)	14.3	3.8
Roxbury	13.8 (7.9-19.7)	17.5	5.9
South Dorchester	12.5 (8.3-16.7)	14.5	3.6
South End/ Chinatown	6.8 (3.0-10.7)	12.6	2.8

*Age-adjusted rate per 100,000

Sources: Boston Behavioral Risk Factor Surveillance Survey, 2013 and Hospital Case Mix Database, MA Center for Health Information and Analysis (CHIA)

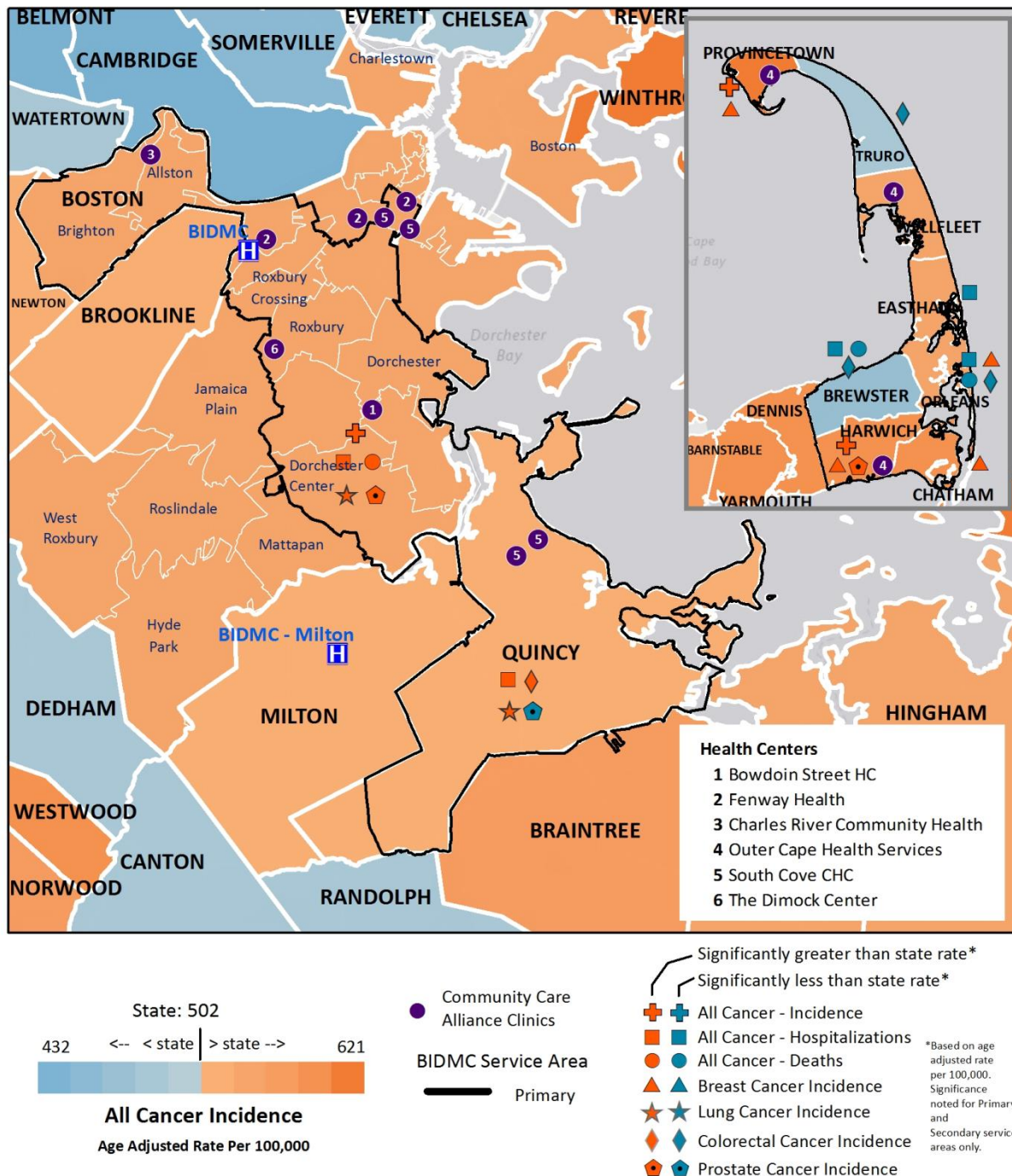
Analysis: Boston Public Health Commission Research and Evaluation

Cancer

Cancer is the second leading cause of death in the United States and the first leading cause of death in the Commonwealth. Quantitative and qualitative data from the assessment corroborate these findings with data showing great disparities on the Outer Cape and in Boston neighborhoods that are part of BIDMC's CBSA. The major known risk factors for cancer are age, family history of cancer, smoking, overweight/obesity, excessive alcohol consumption, lack of exercise, 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.

Figure 7 shows a number of cancer indicators in one map of the CBSA. The base layer shows the range in all-cancer incidence in the BIDMC CBSA 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 a range of key cancer-related rates, as compared to the Commonwealth overall. Taken together, this map demonstrates that cancer is a serious concern across all geographic segments of BIDMC's CBSA.

Figure 7. Cancer Indicators in BIDMC CBSA
(Source: Massachusetts Hospital Inpatient Discharges (UHDDS), 2008-2012)



Once again, it is important to note that there are particular disparities in Roxbury and Dorchester. The table below indicates the death rates for Boston's neighborhoods and the City of Quincy.

Figures in red indicate when the rates are statistically higher than the Commonwealth rates. Most communities (including Quincy) have at least one indicator that is higher than Commonwealth but in the case of Roxbury every indicator is higher than the Commonwealth rate, which highlights the disparities that exist.

Table 8. Cancer Death Rates by Boston Neighborhood

Area	All Cancer, 2013	Colorectal Cancer 2011-2013	Female Breast Cancer 2011-2013	Lung Cancer, 2013	Pancreatic Cancer, 2011-2013	Prostate Cancer, 2011-2013
Boston	176.1	16.4	17.9	45.4	12.1	25.7
Allston/Brighton	133.3	15.6	6.9	45.6	8.3	21.4
Fenway	160.4	8.5	21.0	46.9	15.6	N<5
North Dorchester	147.9	12.6	14.4	25.0	15.1	29.8
Roxbury	170.8	25.5	23.6	64.3	16.1	49.5
South Dorchester	199.6	19.9	17.7	45.9	11.3	32.8
South End/Chinatown	155.6	22.8	10.8	26.5	14.3	N<5
Quincy*	175.8*	11.4*	22.1*	55.4*	10.9*	14.6*

* All age-adjusted rates per 100,000
Sources: Boston Resident Deaths, MA DPH // *Source is MA Vital Records 2008-2012
Analysis: Boston Public Health Commission Research and Evaluation

Cancer screening helps to ensure that cancer is caught and treatment is started as early as possible. For instance, those with a history of smoking are encouraged to be screened for lung cancer up to 15 years after they quit smoking. Cancer screening has been especially successful with detecting cancers of the breast, cervix, colon and rectum, and consistent screening has contributed significantly to the decrease in cancer death rates over the past twenty years.

Great strides have been made over the past decade with respect to screening rates. For example, according to the 2015 Health of

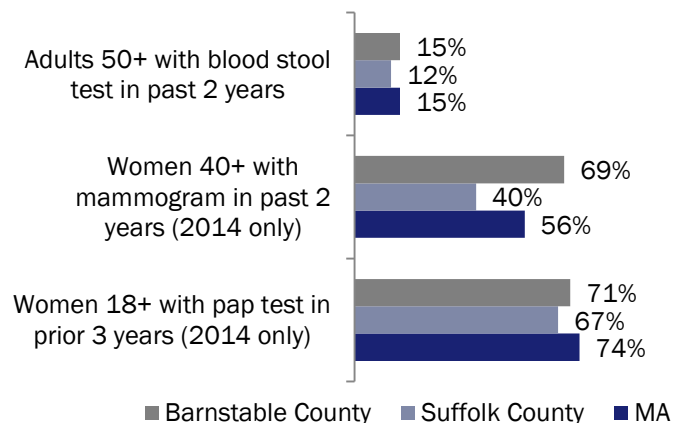
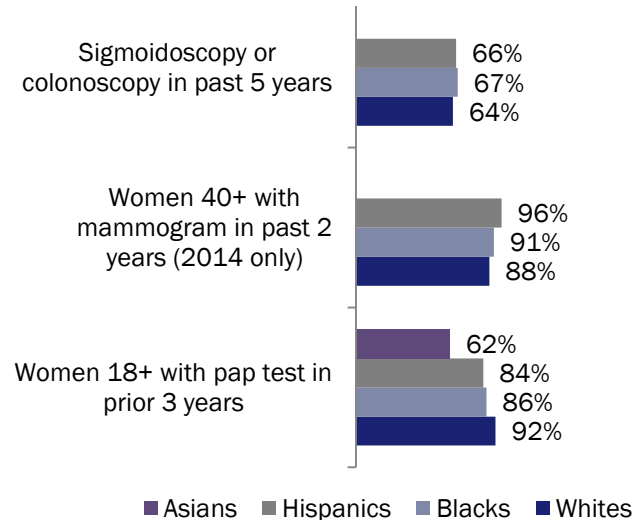


Figure 8. Cancer Screening Rates in Massachusetts and Suffolk and Barnstable Counties (Source: BRFSS, 2013-2014 aggregate data)

Figure 9. Cancer Screening Rates in Boston by Race/Ethnicity
(Source: 2015 Health of Boston Report)

Boston Report, 86% of eligible women have received a Pap test to detect cervical cancer in the past three years, 90% of women have had a mammography in the past two years, and 64% of men and women have had a sigmoidoscopy or colonoscopy in the past five years. However, there are opportunities for improvement, as there are significant disparities in screening rates by race/ethnicity, particularly for Asians who have substantially lower rates in the area of Pap tests.



Infectious Disease.

Infectious diseases remain a major cause of illness, disability, and even death. Sexually transmitted diseases, diseases transmitted through needle injection, tick-borne illnesses (Lyme disease), and pneumonia are among the infectious diseases that have an impact on the population. Lyme disease incidence rates are significantly higher in Quincy and a number of the towns on the Outer Cape portion of Cape Cod.⁴² It should also be noted that Lyme disease was brought up as a major concern at a community forum on Cape Cod.

Figure 10. Infectious Disease Rates in BIDMC CBSA
(Source: MA Department of Public Health, Vital Statistics Data, 2012 and 2013)

Indicator	MA	Boston	Quincy	Outer Cape Towns			
				Harwich	Provincetown	Truro	Wellfleet
Sexually Transmitted Diseases							
Chlamydia Incidence (crude rate, 2012)	357	902	360	90	850	NA	255
Gonorrhea Incidence (crude rate, 2012)	40	162	40	NA	612	NA	NA
Hepatitis C Incidence (crude rate, 2013)	119	149	122	131	408	NA	255
Tick Bourne Disease							
Lyme Disease Incidence (crude rate, 2013)	62	12	18	57	NA	NA	182
Pneumonia/Influenza (age-adjusted rate, 2013)							
Deaths	16.9	15.7	22.5	13.4	10.7	12.5	10.4
HIV/AIDS (2008-2012)							
HIV/AIDS Hospitalizations (age-adjusted rate)	12	40	10	NA	NA	NA	NA
Deaths (crude rate)	1.6	4.6	1.8	1.0	7.2	20.5	-

Statistically higher than statewide rate

Statistically lower than statewide rate

⁴² Massachusetts Communicable Disease Program (Epidemiology), 2013. (From: Massachusetts Community Health Information Profile (MassCHIP) 2008-2012)

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. Overall, rates of illness, death, and HIV transmission have declined dramatically over the past decade. However, HIV/AIDS still has a major impact on certain communities in BIDMC's CBSA and on certain segments of the population including men who have sex with men and injection drug users. In the Table below, figures in red indicate when the rates are statistically higher than the Commonwealth rates.

Table 9. HIV/AIDS Hospitalization and Mortality Rates in BIDMC's CBSA
(Source: MA Department of Public Health, Vital Statistics Data, 2012 & 2013)

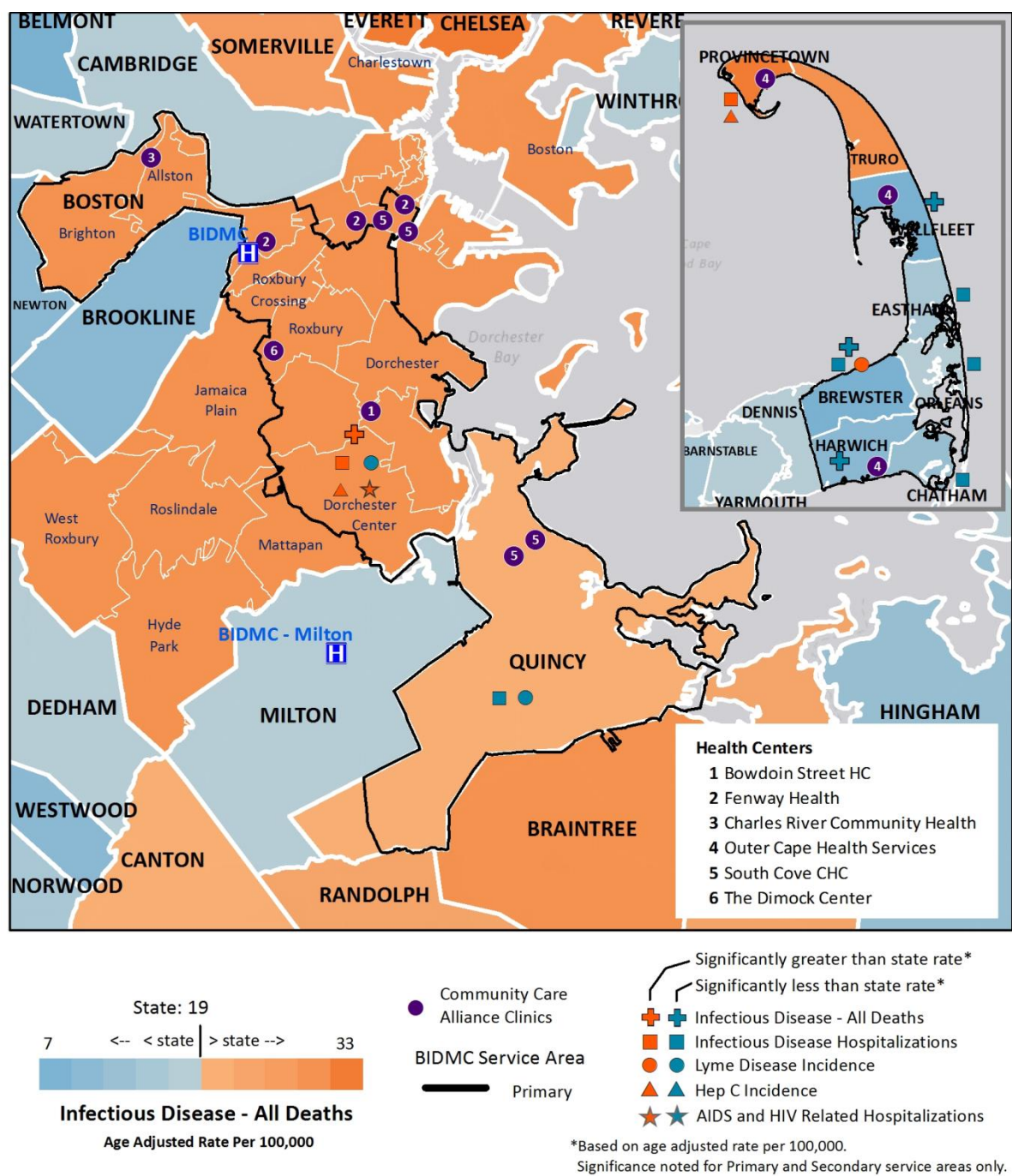
Area	HIV/AIDS Hospitalizations	HIV/AIDS-Related hospitalizations	HIV/AIDS Deaths
Massachusetts	12.43 (12.05 - 12.81)	42.76 (42.06 - 43.46)	1.58 (1.45 - 1.72)
Boston	40.05 (37.62 - 42.49)	160.56 (155.68 - 165.43)	4.56 (3.74 - 5.38)
Provincetown	NA	232.67 (171.93 - 293.41)	7.20 (0.00 - 17.26)
Truro	NA	99.75 (45.47 - 154.03)	20.54 (0.00 - 43.86)
Wellfleet	NA	NA	0.00
Chatham	NA	NA	0.00
Orleans	0.00	NA	0.00
Eastham	NA	NA	0.00
Quincy	10.05 (7.21 - 12.89)	49.68 (43.46 - 55.90)	1.76 (0.60 - 2.93)

All age-adjusted rates per 100,000

Sources: MA Hospital Inpatient Discharges 2008-2012, MA Vital Records Mortality 2008-2012

Figure 11 (following page) shows a number of infectious disease-related indicators in one map of the CBSA. The base layer shows the range in the rate of infectious disease rates in the CBSA, 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 infectious disease-related measures. Taken together this map demonstrates that the burden of infectious diseases is a major issue in some geographies but not others and in Boston's neighborhoods the aggregated data for Boston as a whole obscures some of the issues that exist.

Figure 11. Infectious Disease Indicators in BIDMC CBSA (Source: Mass CHIP 2008-2012)



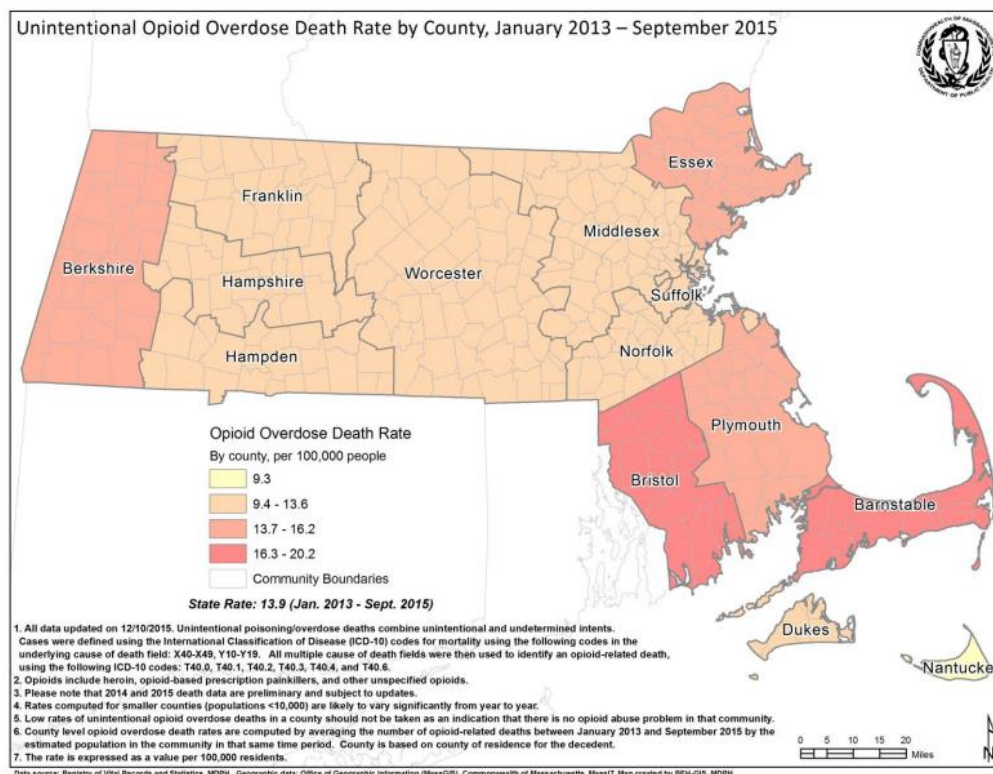
Behavioral Health

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 disorder⁴³ and an estimated 22 million Americans struggle with drug or alcohol problems.⁴⁴

According to a study prepared by the Massachusetts DPH in the Fall of 2015, Suffolk, Norfolk, and Barnstable Counties, where BIDMC's CBSA is located experienced over a 100% increase in opioid abuse overdose deaths between 2001 and 2013. Between 2013 and 2015, the increase in Suffolk County was 71%, Norfolk it was 108%, and in Barnstable County the increase was 135%.⁴⁵

Figure 12. Unintentional Opioid Overdose Death Rate by County, Jan. 2013 – Sept. 2015
(Source: MA Department of Public Health)



According to the 2013-2014 BRFSS, one in five adults (20%) in Suffolk County had ever been diagnosed with depression, comparable to the Commonwealth overall (21%).⁴⁶ 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. The impact of mental health and substance abuse on the residents of BIDMC's CBSA are profound and it was undoubtedly the most significant issue discussed during the interviews and community forums. There is also ample quantitative evidence to show the impact of substance abuse.

⁴³ National Institute of Mental Health: Statistics. <http://www.nimh.nih.gov/health/publications/the-numbers-count-mental-disorders-in-america/index.shtml>

⁴⁴ Healthy People 2020: Substance Abuse. <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=40>

⁴⁵ <http://www.mass.gov/eohhs/docs/dph/quality/drugcontrol/county-level-pmp/data-brief-aug-2015-overdose-county.pdf>

⁴⁶ MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data

Table 10. Mental Health and Substance Abuse Rates in BIDMC's Community Benefits Community Benefits Service Area
(Source: MA Department of Public Health, Vital Statistics Data, 2012 & 2013)

Area	Mental Health Hospitalizations, 2013 (age adjusted rate per 1,000)	Alcohol-Related hospital patient encounters* (residents 12+) (age adjusted rate per 1,000)	Drug-related hospital patient encounters* (residents 12+) (age adjusted rate per 1,000)	Persistent Sadness Among Adults (15+ days during past 30 days), 2013	Suicide, 2009-2013 (Avg. annual age adjusted rate per 100,000)
Boston	8.0	17.7	6.8	12.2 (10.7-13.7)	6.7
Allston/Brighton	12.0	12.6	3.6	15.5 (8.8-22.3)	6.9
Fenway	12.4	16.4	3.3	10.9 (5.1-16.7)	7.0
North Dorchester	7.1	13.4	6.5	16.5 (11.6-21.4)	8.7
Roxbury	9.0	22.6	12.2	12.6 (7.7-17.5)	6.2
South Dorchester	10.5	16.1	8.3	14.5 (9.8-19.1)	7.7
South End/Chinatown	9.8	80.8	24.2	11.6 (5.2-18.1)	12.8
Quincy	790.6** (age-adjusted rate per 100,000)	No data	No data	No data	9.0***

Sources: Hospital Case Mix Database, MA Center for Health Information and Analysis (CHIA), **MA Hospital Inpatient Discharges 2008-2012, ***MA Vital Records 2008-2012
Analysis: Boston Public Health Commission Research and Evaluation
*Includes ED visits, observational stays, and inpatient hospitalizations

With respect to substance abuse, according to 2013 data from the MA Department of Public Health, Boston, Quincy, and Barnstable County had a statistically higher rate per 100,000 population of alcohol and substance abuse related hospital encounters (Table 10). Rates in these areas were particularly high in the Roxbury, South Dorchester, and South End/Chinatown neighborhoods. It should be noted that the rates for South End/Chinatown are skewed by the plethora of public shelters that exist in this neighborhood, including the Pine Street Inn and Boston Healthcare for the Homeless' facilities. Furthermore, with respect to alcohol, 25% of residents of Boston overall reported binge drinking⁴⁷ compared to 18% for the Commonwealth overall. Binge drinking ranged from a low of 20% in the Fenway neighborhood to a high of approximately 30% in Roxbury and Dorchester.

⁴⁷ According to the Centers for Disease Control and Prevention, "binge" drinking is defined as 5 or more drinks on an occasion for men or 4 or more drinks on an occasion for women

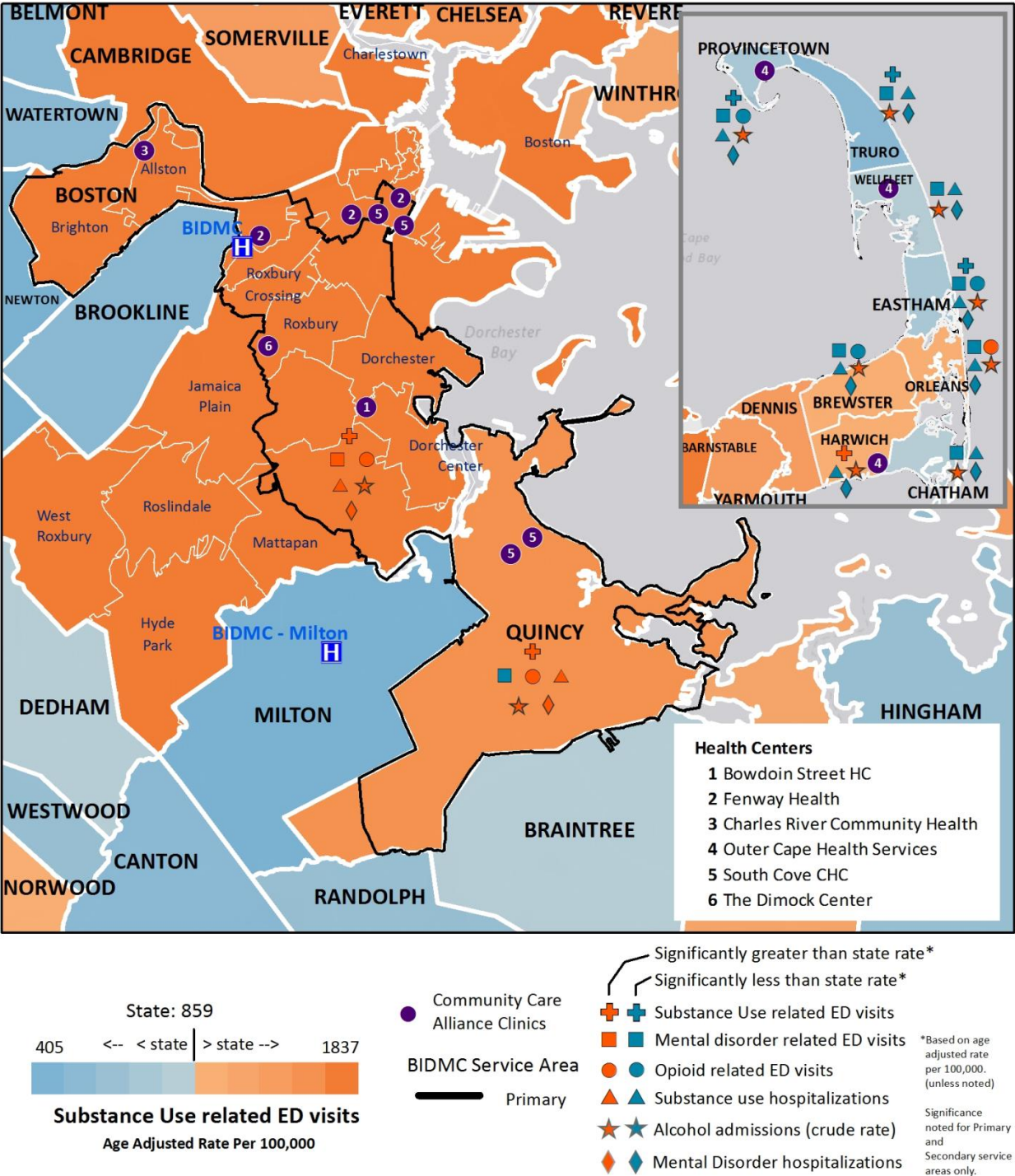
Quantitative data, specifically related to mental health morbidity or mortality, is limited but the burden of mental health in the CBSA is also well understood and mental health was one of the leading themes in the assessment's stakeholder interviews and community/provider forums. There was an overwhelming sentiment across all of the community forums that mental health issues were one of the major health issues facing the community. The clear sentiment was that mental health affected all segments of the population from children and youth to young and middle-aged adults to elders. With respect to youth, interviewees and meeting participants discussed the stresses that youth face related to family, school, and their social lives with peers. These stresses often lead to depression, low self-esteem, and isolation, as well as substance abuse, risky sexual behaviors, and, in extreme cases, suicide. A number of stakeholders and forum participants also referenced ADHD, autism, and developmental delays in children and youth. These issues have a major impact on a small but very high need group of families and forum participants and interviewees cited gaps in behavioral health services, particularly for low income families, and the need for family/child support services.

With respect to adults and older adults, the issues are similar in many ways. Stakeholders and forum participants cited depression and anxiety/stress often coupled with isolation, particularly in older adults. In older adults mental health issues are often exacerbated by lack of family/caregiver support, lack of mobility, and physical health conditions. Stakeholders advocated strongly for expansion of mental health services, particularly care/case management services, as well as other supportive services that this population needed to manage their conditions and improve health status and overall well-being.

While there is limited quantitative data on mental health, according to 2013 hospital discharge data from the MA Department of Public Health, Allston/Brighton, Fenway, South Dorchester, and South End/Chinatown had a statistically higher rate per 100,000 population of hospital inpatient discharges when a mental health condition was the primary reason for the visit. Also, suicide rates were also statistically higher in North Dorchester, South End/Chinatown, and Quincy. These data provide some insight into the mental health burden but the qualitative data is more compelling.

Figure 13 (next page) shows a number of behavioral health-related indicators in one map of the CBSA. The base layer shows the range in the rate of substance use-related ED visits in the CBSA, 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 provides even more detail on the disparities that exist across BIDMC's CBSA.

Figure 13. Substance Abuse Indicators in BIDMC CBSA
(Source: Mass CHIP 2008-2012)



Special Populations

Older Adults

Across the country, older adults are among the fastest growing age groups. 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.

Based on information gathered from the assessment's interviews and community forums, older adults have been identified as one of the leading at-risk target populations. The major issues expressed by participants were fragmentation of services and poor care transitions, depression and social isolation, the impacts of poverty, poor nutrition and access to healthy foods, lack of caregiver support services, and transportation barriers

As an elderly person, it is not rare to have two, three or more chronic health conditions. Nationally, 49% of those aged 45-64 and 80% of people 65 and older live with one or more chronic conditions.⁴⁸

Maternal and Child Health

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 neither Quincy nor any communities on Cape Cod were significantly worse than the Commonwealth on infant mortality or low-birthweight births.⁴⁹ However, Boston's rates on these indicators were higher than the Commonwealth's rates. For example, in 2012, Boston's infant mortality rate was 4.8 per 1,000 and low birthweight rate was 8.4%, which was higher than the Commonwealth overall, 4.24 per 1,000 and 7.5% respectively. Boston also had a statistically significantly higher rate of preterm births (9.5%) compared to the Commonwealth (9.0%).⁵⁰ Figure 14 (included on the next page) maps these infant mortality statistics.

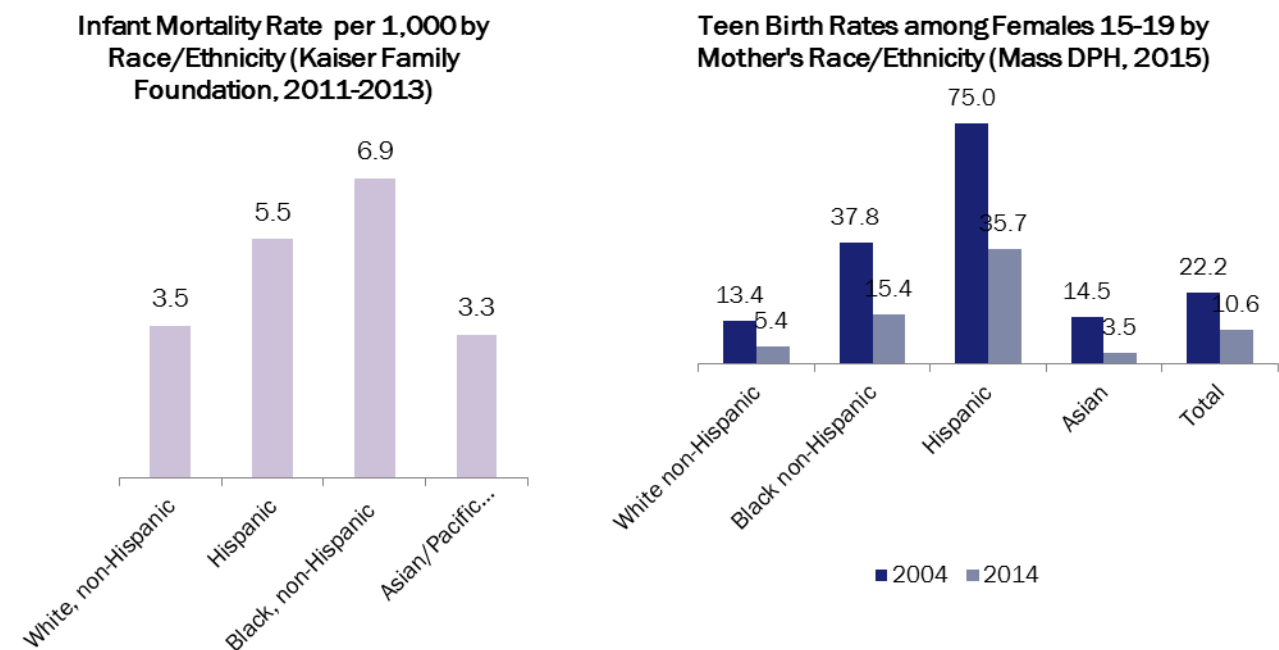
⁴⁸ Gerteis J, Izrael D, Deitz D, LeRoy L, Ricciardi R, Miller T, Basu J. Multiple Chronic Conditions Chartbook. AHRQ Publications No. Q14-0038. Rockville, MD: Agency for Healthcare Research and Quality. April 2014.

⁴⁹ Massachusetts Vital Records Natality, 2008-2012

⁵⁰ Massachusetts Vital Records Natality, 2008-2012

The health disparities with respect to the leading maternal and child health indicators (e.g., infant mortality, prenatal care, adolescent births, and low birth weight) for racially/ethnically diverse populations are well known. Disparities have lessened over the years but there are still significant disparities in outcomes, particularly for blacks/African Americans and Hispanics/Latinos. The infant death rate for white, non-Hispanics/Latinos is 3.5 per 1,000 compared to 5.5 per 1,000 for Hispanics/Latinos and 6.9 per 1,000 for black/African Americans (see figure below).⁵¹ While teen birth rates have declined since 2004, black/African American adolescents in Massachusetts continue to have a teen birth rate that is over five times that of white, non-Hispanic/Latino

Figure 14. Maternal and Infant Health Disparities

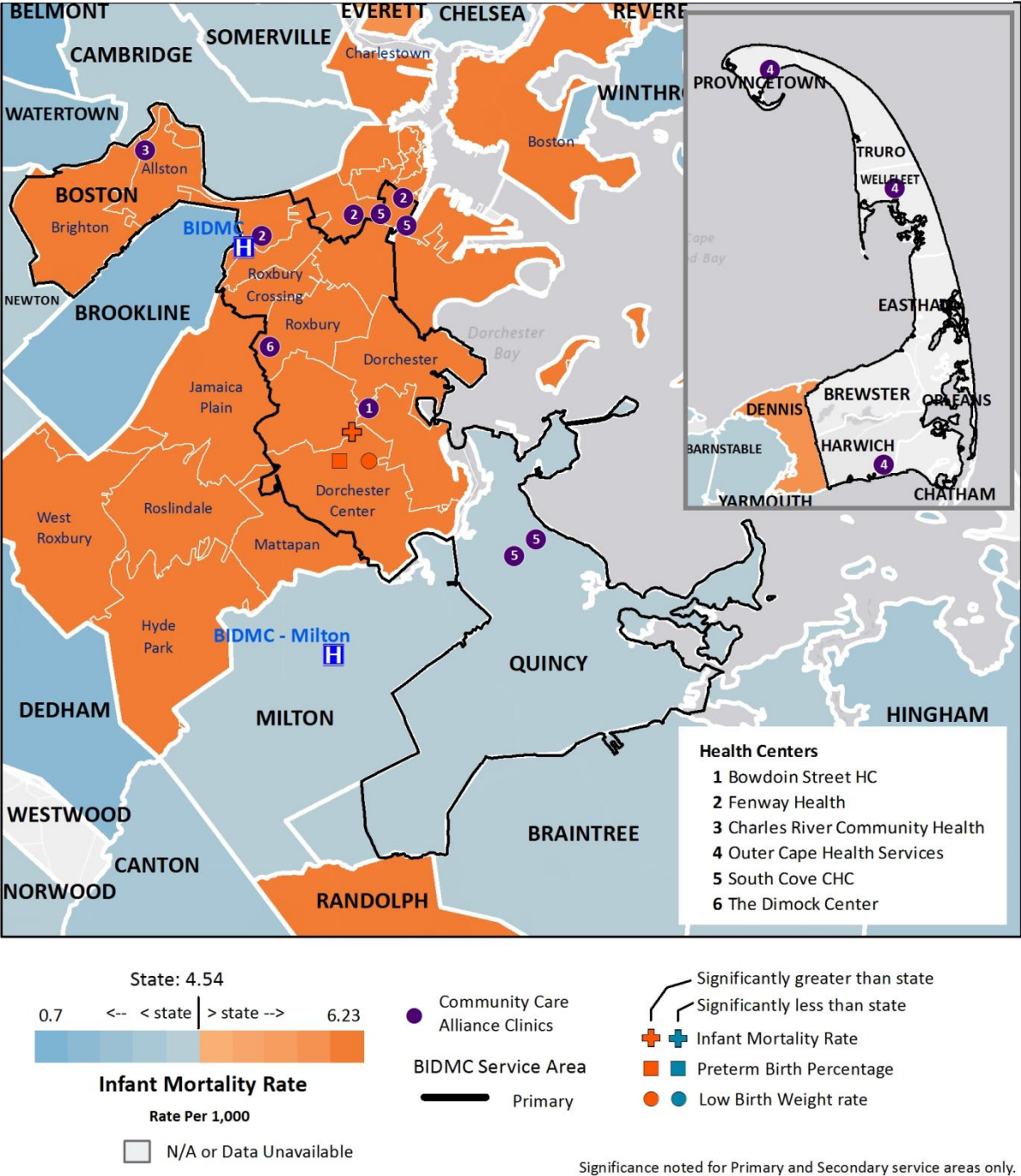


adolescents (Figure 14).⁵²

⁵¹ Kaiser Family Foundation. Infant Mortality Rate (Deaths per 1,000 Live Births) by Race/Ethnicity. 2011-2013 <http://kff.org/other/state-indicator/infant-mortality-rate-by-race-ethnicity/>

⁵² Massachusetts Department of Public Health. Massachusetts Births 2014 <http://www.mass.gov/eohhs/docs/dph/research-epi/birth-report-2014.pdf>

Figure 15. Maternal and Child Health Indicators in BIDMC CBSA
 (Source: Massachusetts Vital Records Natality, 2008-2012)



Youth

There is an unfortunate lack of data available on youth at the county or town levels. State-level data is available through the Massachusetts Youth Risk Behavioral Survey (Figure 16).⁵³ A number of areas of concern were highlighted by the state-level data, and these same concerns were confirmed by qualitative comments from the interviews and community forums. Particular concerns for youth include:

- **Mental Health:** In 2013, one in five high-school youth (22%) in the Commonwealth felt sad or hopeless, and 6% had attempted suicide in the past year.⁵⁴ One in five (17%) reported being bullied at school. In Boston these issues were even more extreme. In 2013, 30% of Boston public high school students reported persistent sadness. Exposure to stressors may explain, in part, why certain groups suffer from poorer mental and physical health outcomes than others. Stress related to school, family issues or social situations with peers can have detrimental effects on mental health.
- **Overweight/Obesity, Physical Activity and Healthy Eating:** In 2013, 25% of high-school youth in the Commonwealth were overweight or obese. Just 15% reported eating at least five fruits and vegetables each day, whereas a quarter (25%) reported watching at least three hours of TV on an average school day.⁵⁵
- **Alcohol and Substance Use:** In 2013, almost a quarter (23%) of high-school youth in the Commonwealth reported that they were offered, sold, or given drugs in the past year. Meanwhile, one in ten (11%) reported current cigarette use, and a third (36%) reported current alcohol use.⁵⁶

⁵³ 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>

⁵⁴ 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>

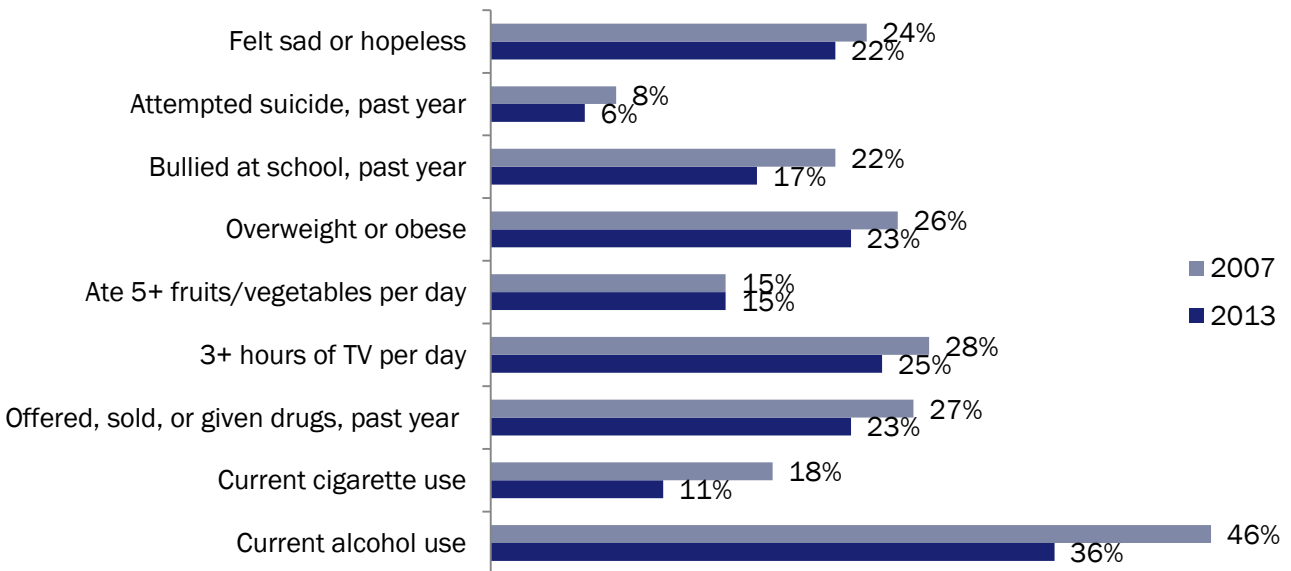
⁵⁵ Massachusetts Department of Elementary and Secondary Education & Massachusetts Department of Public Health. Health and Risk Behaviors of Massachusetts Youth, 2013.

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

⁵⁶ 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>

Figure 16. Statewide Youth Health Indicators (YRBS, 2007-2013)



Lesbian, Gay, Bi-sexual, and Transgender Populations

The lesbian, gay, bi-sexual, and transgender (LGBT) community is diverse. While L, G, B, and T are usually tied together as an acronym that suggests homogeneity, each letter represents a wide range of people of different races, ethnicities, ages, socioeconomic statuses and identities. What binds them together are common experiences of stigma and discrimination, the struggle of living at the intersection of many cultural backgrounds and trying to be a part of each, and, specifically with respect to health care, a long history of discrimination and lack of awareness of health needs by health professionals. As a result, LGBT people face a common set of challenges in accessing culturally competent health services and achieving the highest possible level of health.⁵⁷

Research has shown that that these challenges lead to significant health disparities for LGBT populations when compared to the heterosexual populations. More specifically, according to a study conducted in 2009 by the Massachusetts Department of Public Health in Partnership with MassEquity, Massachusetts' largest LGBT advocacy organization, LGBT populations face disparities with respect to access to health care services, overall health status, cancer screening, chronic health conditions, mental health, substance use, sexual health, and violence victimization. While gay and lesbian adults reported poorer health and greater risk than heterosexuals across several health domains, poorer health was observed most often for bisexuals and transgender individuals. The health profile of bisexual and transgender respondents was poorer than that of heterosexual residents in terms of access to medical providers, disability status, and 12-month suicidal ideation. For transgender persons, there were also worse outcomes with respect to anxious and depressed moods and lifetime violence victimization. The health profile of gay and lesbian residents was poorer than that of heterosexual residents in the following domains: lifetime sexual assault victimization; 30-day binge drinking and substance use; asthma; and type 2 diabetes.

⁵⁷ LGBT Health Education. <http://www.lgbthealtheducation.org/topic/lgbt-health/> Accessed 6/1/16

Community Health Priorities and Target Populations

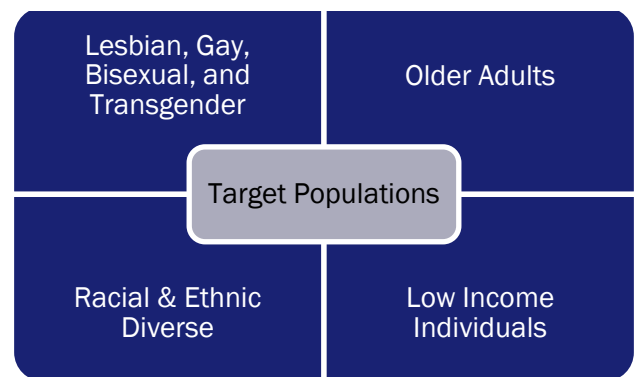
Once all of the assessment's findings were compiled, hospital and community stakeholders participated in a strategic planning process that integrated data findings from Phases I and II of the project, including information gathered from the interviews and community forums. Participants engaged in a discussion 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 BIDMC's Community Health Implementation Plan (CHIP).

Figure 17. Target Populations

Target Populations

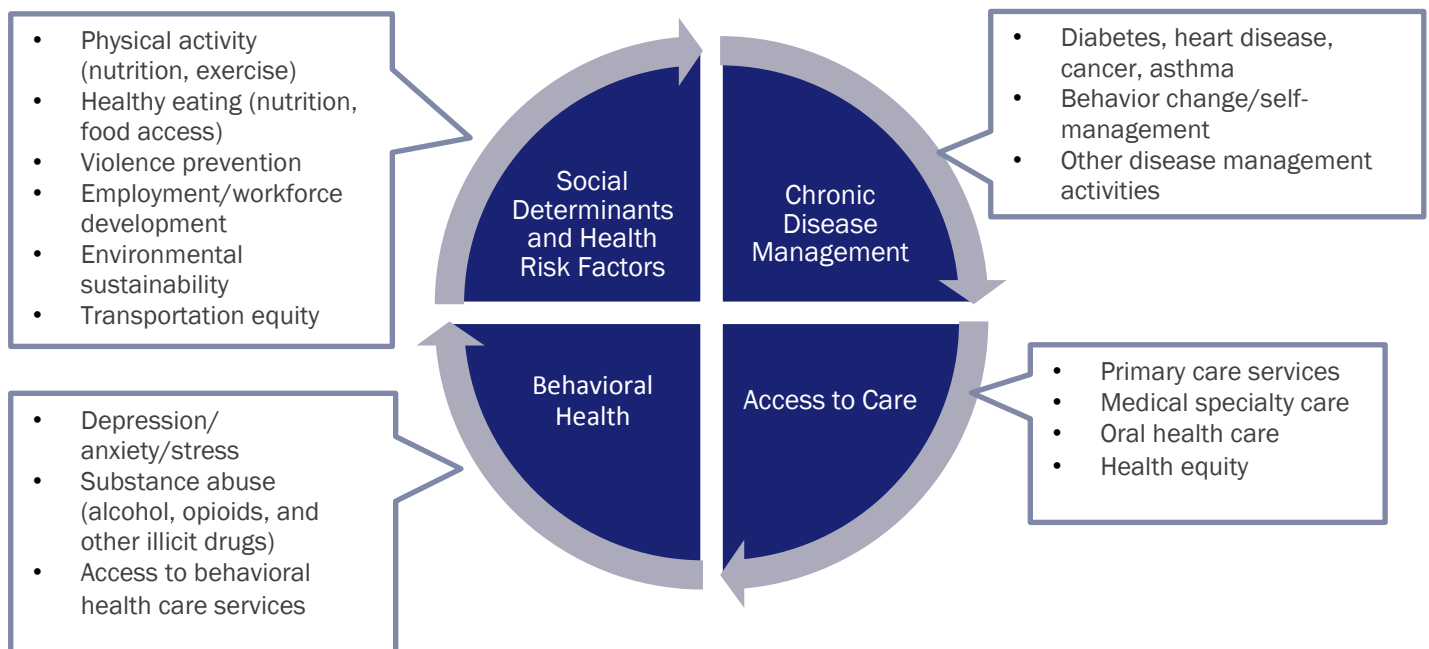
BIDMC, along with its other health, public health, social service, and community health partners, is committed to improving the health status and well-being of all residents living throughout its CBSA. BIDMC's CHIP, summarized in the next section, includes many activities that will support residents throughout the BIDMC CBSA. However, based on the assessment's quantitative and qualitative findings, including discussions with a broad range of community participants, there was broad agreement that BIDMC's CHIP should target certain demographic, socio-economic and geographic cohorts 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 can often lead to disparities in health outcomes. More specifically, the assessment identified low income populations, older adults, racially/ethnically diverse populations, and the LGBT populations.



Community Health Priorities

BIDMC's CHNA's approach and process provided ample opportunity to vet the quantitative and qualitative data compiled during the assessment. BIDMC has framed the community health needs in four priority areas, which together encompass the broad range of health issues and social determinants of health facing residents living in BIDMC's CBSA. These four areas are: 1) Social Determinants, Health Risk Factors and Equity, 2) Chronic Disease Management and Prevention, 3) Access to Care, and 4) Behavioral Health (mental health and substance abuse). BIDMC already has a robust community health implementation plan that has been working to address all of the identified issues. However, this CHNA has provided new guidance and invaluable insight on quantitative trends and community perceptions that can be used to inform and refine BIDMC's efforts. The following are the core elements of BIDMC's updated Community Health Implementation Plan (CHIP).

Figure 18. Community Health Priorities



BIDMC's Community Health Implementation Plan

Given the complex health issues in the community, BIDMC has been strategic in identifying its priority areas in order to maximize the impact of its community benefits program and work to improve the overall health and wellness of residents in its CBSA. Based on the data, BIDMC has identified the following as the highest priority needs of the CBSA:

1. Social Determinants and Health Risk Factors
2. Chronic Disease Management
3. Access to Care
4. Behavioral Health

These health priorities have directed BIDMC's community health implementation planning process. 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 facilitate the largest possible health impact.

The following goals address the existing access, care coordination issues, barriers, and targeted service gaps identified through the CHNA process.

Priority Area 1: Social Determinants and Health Risk Factors

Improvements in health status begin with knowledge of the population's characteristics as well as the underlying social, economic, and environmental factors that impact health and health equity. More specifically, determinants such as poverty, employment opportunities, violence, transportation, racial segregation, literacy, provider linguistic/cultural competency, social support, and community integration limit many people's ability to care for their own and/or their families' health. Lack of physical activity, poor nutrition, alcohol abuse, and tobacco are the leading risk factors for chronic disease and poor emotional health. Addressing these issues and developing healthy habits in these areas are among the most important things people of all ages can do to improve their health. Physical activity helps prevent many diseases (e.g. heart disease, diabetes and some cancers), strengthens bones and muscles, reduces stress and depression and makes it easier for people to maintain a healthy body weight. Eating a healthy diet can help lower people's risk for heart disease, high blood pressure, diabetes, osteoporosis and certain cancers, and also helps people maintain a healthy body weight. Healthy and safe eating is important throughout the lifespan. Limiting alcohol consumption and not using tobacco can dramatically reduce one's chances of contracting heart disease, diabetes, or respiratory disease.

The following goals and objectives address the existing access care coordination issues, barriers, and targeted service gaps identified through the process.

Priority Area 1: Social Risk Factors and Health Equity

Goal 1: Increase Physical Activity

Goal 2: Promote Healthy Eating (Nutrition and Food Access)

Goal 3: Promote Violence Prevention (Safe Neighborhoods and Community Cohesion)

Goal 4: Support Workforce Development and Creation of Employment Opportunities

Goal 5: Promote Environmental Sustainability

Goal 6: Promote Transportation Equity

Priority Area 2: Chronic Disease Management

There are a broad range of chronic and infectious diseases prevalent in BIDMC's CBSA, including heart disease, diabetes, asthma, hypertension, cancer, HIV/AIDS, and HIV/HPC. Although treating these illnesses requires a range of clinical interventions, there is a great deal of overlap with respect to the potential community interventions. Population-level responses to chronic and infectious illnesses all require community based education, screening, timely access to treatment and seamless coordination of follow-up services.

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

it is critical that these issues be addressed and perfected so that BIDMC, other clinical providers, and the broad range of key community based organizations can work collaboratively to address community need.

The following goals and objectives address the existing access care coordination issues, barriers, and targeted service gaps identified through the process.

Priority Area 2: Chronic Disease Management

Goal 1: Improve Chronic Disease Management

Goal 2: Improve Care Transitions for Those with Chronic Health Conditions

Goal 3: Increase Cancer Screening

Goal 4: Support Cancer Patients and Caregivers

Goal 5: Support Older Adults to Age in Place

Priority Area 3: Access to Care

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

Among some of Boston's most prominent safety net primary care clinics, the uninsured rates range from 17% to 48%. These clinics struggle to ensure access to care for their patients, particularly for medical specialty care services. Massachusetts BRFSS data also indicates that approximately one in five (21%) residents living in North Dorchester and Allston/Brighton do not have a personal health care provider or primary care provider compared to one in six (17%) for Boston residents overall.

The following goals and objectives address the existing access care coordination issues, barriers, and targeted service gaps identified through the process.

Priority Area 3: Access to Care

Goal 1: Increase Access to Quality Medical Services (Inc. PC, OB/GYN, & Medical Specialty Care)

Goal 2: Increase Access to Quality Oral Health Services

Goal 3: Increase Quality and Efficiency of Clinical Services at CCA Clinics

Goal 4: Promote Equitable Care and Support for those with Limited English proficiency

Priority Area 4: Behavioral Health

The burden of mental illness and substance abuse is substantial. These issues impact all segments and age groups in the population. Hospitalization rates for substance abuse and mental health are higher in many of the towns when compared to the Commonwealth. Large portions of the population also struggle with alcohol abuse and binge drinking. Despite increased community awareness and sensitivity about mental illness and addiction, there is still a great deal of stigma related to these conditions and there is a general lack of appreciation for the fact that these issues are often rooted in genetics and physiology similar to other chronic diseases.

The following goals and objectives address the existing access care coordination issues, barriers, and targeted service gaps identified through the process.

Priority Area 4: Behavioral Health

Goal 1: Promote behavioral health (BH)/ primary care integration

Goal 2: Reduce burden of opioid use

Goal 3: Increase Access to Quality Behavioral Health Care Services

Goal 4: Identify those at risk for BH condition and provide enhanced care management