Executive Summary

Healthcare in the United States has experienced dramatic changes in the recent decade, ranging from health insurance reform to performance outcome measures in healthcare organizations. Policy makers and healthcare leaders are doing their best to promote access to healthcare utilizing a political framework, yet healthcare in the U.S. remains fragmented. Rising healthcare costs, convoluted health insurance packages and uncoordinated care represent some of the many factors that result in a complex and cumbersome healthcare system. In such a situation, public health is emerging with solutions and different frameworks to get to the root cause of healthcare issues in the U.S. and provide a comprehensive overview of sustaining healthcare needs of the population.

Improving the U.S. healthcare system requires simultaneous pursuit of three aims: improving the experience of care, improving the health of populations and reducing per capita costs of health care, which is most commonly referred to as the ‘Triple Aim’. The triple aim framework articulates a set of goals in which health system costs and healthcare quality must be balanced against the needs of the population and improved health outcomes for all. Since its inception, this balanced approach to health and healthcare has been a source of debate, striking a nerve amongst healthcare leaders, clinicians providing care, and the patients whose healthcare needs must be met. (http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3828810/)

This report describes the challenges that many individuals and whole communities currently face among the population served by Steward Carney Hospital (Carney). The data that supports this report, has been compiled from sources such as the US Census Bureau and the Boston Public Health Commission’s Health of Boston 2011, 2012-13, 2014-15 Reports. We also collected primary data through an online survey of local health and human service providers, meetings of the Carney Hospital Community Benefits Advisory Board, and focus group discussions with local residents. Internally, discussions with hospital staff, leadership, and directors of patient services and systems at Carney explored areas for improvement in quality and cost. Five areas of opportunity emerged:

**Obesity and Chronic Disease**

Rates of incidence for both heart disease and cancer are higher in Carney’s service areas than the city of Boston. Dorchester (153.8 per 100,000), Quincy (158.4 per 100,000 people), and Hyde Park (149.2 per 100,000 people) have the highest rates of heart disease mortality, while Dorchester (171 per 100,000 people), and Hyde Park (214.3 per 100,000 people) have higher rates of cancer mortality than Boston in general. In the case of diabetes related hospitalizations, Dorchester (3.4 per 1,000 people) and Mattapan (3.6 per 1,000 people) have higher rates than Boston. Patients with chronic disease are more susceptible to issues resulting from fragmentation of care. In order to address this issue, the hospital should focus on improving patients’ access to healthy food and knowledge of healthy meal planning and physical activity.
Access to Healthcare

Access to Health Care remains a concern for racial and ethnic groups due to barriers in accessing health resources. Following Massachusetts’ own health care reform and the subsequent passage of the Affordable Care Act, most of the Commonwealth’s residents now has some form of health insurance coverage. However, the need for coordinated outreach to integrate communities with Carney’s primary service remains. Language, affordable transportation, navigation of the health insurance process, and inflexible time schedules remain as barriers to achieving access to health care for the affected populations. Using community enrollment specialists to assist with health insurance enrollment and navigation will help address some of these issues.

Behavioral Health

S. Dorchester’s suicide rate (7.9 per 100,000 people) was lower yet close to the Boston city average (8.8 per 100,000 people) between 2005 and 2011. Both community service providers and residents within Carney’s primary service area (PSA) identified behavioral health as an important health issue for the population that Carney serves. S. Dorchester’s mental health hospitalization rate (9.9 per 1,000 people) and Hyde Park’s rate (8.4 per 1,000 people) were higher than Boston (8.2 per 1,000 people) in 2012. Mental health stigma has been identified as a major obstacle to accessing behavioral health resources.

Substance Abuse

Substance abuse related mortality was higher in N. Dorchester (35.6 per 100,000 people) than in Boston (33.9 per 100,000 people), closely followed by Hyde Park (33.2 per 100,000 people) from 2005 to 2011. Quincy (448.8 per 100,000 people) and Weymouth (558.6 per 100,000 people) had higher alcohol hospitalization rates compared to Massachusetts as a whole (344.7 per 100,000 people). Focus group and survey data indicated a need for more substance abuse treatment resources within the Carney’s PSA. Increased awareness of substance abuse treatment centers and support groups would also be a useful tool for this community.

Sexual and Reproductive Health

Sexual Health is also an important issue in Carney’s service area. Chlamydia and Gonorrhea rates for the service area are disproportionately high when compared to many other Boston neighborhoods. Increased education around sexual health, particularly the transmission of sexually transmitted infections (STIs), and group counseling sessions for pregnant women would be helpful in alleviating this issue.

Recommended actions for the health system

Chronic Disease/Obesity

- Provide group counseling sessions for diabetic and pre-diabetic patients, which can be offered by physicians, nurse practitioners and registered dietitians, and discuss proper diet and increased physical activity.
• Conduct ‘Eat Healthy, Be Active’ workshops for high school students at Carney Hospital or schools in the area and discuss alternatives to junk food, soda and physical inactivity.
• Partner with Massachusetts Farmer’s market and provide vouchers for patients and their families to help them purchase local produce and offer healthy recipes based on the produce that is bought.
• Promote wellness programs in the hospital to engage diabetic and obese patients and their families to enjoy interactive seminars and raffle activities.

Access to Health Care

• Provide informational seminars for self-employed, part time and temporary employees to assist with enrollment in available state health insurance programs.
• Continue to provide high quality care to patients with cultural or linguistic barriers through an efficient Interpreter Services Department.
• Continue the work with Carney’s Community Enrollment Specialists to increase healthcare access by conducting outreach and assisting patients in enrolling for health insurance.

Behavioral Health

• Provide specialized clinical services and intervention programs to assess victims (for employees and patients) of domestic or non-domestic violence and offer treatment for those victims and their children who have witnessed traumatic events.
• Provide training for primary care practitioners to team with mental health workers and assess behavioral disorders of teenagers and young/middle-aged adults when they come in for their annual physical visits.

Substance Abuse

• Institute a patient navigator to link individuals with substance abuse issues to clinical services, as well as primary care, social, and mental health services in the community.
• Continue to collaborate with the Dorchester Substance Abuse Coalition and the Police Department to assess community risk factors for substance abuse.

Sexual and Reproductive Health

• Partner with local community organizations such as schools and worksites to increase STI education and prevention activities, especially within the young adult population.
Introduction

Carney Hospital (Carney) is a member of Steward Health Care System, the largest fully-integrated community care organization in New England. With a 159-bed facility, Carney provides a wide range of services, including primary care medicine, surgical specialties, psychiatry, emergency medicine, critical care, pediatrics, cardiology, neurology, and ambulatory surgery. Carney’s service area includes North Dorchester, South Dorchester, Mattapan, Hyde Park, Milton and the City of Quincy. The first four areas are within Boston city limits, and Boston city data is presented throughout the report as a representation of statistics within these four areas.

Carney maintains a Community Benefits Program that focuses on integrating care across the spectrum of hospital, primary and community-based care. A Community Benefits Advisory Board comprised of hospital leadership, representatives of local health and human service organizations, community centers, churches, and other community organizations guides the planning and execution of the community health initiatives. The results and recommendations here are intended to provide a basis for strategic actions for Carney and its community partners.

This report provides the results of an examination of the health conditions and social factors affecting the people living in the neighborhoods and towns surrounding Carney. Evaluation of both the needs of the community and the strategic goals of the hospital furthers the prospect of working collectively to improve both the health delivery system and the health of the population. Opportunities are realized at the intersection of the hospital’s strengths, the community’s needs, and the new direction of health care in the United States.

The Triple Aim framework is a widely recognized model for health care transformation. It is a paradigm that calls for improving simultaneously the experience of care, the per capita costs of health care and the health of populations. While these pursuits are all necessary to improve the current health care system, they are interrelated and must be considered in balance. The challenges of widespread change, including developing infrastructure to support new models of caring for populations, require thoughtful planning, determined execution, and intentional learning from experience. This report aims to answer the call for thoughtful planning by using the Triple Aim framework to reveal the opportunities for health care transformation within Carney Hospital and the communities it serves.
Methods

The approach for the Population Health Improvement Report (PHIR) consisted of the following steps, each of which is briefly described in the order in which it was implemented.

1. Extensive public data was collected and key findings were derived from the research of online data sources such as the US Census, Department of Public Health statistical reports and the Massachusetts Community Health Information Profile (MassCHIP). Online research of administrative policies and legal ordinances was done to identify and analyze policies and regulations that affect population health status.

2. A Community Provider Survey was distributed to the Carney Hospital Community Benefits Advisory Board and other key community based organizations. Local health and human service organizations, government agencies, community centers, local businesses and churches were among the organizations surveyed.

3. A focus group was conducted to capture community data on perceived health issues and barriers to health resources.

From these sources, data on health behaviors, health conditions (also referred to as health outcomes), access to and utilization of health services and health care costs were examined for opportunities where the hospital, in partnership with local community service providers, could impact per capita health care costs and improve quality, while improving the health the residents of the hospital’s service area.

The priority concerns to be addressed were selected based on the following criteria:

- Disease or condition rates higher than the state average
- Disease or condition rates increasing over time
- Identified as concerns by focus group participants and provider survey respondents
- Aligns with the strategic goals and objectives of Carney Hospital
- Availability of potential resources to address the issue/problem identified
- Could reduce per capita costs
Results:

Chronic Disease

One in four Americans live with multiple chronic health conditions (conditions that persist for at least one year or more, require ongoing medical attention or that limit activities of daily living). That number rises to three in four Americans aged 65 and older. This high prevalence has several underlying causes: the rapidly growing population of older adults, the increasing life expectancy associated with advances in clinical medicine and the high prevalence of some risk factors, such as tobacco use and physical inactivity.

Having multiple chronic conditions is also associated with substantial health care costs. Approximately 71% of the total health care spending in the United States is associated with care for the Americans with more than one chronic condition. Among Medicare fee-for-service beneficiaries, people with multiple chronic conditions account for 93% of total Medicare spending. People with multiple chronic conditions face substantial out-of-pocket costs of their care, including higher costs for prescription drugs. http://www.cdc.gov/chronicdisease/about/multiple-chronic.htm

Chronic diseases are responsible for 7 of 10 deaths among Americans each year, and they account for 86% of our nation's health care costs, which in 2013 were $2.9 trillion. http://www.cdc.gov/chronicdisease/resources/publications/aag/pdf/2015/nccdphp-aag.pdf

Based on preliminary death data for 2010, between 2005 and 2010, rates of heart disease hospitalization and heart disease death rates decreased, ranging from 4% to 31% for the majority of Boston neighborhoods. Heart disease death rates also decreased by 1% to 57% for most of Boston neighborhoods. Even then, mortality from heart disease and cancer are higher in Carney areas than the city of Boston and the state of Massachusetts. Lung Cancer continues to be the leading cause of cancer mortality for both men and women in Boston, which contains most of Carney’s service area. Dorchester, Quincy, and Hyde Park have the highest rates of heart disease mortality, while Dorchester and Hyde Park have higher rates of cancer mortality than Boston. In the case of diabetes hospitalizations, Dorchester, Mattapan, Quincy, and Weymouth have higher rates than Boston and Massachusetts State.

Focus group participants stated that chronic diseases, particularly cardiovascular disease and diabetes, are an issue for the community. Lack of physical activity and a poor diet were cited in the focus groups as reasons for the high rates of chronic disease in Carney's PSA.

Fig 1: Cancer and Heart Disease Mortality Rate (per 100,000 people) -2005-2010

(Source: Health of Boston 2012-13, MassCHIP)

Fig: Cancer and Circulatory Disease Mortality Rate (per 100,000 people)-2012

(Source: Department of Public Health)
Figure 2: Diabetes Hospitalization Rate (per 1,000 residents) - 2011

(Source: Health of Boston 2012-13)

Figure: Diabetes Mortality Rate (per 100,000 residents) - 2011 to 2012
**Current Policies**

The towns in Carney’s service area have several regulations that impact chronic disease, including regulations to curb the use of cancer-causing products. The four service areas within Boston City limits (North Dorchester, South Dorchester, Mattapan, and Hyde Park) are under the jurisdiction of the Boston Public Health Commission’s smoking regulations. These regulations include a ban on smoking in indoor workplaces (such as bars, restaurants, and nightclubs), as well as on city property. Milton also has a city-wide ban on smoking in workplaces, outdoor restaurants, and bars.

This combination of policies and services demonstrates ongoing efforts to combat carcinogenic elements within Dorchester and other surrounding communities. The four PSAs within the city of Boston also have a sugar-sweetened beverage ban on city property, as well as a ban on serving food with artificial trans-fat, except for packaged foods, which must be labeled in vending machines. More can be done to promote healthy eating and physical activity in Carney’s PSA. Zoning to allow for more safe public spaces and more policies to reduce food deserts could increase food access and physical activity within this community.
Asthma

Asthma is a leading chronic illness among children and youth in the United States and a leading cause of school absenteeism. It causes repeated episodes of wheezing, breathlessness, chest tightness, and nighttime or early morning coughing. The CDC’s National Asthma Control Program helps Americans with asthma achieve better health and improved quality of life. The program funds states, school programs, and non-government organizations to help them improve surveillance of asthma, train health professionals, educate individuals with asthma and their families, and explain asthma to the public. (http://www.cdc.gov/asthma/info.html)

Among Carney’s service areas, Quincy, Milton and Braintree have lower asthma hospitalization rates compared to the state average (919.7 cases per 100,000) in 2012, but still higher than Dorchester area, Mattapan and Hyde Park.

Fig: Asthma related hospitalizations (age-adjusted rate per 100,000)-2012
Racial Diversity

Although Boston is a racially and ethnically diverse city, in which less than 50% of its residents are White, Boston ranks among the top 20% of the most highly segregated metropolitan populations in the United States in 2010.

Compared to the city of Boston, South Dorchester (9.8%) and Quincy (24.5%) have a higher Asian populations, especially Chinese and Vietnamese. The largest population group for Carney’s service area is Black/African-American, representing 80.4% of the population in Mattapan, 43.3% in Hyde Park, 44% in North Dorchester and 45.8% in South Dorchester. The Latino population in N. Dorchester and Hyde Park are above the Boston average of 17.5%. Most of Carney’s service areas have a White population of less than 30%, compared to the Boston average of 47%. In contrast the City of Quincy has a 67.5% White population.

Table 1: Diversity of general population (% of population)- 2010

<table>
<thead>
<tr>
<th>Race</th>
<th>North Dorchester</th>
<th>South Dorchester</th>
<th>Mattapan</th>
<th>Hyde Park</th>
<th>Quincy</th>
<th>Boston</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>6.6</td>
<td>9.8</td>
<td>0.9</td>
<td>1.8</td>
<td>24.5</td>
<td>8.9</td>
</tr>
<tr>
<td>Black</td>
<td>44.0</td>
<td>45.8</td>
<td>80.4</td>
<td>43.3</td>
<td>4.5</td>
<td>22.4</td>
</tr>
<tr>
<td>Latino</td>
<td>22.6</td>
<td>14.7</td>
<td>11.7</td>
<td>22.3</td>
<td>3.3</td>
<td>17.5</td>
</tr>
<tr>
<td>White</td>
<td>17.1</td>
<td>22.7</td>
<td>3.8</td>
<td>29.5</td>
<td>67.5</td>
<td>47.0</td>
</tr>
<tr>
<td>Other race</td>
<td>5.7</td>
<td>3.6</td>
<td>0.9</td>
<td>1.0</td>
<td>0.1</td>
<td>1.8</td>
</tr>
<tr>
<td>Two or more</td>
<td>3.8</td>
<td>3.5</td>
<td>2.4</td>
<td>2.1</td>
<td>0.1</td>
<td>2.4</td>
</tr>
</tbody>
</table>

(Source: Health of Boston 2014-15)
With 41.5% of its population speaking another language, Dorchester has more people that speak a language other than English than the Massachusetts average. Spanish speakers are the second largest group at 16%, followed by other languages at 11.8%, French speakers at 7.6%, and Portuguese speakers at 5.2%. Mattapan and Hyde Park have a higher percentage of French speakers than the other service areas, which likely correlates to these neighborhoods’ large Haitian populations.

With 31.9% of its population speaking another language (68.1% speak English), Quincy has a larger population that speaks a language other than English than the county or state average. Spanish speakers make up 3.2%, other Indo-European languages make up 8.0%, and Asian and Pacific Island languages make up 18.9%
(Source: US Census 2010)

Figure 4: Languages spoken at home (2010)
(Source: American Community Survey 2006-2010; BRA Research Division Analysis)
Economic Issues

Adverse economic factors that influence health occur on both community and individual levels in Carney’s service area. Employment is associated with income and is part of an individual’s and a community’s socioeconomic status. Being employed makes it easier for individuals to live in healthy neighborhoods, provide quality education for their children, secure child care services, and purchase healthy foods. Unemployed Americans face numerous health challenges beyond loss of income. It has been well documented that perceived health (self-reported excellent, good, or poor health) and physical functioning decrease with age.

During the time period 2008 to 2012, Boston’s unemployment rate was 10%. Communities within the hospital’s service area experienced higher rates of unemployment during the same timeframe. As a result, these neighborhoods and communities exhibited significantly higher rates of residents living at or below the poverty level. N. Dorchester (29%), S. Dorchester (19.3%), Mattapan (20.3%), Hyde Park (10.4%), and Quincy (14%) all had a higher percentage of residents living below the poverty level compared to Boston (8.9%) overall.


Figure 5: **Percent of people with income below poverty level (2008-2012)**

(Source: Health of Boston 2014-15)
Healthcare Access

Access to comprehensive and affordable quality health care services is vital to achieving health equity and a higher overall quality of life. Routine preventative care and easy access to treatment help individuals avoid sickness and disease, recover more quickly when ill and manage chronic disease. In 2006, Massachusetts addressed a major barrier to health care access through enacting comprehensive health reform. The system was designed to provide near-universal health insurance coverage for state residents by promoting shared individual, employer, and government responsibility.

In spite of the Commonwealth’s health care reform and the subsequent passage of the Affordable Care Act, the percentage of Boston residents with health insurance still varied by race/ethnicity. In 2013, a lower percentage of Latino residents were insured compared to White residents. Between 2005 and 2013, there was an increase in the percentage of White and Black residents who were insured. Access to healthcare in Carney’s service area, especially where health insurance coverage is concerned, is better than the US as a whole. This area has a relatively low percentage of uninsured residents, ranging from 8 to 15% when compared to the national average.

<table>
<thead>
<tr>
<th>Adults with Health Insurance by Race/Ethnicity and Year</th>
<th>2005</th>
<th>2006</th>
<th>2008</th>
<th>2010</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boston</td>
<td>90.60%</td>
<td>92.50%</td>
<td>97.10%</td>
<td>95.30%</td>
<td>94.00%</td>
</tr>
<tr>
<td>Asian</td>
<td>89.60%</td>
<td>92.70%</td>
<td>-</td>
<td>-</td>
<td>94.80%</td>
</tr>
<tr>
<td>Black</td>
<td>88.90%</td>
<td>91.10%</td>
<td>96.30%</td>
<td>93.80%</td>
<td>93.60%</td>
</tr>
<tr>
<td>Latino</td>
<td>83.60%</td>
<td>88.10%</td>
<td>93.00%</td>
<td>89.40%</td>
<td>87.00%</td>
</tr>
<tr>
<td>White</td>
<td>93.40%</td>
<td>94.70%</td>
<td>98.90%</td>
<td>97.50%</td>
<td>96.40%</td>
</tr>
</tbody>
</table>

(Source: Health of Boston 2014-15)

One of the primary themes that emerged from the focus group of community members was the need for information regarding health care services and health education/health promotion information. The focus group participants indicated there was a lack of knowledge about available health and health promotion resources available, citing the need for more service referral points. The coordination of care providers and facilitation of easy access to information and referrals was mentioned as possible solutions.

Additionally, the focus group expressed the need for increased access to dental or oral health care for all residents. They mentioned that utilization of preventative dental services was low and that financing for dental health resources was inadequate. Much of Carney’s service area falls within the Boston Public Health Commission’s, an independent public agency providing a wide range of health services and programs to Boston residents. The town of Milton is under the jurisdiction of the Milton Department of Public Health (DPH). Both health departments conduct outreach to the community in order to improve health access. Milton’s DPH provides public health services such as immunizations and public health nursing services to the community. The public health departments also conduct public health education sessions on a variety of subjects, develop emergency preparedness plans, and investigate communicable disease outbreaks.
Community health centers are valuable community based organizations, often located in areas with a largely underserved population. These centers bring comprehensive primary health care and social support services to the community. Carney’s service area contains several community health centers, including Codman Square Community Health Center, DotHouse Health, Upham’s Corner Health Center, Geiger-Gibson Community Health Center, Harvard Street Neighborhood Health Center, Mattapan Community Health Center, and Neponset Health Center. Similarly, Manet Community Health Center and South Cove Community Health Center offer health center services with multiple locations in the City of Quincy.

These centers all strive to provide community-based health care services to the medically underserved population of Massachusetts. In addition to providing health services, these centers cater to the cultural and socio-economically diverse population in Carney’s service area. Beth Israel Deaconess Hospital- Milton also serves the Milton community with general medical and surgical inpatient care, as well as 24-hour emergency services. Access to health care is often dependent upon reliable means of transportation. All five service areas located in the Greater Boston Area have multiple bus routes, rail service, and highways. Principal highways are Interstate 93 and Route 128, the inner belt around Boston. Quincy, Dorchester and Mattapan have access to the subway, and bus service is also available in all five areas.

**Sexual Health Issues**

The CDC estimates that 19 million sexually transmitted infections (STI) occur each year, with half of new diagnoses estimated to occur in adolescents ages 15-24. Often, individuals are unaware they are infected with an STI since symptoms are absent, or when present, may be attributed to another cause. Reducing the risk of becoming infected with an STI is the goal of recommended prevention strategies like sexual education, use of birth control, etc. Although anyone can experience serious health effects from STIs, they impact women more frequently and extensively than men. Infections can cause pelvic inflammatory disease, infertility and ectopic pregnancy if left untreated. Infections may also be passed on to an unborn child, causing serious harm including brain damage, blindness, or stillbirth. The most common STIs include HIV, Chlamydia and Gonorrhea.

North Dorchester has much higher incidence rates of sexually transmitted infections than the rest of Carney’s service area. The rates of HIV and Gonorrhea are higher in most of Carney’s PSA when compared to the city of Boston. The data show that Chlamydia by far is the most prevalent sexual disease, followed by Gonorrhea and HIV/AIDS. Comparatively, Quincy, Weymouth and Milton have lower Chlamydia and Gonorrhea rates than Boston and Massachusetts as well.
Figure: Chlamydia Incidence Rates (per 100,000 people) - 2011

(Source: Health of Boston 2012-13)

Fig: Chlamydia Incidence Crude Rate (per 100,000 people) - 2012

(Source: MassCHIP)
From 2010 to 2011 the number of people living with HIV/AIDS in Boston increased. In 2011, the rate for people living with HIV/AIDS in Boston was 858.3 per 100,000 residents. The rate among Black and Latino residents was higher than that of White residents. The rate among Asian residents was lower than that of White residents. The rate among males was higher than females, at 1,367.7 per 100,000 residents. According to MassCHIP data for other communities within Carney’s service area, Quincy, Braintree and Milton had lower rates of residents living with HIV compared to Boston and Massachusetts.

(Source: Health of Boston 2014-15)
Behavioral Health

Mental disorders are among the most common causes of disability. The resulting disease burden of mental illness is among the highest of all diseases. Mental illnesses, such as depression and anxiety, affect people’s ability to participate in health-promoting behaviors.

https://www.healthypeople.gov/2020/topics-objectives/topic/substance-abuse-ref

South Dorchester and Hyde Park had higher mental health hospitalizations compared to Boston in 2012, closely followed by North Dorchester and Mattapan.

Most of Carney’s service areas had a lower suicide rate compared to the overall rate for City of Boston from 2005 to 2011, except for Quincy, Braintree and Milton, which had a higher suicide rates than Boston.

Abuse of alcohol or other drugs over time can lead to physical and/or psychological dependence on these substances, despite negative consequences. Substance abuse alters judgment, perception, attention, and physical control, which can lead to the repeated failure to fulfill responsibilities and increase social and interpersonal problems. Quincy and Weymouth showed higher rates of alcohol and drug related discharges, than Massachusetts in 2012.
Mental Health Hospitalizations Rate (per 100,000 residents) - 2012

<table>
<thead>
<tr>
<th>Location</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>N. Dorchester</td>
<td>760</td>
</tr>
<tr>
<td>S. Dorchester</td>
<td>990</td>
</tr>
<tr>
<td>Mattapan</td>
<td>750</td>
</tr>
<tr>
<td>Hyde Park</td>
<td>840</td>
</tr>
<tr>
<td>Boston</td>
<td>820</td>
</tr>
<tr>
<td>Quincy</td>
<td>799</td>
</tr>
<tr>
<td>Milton</td>
<td>522</td>
</tr>
<tr>
<td>Braintree</td>
<td>611</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>846</td>
</tr>
</tbody>
</table>

(Source: MassCHIP, Department of Public Health)

Suicide Rate (per 100,000 residents) - 2005 to 2011

<table>
<thead>
<tr>
<th>Location</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boston</td>
<td>8.8</td>
</tr>
<tr>
<td>North Dorchester</td>
<td>5.3</td>
</tr>
<tr>
<td>South Dorchester</td>
<td>7.9</td>
</tr>
<tr>
<td>Hyde Park</td>
<td>4.8</td>
</tr>
<tr>
<td>Mattapan</td>
<td>&lt;5</td>
</tr>
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</table>

(Source: Health of Boston 2012-13)

Suicide Rate (per 100,000 residents) - 2012

<table>
<thead>
<tr>
<th>Location</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Massachusetts</td>
<td>8.78</td>
</tr>
<tr>
<td>Quincy</td>
<td>8.84</td>
</tr>
<tr>
<td>Braintree</td>
<td>12.85</td>
</tr>
<tr>
<td>Milton</td>
<td>10.02</td>
</tr>
</tbody>
</table>

(Source: Dept. of public health)

Substance Abuse

Alcohol and other drug related hospital discharges (per 100,000 people) - 2012

<table>
<thead>
<tr>
<th>Location</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Massachusetts</td>
<td>362.4</td>
</tr>
<tr>
<td>Quincy</td>
<td>463.3</td>
</tr>
<tr>
<td>Weymouth</td>
<td>558.6</td>
</tr>
<tr>
<td>Braintree</td>
<td>329.8</td>
</tr>
<tr>
<td>Milton</td>
<td>301</td>
</tr>
</tbody>
</table>

(Source: MassCHIP, Dept. of public health)
Obesity

Nearly two-thirds of adult Americans are overweight or obese. Despite the attention of the health profession, the media, and the public and mass educational campaigns about the benefits of healthier diets and increased physical activity, the prevalence of obesity in the United States has more than doubled over the past four decades. Sugar-sweetened beverages, lack of physical activity, fatty foods, sleep deprivation and social influences have had a significant impact on increasing obesity rates in the U.S.

http://clinical.diabetesjournals.org/content/22/1/1.full

In Boston, the percentage of obesity among adults increased to 22% in 2013, rising three percentage points from 19% in 2005. In 2013, there was no significant difference in the percentage of males and females who were obese. A higher percentage of adults ages 45-64 (30%) and 65 and over (27%) were obese when compared with adults ages 18-24 (13%). A higher percentage of Black (33%) and Latino (27%) residents were obese compared to White residents (16%) in 2013.
Quantitative results from the Youth Risk Behavior Study show that obesity rate among high school students have been decreasing in Boston, yet the rates are still disproportionately higher compared to state obesity rates.

Obesity interventions were a consistent theme in Carney’s focus group, where nutrition and physical activity were mentioned repeatedly as a concern for Carney’s service area. Participants
stated a need for more areas to exercise safely and more places to buy healthy and inexpensive foods. Participants also felt that there was a need for more nutrition education that included healthy preparation of ethnic foods. There are seasonal and year-round farmers’ markets in Dorchester, Mattapan, Hyde Park, and Milton providing access to fresh healthy foods within the local community. Despite these markets, Dorchester and Mattapan residents lack access to healthy foods, especially compared with the rest of Boston neighborhoods. This disparity in food access within the city of Boston correlates with rates of obesity, areas with lower obesity rates tend to have more grocery stores and farmers’ markets, while areas with few food stores have higher obesity rates.

Current Policies - The City of Boston has put ordinances and policies in place that promote physical activity and healthy food access. The Dorchester Avenue Project is working to improve Dorchester Avenue through a multitude of changes, which include the development of more pedestrian walkways. The Boston Public Health Commission, in partnership with the Mattapan Food and Fitness coalition and other neighborhood organizations, has instituted “Healthy on the Block,” an initiative to increase community access to healthy affordable food through community corner store in Mattapan.

**Crime**

Table: Total crimes reported by City and District, January 1-October 1, 2015

<table>
<thead>
<tr>
<th></th>
<th>Boston</th>
<th>Dorchester</th>
<th>Mattapan</th>
<th>Hyde Park</th>
<th>Jamaica Plain</th>
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<tbody>
<tr>
<td>Homicide</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Rape/Attempted rape</td>
<td>13</td>
<td>21</td>
<td>16</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Robbery/Attempted robbery</td>
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<td>180</td>
<td>135</td>
<td>43</td>
<td>65</td>
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<tr>
<td>Aggravated assault</td>
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<td>321</td>
<td>337</td>
<td>92</td>
<td>124</td>
</tr>
<tr>
<td>Burglary/Attempted burglary</td>
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<td>269</td>
<td>198</td>
<td>136</td>
<td>146</td>
</tr>
<tr>
<td>Larceny/Attempted larceny</td>
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<td>824</td>
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<td>355</td>
<td>423</td>
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<tr>
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<td>147</td>
<td>131</td>
<td>70</td>
<td>76</td>
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<tr>
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<td>2259</td>
<td>1764</td>
<td>1255</td>
<td>703</td>
<td>844</td>
</tr>
</tbody>
</table>

(Source: Boston Police Department Crime Statistics)
Key Focus Group Findings

Not surprisingly, many of the issues raised by focus group participants align with the publicly available data. In particular, participants acknowledged the racial and ethnic diversity in the communities served by Carney, citing this rich diversity as a positive aspect but also identifying language skills and cultural competencies as challenges to accessing healthcare.

The participants also cited the prevalence of and problems associated with chronic health conditions like obesity, asthma and diabetes in their communities, but identified mental health, violence and access to healthcare resources as some of the greatest health concerns for their communities. All of the participants indicated they have family members or close friends suffering with chronic disease. All of the participants also indicated they each have a parent or sibling suffering from Alzheimer’s or dementia.

The group identified youth (particularly young men), the elderly and individuals returning to the community following incarceration as some of the most vulnerable populations.

The focus group identified several barriers to accessing healthcare in their community, including the cost of care, complexity of the healthcare system, convenience (transportation and hours of availability) and the stigma of needing care (particularly mental health care).

Key Survey Results

As part of the needs assessment process, Carney Hospital distributed a sixteen question online survey to local business leaders, representatives of local community organizations, allied health care providers and religious organizations or churches. A total of forty-eight individuals completed the survey, the overwhelming majority (75%) indicating that they live in the Dorchester or Quincy areas.

Participants indicated that they believe health care providers, family members, friends and the Internet represent the most common sources of health information for most people.

In terms of the top health issues facing the community, participants overwhelmingly (72.9%) identified drug addiction/use as a top public health concern. Participants also cited obesity (54%), mental health issues (52%), alcoholism (39%), high blood pressure (35.4%) and domestic violence (35.4%) as public health issues for the communities in Carney’s PSA.

In terms of accessing quality health care, survey participants ranked financial difficulties (80.9%) and the ability to pay for medical care (74.5%) as primary barriers to care. The survey also found that participants perceive fear (59%), no insurance (57.4%) and not having a doctor (53.2%) as all too common barriers to care. In terms of the most vulnerable or underserved segments of the local population, survey participants identified people at or below the poverty line (78.3%), the elderly (73%) and the homeless (65%) as the most underserved.
In terms of improving the health of the community, participants cited mental health services (64.6%), substance abuse services (54%) and access to healthier foods (47.9%) as important resources.

**Recommendations**

This section of the report provides recommendations based on the evaluation of these results and the criteria established in the methods section of the report.

Carney Hospital is well positioned to address the following areas:

- Chronic Disease/Obesity
- Health Insurance and Access to Care
- Behavioral Health
- Substance Abuse

These areas represent leadership opportunities for Carney to improve patient experience, population health and reduce per capita cost. Carney Hospital will collaborate with community partners to support efforts to impact and improve on these areas.

Recommendations for Carney are given below. Where appropriate, community-wide recommendations are also given. These represent efforts that are beyond the scope of the hospital but on which the hospital could partner with community organizations.

**Chronic Disease/Obesity Health System Recommendations:**

- Provide group counseling sessions for diabetic and pre-diabetic patients, which can be offered by physicians, nurse practitioners and registered dietitians and discuss proper diet and exercise regimen. In this way, patients are given in-depth recommendations and they have a chance to interact with other patients to discuss healthy eating patterns.
- Conduct ‘Eat Healthy, Be Active’ workshops for high school students at Carney Hospital or schools in the area and discuss alternatives to junk food, soda and physical inactivity.
- Continue its partnership with Massachusetts Farmer’s Market Association and provide vouchers for patients and their families to help them purchase local produce and offer healthy recipes based on the produce that is bought.
- Partner with a local fitness center(s) and offer exercise classes on a monthly subscription basis for a reduced fee, to encourage patients and their families with weight loss management.
- Promote wellness programs in the hospital to engage diabetic and obese patients and their families to enjoy interactive seminars and raffle activities.
- Implement a program to provide group transportation access to local markets for patients to purchase local produce, instead of going to the nearest supermarket for cheaper unhealthy food.
• Offer regular cooking demonstrations for employees and patients to encourage healthy eating choices.
• Partner with local religious and community-based organizations to conduct outreach and education around nutrition, portion control, and the importance of physical activity.

Access to Health Care
Health System Recommendations:

• Provide informational seminars for self-employed, part-time and temporary employees to assist with enrollment in available state health insurance programs. Financial counselors can offer advice on payment models and cost structure of delivering care, depending on each patient’s insurance plan.

• Continue to provide high quality care to patients with cultural or linguistic barriers through an efficient Interpreter Service department, with a 24-hour online or on-call representative in the hospital. Provide technological support through the use of iPad or cell phone, in the absence of an interpreter, for patients with language barriers.

• Continue to support the utilization of Community Enrollment Specialists to provide follow-up enrollment assistance for uninsured patients who visit the emergency department.

Carney’s Community Enrollment Specialists (CES) work to increase healthcare access by conducting outreach and assisting patients with enrollment in and navigating access to health insurance. Carney employs staff that offer insurance enrollment services in the emergency department.

Carney’s CESs conduct follow-up with uninsured patients and help with enrollment into eligible insurance plans. In conducting outreach and working with patients, CESs also have the opportunity to gather more comprehensive data on the community. Information on patient experience, preferences, demographics, and socio-economic status can be collected in order to better understand and improve quality of care.

Behavioral and Mental Health
Health System Recommendations:

• Provide specialized clinical services that are free, voluntary and confidential to assess victims (for employees and patients) of domestic or non-domestic violence and offer treatment for those victims and their children who have witnessed traumatic events.

• Provide educational intervention programs and offer counseling for individuals who are or have been abusive in their relationships and monitor their behavioral changes throughout the sessions.

• Provide training for primary care practitioners to assess behavioral disorders of teenagers and young/middle-aged adults when they come in for their annual physical visits. Refer the targeted individuals to mental health workers, looking for early signs of suicidal thoughts, anxiety and depression problems, to reduce substance abuse rates and suicide rates.
Community-wide Recommendation:

- Partner with community organizations to conduct education around coping mechanisms for trauma and to improve trauma training for first responders.

Focus group: One major concern identified in the focus group was an overall lack of behavioral health resources in Carney’s community. By joining forces with the police department, mental health facilities, fire departments, and other organizations in the community, Carney can link behavioral health patients with resources that can help them not only manage their disease better, but also improve their overall health and quality of life.

Trauma, in both youth and adults, was also identified as an area of concern in the focus group and in surveys completed by Carney community members. Specifically, participants raised concerns about the lack of resources to handle the after effects of trauma within the community. Carney might partner with local community health centers and other organizations to raise awareness about the detrimental effects of trauma and to help remove the stigma around getting help. Often, there are stigma toward receiving treatment for mental health issues, especially in certain cultural communities. Carney and its community partners should conduct more research in certain populations to determine the best way to conduct culturally-appropriate outreach on trauma and mental health issues.

**Sexual and Reproductive Health**

Community-Wide Recommendation:

- Partner with local community health centers to provide STD education to young adults and raise awareness of availability of resources and peer support to help reduce transmission of sexual diseases.

**Substance Abuse**

- Institute a patient navigator that will link individuals with substance abuse disorders to clinical services, as well as primary care, social, and mental health services in the community.

Community-wide Recommendation:

- Continue collaboration with the Dorchester Substance Abuse Coalition. The substance and alcohol abuse mortality rate is significantly higher than the Boston average in some parts of Carney's PSA. In collaboration with the Boston Public Health Commission, St. Elizabeth’s Medical Center and local community health centers, it is recommended that Carney develop the Providing Access to Addictions, Treatment, Hope and Support Program (PAATHS) Program, an enhanced resource and referral center for individuals with substance abuse disorders (SUD); particularly those identified as most at risk for fatal and non-fatal overdose. The PAATHS program will operate with a navigator who will identify needed services and supports, as well as provide care and linkages to care that address all of the clinical and non-clinical care needs of the individuals. The navigator, who will be out stationed at community-based health facilities on a regularly-scheduled rotation, will effectively link active drug users with clinical services that incorporate primary care, social, and mental health services and will improve engagement,
retention, and adherence. The presence of a staff resource dedicated to substance abuse issues will support primary care teams at the partnering health facilities. Dorchester Substance Abuse Coalition (DSAC) is a grassroots organization dedicated to reducing, preventing, and eliminating substance use and abuse among youth in our community.

- Collaborate with community organizations such as the Boston Public Health Commission, and the Dorchester and Quincy Police Department to create a task force to address the risk factors leading to substance abuse and educate the public about receiving early treatment. The task force would help in regulating alcohol sale hours and locations to reduce harms associated with excessive alcohol consumption.
Limitations

Thorough data collection was done on the PSA; however, some online data sources (secondary data) lacked information on certain towns or neighborhoods. Often these were towns that had smaller populations or were neighborhoods within a major city, such as Boston. In such cases we could only collect data where it existed. In order to compensate for the lack of secondary data, we collected firsthand community input (primary data) that represented the smaller towns and neighborhoods. Moving forward, we will collect more detailed quantitative data and continue to research available secondary data sources to fill the data gaps. Focus group data was collected for the PHIR. Though a focus group informs the report with essential primary data from the community, there are some limitations. Focus group data is qualitative, not quantitative, because it is based on the opinions of a very small number of participants. The small sample size means the groups might not be a good representation of the larger population. Community-based organizations in Carney’s PSA were surveyed to gather input on the community.

A major limitation is that organizations focus on their mission and constituents, which may not directly align with or be representative of the community as a whole. Additionally, a sampling of community-based organizations many not accurately represent the larger population.

Appendix A: Methods

The Massachusetts Department of Public Health-defined service area for Carney Hospital was used as the geographical area for this report. This service area includes North Dorchester, South Dorchester, Hyde Park, Mattapan, Quincy, Weymouth and Milton. Secondary data was collected by Steward Health Care community health managers for the hospital’s primary service area as defined by the Massachusetts Department of Public Health. Four out of the five service areas for Carney are neighborhoods within the city of Boston. For some of the secondary data resources, individual neighborhood data was rolled into the Boston City statistic. For the instances where individual neighborhood data was not available, Boston City data is presented in this report. Online research of administrative policies and legal ordinances were done to identify and analyze policies and regulations that affect population health status.

Sources included:

- United States Census [www.census.gov](http://www.census.gov)
- The Massachusetts Executive Office of Health and Human Services’ Massachusetts Community Health Information Profile (MassCHIP) [http://www.mass.gov/eohhs/researcher/community-health/masschip/](http://www.mass.gov/eohhs/researcher/community-health/masschip/)
- Massachusetts Department of Elementary and Secondary Education [http://www.doe.mass.edu/](http://www.doe.mass.edu/)
- Massachusetts Department of Public Health Bureau of Health Information, Statistics, Research and Evaluation
Carney gathered primary data through a survey to community providers and opinion leaders and through a focus group, which contained a demographic survey, an evaluation survey, and a consent form. A community provider survey entitled “2015 – 2016 Carney Hospital Community Health Needs Assessment Survey” was sent on Oct. 9, 2015 to community leaders affiliated with health services, social services, business, churches, education, families, youth, adults, and seniors. Forty-eight people responded to the survey. A community focus group was held on December 1, 2015 at Carney Hospital. Nine residents from Dorchester, Mattapan and Milton attended the meeting.
Appendix B: Community Provider Survey Questions

1. Describe the organization for which you work?

2. Do you live in the Dorchester or Quincy area

3. What do you think are the best features about the community?

4. What concerns you the most about the community/living here?

5. From where do you think most people get their health information?

6. What do you think are the top 5 health issues in the community?

7. Where do you believe people go for immediate medical services?

8. What do you believe prevents people from accessing care?

9. What do you or other people you know do to stay healthy?

10. What are the top five populations that you identify as underserved or underrepresented within the community?

11. What three improvements/services should be made for a healthier community?

12. In what ways is Carney Hospital serving the community well?

13. What is the number one thing that Carney Hospital can do to improve the health and quality of life of the community?
Appendix C: Focus Group Questions

1. What do you like the most about living in your community? (Why?)
2. What concerns you the most about living here? (Why?)
3. What is healthy about your community?
4. What do you or other people you know do to stay healthy?
5. What do you believe are the top three areas of health concerns within the community?
6. What suggestions do you have to address these concerns?
7. What populations would you identify as underserved or underrepresented within the community?
8. What do you feel are the biggest obstacles to health access for your community?
9. a) Is mental health a major issue within your community?
   Are you aware of a lot of people with mental health issues?
b) Is substance abuse a major health issue within your community?
   Are you aware of a lot of people with substance abuse problems?
c) Is there a major issue with any of the following problems?
   Domestic violence, Gang/Youth Violence, Elderly Abuse/Neglect, Child Abuse/Neglect?
d) Anything else that should be mentioned that is a major problem?
10. Do you or someone you know have issues with any chronic disease?
    Are they receiving appropriate treatment for their disease?
11. Do you know anybody with issues of Dementia or Alzheimer?
    Do you see this issue as increasing, decreasing, or staying the same?
12. Do you think most people get an annual physical?
    How easy or hard is it to access health resources/services? Why?
13. Do you think most people have a yearly dental checkup or dental work?
    How easy or hard is it to access dental health resources/services? Why?
14. What health services do you think people need that are not being offered?
15. In what ways is Carney Hospital serving the community better?
16. What is the number one thing that Carney Hospital can do to improve the health and quality of life of the community?