Spaulding Hospital Cambridge

Community Health Needs Assessment

2016

Contents

About Spaulding Hospital Cambridge

SPAULDING REHABILITATION NETWORK MISSION STATEMENT

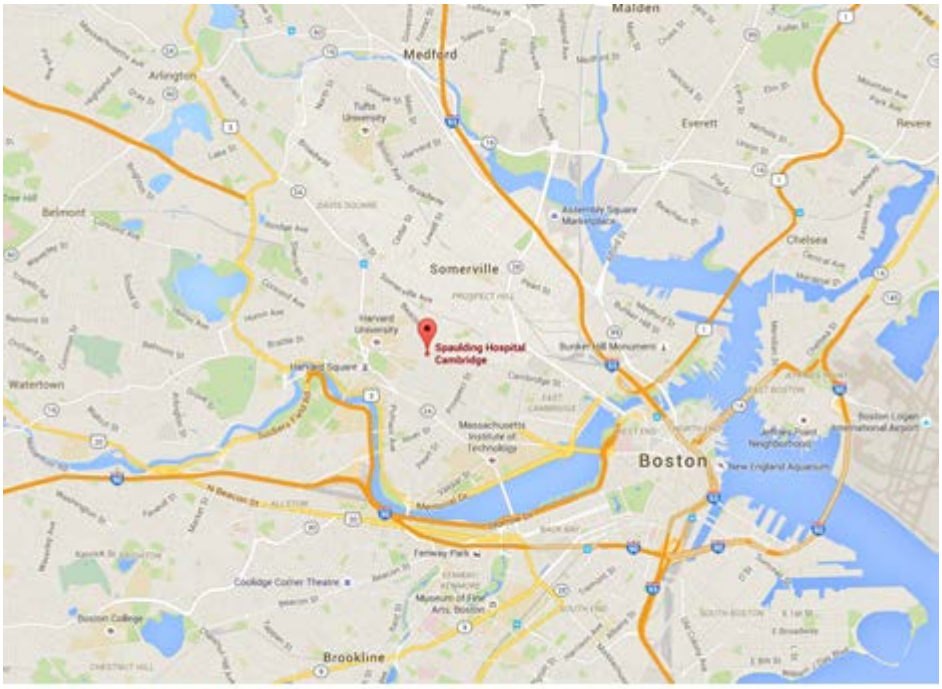
The Spaulding Rehabilitation Network is committed to delivering compassionate care across the healthcare continuum to improve quality of life for persons recovering from, or learning to live fully with, illness, injury and disability.

SPAULDING REHABILITATION NETWORK VISION STATEMENT

The Spaulding Rehabilitation Network will be the nationally recognized leader in innovation, research and education, will achieve exceptional patient outcomes, and will be known for delivering a broad range of integrated health care solutions. We will exercise leadership to shape health policy and to advocate for our patients, their families and our staff.

BACKGROUND AND PRIORITY COMMUNITIES

Spaulding Hospital Cambridge (SHC) is a 180-bed long-term acute care facility located on a 7-acre campus on the Cambridge/Somerville border in Middlesex County. SHC provides comprehensive medical and rehabilitative care to a very complex patient population. Our patient diagnostic categories include oncology, post transplant, ventilator weaning, vascular access device for end stage heart failure, complex pulmonary diagnosis, spinal cord injury, traumatic brain injury, disorders of conciousness and end stage renal disease. SHC has specialized physicians in internal medicine, psychiatry, physiatry, palliative care, cardiology , neurology, pulmonology, infectious disease and endocrinology. The interdisciplinary team collaborates with patients and families to identify long term goals and establish an individualized treatment plan which is focused on maximizing the patient's functional status while managing the patient's complex medical needs.



Source: Google Maps, 2016

Given the highly specialized role we fulfill as a provider, we are a regional resource with patients admitted from local facilities and facilities in New Hampshire, Rhode Island, Connecticutt and Vermont. In 2015 SHC admitted 1,498 patients and discharged 1,692. The largest MA communities served being Boston, Waltham, Cambridge and Somerville (Table 1).

Table 1 - **Top MA Communities Served**

City	% of SHC Patients
Boston	6.0%
Waltham	3.6%
Cambridge	3.5%
Somerville	3.4%
Medford	2.6%
Malden	2.0%
Revere	2.0%
Arlington	2.0%
Everett	2.0%
Belmont	1.5%

Data source: Spaulding Hospital Cambridge Meditech System

Given the hospital's physical location, the communities it serves, and the specialty nature of the care provided, SHC defines its target populations both by geography, with a focus on Cambridge and Somerville, and broadly as persons living with a disability.

ASSESSMENT OF COMMUNITY HEALTH NEEDS, GOALS, AND ASSETS

In 2016, SHC conducted a Community Health Assessment (CHA) using a collaborative and dynamic approach to review available data; existing programs; and views from people who represent the broad interest of the community served by the hospital.

The goals of the 2016 CHA were to:

- Identify the health needs and assets of our target populations in the cities of Cambridge and Somerville.
- Engage community members in the process
- Determine priorities for the next 3 years
- Develop a plan and implementation strategy

PAST COMMUNITY HEALTH ASSESSMENTS

In compliance with section 501(r)(3) of the Internal Revenue Code, Spaulding Hospital Cambridge reached out to the City of Cambridge Public Health Department to better understand the community health needs of our geographic area in 2014. The Cambridge Public Health Department and Cambridge Health Alliance published their CHNA in May 2014. Rather than duplicate efforts with limited resources and expertise and with approval from the Cambridge Public Health Department, SHC supported the findings of the Cambridge Public Health Department as outlined in their CHNA report. The priorities identified in this CHNA were: Assist All Cambridge Residents, Workers, and Visitors to Live Healthy and Fulfilling Lives, Strengthen the Focus on Healthy Living and Disease Prevention, Enhance Efforts to Address Substance Abuse and Mental Health Issues, Promote and Maintain Access to Quality Healthcare and Engage All Sectors of the Cambridge Community in Efforts to Promote a Healthy Community Environment. The full report can be found here: http://www.cambridgepublichealth.org/publications/FinalCambridgeCHAreport.pdf

METHODOLOGY

Overall Approach

The 2016 Spaulding Hospital Cambridge Community Health Assessment (SHC CHA) values all the factors within its communities that influence health. It is important to incorporate the social, economic, and environmental influences on health outcomes. Data collection for this CHA involved both quantitative and qualitative data to help identify all aspects of the community that impact the health of its priority communities. This assessment was developed in close collaboration with Partners Community Health.

During the collection of both qualitative and quantitative data, social determinants of health were considered. Beyond individual physiology and health-related behaviors, there are other economic, environmental and social factors that influence health. Collectively, we refer to these as social determinants of health (SDOH). Social determinants are societal influences that help to describe the circumstances in which people are born, grow up, live, work and age[1]. Research has identified a wide range of social factors that are associated with differences in health outcomes:

- Employment
- Access to Healthy food
- Access to Health Care
- Exposure to Violence
- Insurance coverage
- Education
- Access to Health Resources
- Income
- Housing Conditions
- Transportation Options
- Environmental Safety
- Occupational Safety

Source: Healthy People 2020

Our report describes how many factors, such as income, employment, education, and home ownership, are unevenly distributed within our community among those of differing races and ethnicities, socioeconomic status, and geographic locations.

Quantitative Data

The SHC CHA uses several secondary data sources to pull information on health indicators, as well as social, economic, and environmental factors in the community. The main sources of quantitative data are the American Community Survey (2009-13), the 2010 Census, the Bureau of Labor Statistics and the Crime in the United States 2012 report and Massachusetts Department of Public Health MassCHIP "Health Status Indicators Reports". The Community Commons Health Indicators Reporting Tool was utilized in the creation of this report.

Qualitative Data

In the spring of 2016, SHC developed and conducted a Quality of Life Survey (2016 SHC QOL Survey) with the assistance of Partners Community Health. The survey was designed to provide information about community perceptions of top community health issues and to better

[1] CSDH. Closing the gap in a generation: health equity through action on the social determinants of health. Final Report on the Commission on Social Determinants of Health. Geneva : World Health Organization, 2008.

understanding the specific barriers to health and wellness that persons with disabilities face. Over a 6-week period, individuals who either live or work in the SHC priority towns were surveyed. The survey was available online and promoted through SHC's social media profile and distributed in email blasts to SHC's contacts and associated groups located in SHC's priority communities. A total of 81 surveys were completed.

Additionally, key informant interviews and focus groups were held to spark thoughtful and insightful conversation about the strengths of and challenges in the community. In particular, the Cambridge Public Health Department was consulted as a part of this process. Although their 2014 Community Health Needs Assessment did not focus on the specific needs of disabled persons, they confimed that the needs identified by the assessment (See Past Community Health Assessments above) were truly issues that cut across every demographic and social sector of Cambridge residents. SHC and the Cambridge Public Health Department hope to work more collaboratively on future needs assessments.

See the Community Perceptions section and Appendix 1 in this report for further information on both the 2016 SHC QOL Survey and key informant interviews.

DEMOGRAPHIC FINDINGS

Population

Between 2000-2010, the population of Cambridge grew at a faster rate than both Middlesex County and the state of Massachusetts. In contrast, the Somerville population declined over the same period (Table 2).

Of the 81 SHC QOL Survey respondents, 46.7% indicated that they were from Cambridge and 15.1% indicated that they were from Somerville.

Table 2: Population by City and by Gender 2010

	Cambridge		Somerville		Middlesex County		Massachusetts	
Total Population, 2010	105,737		76,945		1,522,533		6,605,058	
Growth Rate, 2000-2010	**3,807**	**3.76%**	**(1,724)**	**-2.23%**	37,803	2.58%	198,450	3.13%
Female	54,053	51.40%	38,596	50.90%	772,221	51.40%	3,381,001	51.60%
Male	51,109	48.60%	37,158	49.10%	730,864	48.60%	3,166,628	48.40%

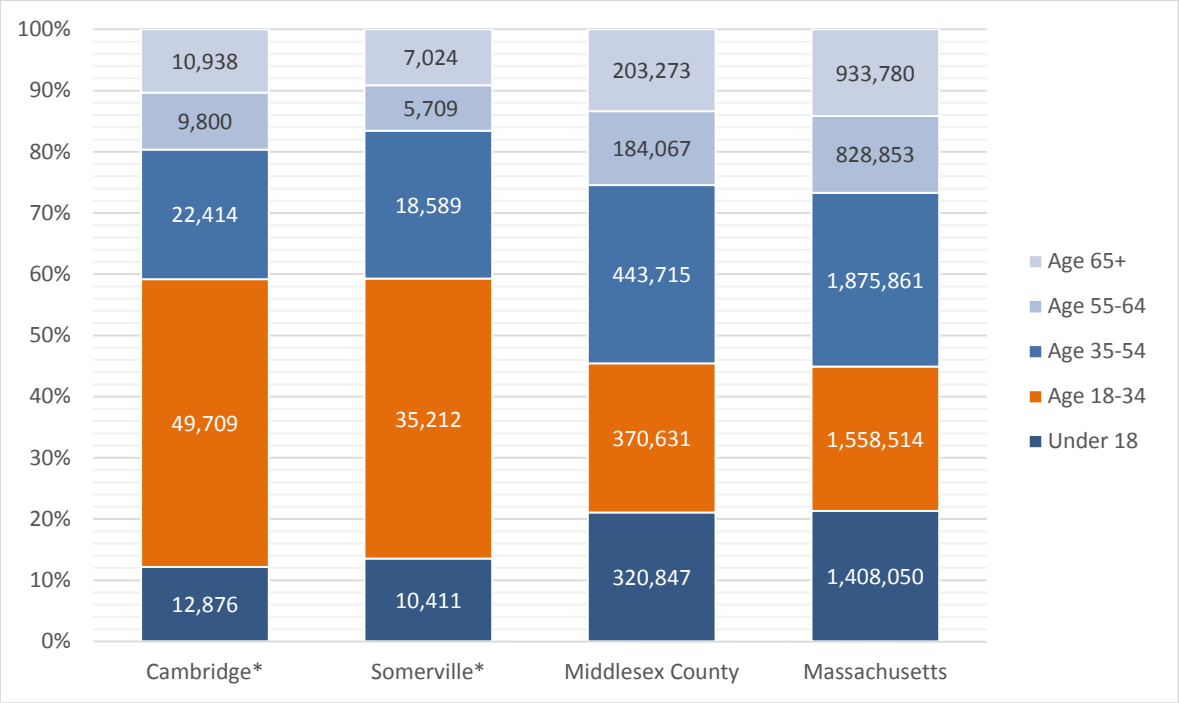
Data Source: US Census Bureau, 2010 Census

Age Distribution

Across Cambridge and Somerville, the majority of residents are aged 18-34 representing 47% and 45.8% of each community's population, respectively (Figure 1). These proportions are significantly higher than those seen for Middlesex County and the State. This age difference is

likely related to the high concentration of institutions for higher education in Cambridge and Somerville, including Harvard University and the Massachusets Institute of Technology.

Figure 1: Age Distribution by City (2009-2013)



Data Source: US Census Bureau, American Community Survey, 2009-2013 5-year estimates

Racial and Ethnic Diversity

According to the Institute of Medicine[2], race and ethnicity have a significant impact on health outcomes and access to healthcare. There are significant socioeconomic status disparities across all races, which compounds the inequities seen in health outcomes and quality of care.

Racial diversity is defined using the categories of the U.S. Census. With larger Black and Asian populations, Cambridge is more racially diverse than Somerville, Middlesex County and the State. Somerville, while predominantly White, has larger Black and Hispanic populations than Middlesex County.

[2] Williams, David R., and Ronald Wyatt. Racial Bias in Health Care and Health. Jama 314.6 (2015): 555.

Table 3: Race and Ethnicity by City (2009-2013)

	Cambridge	Somerville	Middlesex County	Massachusetts
White	67.43%	77.14%	80.13%	80.52%
Black/African American	11.65%	6.99%	4.67%	6.89%
Asian	13.96%	9.39%	9.71%	5.57%
Hispanic	7.75%	10.06%	6.84%	9.93%
Other	6.96%	6.48%	5.49%	7.03%

Data Source: US Census Bureau, American Community Survey, 2009-2013 5-year estimates

Disabled Residents

Disabled individuals comprise a vulnerable population that requires targeted services and outreach by providers. According to numerous reports by the Centers for Disease Control and Prevention (CDC), the disabled community is faced with many barriers related both to accessing health care and participating in public health interventions to improve the health of the disabled population[3]. There is growing support in improving the methods through which public health interventions include and support the disabled community.

Middlesex County, including Cambridge and Somerville, has a lower proportion of the population living with a disability than the State (Table 4). Forty percent of SHC QOL Survey respondents indicated that they are living with a disability. Of these respondents 60% indicated that they were living with a physical disability and 74% were aged 55 years or older.

Table 4: Disability by City (2009-2013)

	Cambridge		Somerville		Middlesex County		Massachusetts	
Population with Any Disability	7,725	7.36%	6,172	8.04%	133,328	8.85%	735,555	11.27%

Data Source: US Census Bureau, American Community Survey, 2009-2013 5-year estimates

Overall, the disabled population among residents 65 years and older is similar to the percentage across the State (Table 5) and the primary impairments experienced impact ambulation and independent living.

[3] Centers for Disease Control and Prevention. Morbidity and Mortality Weekly Report: CDC Grand Rounds: Public Health Practices to Include Persons with Disabilities. 62(34);697-701, 2013. (http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6234a3.htm?s_cid=mm6234a3_w)

Table 5: Disability among 65+ Population by City (2011)

	Cambridge		Somerville		Massachusetts	
% 65+ Population that have been disabled for a year or more	30.6%		30.6%		31.0%	
	65-74 years old	**75+ years old**	**65-74 years old**	**75+ years old**	**65-74 years old**	**75+ years old**
Hearing Impairment	4.4%	13.2%	**9.6%**	**24.7%**	7.4%	21.2%
Vision Impairment	2.5%	9.9%	3.7%	9.8%	3.2%	9.3%
Cognition Impairment	**6.1%**	11.5%	5.6%	**14.5%**	4.7%	12.1%
Self-care Impairment	5.1%	12.8%	**7.3%**	12.9%	3.7%	12.2%
Independent living impairment	7.6%	**25.3%**	**9.9%**	25.4%	7.2%	24.3%
Ambulatory Impairment[4]	13.2%	**30.3%**	**18.8%**	**33.8%**	12.9%	29.4%

Data Source: Massachusetts Healthy Aging Data Report: Community Profiles, 2015

Results from the SHC QOL Survey indicate that the disabled population of Cambridge and Somerville perceive life differently than their non-disabled neighbors (Table 6). Disabled respondents were nearly 3 times more likely to be dissasified with the health care system in Cambridge and Somerville, 4 times more likely to be dissatisfied with their overall quality of life and nearly twice as likely to feel unconnected to their community and neighbors than non-disabled respondents.

Table 7: Resident satisfaction (2016)

		Disabled	Non-disabled
Satisfaction with health care system in Cambridge and Somerville	Dissatisfied	37.0%	13.2%
	Satisfied	37.0%	68.4%
Satisfaction with the overall quality of life in Cambridge and Somerville	Dissatisfied	29.6%	7.9%
	Satisfied	63.0%	73.7%
Cambridge and Somerville are good places to grow old.	Disagree	17.4%	12.8%
	Agree	69.6%	64.1%
There is economic opportunity in Cambridge and Somerville.	Disagree	25.0%	24.3%
	Agree	41.7%	56.8%
Cambridge and Somerville are safe places to live.	Disagree	20.0%	7.5%
	Agree	56.0%	77.5%
Cambridge and Somerville have support networks for those in stress and need.	Disagree	19.0%	13.2%
	Agree	52.4%	73.7%
I feel connected to my neighbors and my community.	Disagree	29.2%	17.1%
	Agree	50.0%	54.3%
Cambridge and Somerville businesses, agencies and organizations contribute to making the community a better place to live.	Disagree	22.2%	5.1%
	Agree	59.3%	71.8%

Data Source: The 2016 SHC QOL

Note: Table does not include neutral responses or no answers, therefore percentages will not add up to 100%.

[4] Defined as having serious trouble walking or climbing stairs.

Income, Poverty, and Employment

Numerous studies have shown that the higher an individual's income, the better their health outcomes and health status. Moreover, the unequal distribution of income across races and for people living with disabilities further exacerbates the health disparities seen across populations.

Income

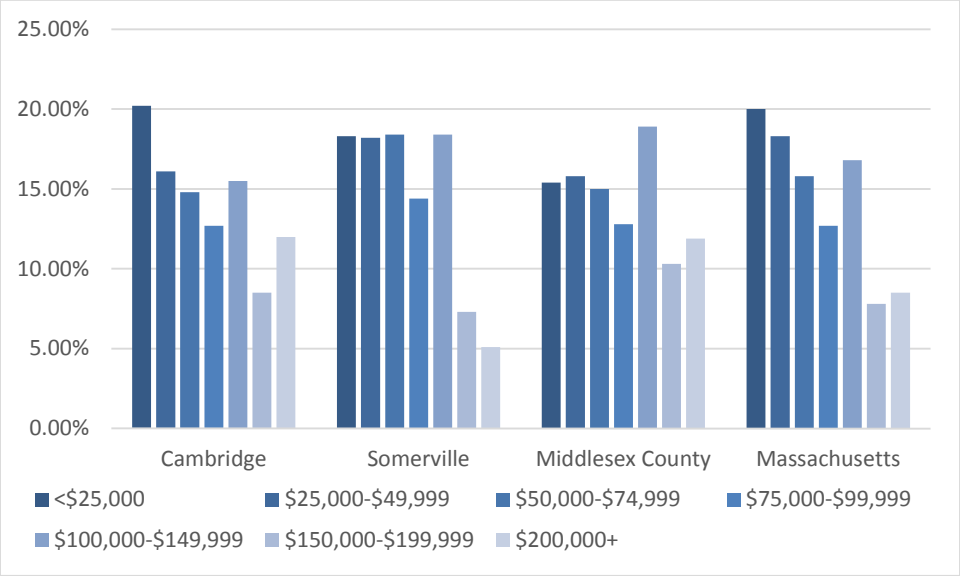
In terms of mean and median income, Cambridge data reflect those seen for Middlesex County and are higher than income levels seen for the State (Table 7). In contrast, Somerville income levels are similar to the State. Notably, Cambridge has the higest percentage of residents in both the lowest income (<$25,000) and the highest income ($200,000+) brackets compared with Somerville, the County and the State (Figure 2).

Table 7: Mean and Median Household Income by City (2009-2013)

	Cambridge	Somerville	Middlesex County	Massachusetts
Median Household Income	$75,909	$66,866	$83,488	$66,866
Mean Household income	$111,921	$84,600	$112,455	$90,877

Data Source: US Census Bureau, American Community Survey, 2009-2013 5-year estimates

Figure 2: Household Income by City (2009-2013)



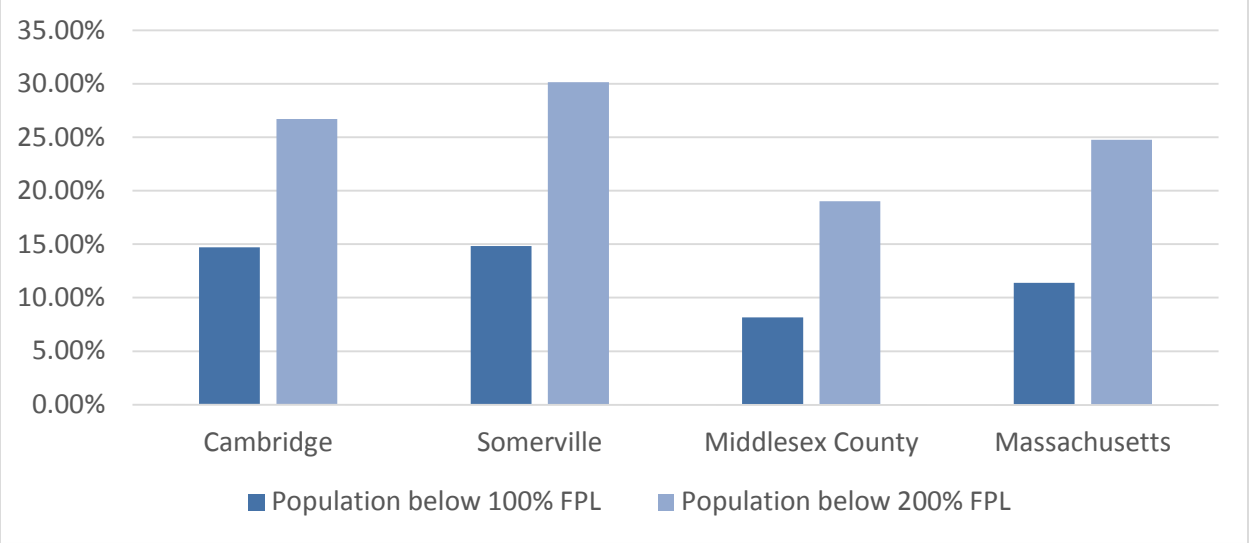
Data Source: US Census Bureau, American Community Survey, 2009-2013 5-year estimates

Poverty

The percentage of the population in Cambridge and Somerville living below 100% and 200% of the Federal Poverty Level (FPL) is higher than Middlesex County and the State (Figure 3). While Cambridge and Somerville have higher rates of poverty, they have lower proportions of

residents receiving SNAP benefits (7.05% and 8.76% respectively versus 11.67% of residents across the state of Massachusetts).[5]

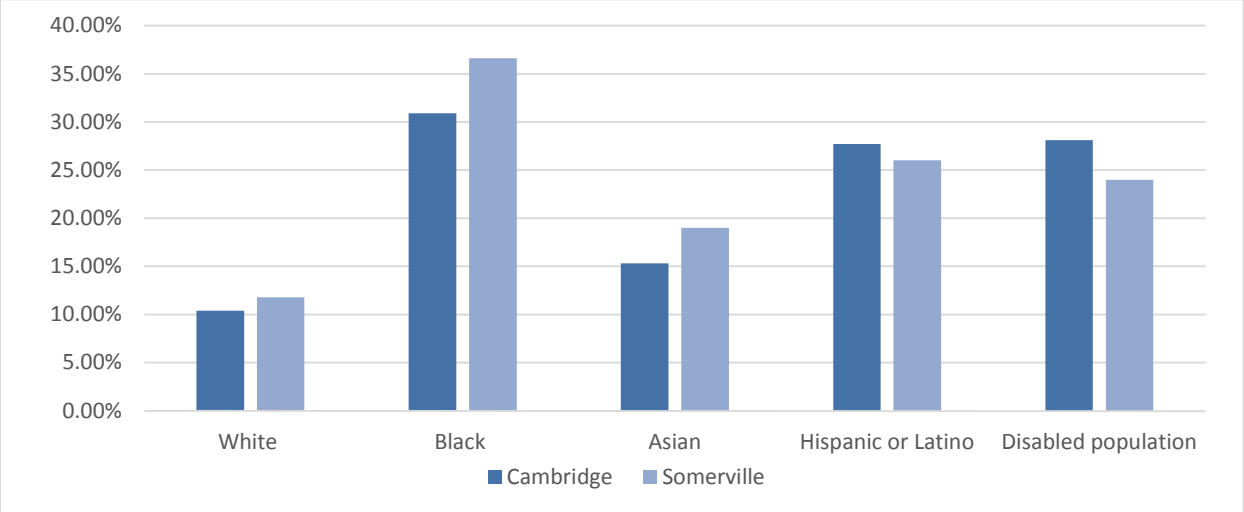
Figure 3: Percent of Population Below the Federal Poverty Level by City (2009-2013)



Data Source: US Census Bureau, American Community Survey, 2009-2013 5-year estimates

When taking race or disability into consideration, significant differences in the poverty rates emerge. Compared to White residents in Cambridge and Somerville, Black residents are approximately 3 times more likely to be living below the poverty level and Hispanic/Latino and Disabled residents are nearly 2.5 times more likely to be living below the poverty level (Figure 4).

Figure 4: Percent of Population Below the Federal Poverty Level by Race or Disability (2009-2013)



Data Source: US Census Bureau, American Community Survey, 2009-2013 5-year estimates

[5] US Census Bureau, American Community Survey, 2009-2013 5-year estimates

Unemployment

The unemployment rates in Cambridge and Somerville continue to decline and remain lower than those for Middlesex County and the State (Table 8).

Table 8: Unemployment Rate by city (2013-2016)

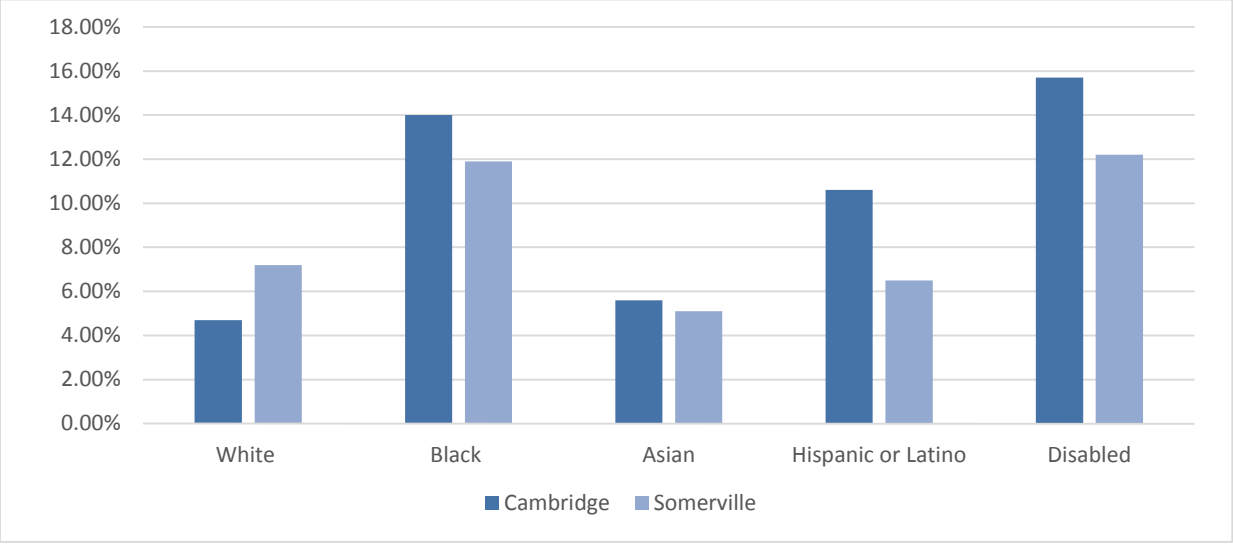
Unemployment Rate*	Cambridge	Somerville	Middlesex County	Massachusetts
January 2013	4.50%	4.90%	6.00%	6.70%
March 2016	2.60%	2.80%	3.60%	4.40%

Data Source: BLS Data Viewer, Bureau of Labor Statistics

*Percent of population aged 16 years or over who are active in the labor force

However, when looking at unemployment by race and disability, significant disparities emerge in Cambridge: Black residents and Disabled residents are roughly 3 times more likely to be unemployed than White residents, and Hispanic/Latino residents are twice as likely to be unemployed as White residents. Disparities in the unemployment rates across race and disability in Somerville exist as well, but not to the same extent as in Cambridge. Of note, Asian and Hispanic/Latino residents in Somerville actually have a lower rate of unemployment than White residents. (Figure 5).

Figure 5: Unemployment by Race and Disability, 2009-2013



Data Source: US Census Bureau, American Community Survey, 2009-2013 5-year estimates

Educational Attainment

A growing body of evidence indicates that educational attainment is a significant factor is determining health outcomes, and this is even true once other socio-economic factors are taken into consideration.[6]

As compared to the State and Middlesex County, both Cambridge and Somerville have a larger portion of their population aged 25 or higher with a Bachelor's degree or higher (Table 9). However it is important to note that 1 in 3 Somerville residents has a high school diploma or less, while only 1 in 6 do in Cambridge.

Table 9: Educational Attainment for adults aged 25 or higher, by City 2009-2013

	Cambridge	Somerville	Middlesex County	Massachusetts
Less than High School Graduate	6.20%	11.50%	7.80%	10.60%
High School Graduate	10.00%	20.70%	21.60%	25.80%
Some College or Associate's Degree	10.20%	14.50%	19.80%	24.20%
Bachelor's Degree or Higher	73.4%	53.2%	50.8%	39.4%

Data Source: US Census Bureau, American Community Survey, 2009-2013 5-year estimates

SOCIAL, ECONOMIC, AND PHYSICAL ENVIRONMENT FINDINGS

Housing

The quality, cost and location of housing plays an important role in determining health outcomes and the ability to make healthy decisions. Respondents to the 2016 SHC QOL Survey indicated Housing as the #1 health issue in the community. Roughly 2/3rd of housing units in Cambridge and Somerville are renter occupied, which is in stark contrast to Middlesex County and the State where roughly 2/3rd of housing units are owner occupied (Table 10).

Table 10: Housing by City 2009-2013

	Cambridge	Somerville	Middlesex County	Massachusetts
Owner Occupied	35.00%	34.50%	62.70%	62.70%
Renter Occupied	65.00%	65.50%	37.30%	37.30%
Occupied Units	93.10%	96.30%	94.90%	91.10%
Vacant Units	6.90%	3.70%	5.10%	9.90%
Cost Burdened Households	39.74%	38.83%	35.98%	38.36%
Substandard Housing*	39.21%	38.90%	35.28%	37.65%

Data Source: US Census Bureau, American Community Survey, 2009-2013 5-year estimates

*Substandard Housing defined as owner- and renter-occupied housing units with at least one of the following conditions: 1) lack complete plumbing facilities, 2) lack complete kitchen facilities, 3) 1.01 or more occupants per

[6] Robert Wood Johnson Foundation, Issue Brief 6: Education and Health, September 2009, http://www.commissiononhealth.org/PDF/c270deb3-ba42-4fbd-baeb-2cd65956f00e/Issue%20Brief%206%20Sept%2009%20-%20Education%20and%20Health.pdf, Accessed: June 23, 2016

room, 4) selected monthly owner costs as a percentage of household income greater than 30 percent, and 5) gross rent as a percentage of household income greater than 30 percent.

Cambridge and Somerville have nearly 40% of residents living in cost burdened households, where housing costs exceed 30% of the total household income. These rates are slightly higher than those seen for Middlesex County and the State. Housing, whether rented or owned, typically represents the single largest expense in a household's budget each month. This can considerably impact households both on their ability to live a health lifestyle (including eating a healthy, balanced diet, regularly exercising, etc.) and adds significant stress to household members which can cause numerous health issues.

Homelessness is another key issue in Cambridge and Somerville and was rated the 2nd greatest health issue in the community according to the SHC QOL Survey. Although homeless statistics within Cambridge and Somerville are not available, Massachusetts is estimated to have had 21,237 homeless residents in 2014 (up 11.3% from 2013) according to the National Alliance to End Homelessness.[7] In Cambridge there are at least 6 homeless shelters and in Somerville there are 3 homeless shelters.[8]

Environment and Safety

Environmental factors like air quality, green spaces, lead blood levels, road safety, and many more strongly influence the health of community members on a daily basis. There are currently various programs and initiatives within the city of Cambridge to improve environmental health, and SHC recognizes the impact of the environment on the health of our residents. Additionally, the Cambridge City Council itself has dedicated efforts to promoting energy efficiency to help to reduce the carbon footprint of the community[9]. Similarily, the Cambridge Energy Alliance strongly promotes energy efficiency and solar energy to help the community save money. Their most recent initiative, *Sunny Cambridge*, makes it easy to access local solar installers through the Energy Sage Solar Marketplace, and compare solar quotes 100% online with support available every step of the way. In addition, initiatives like the Green Streets Initiative, CitySmart, and several reconstruction projects, Cambridge is encouraging residents to rethink commuting methods to increase use of more environmentally friendly and safe modes of transportation.

[7] National Alliance to End Homelessness, "The State of homelessness in America 2015", http://www.endhomelessness.org/page/-/files/State_of_Homelessness_2015_FINAL_online.pdf, Accessed: 5/18/2016

[8] Homeless shelter directory, www.homelessshelterdirectory.org, Accessed: 5/19/16

[9] Council hosts training on energy efficiency for small businesses, http://www.cambridgenetwork.co.uk/news/council-training-energy-efficiency-for-smes/+

According to the 2014 City of Cambridge Community Health Assessment, residents of Cambridge identified "Interactions between motor vehicles, cyclists, and pedestrians" as a top environmental health issue. In Table 11, responses from a survey distributed to residents identify top six environmental health issues across racial categories.

Table 11: Top Environmental Health and Safety Issues in Cambridge Perceived among Survey Respondents by Race and Ethnicity, 2013 (n=1,482)

	Race/Ethnicity			
	White	**Black/African American**	**Hispanic/Latino**	**Asian**
1	Sharing the road: safe interactions between motor vehicles, bicyclists, and pedestrians	Sharing the road: safe interactions between motor vehicles, bicyclists, and pedestrians	Sharing the road: safe interactions between motor vehicles, bicyclists, and pedestrians	Safety for bicyclists
2	Climate change	Housing conditions: indoor air quality, pests, mold/moisture	Housing conditions: indoor air quality, pests, mold/moisture	Sharing the road: safe interactions between motor vehicles, bicyclists, and pedestrians
3	Safety for bicyclists	Tobacco smoke outdoors or in public locations	Rodents	Climate change
4	Housing conditions: indoor air quality, pests, mold/moisture	Rodents	Safety for bicyclists	Housing conditions: indoor air quality, pests, mold/moisture
5	Noise level	Climate change	Tobacco smoke outdoors or in public locations	Tobacco smoke outdoors or in public locations
6	Rodents	Safety for bicyclists	Safety for pedestrians	Rodents

Data Source: Cambridge Community Health Assessment Survey, 2013. NOTE: Survey respondents were asked, "In your opinion, what are the **TOP 3 environmental health and safety sues** in Cambridge?"

In addition to transportation and road safety, air quality was another major issue among residents. Air pollution doesn't just affect public spaces, but also the indoor air quality of residents. These issues are tracked in various ways, through monitoring fine particulate matter levels and concentration of ozone (O_3) levels. Table 12 describes the standards for ozone and particulate pollution pollutants according to the National Ambient Air Quality Standards (NAAQS). According to the National Environmental Public Health Tracking Network (2012), the average daily ozone concentration levels for Cambridge was lower than Middlesex County and Massachusetts. However, the average daily particulate pollution levels for Cambridge were higher than Middlesex County, Massachusetts, and the United States (Table 13). Despite higher particulate matter levels than the State and County, Cambridge remains below the safe concentration levels for both pollutants.

Table 12: Air Pollutant Safetey Standards by NAAQS, 2015

Pollutant	Time over which Concentration Levels are tracked	Safe Concentration Level Standard
Ozone (O_3)	8 hours	0.070 ppm
Particulate Pollution ($PM_{2.5}$)	24 hours	35 µg/m^3

Data Source: The US Environmental Protection Agency

Table 13: Cambridge Air Quality Levels, 2011

	Average Daily Ambient Ozone Concentration (ppm)	Average Daily Ambient Particulate $Matter_{2.5}$ (µg/m3)
Cambridge	0.035	9.17
Middlesex	0.036	8.86
Massachusetts	0.037	8.33
United States	0.039	9.10

Data Source: Centers for Disease Control and Prevention, National Environmental Public Health Tracking Network. 2012 via Community Commons Inidcator Reporting Tool

Crime and Safety

The violent crime rate in Somerville is lower than in Cambridge which is similar to the State. Both Cambridge and Somerville have higher rates of property crime than the State (Table 14). The majority (72%) of Cambridge respondents to the 2016 SHC QOL Survey agreed or strongly agreed that Cambridge is a safe place to live, compared to only 45% for Somerville respondents. In addition, Somerville respondents indicated Crime and Violence as a top 10 community health issue.

Table 14: Crime Statistics by City (2012)

	Cambridge	Somerville	Massachusetts
Violent Crime Incidents per 100,000 population	402.9	348.4	405.5
Property Crime Incidents per 100,000 population	2,889.3	2,233.2	2,153.0

Data Source: FBI, Crime in the United States 2012

HEALTH BEHAVIORS AND OUTCOMES FINDINGS

Coverage and Access

Similar to the County and the State, the vast majority of residents in Cambridge and Somerville have health care coverage. Of note, Cambridge has noticeably fewer residents receiving Medicaid, while Somerville has more of its residents receiving Medicaid than both Middlesex County and the State. Both cities have fewer residents on Medicare than in the County and State (Table 15). Community residents cited the proximity to Boston and its world class health care as an important asset to the community.

Table 15: Access to Care by City (2009-2013)

	Cambridge	Somerville	Middlesex County	Massachusetts
Uninsured population	3.41%	4.86%	3.68%	4.03%
Population receiving Medicaid	13.89%	22.76%	15.36%	21.41%
Population receiving Medicare	7.86%	7.48%	10.77%	12.70%

Data Source: US Census Bureau, American Community Survey, 2009-2013 5-year estimates and

While the rate of uninsured in Massachusetts is now at historic low levels, roughly 37% of insured Massachusetts residents said they went without necessary medical care in 2015 and this number is significantly higher amongst low-income residents (52% for individuals at or below 138% of the Federal Poverty Level). Trouble finding a provider, trouble getting an appointment in a timely manner and costs were the three main reasons care was not received.[10] Health insurance premium rates continue to grow year-on-year[11] and as a result, 19% of Massachusetts commercial market members are in high deductible health plans[12] which offer lower premium costs up front in exchange for high cost sharing/out of pocket costs later on.

Upcoming regulatory changes for the Health Safety Net (HSN) (expected June 2016) and MassHealth plan enrollment (due Fall 2016/Winter 2017) will also significantly impact the access low income people have to care. HSN changes will increase cost sharing as well as the administrative burden for patients to prove that they have paid their annual deductible. Given that this fund is to a large extent used by undocumented residents, who are already an underserved population, these changes may further expand health inequities in communities across the State. Changes to MassHealth are proposed to incentivize MassHealth members to enroll with a Managed Care Organization (MCO) plan rather than with the State's own managed Primary Care Clinician (PCC) Plan by reducing the services offered under the PCC Plan. Members in MCO plans would be locked into their plan until the next annual open enrollment period (in line with what Commercially insured and ConnectorCare members must commit to). Further changes to MassHealth may also come in 2017 as the State prepares to launch its MassHealth ACO.

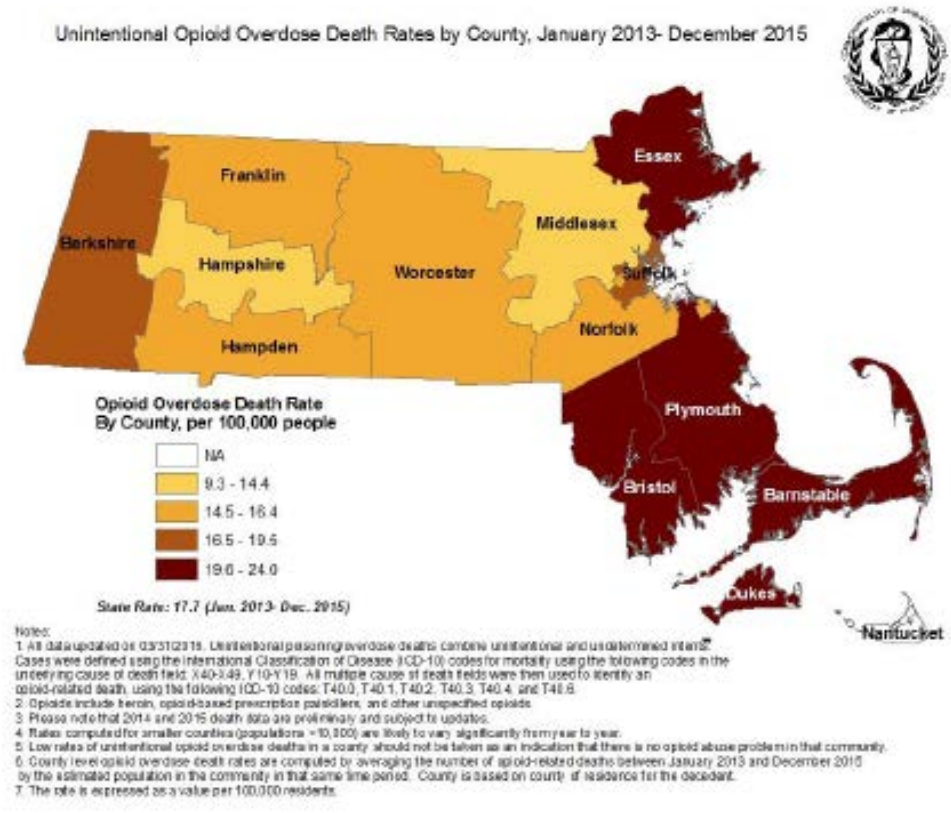
[10] Blue Cross Blue Shield Foundation, "2015 Massachusetts Health Reform Survey", http://bluecrossfoundation.org/sites/default/files/download/publication/MHRS_2015_Summary_FINAL.pdf , Visited 4/13/16

[11] Center for Health Information and Analytics (CHIA) ,"Annual Report Premiums Databook", http://www.chiamass.gov/premiums/, Updated November 2015

[12] Center for Health Information and Analytics (CHIA) ,"The Performance of the Massachusetts Health Care System Series – Massachusetts High Deductible Health Plan Membership", http://www.chiamass.gov/the-performance-of-the-massachusetts-health-care-system-series/#hdhp, Updated November 12, 2015

Health Behaviors

Substance Use Disorders



Substance use disorders involve the excessive use of alcohol or illicit substances (e.g., marijuana, cocaine, heroin, methamphetamine, ecstasy), or the use of licit substances (e.g., prescription drugs such as Vicodin and OxyContin) in a non-prescribed manner to achieve an altered physiological state. Individual-level risk factors such as socioeconomic status, family history, incarceration, and stressful life events (e.g., psychological distress, death of a loved one) are associated with drug use[13]. Substance use disorders cause altered judgment, perception, attention, and physical control.[14] The effects are cumulative and significantly contribute to costly social, physical, mental, and public health problems.

Substance use disorders are a growing issue across the state of Massachusetts. "From 2000 to 2012 the number of unintentional fatal opioid overdoses in Massachusetts increased by 90 percent."[15] In March of 2014, the Governor of Massachusetts declared a public health emergency, which has brought much attention to this issue and increased public awareness.

[13] Drug Use, Misuse and the Urban Environment. Galea, S., Rudenstine, S. and Vlahov, D. 2, s.l. : Drug and Alcohol Review, 2005, Vol. 24.

[14] Center for Substance Abuse Treatment. Substance Abuse Treatment for Persons With Co-Occurring Disorders. Rockville : Substance Abuse and Mental Health Services Administration (US), 2005.5. WebMD. Substance Abuse. Mental Health Center.

[15] Massachusetts Dept of Public Health, "Findings of the Opioid Task Force and Department of Public Health Recommendations on Priorities for Investments in Prevention, Intervention, Treatment and Recovery", June 2014

The drug treatment statistics for Cambridge are far below those seen for Somerville, Middlesex County and the State. However, both Cambridge and Somerville have higher rates of drug related hospital discharges than the County and the State (Table 16). From the 2016 SHC QOL Survey, 27% of Cambridge survey respondents and 41.7% of Somerville survey respondents indicated drug and alcohol abuse as a top community health issue.

Table 16: Substance Use Disorders Indicator Rates per 100,000 population

	Cambridge	Somerville	Middlesex County	Massachusetts
Admissions to DPH funded treatment programs (2011)	789.9	1,159.6	1,005.9	1,532.4
Injection drug user admissions to DPH funded treatment program (2011)	361.5	603.7	421.9	621.2
Alcohol and other drug related hospital discharges (2009)	361.5	366.2	272.5	344.7

Data Source: 2009 Calendar Year Hospital Discharges (UHDDS) and 2011 Substance Abuse (BSAS) DPH funded program utilization, Provided by Massachusetts Dept of Public Health, MassCHIP, "Health Status Indicators Reports"

Health Outcomes

Chronic Diseases

Cambridge has lower mortality rates than the County or the State, but Somerville has higher rates than the County and the State (Table 17). The prevalence of chronic illness indicators is lower across Cambridge and Somerville than the State (Table 18).

Table 17: Cause of Death, by City, per 100,000 persons, Age-adjusted, 2010

	Cambridge	Somerville	Middlesex County	Massachusetts
Total Deaths (all causes)	575.3	753.9	619.1	667.8
Total Cancer Deaths	146.7	213.2	164.5	170.3
Total Cardiovascular Disease Deaths	153.7	189.3	173.6	192.0

Data Source: Massachusetts Dept of Public Health, MassCHIP, "Health Status Indicators Reports"

Table 18: Chronic Illness Indicators, by City, 2005-2013

	Greater Cambridge/Somerville CHNA[16]		Massachusetts	
	Male	Female	Male	Female
High Blood Pressure	20.7%	19.4%	26.4%	25.3%
High Cholesterol	36.1%	31.5%	38.6%	33.1%
Overweight	59.3%	40.3%	68.9%	48.5%
Obese	22.3%	15.0%	24.6%	20.0%

Data Source: Massachusetts Dept of Public Health, MassCHIP, "BRFSS Special Reports:Chronic Illness for the Greater Cambridge/Somerville CHNA"

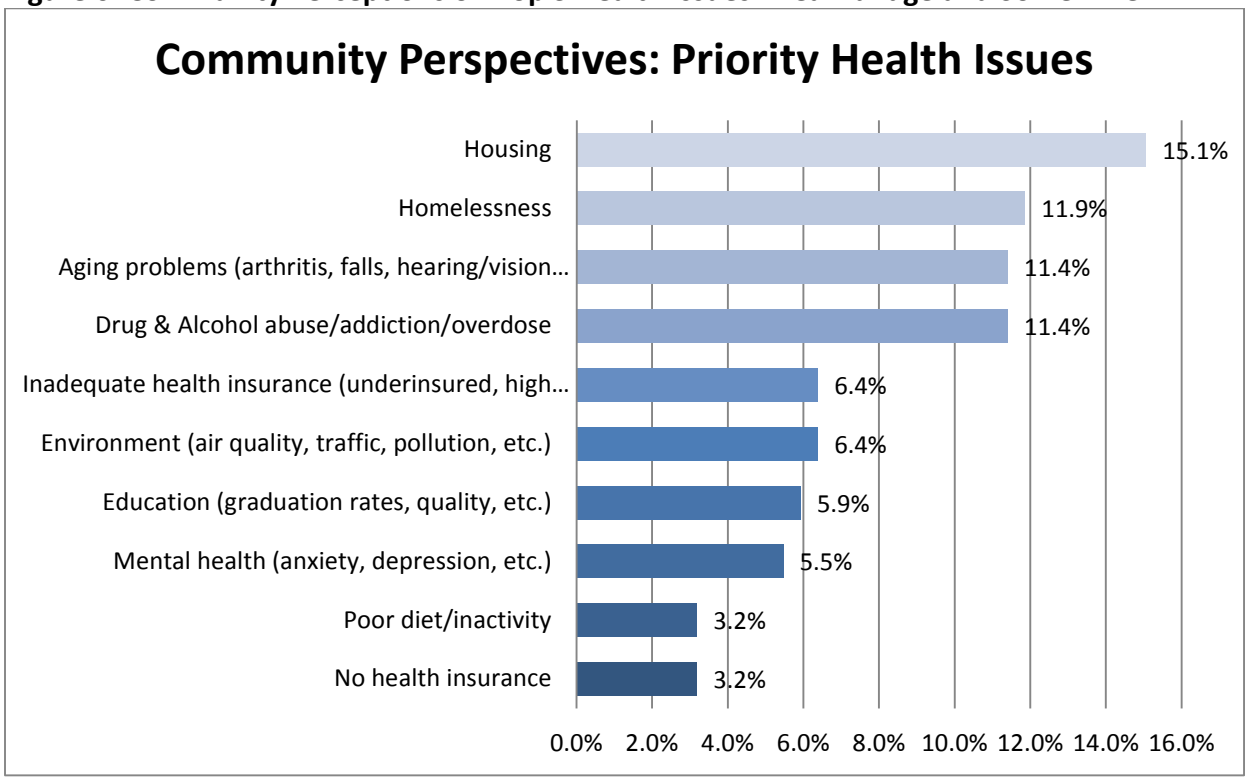
[16] The Greater Cambridge/Somerville CHNA includes the following cities/towns: Arlington, Belmont, Cambridge, Somerville, Waltham and Watertown.

COMMUNITY PERCEPTIONS

Quality of Life Survey

The 2016 SHC QOL Survey attempted to gage residents perceptions of life in Cambridge and Somerville as well as identifying the Priority Health Issues. Figure 6 displays the most frequently cited health issues in the survey. The most common health issues ranked #1 by respondents were: Housing (27%), Aging problems (15.4%), Mental Health (9.2%) and Education (7.7%). In Somerville the most frequently cited health issue (ranked 1-3) was drug and alcohol abuse/addiction (41.7% of resondents).

Figure 6: Community Perceptions on Top 3 Health Issues in Cambridge and Somerville



Data Source: The 2016 SHC QOL

Key informant Interviews and Focus Groups: Community strengths and assets

Arts and cultural events – Free community events sponsored by the public library, the city and local arts councils are widely available and are seen as one of the strongest assets in the community. The community events include the celebration of the multicultural residents of Cambridge and surrounding communities. Funding to keep such programming available must be preserved.

Local agencies – The Cambridge Disability Commission and Somerville-Cambridge Elder Services are well managed and strong advocates for underserved populations within the community.

Local Department of Human Services have also developed many published guides to local health and social services in the area (including one for homeless persons).

Local programs – SCM Community Transportation for disabled residents or residents 60 years or older. Home Start homelessness housing program which supports locating safe housing options in the Cambridge area. Cambridge At Home aging in community organization which is focused on maintaining aging residents in their homes through the coordination of services.

Access to Care – Hospitals, skilled nursing facilities and primary care located in the community make it easy to receive care when needed. Also the proximity to Boston and it's world-class academic hospitals provide multiple options for Cambridge residents.

Local Community and Government – Cambridge is a multicultural and diverse community. Cambridge has both public and private school options.A responsive city-government visable local govenment officials who collaborate with the citizens to build a strong community. Cambridge has a commitment to reduce waste and supports recycling and energy conservation programs.

Key informant Interviews and Focus Groups: Major Themes and Challenges

Health insurance – Paying for necessary care remains an issue in the community. Many people do not understand their coverage (what is covered, what is not covered, what portion they are expected to pay for themselves) and do not fully realize their situation until they experience a major catastrophic event.

Affordable Housing – Affordable housing is in short supply. Homelessness is a big issue and many residents are moving out of the community to find more affordable options. Some programs do exist to address the issue, but need to be expanded. Need to address the root causes of homelessness (poverty, additiction and mental illness) and increase Cambridge government support for affordable housing development.

Accessibility issues:

- Accessible housing – Growing elderly population and the disabled population need more resources to remain where they are. Accessible housing for their needs are in short supply. Need affordable home-modification services to allow elders and the disabled to remain safe in their homes. Cambridge At Home needs to be expanded to allow these residents to remain in the community.
- Local businesses - Not all businesses/restaurants have accessible bathrooms for disabled/elderly patrons. Few gyms in the community are accessible to disabled

persons. Lack of physical activity can result in obesity, a sense of isolation and depression.

- Transportation - Disabled residents experience significant transportation limitations, which further contribute to their feelings of isolation. The MBTA's 'The RIDE' has limited availability and the price for this service continues to increase. Cabs and other ride sharing options are typically not designed to be accessible to disabled persons.

Workforce development – Some youth workforce development programs are available and widely supported across the community. Expanding these programs for youth and incorporating disabled persons into these programs is necessary.

Substance abuse – Opioid use has become a significant issue in the community. More comprehensive additional services are needed in the community. Cambridge school system and the public health department need to develop educational programs on the opiod crises and the proper disposal of home medications.

ADDRESSING PRIORITY NEEDS

The SHC's community was evaluated using both qualitative and quantitative evidence in order to capture a holistic view of the community's current needs. Based on the findings and insights of key community members, SHC has identified the following areas of need for Cambridge and Somerville:

- Access to Care
- Affordable Housing
- Disability Support
- Elder Support
- Environment
- Homelessness
- Substance Use Disorder

In consideration of all the needs stated above, Spaulding Hospital used the following criteria to prioritize needs identified by this assessment:

- Community need: review of current data and assessments from local, state and national organizations
- Collaborative opportunities: overview and evaluation of partnership with local community organizations
- Community interest and readiness: in depth and thoughtful dialogue and input from individuals though stakeholder meetings, focus groups and survey opportunities

- Estimated effectiveness and impact
- Adequate resources for implementation

In light of the needs identified and the considerations above, Spaulding Hospital Cambridge is committed to addressing the following community health priorities:

- Access to Care
- Disability/Elder Advocacy
- Environment
- Workforce Development

Due to SHC's highly specialized care and services, specific clinical expertise, and limited resources of the hospital, addressing all of the issues identified by the CHA is not feasible. SHC seeks to focus it's efforts where they can make the strongest impact. As a result, the following needs will not be addressed by the Hospital:

- Affordable Housing
- Homelessness
- Substance Use Disorder

There are other local organizations that are already embedded in the community and are better positioned to address these other unmet needs. For a current list of resources and community organizations, see Appendix 2. Where possible, SHC will look for opportunities to collaborate with local agencies to be a part of the conversation to address these unmet needs.

Spaulding Hospital Cambridge will work to develop a 3-year Implementation Strategy to address these priority areas and will post this on it's website once finalized.

CONTACT US
This report was co-authored by:

Joanne Fucile
VP of Operations
Spaulding Rehabilitation Hospital Cambridge
jfucile@partners.org

Karen Piatt
Senior Program Analyst
Partners Community Health
kpiatt@partners.org

We welcome comments and questions regarding this report.

APPENDICES

Appendix 1: Key Informant List

Internal Key Informant Interview Participants

- Dana Hoare, Patient Financial Counselor
- Susan Moore, Senior Director – Case Management

External Key Informant Interviews

- Catherine Brosnan, RN, Cambridge Rindge and Latin School
- Anne-Marie Dattero, LICSW, Cambridge Resident
- Carmen Dearaujo, Cambridge Public Health Department
- Michelle Hallam, Cambridge Rindge and Latin School
- Joel LeGault, Cambridge Rindge and Latin School
- Anna Wielgosz, Cambridge Public Health Department

Focus Group

- SHC Patient and Family Advisory Council

Appendix 2: Community Resources

Affordable Housing

- Homeowner's Rehab Inc.
- Housing Consumer Education Center
- Just-A-Start Housing Services
- Cambridge Housing Authority

Homelessness

- Just-A-Start Housing Services
- Homesless Speakers Buraeu
- Somerville Homeless Coalition Inc.
- Homeless Prevention Program
- Human Services Case Management
- Cambridge Housing Authority
- Heading Home
- Cambridge Corps Communtiy Center

Disability

- iCan Shine
- Medical Transportation Program
- Windsor House
- SCM Community Transportation/Door2Door

- Community Enterprises
- Walnut Street Center Inc.
- Cambridge Housing Authority

Aging

- Citywide Senior Center
- Windsor House
- SCM Community Transportation/Door2Door
- North Cambridge Senior Center
- Elder Service Plan

Substance Use Disorders

- Wayside Youth and Young Adult Action Project
- Division on Additiction(s)
- Medication Disposal
- Soba Yoga: Yoga for Recovery
- CASPAR, Inc.
- North Charles Institute for Additction(s)
- OPEN: Overdose Prevention and Education Network
- Centro Latino Inc., Substance Abuse Program