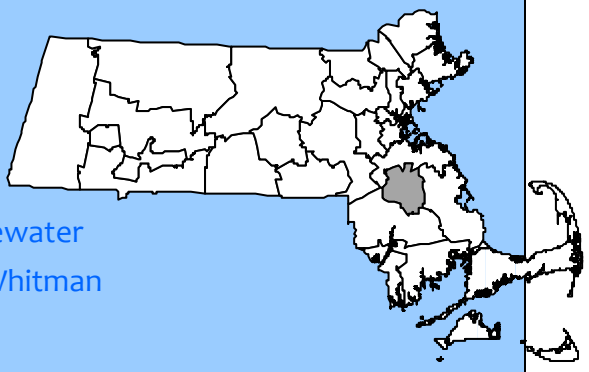
Community Health Needs Assessment for the Greater Brockton CHNA

Prepared for:

The Greater Brockton Community Health Network Area (CHNA)... *Serving the Communities of:*

Abington ■ Avon ■ Bridgewater ■ Brockton ■ East Bridgewater
Easton ■ Holbrook ■ Stoughton ■ West Bridgewater ■ Whitman



Prepared by:

southeast center for healthycommunities
A Program of Health Imperatives

December 2010

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Organizations Hosting Community Impressions Sessions
Activate Easton
Brockton Neighborhood Health Center
Brockton Parents' Academy
Lincoln Technical Institute
Self-Help, Inc. in collaboration with the Cape Verdean Association
Signature Healthcare Brockton Hospital
Stoughton Council on Aging

Organizations Hosting Anonymous Question Boxes
Avon Town Hall
Bridgewater Public Library
Curves Gym, Whitman
Holbrook Public Library
Planet Fitness, West Bridgewater
Signature Healthcare Brockton Hospital office in Abington
Striar Branch of the Old Colony YMCA, Stoughton
Walgreens, Brockton and Whitman

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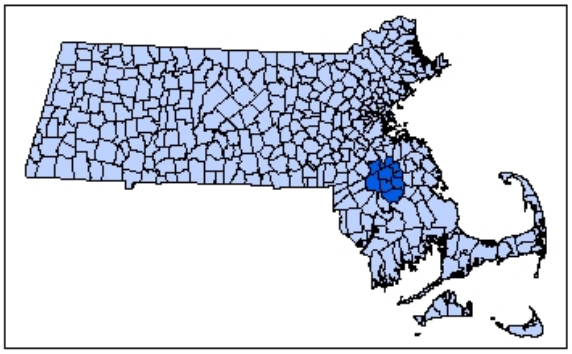
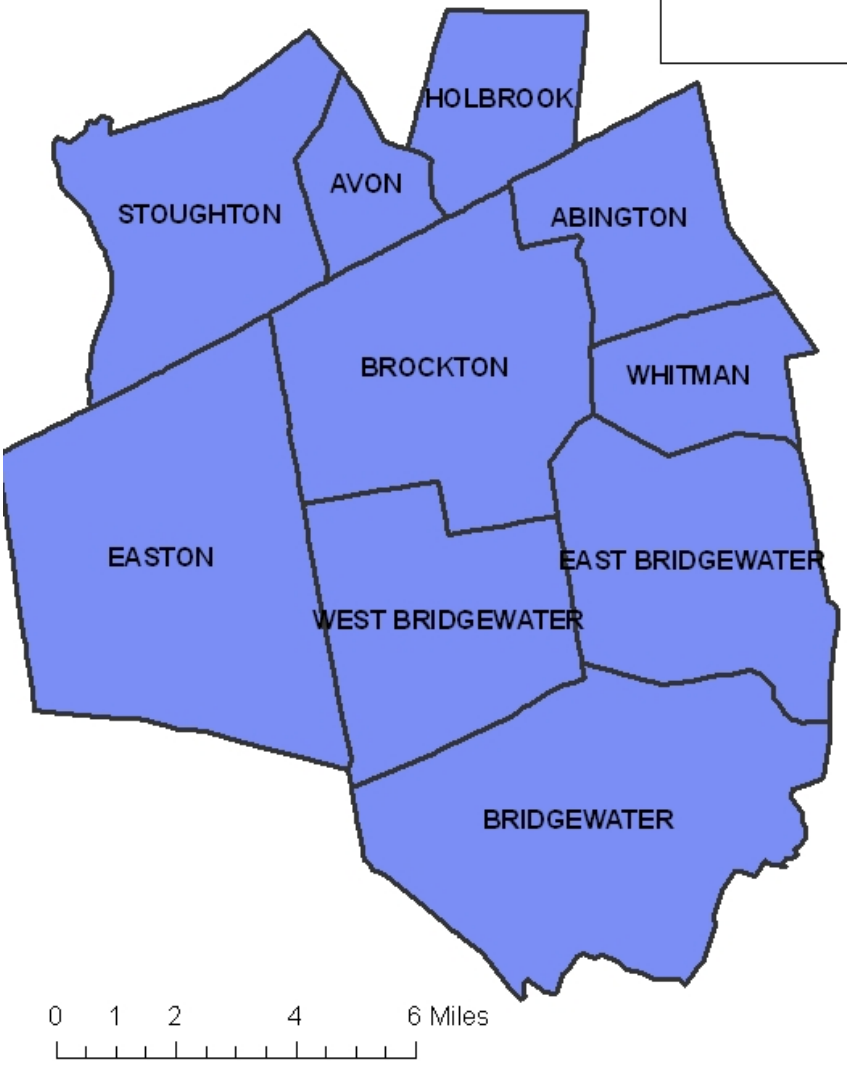
Greater Brockton Community Health Network Area (CHNA 22)



Cities and Towns in CHNA 22



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D.W. Field Park, Brockton

Introduction

Community Health Network Areas (CHNAs) are coalitions of agencies in the public, non-profit, and private sectors working together to build healthier communities in Massachusetts through community-based prevention, planning, and health promotion. The Massachusetts Department of Public Health established the Community Health Network Area (CHNA) effort in 1992. Today this initiative involves all 351 towns and cities through 27 Community Health Networks. The Greater Brockton CHNA (CHNA 22) serves the towns of Abington, Avon, Bridgewater, Brockton, East Bridgewater, Easton, Holbrook, Stoughton, West Bridgewater, and Whitman. When the term "CHNA" is used in this report, it refers to the Greater Brockton CHNA unless otherwise specified.

The mission of the CHNA is to work toward healthier communities by promoting collaboration between CHNA partners, providing support to local health initiatives and prevention programs, and educating and increasing awareness of local identified health issues throughout the communities it serves.

The guiding principles of the CHNA include:

- Diversity Awareness
- Collaboration
- Continuity of CHNA
- Decrease duplication of services
- Prevention focus
- Support for all ten CHNA communities
- Meet community needs
- Communication
- Flexible participation respecting members' time

With the mission and the CHNA guiding principles in mind, the Southeast Center for Healthy Communities conducted this community health assessment for the CHNA to uncover community health needs, identify vulnerable community groups, and determine gaps in community health programming.

Park in Avon

Executive Summary

The Southeast Center for Healthy Communities conducted this Community Health Needs Assessment for the Greater Brockton Community Health Network Area (CHNA) with the goal of identifying unmet community health needs, vulnerable populations, and gaps in existing community health services. This needs assessment used a five-pronged approach to address these areas: 1) conducting **community impressions sessions** mainly with Brockton residents to examine their perceptions of social determinants of health and health problems in the area, 2) analyzing **existing data** to determine how health outcomes in the city of Brockton and surrounding towns differ from the state's overall numbers, 3) administering **anonymous surveys** for residents through boxes located in area towns, 4) reviewing **existing programs and services** in the area to determine gaps, and 5) conducting **key informant interviews** with people who work in CHNA towns other than Brockton to discover how the needs of residents of area towns compare to the needs of residents inside the city.

Summary of Findings

Findings from each piece of the assessment contribute to the overall picture of area health needs in different ways. Examining results from the **community impressions sessions** and **anonymous surveys** will give the CHNA an indication of how community residents experience health care services, perceptions about the largest health problems, risk behaviors in these communities, and problems with health care access. Examining **available programs and services** in the area will allow the CHNA to determine gaps in local services. Examining results from the **archival data analysis** will allow the CHNA to determine whether hospitalization, emergency department utilization, or mortality in this region for conditions such as heart disease, injuries, asthma, diabetes, and substance use are comparable to state levels. It will also allow the CHNA to examine social determinants of health such as poverty, housing and homelessness, and community safety. Finally, examining results of the **key informant interviews** will give the CHNA a non-Brockton perspective on how the residents of the other CHNA towns perceive their largest health issues and community assets. The CHNA will also be able to examine which issues cut across communities and which issues might be community-specific.

Archival Data Analysis

An initial review of the data uncovered the fact that the city of Brockton has a different demographic structure and different health outcomes from the CHNA overall. Due to these differences, two different sets of local data are presented in the text of this report: one comparing health outcomes for the city of Brockton to Massachusetts, and one comparing health outcomes for the rest of the CHNA overall (not including Brockton) to Massachusetts. For some data sources, it was not possible to separate the city of Brockton from the rest of the towns in the CHNA when analyzing data; in those cases, we present data for the CHNA overall including Brockton. Where the towns have been separated from Brockton, the data is named "Other CHNA Towns." Through separating the city of Brockton from the remainder of the CHNA, this

assessment may align itself with the CHNA's guiding principle of "support for all ten CHNA communities."

Highlights of the archival data analysis include:

Demographics:

- The city of Brockton has considerably more racial and ethnic diversity than the rest of the CHNA or the state. Additionally, just under one-quarter of the residents of Brockton were born outside the United States, compared to approximately 14% of residents of the state overall, and just over one in four residents of Brockton speak a language other than English in the home.
- One in three people in the city of Brockton and one in ten people in the other CHNA towns is living in a household with an income that is below 200% of the federal poverty level.

Housing and Homelessness:

- Brockton was the community in the state with the most distressed properties (defined as properties with a foreclosure petition filed within the past year, an auction has been scheduled, or is bank-owned), 41.8 per 1,000 housing units, on April 1, 2010.
- Approximately 900 people were homeless in Plymouth County according to a point-in-time count of the population in January, 2010.

Health Care Access:

- Caritas Good Samaritan Medical Center had the eighth highest number of interpretation sessions in Massachusetts in 2007.
- The age-adjusted rate of emergency room usage was higher in the city of Brockton than in the state overall from 2006-2008, while the age-adjusted rate of emergency room usage in CHNA towns, other than Brockton, was lower than the state rate during the same time period.

Safety:

- From 2005 through 2007, almost half of the assault-related weapons injuries in the CHNA (including Brockton), where the location of the incident was known, occurred on the streets.
- The assault-related gunshot or sharp instrument injury rate in the city of Brockton in 2008 (92.4 per 100,000) was *over three times* the state rate of 30.1 per 100,000.

Substance Use and Behavioral Health:

- From 2005-2007, the opioid-related fatal overdose rate in the city of Brockton (15 per 100,000) was significantly higher than the state rate (9 per 100,000).
- For young adults age 20-24, Avon, Whitman, Holbrook, Stoughton, East Bridgewater, Brockton, and Abington had higher rates of admission to BSAS facilities for all substances than the state rate in 2007.
- Both the city of Brockton and the CHNA towns other than Brockton had a higher rate of alcohol and other drug-related hospital discharges than the state overall from 2006-2008.

Maternal and Child Health:

- The overall teen birth rate for the city of Brockton (44.2 per 1000 women age 15-19) was significantly higher than the state overall (21.1 per 1000). The teen birth rate for other CHNA towns (10 per 1000) was approximately half the state total. The birth rate for Black non-Hispanic women age 15-19 in the city of Brockton (47.1 per 1000) was also significantly higher than the birth rate for non-Hispanic Black women in the state overall in the same age group (33.8 per 1000).
- None of the communities in the CHNA has water fluoridation, which has implications for oral health.
- The percentage of children with elevated blood lead levels in the city of Brockton (4.1%) was significantly higher than the percentage of children in the state overall (1.8%).

HIV/AIDS:

- From 2005-2007, Brockton was the tenth highest city for average annual diagnosis rate of HIV in Masssachusetts, and as of 2008, Brockton had the eleventh highest rate of people living with HIV/AIDS in the state.
- Non-Hispanic Black residents of Brockton have been disproportionately affected by HIV/AIDS. While 31.1% of the city's residents identify as non-Hispanic Black according to the Massachusetts Department of Public Health, 64% of newly diagnosed cases of HIV/AIDS in Brockton were in non-Hispanic Black residents.

Risk Behaviors and Health Screening:

- An estimated one in five adults is a current smoker in two towns in the CHNA: Brockton and Whitman. The lowest estimated rate of smoking in the CHNA is in Easton (13.8%) and Stoughton (15.3%).
- The CHNA (including the city) had a significantly lower percentage of residents who reported that they consumed at least five servings of fruits or vegetables per day than the state overall from 2007-2009.

Chronic Illnesses:

- The city of Brockton and the other CHNA towns overall each had a higher rate of hospitalization for diabetes than the state overall from 2006-2008.
- The city of Brockton had a higher prevalence of lifetime asthma among children in kindergarten through grade 8 (15%) than the state overall (11%) during the 2006-2007 school year.
- Race/ethnicity disparities exist in the CHNA for emergency department visits for asthma. Black non-Hispanic residents and Hispanic residents each had a higher rate of emergency department visits for asthma than non-Hispanic White residents. The pattern was the same for asthma-related emergency department visits for children age 0-9.
- Women in the city of Brockton had a lower incidence of invasive breast cancer than women in the state overall from 2003-2007. Women in the city had a higher incidence of cervical cancer than women in the state overall for the same time period. Women in other CHNA towns had a higher incidence of lung cancer than women in the state overall during the same time period.

Community Impressions Sessions

In addition to statistics, CHNA members were also interested in perceived health concerns among community members. An ad hoc Community Assessment Subcommittee was formed to discuss ways to collect this feedback from community members. The subcommittee decided to show the film "Place Matters," a 29-minute segment of the "Unnatural Causes" DVD series, to community members to stimulate thought about social determinants of health. Subcommittee members then decided to follow the film with informal conversations with community members to determine which health concerns were most pressing for residents of the CHNA. All but two of these impressions sessions occurred inside the city of Brockton; therefore, health problems and social determinants of health that emerged as themes from these sessions can be considered largely Brockton-centric.

Health problems that emerged as themes from these community impressions sessions included:

- Mental health issues including stress and depression;
- Violence;
- Asthma, including both adults and children;
- Diabetes;
- Hypertension;
- Obesity;
- Lack of sleep;
- Substance use, including injection drugs and alcohol.

Social determinants of health that emerged as themes from these community impressions sessions included:

- **Poverty,** including issues such as the economic downturn, parents working multiple jobs, inability to afford health insurance or having insurance with high copayments, and people being unable to qualify for services due to having an income just above the guidelines;
- **Issues with housing,** such as perceiving housing as unaffordable, of poor quality, and overcrowding;
- **Lack of community cohesion**, including issues such as people not knowing one another in neighborhoods and residents perceiving that that the "village raises a child" mentality no longer exists;
- **Mental health issues,** including worries about unemployment or underemployment, the economy, single parenthood, working multiple jobs, and fear for safety due to drug and gang activity;
- **Neighborhood safety** including issues such as street violence;
- **Eating unhealthy foods** due to inability to afford healthy food or low-quality produce available in local supermarkets;
- **Barriers to physical activity** such as the expense of after-school activities for children, parents not wanting to let children outside with needles and trash on the ground, "stranger danger," and playgrounds in poor condition.

Key Informant Interviews

In order to obtain a more sizeable amount of information from the communities outside of Brockton, the Greater Brockton CHNA Community Health Assessment Subcommittee identified key informants in each of the nine surrounding towns to be interviewed about health concerns in those communities. Two key informant interviews were conducted per town. Due to confidentiality constraints, individual key informants are not identified in this report.

Major themes among health problems identified by key informants outside of Brockton include:

- Childhood asthma, which tends to be better-controlled among the high-school-age population;
- Substance use among adolescents—though key informants stated it was not present in a large number of kids, it is problematic in some;
- Mental health problems among people of all ages, but particularly adolescents;
- Substance use and alcohol abuse among people of all ages;
- Childhood obesity;
- Lack of exercise both among children and adults;
- Type II diabetes in adults;
- Obesity in adults;
- Life-threatening allergies in children;
- Lyme disease;
- Oral health problems;
- Tuberculosis—infected people from outside the US;
- Dementia and Alzheimer's disease in older adults;
- Cardiovascular disease such as hypertension.

Major social determinants of health identified by key informants outside of Brockton include:

- Worsening economic situation of community members, including subtle signs of poverty or people trying to maintain exterior lifestyle while needing economic assistance behind-the-scenes;
- Lack of access to health care due to issues such as high copayments, services that Medicare and Medicaid won't cover, people not obtaining insurance due to tax penalty being cheaper for them, and difficulty navigating the health care system;
- Parents are busy working and experience much stress as a result, so they have no time to prepare healthy meals;
- Lack of mental health providers for adolescents; lack of mental health providers overall in particular towns;
- Lack of public transportation in Whitman, West Bridgewater, Abington, and Easton;
- Cuts to health education and other preventive programs due to budget shortfalls;
- Lack of dental insurance or dentists who accept MassHealth;
- Lack of sidewalks or sidewalks in poor condition;
- Lack of well-care clinic in certain towns due to funding cuts.

Community Assets, Programs, and Services

Community members and key informants both identified assets to their communities and ways that local officials may help residents remain healthy. Lists of these assets are found in the summaries of key informant interviews and community impressions sessions; an additional list of programs and services gleaned from local resource guides and community members may be found on page 71. In addition, the key informants also provided their thoughts on health problems for which they would like to see additional resources in CHNA communities located outside of Brockton; a list of these may be found on page 69.

Methodology

The initial focus areas of the assessment were determined through consulting with the steering committee and the CHNA general membership. This was done through presentation of the film "Place Matters," an initial data presentation to the general membership of the CHNA, and a discussion of social determinants of health. The CHNA general membership then indicated which topics they'd like to know more about. The following data areas of interest emerged:

- Chronic diseases such as asthma, diabetes, and HIV/AIDS;
- Race/ethnicity health disparities;
- Poverty;
- Health literacy;
- Violence;
- Homelessness;
- Access to transportation;
- Unemployment;
- Disability;
- Linguistic and cultural barriers to accessing health care;
- Mental health;
- Adolescent health issues such as sexually transmitted infections and pregnancies.

In addition to statistics, CHNA members were also interested in perceived health concerns among community members. The community health assessment thus consisted of a multi-pronged effort including:

- Analysis of existing statistical data;
- Conversations with community groups about local health concerns;
- Written data collection through anonymous question boxes left in local libraries, town halls, and fitness centers;
- Key informant interviews with providers in CHNA towns other than Brockton;
- An analysis of existing health care services in the area and potential areas of need for additional services.

Analysis of Existing Statistical Data

Existing statistical data was taken from federal, state, and local sources. Federal and state data sources included the **U.S. Census Bureau** for population, demographic, and socioeconomic characteristics for each town; the Massachusetts Department of Public Health's Community Health Information Profile (**MassCHIP**), for behavioral health data, birth data, mortality data, hospitalization data, and emergency department data; and the Massachusetts Behavioral Risk Factor Surveillance System (**BRFSS**), for self-reported risk behavior and health screening data. More detailed information about each data source can be found in Appendix A.

The following organizations and people were instrumental in gathering additional local data of interest: Heather Arrighi and Sandra Blatchford of the Plymouth County District Attorney's Office provided domestic violence and crime statistics; Dennis Carman and Joyce Tavon of the Plymouth County United Way provided statistics regarding homelessness; Kathy Rodriguez of the Massachusetts Family Literacy Consortium provided statistics regarding school completion and literacy; Koren Cappiello of the Brockton Mayor's Office provided opiate overdose statistics; and Robert Short of Caritas Good Samaritan provided statistics concerning Brockton-area health outcomes from the Caritas Good Samaritan Community Health Assessment.

For the archival data analysis, data from the CHNA was compared to state level data to determine significant differences. When describing the data, the terms **"higher than"** or **"lower than"** were used only when the rate of a given health outcome in the CHNA or city was significantly different from the state. When available, three years of data were analyzed together to provide more stable estimates than using one year of data alone. **Statistical significance** means that the difference between two groups is most likely not due to random chance. Statistical significance was determined by comparing the CHNA rate to the state rate using 95% confidence intervals. For additional common statistical definitions used in this report, please see Appendix B.

An initial review of the data uncovered the fact that the city of Brockton has a different demographic structure and different health outcomes from the CHNA overall. Due to these differences, two different sets of local data are presented in the text of this report: one comparing health outcomes for the city of Brockton to Massachusetts, and one comparing health outcomes for the rest of the CHNA overall (not including Brockton) to Massachusetts. For some data sources, it was not possible to separate the city of Brockton from the rest of the towns in the CHNA when analyzing data; in those cases, we present data for the CHNA overall including Brockton. Where the towns have been separated from Brockton, the data is named "Other CHNA Towns." By separating the city of Brockton from the remainder of the CHNA, this assessment may align itself with the CHNA's guiding principle of "support for all ten CHNA communities."

Community Impressions Sessions and Question Boxes

In addition to statistics, CHNA members were also interested in perceived health concerns among community members. An ad hoc Community Assessment Subcommittee was formed to discuss ways to collect this feedback from community members. A list of community assessment subcommittee members and the mission and vision statements for the subcommittee can be found in Appendix C. This subcommittee met once per month to discuss assessment-related issues.

The subcommittee decided to show the film "Place Matters," a 29-minute segment of the "Unnatural Causes" DVD series, to community members to stimulate thought about social determinants of health. Subcommittee members then decided to follow the film with informal conversations with community members to determine which health concerns were most pressing

to residents of the CHNA communities. A list of the questions asked to community members as part of these conversations may be found in Appendix D.

The subcommittee decided that showing the DVD to established community groups would be more cost-effective than recruiting community focus group participants, and thus prioritized existing organizations throughout the CHNA to host these conversations. Community conversations were hosted by Signature Healthcare Brockton Hospital, Lincoln Technical Institute, Self-Help, Inc in collaboration with the Cape Verdean Association, the Stoughton Council on Aging, Activate Easton, Brockton Neighborhood Health Center, and the Brockton Parents' Academy. More detailed demographic information about residents attending these sessions may be found in Appendix E. Residents of Abington, Avon, Brockton, East Bridgewater, Easton, Holbrook, Stoughton, and Whitman participated in the discussion sessions. Additionally, residents who worked or went to school in the CHNA communities but indicated that they lived in Assonet, Berkley, Bourne, Dorchester, Foxboro, Halifax, Hanson, Hyannis, Hyde Park, Kingston, Lakeville, Marshfield, Mattapan, Middleboro, New Bedford, Pembroke, Plymouth, Plympton, Quincy, Randolph, Raynham, Rockland, Sandwich, Taunton, and Weymouth participated as well. A list of the questions asked in the community impressions sessions may be found in Appendix D.

After attempting to contact various community organizations in towns outside of Brockton, the subcommittee realized that the conversations were still going to be held in largely Brockton-centric organizations. As part of the reason for holding these conversations was to gather information from CHNA communities outside of Brockton, subcommittee members brainstormed additional ways to collect data from the other communities. The subcommittee agreed to leave anonymous "question boxes" at various locations throughout the CHNA to attempt to gather additional information about health concerns in non-Brockton communities. Boxes were left at Planet Fitness in West Bridgewater, Curves gym in Whitman, the Holbrook Public Library, the Bridgewater public library, the Avon town hall, a primary care provider's office in Abington, the Striar Branch of the Old Colony YMCA in Stoughton, and Walgreens stores in Brockton and Whitman. Surveys left in these locations may be found in Appendix D.

Key Informant Interviews

In order to obtain a more sizeable amount of information from the communities outside of Brockton, the Greater Brockton CHNA Community Health Assessment Subcommittee identified key informants in each of the nine surrounding towns to be interviewed about health concerns in those communities. Due to confidentiality constraints, individual key informants are not identified in this report. Two key informant interviews were conducted per town. To minimize bias in the information collected, efforts were made to keep the key informants consistent across towns; i.e., most key informants served the same job roles in each town and were familiar with the same health issues as other key informants. The same questions were asked of all key informants, and the same interviewer conducted all interviews. Key informant interviews were conducted from September through November, 2010. Results from the key informant interviews may be found on page 59. Questions asked to key informants may be found in Appendix F.

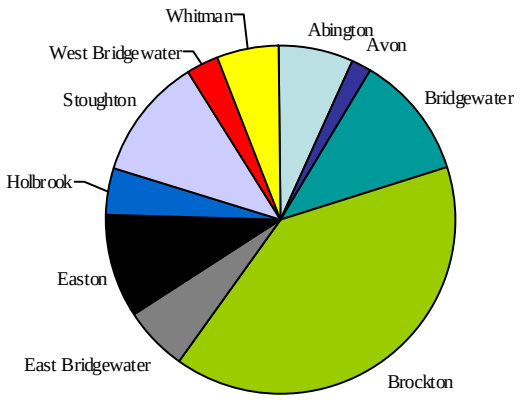
Interpreting the results of qualitative data, whether from key informants or from community impressions sessions, should be done with caution, as several limitations exist:

- The health concerns identified by participants in these sessions and by key informants are perceptions from individual members of these communities and should not be generalized to the larger communities in which these individuals reside.
- Community impressions sessions were conducted with existing groups around the CHNA, and not all group participants were residents of CHNA towns. These participants were not excluded from the analysis due to the fact that demographics forms were completed anonymously. Thus, some information obtained from individual participants may not necessarily relate to CHNA communities.
- Only one session was conducted in a language other than English and key informant interviews were all conducted in English; therefore, results from these sessions may not fully represent the needs of people who speak languages other than English.
- Key informants are not identified in this report due to confidentiality concerns. However, these key informants may work with specific subsets of the population, and thus health concerns of other populations may be missing from their observations.
- The oldest participant in any group was 72 and the youngest was 21; caution should be exercised when attempting to discern health care needs for people whose age falls outside of this range.
- Focus group participants may differ from people who were unable to obtain transportation to the groups or were unable to attend groups for other reasons.

Section 1: Demographics

The CHNA is home to a diverse community of people from many different countries around the world. Within the city of Brockton, this diversity allows for spirited celebrations of cultural heritage in the form of festivals such as the Cape Verdean Festival, the Haitian Flag Raising, and the Martin Luther King Breakfast. In fact, slightly over one in four people age five and older who live in the city of Brockton speak a language other than English in the home. The city of Brockton has a distinctly different race/ethnicity composition than that of the other CHNA towns or the state, with considerably more racial and ethnic diversity (see table 1.1) Figure 1.1 shows the distribution of the total population across all towns in the CHNA. Detailed demographics for each CHNA town are available in Appendix G. Additionally, according to American Community Survey estimates from 2006-2008, approximately 24% of residents of the city of Brockton were born outside the United States, compared to 14% of people in Massachusetts overall.

Figure 1.1: Population Distribution of Towns in the Greater Brockton CHNA, 2009



Data source: US Census Bureau Population Estimates, 2009

Table 1.1: Race/Ethnicity Composition, Brockton City, Other CHNA Towns, and Massachusetts Overall

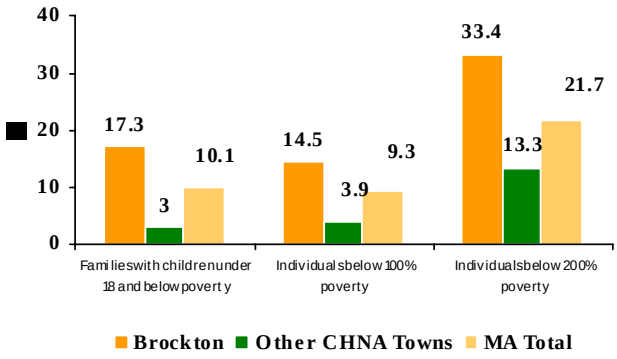
Category	Brockton	CHNA towns without Brockton	State
Race/Ethnicity			
White non-Hispanic	56.4	92.0	81.0
Black non-Hispanic	31.1	4.3	6.0
Hispanic	8.8	1.9	7.9
Asian/Pacific Islander	3.3	1.6	4.9
American Indian	0.4	0.2	0.2
Data source: MA Dept of Public Health, 2005			

While the CHNA overall resembles the state in terms of the percentages of people living below the federal poverty level, the city of Brockton has a greater percentage of people living below the poverty level than either the CHNA or state total (see figure 1.2.) In 2000, one in three individuals living in the city of Brockton reported that their family income was below 200% of the federal poverty level. An income corresponding to 200% of the poverty level was $34,100 for a family of four in 2000 and $44,100 in 2009.

Many families in the CHNA access emergency services:

- This CHNA contains two towns, Brockton and Stoughton, which are deemed "high-risk" towns by the Women, Infants, and Children (WIC) program which provides nutrition assistance and health referrals to low-income pregnant, breastfeeding, and non-breastfeeding postpartum women and children under age five found to be at nutritional risk.
- In 2009, the CHNA had 2,141 recipients of Temporary Aid to Families of Dependent Children, which is 4.3% of the MA total recipients.

Figure 1.2 Demographics: Percentage of Families/Individuals Below The Poverty Level, City of Brockton, Other CHNA Towns, and state, 2000



Data source: MassCHIP, Census 2000 dataset

Levels of educational achievement differ among the city of Brockton, the CHNA, and the state overall (see table 1.2.)

The U.S. Census Bureau has identified certain "Environmental Justice Populations," or populations at risk of being disproportionately affected by environmental pollution. These populations are defined as "high minority, non-English speaking, low-income, and foreign-born populations."[i] A map of these populations in the CHNA is on page 20; Brockton contains the area with the largest number and highest density of these populations in the CHNA.

Table 1.2: Educational Achievement for People Age 25 and Older in the CHNA

	Brockton City	Other CHNA Towns	State
Education			
Less than high school	24.1	11.1	15.2
High school graduate	35.7	32.8	27.3
Some college	26.2	29.2	24.3
College graduate plus	14.0	26.9	33.2

Data source: MA Dept of Public Health and U.S. Census 2000

"Brockton High's diverse student body comes together after school"
by Amy Littlefield, The Brockton Enterprise, October 4, 2010

What the Community is Saying …
During community impressions sessions, Brockton residents spoke about the difficulties they had affording basic services. These residents also spoke of stress due to unemployment and, conversely, stress due to working multiple jobs. Poverty emerged as a dominant concern from these community impressions sessions.

In towns outside of Brockton, themes relating to poverty emerged during conversations with key informants:

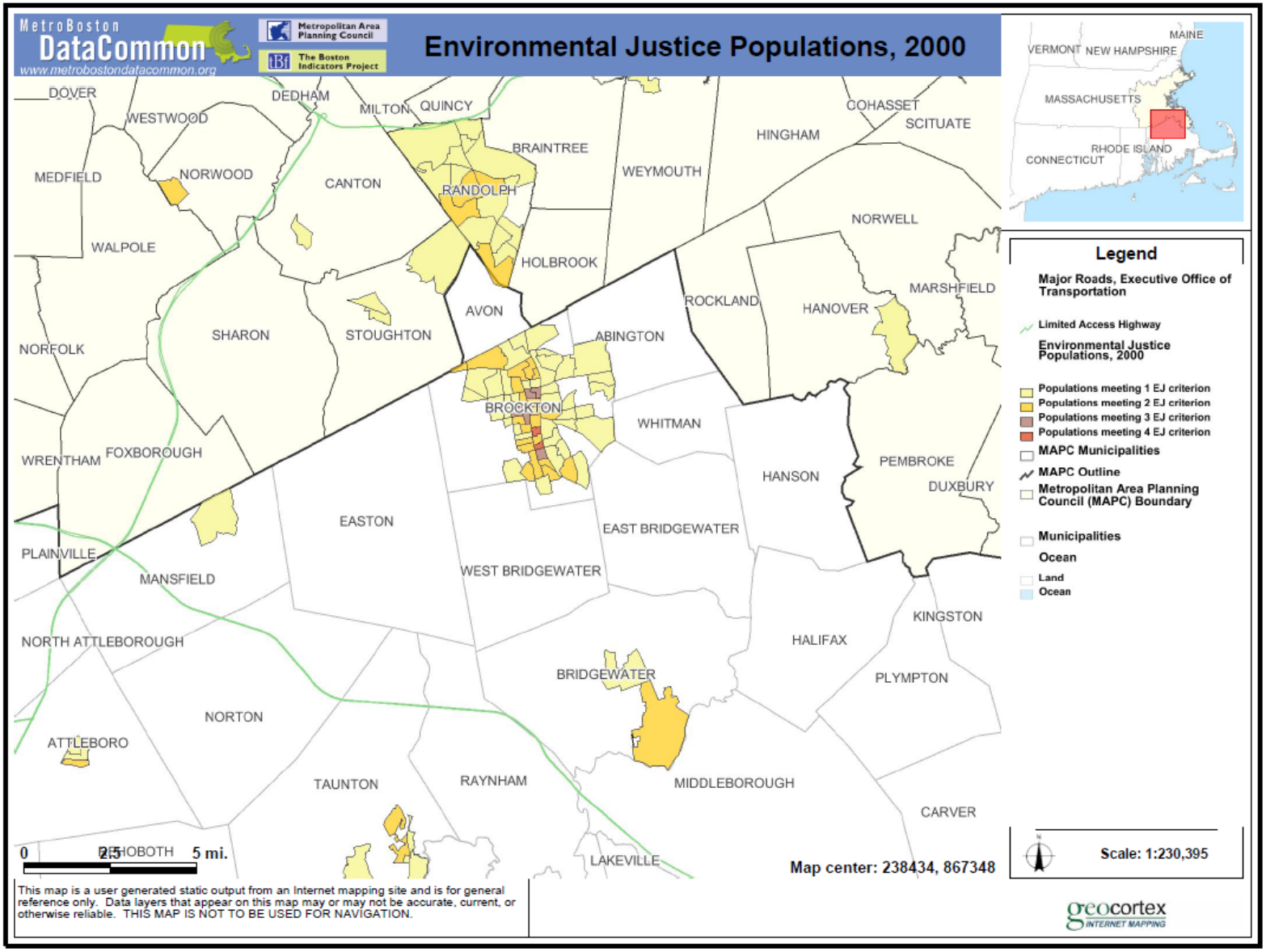
- Economic situation—subtle signs of poverty;
  - *"I don't know about here, but in other situations, people can be needy but not needy enough to fit the mold. And so they're left, they're falling between the cracks, they make just enough but it's not enough. And that's the tough part that you see."*
  - Foreclosure;
  - Expense of healthy food.


Field on the Town River, West Bridgewater


Legion Parkway, Brockton

By the numbers:

- ***Brockton** is the largest city in the CHNA, with an estimated **93,527** residents as of 2009. **Avon** is the smallest, with **4,376.***
- ***28%** of people age five and older in the city of **Brockton, 18%** in **Stoughton,** and **10%** in **Bridgewater** speak a language other than English in the home. According to the Census Bureau, the top three languages spoken in Brockton other than English were Portuguese or Portuguese Creole, French Creole, and Spanish or Spanish Creole.*
- ***One in three people** in the city of **Brockton** and **one in ten** people in **other towns in the CHNA** is living in a household with an income below 200% of the poverty level.*
- *Approximately **13%** of the workforce in the city of **Brockton, 11%** in **Holbrook,** and **10%** in **Abington and Avon** was unemployed in May 2010 compared to the **state rate** of **9%.***


MetroBoston DataCommon
www.metrobostondatacommon.org
Metropolitan Area Planning Council
The Boston Indicators Project
Environmental Justice Populations, 2000
DOVER
DEDHAM
MILTON
QUINCY
COHASSET
SCITUATE
WESTWOOD
HINGHAM
BRAINTREE
MEDFIELD
NORWOOD
CANTON
RANDOLPH
WEYMOUTH
NORWELL
WALPOLE
HOLBROOK
ROCKLAND
MARSHFIELD
AVON
HANOVER
SHARON
STOUGHTON
ABINGTON
NORFOLK
BROCKTON
WHITMAN
WRENTHAM
FOXBOROUGH
HANSON
PEMBROKE
DUXBURY
EASTON
EAST BRIDGEWATER
PLAINVILLE
WEST BRIDGEWATER
MANSFIELD
KINGSTON
NORTH ATTLEBOROUGH
HALIFAX
BRIDGEWATER
PLYMPTON
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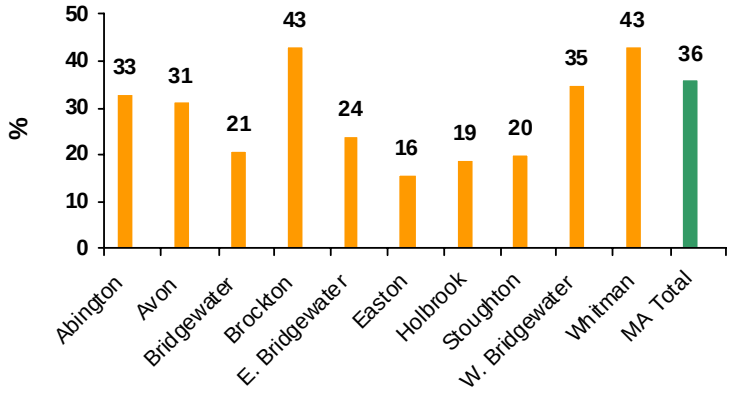
This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.
geocortex INTERNET MAPPING
MAINE
VERMONT
NEW HAMPSHIRE
MASSACHUSETTS
RHODE ISLAND
CONNECTICUT
Legend
Major Roads, Executive Office of Transportation
Limited Access Highway
Environmental Justice Populations, 2000
Populations meeting 1 EJ criterion
Populations meeting 2 EJ criterion
Populations meeting 3 EJ criterion
Populations meeting 4 EJ criterion
MAPC Municipalities
MAPC Outline
Metropolitan Area Planning Council (MAPC) Boundary
Municipalities
Ocean
Land
Ocean

Section 2: Housing and Homelessness

According to the most recent available data from the U.S. Census Bureau, the percentage of renters in CHNA towns was the lowest in Easton (16%) and the highest in Brockton (42%) compared to the Massachusetts state total of 35%. Much of the housing in the CHNA is older housing (see figure 2.1). Older homes may be associated with elevated lead levels in children if the housing is not properly maintained or the lead is not properly abated.[ii]

Figure 2.1: Percentage of housing built in 1939 or earlier



Data source: U.S. Census Bureau, 2000

Residents' concerns about foreclosure, as expressed in the community impressions sessions, are substantiated by the data. According to the Massachusetts Housing Partnership:

- Brockton became the community with the most distressed properties (which are properties with a foreclosure petition filed in the past year, an auction has been scheduled, or is bank-owned) in Massachusetts as of April 1, 2010 (41.8 per 1,000 housing units) pushing past Lawrence.
- Holbrook was ranked 18th in the state for the number of distressed properties and Whitman was ranked 15th in 2007.
- In addition, Abington, Whitman, Brockton, and Bridgewater all contained zip codes that were in the top 20 for homes with negative equity (purchased 2004-2008) in the fourth quarter of 2008.

"Brockton woman to meet with Federal Reserve chairman about foreclosures"
by Kyle Alspach, The Brockton Enterprise, March 5, 2010

Homelessness is also present in the CHNA. The United Way of Plymouth County conducts a "point-in-time" homelessness count in January of each year to assess the number of homeless individuals and families at that particular moment in time. According to the United Way, nearly all of the people are either in Brockton or from Brockton and temporarily sheltered in a nearby town. The point-in-time count of the homeless population in Plymouth County on January 27, 2010 was as follows:

- 226 households with dependent children in emergency or transitional shelters (655 total people), which represents a 74% increase over 2005;
- 192 households without dependent children in shelters;
- 23 unsheltered individuals.

Houses alongside Lake Holbrook

Residential neighborhood, Brockton

Additional demographics concerning the homeless population in Plymouth County from the point-in-time count include:

- 85 sheltered people and 5 unsheltered people were classified as "chronically homeless;"
- 68 sheltered people and 5 unsheltered people were classified as "severely mentally ill;"
- 106 sheltered and 4 unsheltered people were classified as having "chronic substance abuse" issues;
- 55 sheltered people were veterans;
- 1 sheltered person was living with HIV/AIDS;
- 84 sheltered people were victims of domestic violence.

What the Community is Saying …

"What I am seeing now in this economy, is a lot of people who probably actually live in very nice homes, who are maybe one step away from foreclosure, who have a great address but may not have the money to buy snacks for their kids' school lunch."—Key informant

Boarded-up houses, Brockton

Boarded-up house, Stoughton

What the Community is Saying …

Whether they own or rent property, many residents of the Brockton CHNA have felt the impact of the recent housing collapse. Some residents reported that they had either owned property that was foreclosed on or were renting property where the landlords had been foreclosed on, forcing them into emergency shelters and prompting them to send their children to stay with relatives.

By the numbers:

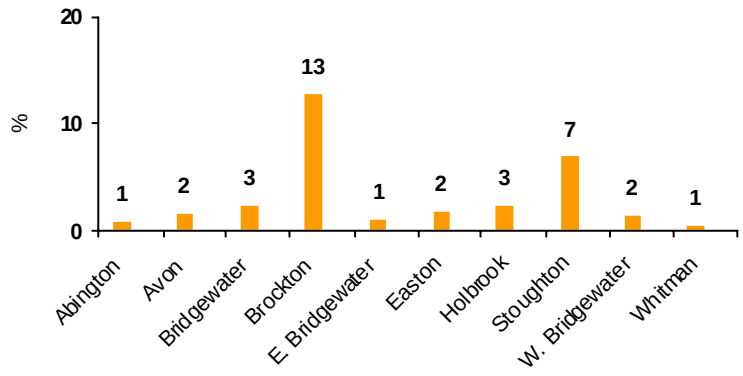
- ***43%** of the housing in **Brockton** and **Whitman** was built in 1939 or earlier, compared to the **state total** of **36%.***
- *Approximately **900** people were homeless in Plymouth County according to a point-in-time count of the population in January, 2010.*
- ***Almost 50%** of homeowners and renters in **Brockton** spend over one-third of their household income on rent or mortgage, compared to the **state total** of **40%** for renters and **32%** for homeowners.*

Section 3: Health Care Access

Many factors affect a person's access to health care, including availability of medical providers, availability of a person's spoken language at a medical facility, or whether or not a person has health insurance.

Certain demographic factors may also impact a person's ability to access health care. For example, a person diagnosed with a disability may have trouble with physical access (such as transporting themselves to appointments), comprehension of health information they are given at such appointments, or both. According to Census data from 2000, approximately 30% of people age 21-64 in Brockton had a disability[iii] compared to 18% in the state overall. According to the BRFSS, a statewide survey, in the CHNA, 22% of people age 18 and older reported that they had a disability [iv] compared to 21% in the state overall.

Figure 3.1: Percentage of People Age 5 and Older Who Speak English "Less Than Very Well"



Data source: U.S. Census Bureau, 2000

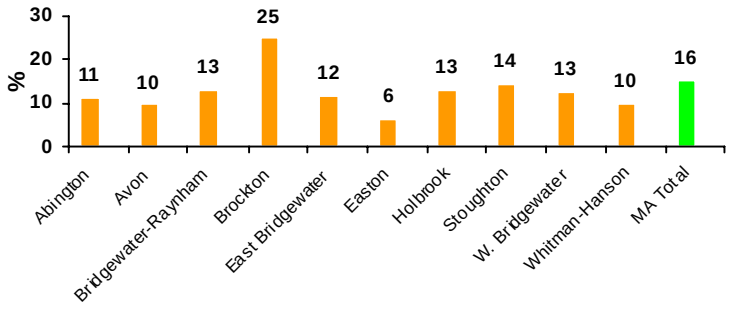
What the Community is Saying …
"If you don't have the money, you don't get [oral health work] done. And if the choice is between paying your rent or fixing your tooth, as long as it doesn't hurt…"
—Key informant

Another factor that may influence health care access is speaking a language other than English. Due to the wide variety of languages spoken in Brockton, health care sites report robust usage of medical interpreters. In 2007, Caritas Good Samaritan Medical Center had the eighth highest number of interpretation sessions conducted in the state of Massachusetts. Over one in ten people in the city of Brockton age five and older reported that they speak English "less than very well" (see figure 3.1).

Check cashing advertisement, Brockton

Literacy may have an impact on a person's ability to read prescription bottles or written information given at appointments. While there is no exact measure of literacy, the Massachusetts Family Literacy Consortium uses two proxy measures: speaking English less than "very well" and high school non-completion. Figure 3.2 lists the percentage of people age 18 and older in each town in the CHNA who had not yet completed high school.

Figure 3.2 High School Non-Completers, 18 and Older



Data source: Massachusetts Family Literacy Consortium

Key informants in towns outside of Brockton identified the following issues with access to health care:

- High copayments (even though kids have insurance);
- Services that Medicare and Medicaid won't cover;
- People not getting insurance because the tax penalty is cheaper than insurance coverage;
- Difficulty navigating the health care system;
- Cuts to health education and other preventive programs due to budget shortfalls
  - *"[When funding is cut] you hurt those people that really need it. If you or I don't need that program, it doesn't affect us. But it affects a lot ofpeople. I think we forget that as a society."*
- Lack of dental insurance or dentists who accept MassHealth;
- Lack of well-care clinic due to funding cuts.

"West Bridgewater family to benefit from new autism bill"
by Amanda Reed, The Brockton Enterprise, August 12, 2010

Brockton Neighborhood Health Center

BAT buses, Brockton

Access to public transportation may also influence a person's ability to obtain appointments. Key informants in Whitman, West Bridgewater, Abington, and Easton identified lack of public transportation as a barrier to health care access.

MBTA commuter rail stop, Whitman

In addition, the age-adjusted rate[1] of overall utilization of emergency rooms was significantly higher in the city of Brockton (52,374 per 100,000) than in the state overall (36,554 per 100,000) from 2006-2008. The rate of age-adjusted emergency room utilization was lower in the other CHNA towns overall (29,513 per 100,000) than the state total.

[1] For an explanation of age-adjusted rates, please see Appendix B on page 76.

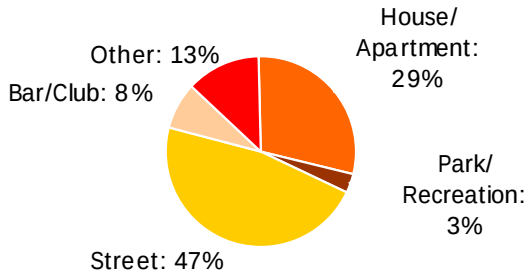
By the numbers:

- *From 2007 to 2009, approximately the same percentage of CHNA residents (2%) and Massachusetts residents age 18-64 (4%) reported that they did not have health insurance.*
- *From 2007 to 2009, approximately the same percentage of CHNA residents and Massachusetts residents age 18 and older reported that they could not see a doctor due to cost at some point in the last year (7%).*
- *From 2003 to 2008, a significantly lower percentage of Hispanic residents of the CHNA age 18 and older (76%) reported that they had health insurance than White non-Hispanic CHNA residents (95%).*
- *The age-adjusted rate of emergency room utilization was significantly higher in the city of Brockton than the state overall from 2006-2008.*
- *In 2007, Caritas Good Samaritan Medical Center had the eighth highest number of interpretation sessions conducted in the state of Massachusetts. The top three languages for which interpretation services were provided were Portuguese, Cape Verdean, and Spanish. The top three languages at Signature Healthcare Brockton Hospital for which interpretation services were provided in 2007 were Cape Verdean, Portuguese, and Spanish.*

Section 4: Safety

A particular concern emerging from the community impressions sessions was the impact of violence upon the city of Brockton. When asked to list major health concerns, "violence" and "murder" were brought up at every Brockton-based session. While the age-adjusted homicide rate for CHNA towns not including Brockton was below the state rate from 2005 through 2007 (0.73 per 100,000 vs. 2.8 for the state overall), the age-adjusted mortality rate from homicide in the city of Brockton (9.2 per 100,000) was significantly higher than the state rate during the same period. The assault-related gunshot or sharp instrument injury rate for the city of Brockton was 92.4 per 100,000 in 2008, which is *over three times* the state rate of 30.1 per 100,000.

Figure 4.1: Weapons-Related Injury Cases by Where Injuries Occurred (Excluding Unknown), Brockton CHNA, 2005-2007



Data source: MassCHIP Weapons-Related Injury Surveillance System Dataset

Brockton Neighborhood Watch in the Holiday Parade, 2009

Such violence occurs both inside and outside of the home. Figure 4.1 shows the breakdown of where weapons-related injuries occurred in the CHNA from 2005-2007. When location of the incident was known, almost 50% of violent incidents in the CHNA occurred on the street, suggesting that residents' concerns about safety are supported by the data.

In addition, the people injured in violent crimes may not know the offenders. According to Brockton's Promise, of the 235 violent incidents involving a firearm in the city of Brockton in 2008, 40% of offenders were known to the

victims and 60% were unknown.

Many of the violent incidents in the city involve youthful offenders. According to data from Brockton's Promise, there were 232 drug crimes involving youthful offenders in 2007 in the city of Brockton, which represents an 18% decrease from the 2006 total of drug crimes involving youthful offenders. 52% of the total narcotics incidents in the city in 2007 involved at least one offender age 24 or younger.

"Brockton kids going to school walk by blood-stained street"
by Amy Littlefield, The Brockton Enterprise, September 21 , 2010

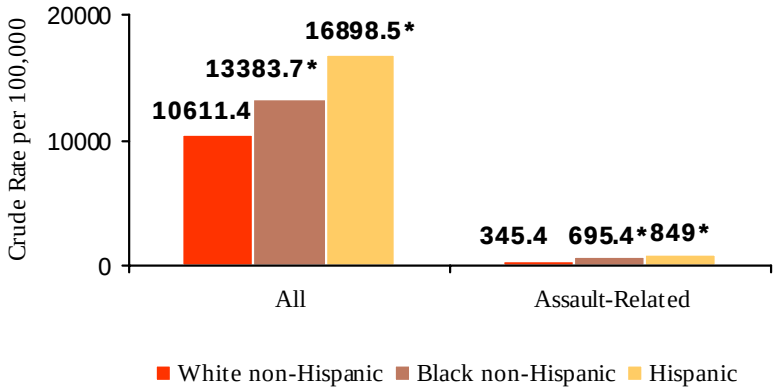
When examining the data by race and ethnicity, some disparities emerge. Emergency department visits for assault-related injuries were significantly higher among non-Hispanic Black and Hispanic residents of the CHNA than among non-Hispanic White residents (see figure 4.2).

What the Community is Saying …
Residents of Brockton cited gang activity and street violence as worrisome problems. Outside of Brockton, one key informant cited *"stranger danger"* incited by the media as a reason parents did not want their kids to play outside.

In addition to street violence, domestic violence is also an issue for residents of the CHNA. The following data were gathered from the Plymouth County District Attorney's Office. The definition of domestic violence includes incidents between intimate partners, relatives, and in-laws (following the Abuse Prevention Law.) In the city of Brockton, there were 3,813 reported domestic violence incidents between January 1, 2007 and December 31, 2009. Some features of domestic violence in the city of Brockton during this period include:

- 3,616 different victims and 210 repeat offenders;
- In 2009, 21% of the incidents involved no weapons, 53% involved hands or fists;

Figure 4.2: ED visits for injuries, by race/ethnicity, Brockton CHNA, 2005-2007



*significantly higher than White non-Hispanic
Data source: MassCHIP Emergency Department Dataset

- 78% of victims were female and 22% were male. 81% of the offenders were male, 18% were female, and 1% were transgender;
- 54% of the victims were injured in some way as a result of the incident.

Street in Whitman Center

Domestic violence is also a concern among the other CHNA towns. Some facts about domestic violence in CHNA towns other than Brockton include:

- In Abington, there were 105 reported incidents in 2009 with 2 repeat offenders and 18 children present during domestic violence incidents;
- In Bridgewater, there were 229 reported incidents from 2007-2009 with 8 repeat offenders and children witnessing domestic violence in 37% of the instances;
- In East Bridgewater, there were 169 incidents between 2007-2009 with 9 repeat offenders and 14% of incidents were witnessed by children;
- In West Bridgewater, there were 38 reported incidents in 2009, with two repeat offenders and children witnessing 11% of the incidents;
- In Whitman, there were 82 reported incidents in 2009 with 1 repeat offender in the first half of the year and 2 repeat offenders in the second half. 51A's were filed with the Department of Children and Families for 15 of these incidents.

By the numbers:

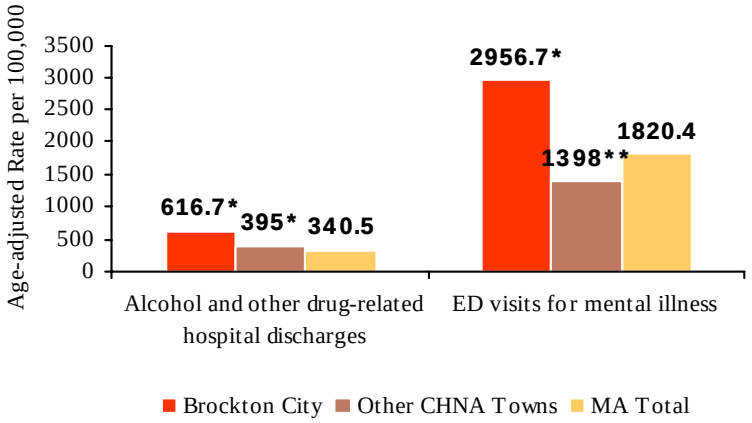
- *In the city of Brockton, over 3,000 people were survivors of domestic violence between 2007 and 2009.*
- *Almost 2,000 people were injured as a result of domestic violence in the city of Brockton between 2007 and 2009.*
- *The assault-related injury rate in the city of Brockton is over three times the state rate.*
- *Almost half of all weapons-related injuries in the CHNA between 2005 and 2007, where the location of the incident was known, occurred in the street.*

Section 5: Substance Use and Behavioral Health

For both the city of Brockton and other CHNA towns, the rate of drug-and-alcohol-related hospital discharges were significantly higher than the state rate (see figure 5.1).

From 2005 to 2007, the age-adjusted rate of opioid-related fatal overdoses in the city of Brockton (15 per 100,000) was significantly higher than the state rate (9 per 100,000).

Figure 5.1: Hospitalization and ED visits for substance use and behavioral health, 2006-2008



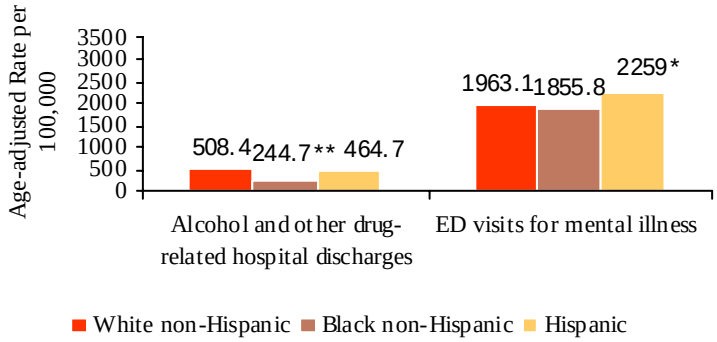
*significantly higher than state rate
**significantly lower than state rate

Data source: MassCHIP Emergency Department and Hospitalization datasets

According to the BRFSS, a statewide survey, approximately the same percentage of CHNA residents (including Brockton) report 15 or more days of poor mental health in the past month (10%) as residents of the state overall (9%) from 2003 through 2008. Also, a similar percentage of CHNA residents reported 15 or more days feeling sad in the past month (6%) as residents of the state overall (7%) in the same time period.

When examining substance use and behavioral health data by race/ethnicity, some differences emerge (see figure 5.2).

Figure 5.2: Substance use and behavioral health indicators by race/ethnicity, Brockton CHNA, 2006-2008



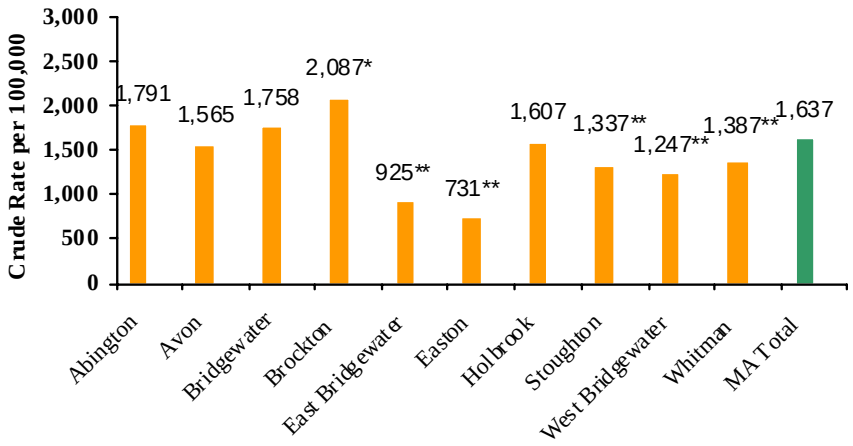
*significantly higher than White non-Hispanic
**significantly lower than White non-Hispanic

Data source: MassCHIP Emergency Department and Hospitalization datasets

Death certificate data from the city of Brockton shows a sharp spike in opioid-related deaths between 2006 (10) and 2007 (18).

Substance use outside of the city of Brockton is an increasing problem. In 2007, the rate of admissions for all substances to facilities funded by the Bureau of Substance Abuse Services was approximately the same in the CHNA (1658 per 100,000) as the state overall (1637 per 100,000). Figure 5.3 compares the admission rate to BSAS-funded facilities for each town in the CHNA to the state rate.

Figure 5.3: Admissions to BSAS-Funded Treatment Facilities, 2007



Data source: MassCHIP Bureau of Substance Abuse Services Treatment Admission Dataset

*significantly higher than state rate
**significantly lower than state rate

"WASTED YOUTH: Ongoing coverage of the drug abuse epidemic"
Ongoing series in The Brockton Enterprise, 2007-2010

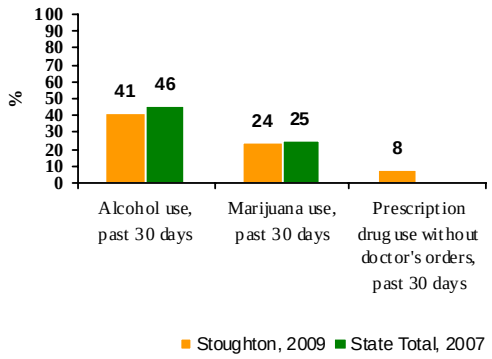
What the Community is Saying …
"It's a different world, and it's more complex. I think the fallout from that is a lot of emotional stress and it takes on a variety of presentations."
–Key informant

In younger age groups, some CHNA towns had higher substance use admission rates than the state overall in 2007:

- For young adults age 20-24, Avon, Whitman, Holbrook, Stoughton, East Bridgewater, Brockton, and Abington had rates of admissions for all substances higher than those in the same age group in the state overall.
- For young adults age 20-24, Abington, Avon, Bridgewater, Brockton, Stoughton, and Whitman had rates of admissions where a needle was used in the past year that were higher than the state rate for that age group.

The only community-level data on substance use and mental health in adolescents made available for the purposes of this report came from the town of Stoughton. Figure 5.4 contains data for substance use among high school students in the town of Stoughton.

Figure 5.4: Substance use among high school students in Stoughton



Data source: Stoughton Communities that Care survey, 2009

What the Community is Saying …

"Sometimes you're begging to have [a provider] take somebody, and it shouldn't be that way. There should be more resources. Not even crisis-level resources—evaluation resources and treatment resources. It seems like...kids almost have to get into a real crisis before they're seen readily"—Key informant

In discussions with key informants, the following themes emerged relating to substance use and behavioral health problems:

- Substance use among adolescents;
  - *"Percentage-wise [there aren't] a lot, but the ones we have take a lot of our time because it's so difficult to kick the habit, they can go into treatment, but they still come out and they're still struggling."*
- Mental health problems among people of all ages, but particularly adolescents;
- Substance use among people of all ages;
- Alcohol abuse among adults.

Trash on the ground outside a vacant commercial property, Bridgewater

Vacant commercial property, Brockton

By the numbers:

- *In 2007, the CHNA (including Brockton) had approximately the same crude rate of admission where alcohol, cocaine, crack, heroin, and other substances were the primary substance as the state overall. The city of Brockton, however, had a higher rate of admission where alcohol, cocaine, crack, and heroin were the primary substances than the state overall.*
- *The CHNA (including Brockton) had a lower crude rate of admission where marijuana was the primary substance (81 per 100,000) than the state overall (102 per 100,000). The rate for the city of Brockton (118 per 100,000) was approximately the same as the state.*
- *The CHNA had the same rate of admission where a needle was used within a year of admission (489 per 100,000) than the state overall (504 per 100,000) in 2007. The city of Brockton (586 per 100,000) had a higher rate than the state.*

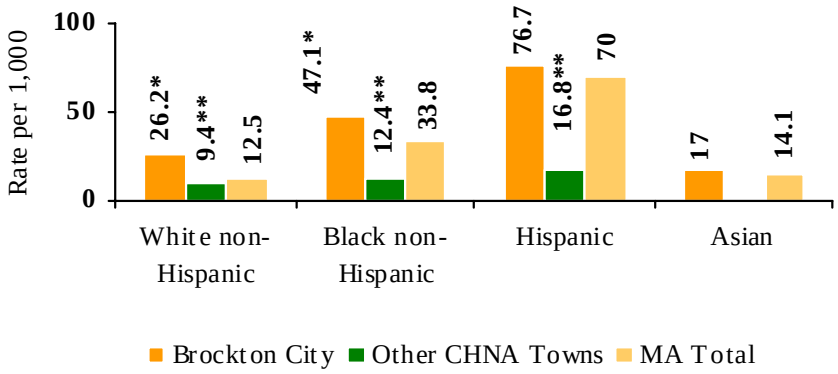
Section 6: Maternal and Child Health

Teenage pregnancy was identified as a specific health concern by CHNA members at the beginning of the assessment. The birth rate for White non-Hispanic and Black non-Hispanic women ages 15-19 in the city of Brockton is greater than the state rate for the same ages and race/ethnicity groups (figure 6.1) Race/ethnicity disparities are also prevalent in birth rates in the city of Brockton; within the city, the birth rate for non-Hispanic Black women ages 15-19 and the birth rate for Hispanic women ages 15-19 are significantly higher than the birth rate for non-Hispanic White women
ages 15-19.

What the Community is Saying …

"I see a lot of teenage or young pregnancies. I see a lot of 18-19 year olds, still." –Key informant

Figure 6.1: Birth rate for women age 15-19, 2006-2008



*Higher than state rate
**Lower than state rate

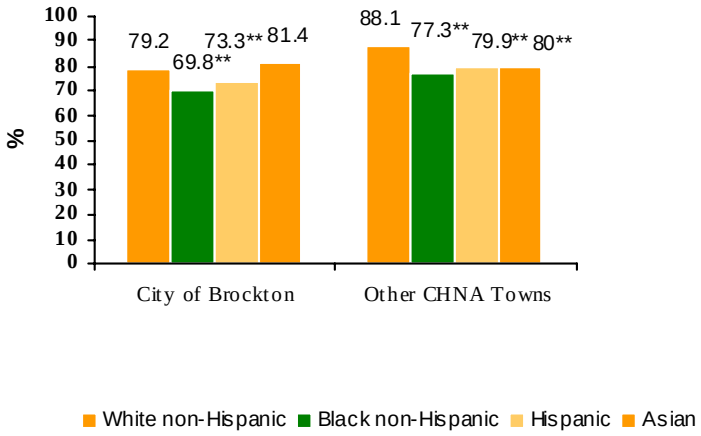
Data source: MassCHIP Natality Dataset

Adequacy of prenatal care is also a concern for the 15-19-year-old population. A significantly lower percentage of women age 15-19 from the city of Brockton (65%) and other CHNA towns (67%) received adequate prenatal care than women of all ages living in Brockton (74%) and other CHNA towns (87%) respectively.

Castle Canyon Playground, Holbrook

Race/ethnicity disparities in adequacy of prenatal care also exist within the city and the CHNA (see figure 6.2).

Figure 6.2: Adequate prenatal care by race/ethnicity, city of Brockton, 2006-2008



**Lower than White non-Hispanic

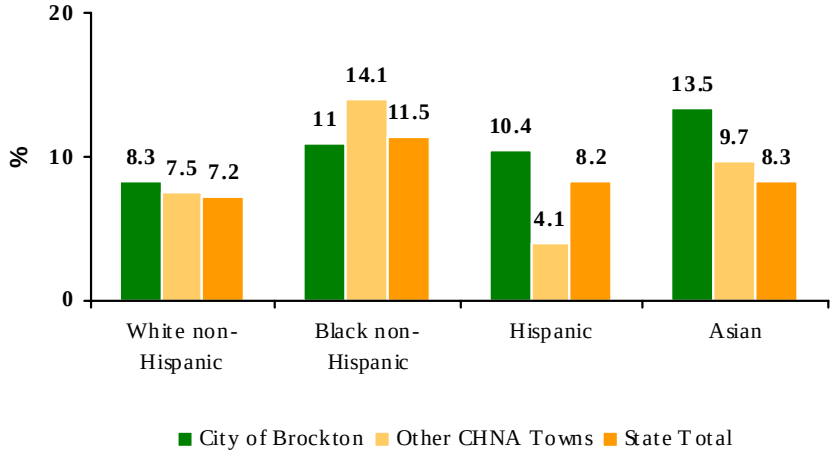
Data source: MassCHIP Natality Dataset

From 2006-2008, the city of Brockton had a higher percentage of mothers who reported smoking during pregnancy (9.5%) than the state (7.3%). The percentage of mothers who reported smoking during pregnancy in other CHNA towns (6.7%) was approximately the same percentage as the state. A lower percentage of Black non-Hispanic women (4%) and Hispanic women (9%) in the city, however, reported smoking during pregnancy than white non-Hispanic women (19%).

Race/ethnicity disparities were observed in the percentages of infants with low birth weight, defined as less than 2500 grams (see figure 6.3).

From 2006-2008, the city of Brockton had a significantly higher infant mortality rate (8.3 per 1000) than the state overall (4.9 per 1000.) Other CHNA towns had approximately the same infant mortality rate (3.2 per 1000) as the state overall.

Figure 6.3: Low birth weight by race/ethnicity, 2006-2008



Data source: MassCHIP Natality Dataset

Beaver Brook Playground, Abington

Some child health indicators include:

- The area rate of lead poisoning in CHNA towns other than Brockton from 2006-2008 was 0.4% of all children screened, which was the same as the MA rate of 0.4% of all children screened. The percentage in the city of Brockton (1.3%) was significantly higher than the state. In addition, 4.1% of children screened for lead in the city of Brockton had elevated blood lead levels, which was significantly higher than the state rate of 1.8%.
- The rate of death in people less than age 20 in towns in the CHNA outside Brockton was 25.3 per 100,000 compared to 41.2 per 100,000 in MA overall (lower than the state, 2006-2008 data.) The rate of death in people under 20 in the city of Brockton was significantly higher than the state overall (70.6 per 100,000).
- For fiscal year 2007, there were 1,492 active clients using Early Intervention services in the CHNA; there were 30,640 active clients in Massachusetts overall.
- None of the communities in the CHNA have water fluoridation, which has important indications for oral health.

By the numbers:

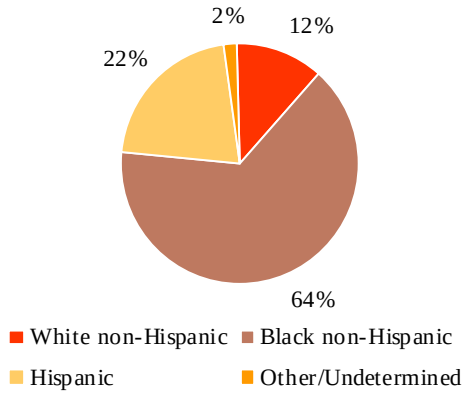
- *The overall teen birth rate for the city of Brockton (44.2 per 1,000 women age 15-19) was significantly higher than the state overall (21.1 per 1,000). The teen birth rate for other CHNA towns (10 per 1000) was approximately half that of the state total.*
- *The percentage of women who reported smoking during pregnancy was higher in the city of Brockton (10%) than in the state (7%).*
- *The percentage of children with elevated blood lead levels was significantly higher in the city of Brockton (4.1%) than the state overall (1.8%).*
- *From 2006-2008, the city of Brockton had a significantly higher infant mortality rate than the state overall.*

Section 7: Sexually Transmitted Infections and HIV/AIDS

The rates of HIV/AIDS and sexually transmitted infections are significantly higher in Brockton than the state. From 2005-2007, Brockton was the 10th highest city for average annual diagnosis rate of HIV in Massachusetts. In 2008, Brockton had the 11th highest rate of people living with HIV/AIDS in the state. According to the Massachusetts Department of Public Health:

- The incidence of Chlamydia was 648.6 new cases per 100,000 in 2008 in the city of Brockton and 352.7 in the CHNA, (including the city) which were both significantly higher than the state incidence rate of 268.3.
- The incidence of gonorrhea was 89.7 new cases per 100,000 in the city of Brockton and 45 in the CHNA (including Brockton) in 2008, which were both significantly higher than the state incidence rate of 31.9.
- The average annual diagnosis rate for HIV/AIDS in the city of Brockton from 2006-2008 was 20.9 per 100,000, which was twice as high as the state rate of 10.3.

Figure 7.1: Race/Ethnicity of Newly Diagnosed Cases of HIV/AIDS, 2006-2008, Brockton



Data source: Massachusetts Department of Public Health, HIV/AIDS Bureau

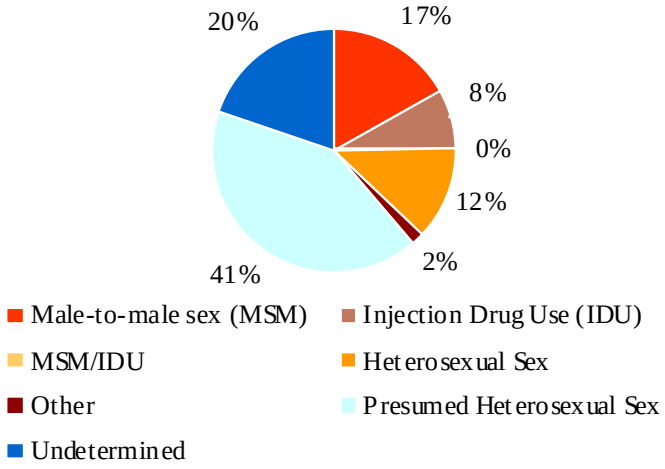
What the Community is Saying …
Multiple key informants stated that they would like to see additional sexual education taking place at an earlier age than high school.

"Brockton targeted in state public health campaign urging blacks to get tested for AIDS" by Maria Papadopoulos, The Brockton Enterprise, June 16 , 2008

- Among adolescents age 15-19, there were 252 new cases of chlamydia in the CHNA in 2008, which was significantly higher than the state rate for this age group. 204 of these new cases of Chlamydia were from the city of Brockton.
- There were 34 new cases of gonorrhea in the CHNA among adolescents age 15-19 in 2008, of which 26 cases were from the city of Brockton. The rates for these infections in the city of Brockton were 2-3 times that of the state for this age group.

The non-Hispanic Black population of Brockton has been disproportionately affected by HIV/AIDS. While 31.1% of the city's residents identify as non-Hispanic Black according to estimates from the Massachusetts Department of Public Health, 64% of newly diagnosed cases of HIV/AIDS in Brockton were in non-Hispanic Black residents, and 55% of persons living with HIV/AIDS were non-Hispanic Black (see figure 7.1). 64% of female residents of Brockton living with HIV/AIDS are non-Hispanic Black. Figure 7.2 contains the exposure mode for newly diagnosed cases of HIV/AIDS in the city of Brockton; over half of new cases were acquired from heterosexual sex or presumed heterosexual sex.

Figure 7.2: Exposure Mode for Newly Diagnosed Cases of HIV/AIDS, 2006-2008, Brockton



Data source: Massachusetts Department of Public Health, HIV/AIDS Bureau

A higher percentage of people newly diagnosed with HIV/AIDS in the city of Brockton in 2009 were foreign-born than native-born, as 39% of people newly diagnosed with HIV/AIDS in Brockton were born in the U.S.; 3% were born in Puerto Rico or a U.S. dependency, and 58% were not born in the U.S.

Of people living with HIV/AIDS in Brockton, 53% were born in the U.S. Among new cases of HIV in Brockton between 2006 and 2008, 51% were women.

By the numbers:

- *The average annual diagnosis rate for HIV/AIDS in the city of Brockton from 2006-2008 was 20.9 per 100,000, which was twice as high as the state rate of 10.3.*
- *204 new cases of chlamydia and 26 new cases of gonorrhea for adolescents age 15-19 were from the city of Brockton in 2008. The rates for these infections in the city of Brockton were 2-3 times that of the state for this age group.*
- *Non-Hispanic Black residents of Brockton have been disproportionately affected by HIV/AIDS. While 31.1% of the city's residents identify as non-Hispanic Black according to estimates from the Massachusetts Department of Public Health, 64% of newly diagnosed cases of HIV/AIDS in Brockton were in non-Hispanic Black residents.*

Section 8: Risk Behaviors and Health Screening

Risk factors such as being overweight, not eating an adequate number of servings of fruits and vegetables per day, and smoking may increase risk of certain chronic diseases. Data about such behaviors is available from the Behavioral Risk Factor Surveillance System (BRFSS), which is an annual telephone survey of Massachusetts residents age 18 and older. For BRFSS data, all CHNA data includes the city of Brockton.

Table 8.1: Risk Factors in the CHNA

	Brockton CHNA Percent (95% confidence interval)	State Percent (95% confidence interval)
Overweight/obese	57.2% (52.7-61.7)	58.2% (57.4-58.9)
Any leisure time physical activity, past 30 days	75.8% (71.7-79.9)	78.7% (78.1-79.2)
At least five servings of fruits/vegetables per day	20.9% (16.8-25.0)	26.9% (26.1-27.6)

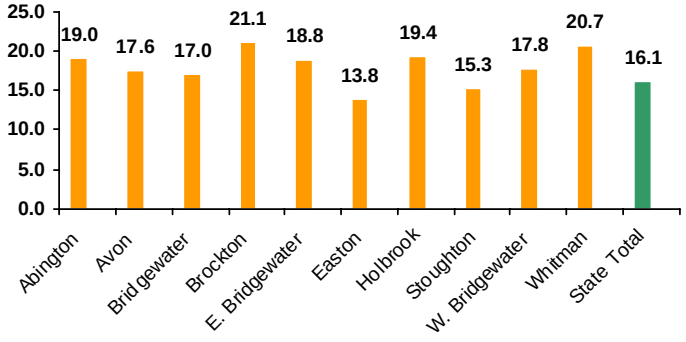
Data source: McKenna M Tinsley L et al (2010). *A Summary of Health Risks and Preventive Behaviors in Community Health Network Areas (CHNAs) 2007-2009.* Available from: http://www.mass.gov/dph/hsp.

The CHNA has approximately the same percentage of residents who reported being overweight or obese as the state overall, approximately the same percentage of residents who reported engaging in any leisure time physical activity in the past month, and a significantly lower percentage of residents who reported that they consumed at least five servings of fruits or vegetables per day than the state overall (see table 8.1).

In addition, many towns in the CHNA have a rate of current smoking in adults higher than that of adults in the state overall. Figure 8.1 contains smoking rates for each town in the CHNA.

For overweight and obesity in children, data was available for four CHNA school districts: Bridgewater/Raynham, Brockton, Stoughton, and West Bridgewater. Please see figure 8.2 for comparisons of these school districts to the state for students in grades 4 and 10.

Figure 8.1: Percentage of adults age 18 and older who are current smokers, 2008



Data source: Massachusetts Tobacco Control Program

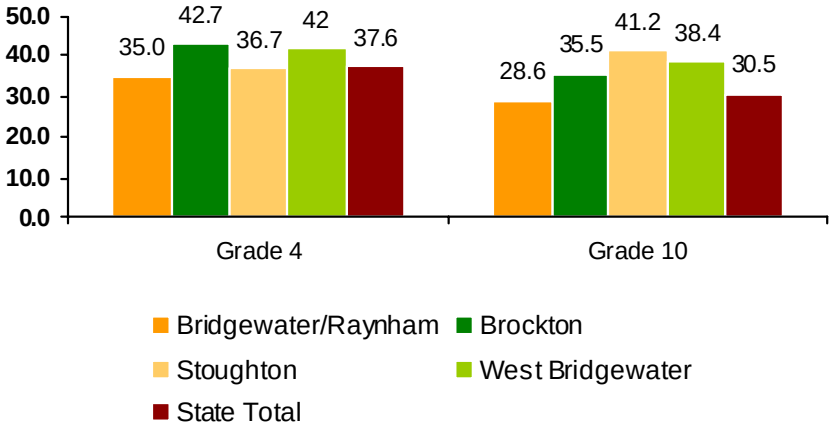
Walking trail at Ames Nowell State Park, Abington

Seasonal farm stand, East Bridgewater

Another important prevention measure is obtaining screening tests and preventive care in a regular fashion. Such care increases the probability of early detection of chronic diseases and avoiding preventable diseases. According to the BRFSS:

- Approximately the same percentage of people age 65 and older living in the CHNA (70%) reported that they had obtained a flu vaccination in the past year as residents of the state overall (75%);
- Approximately the same percentage of CHNA residents age 50 and older reported that they had received a colonoscopy or sigmoidoscopy in the past five years (61%) as residents of the state overall (64%);

Figure 8.2: Percentage of students in public schools who are overweight or obese, 2008-2009 school year



Data source: "The Status of Childhood Weight in Massachusetts, 2009" Massachusetts Department of Public Health

- Approximately the same percentage of female residents of the CHNA age 40 and older (83%) reported that they had a mammogram in the past two years as female residents of the state overall in the same age group (85%);

- Approximately the same percentage of residents of the CHNA age 18 to 64 reported that they had ever had an HIV test (47%) as residents of the state overall (43%);
- Approximately the same percentage of residents of the CHNA age 18 and older reported that they had had cholesterol checked in the past five years (88%) as residents of the state overall (84%).

"Brockton-area middle school sports programs face the budget ax"
by Theresa Knapp Enos, The Brockton Enterprise, August 17, 2009


Athletic fields behind Abington High School

What the Community is Saying …
Though many residents both inside and outside of Brockton cited playgrounds, parks, and local school sports and summer activities as ways to encourage children to be physically active, the cost of participating in these programs was often cited as a barrier to participation.

During conversations with key informants outside of the CHNA, the following themes emerged relating to risk behaviors for chronic illnesses:

- Childhood obesity;
- Lack of exercise both among children and adults;
  - *"…you figure these parents are coming home at 5:30, 6 o'clock, they're picking the kids up from school they're going home, making a quick dinner, and then they're doing homework, and then it's bed. The parents aren't getting any time to be active."*
- Obesity in adults;
  - *"What I observe is a phenomenal amount of obesity, across the board."*
- Parents have no time to be active or fix healthy meals due to being stressed, working, or otherwise busy;
  - *"I think that's the biggest problem. That parents are stressed, and they don't have the time anymore, or maybe it's a perception that they don't have the time, because I don't think it takes all that much to create healthy meals. But you're running around, it's easy to grab a box of whatever and throw it in a lunchbox, or grab takeout for dinner that's just easy and quick."*

- Lack of sidewalks or sidewalks in poor condition;
- Children not engaging in unstructured play

Borderlands State Park, Easton

Street in East Bridgewater

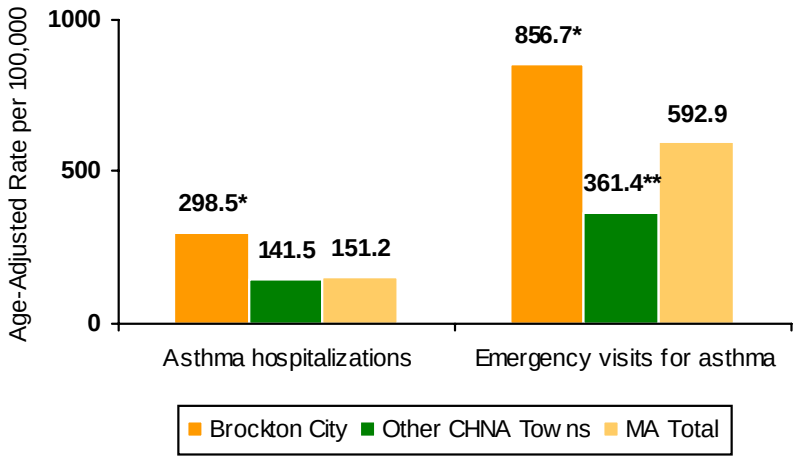
By the numbers:

- *An estimated 1 in 5 adults is a current smoker in two towns in the CHNA, Brockton and Whitman. The lowest estimated rate of smoking in the CHNA is in Easton (13.8%) and Stoughton (15.3%).*
- *The Brockton CHNA has a significantly lower percentage of residents who reported that they consumed at least five servings of fruits or vegetables per day than the state overall.*

Section 9: Chronic Illnesses

Examining the diagnosis and management of chronic illnesses reveals much about the state of health in a community. Problems with management of chronic illnesses may indicate lack of access to health care, inability to afford medications, or inability to understand medical providers' instructions for managing the illness.

Figure 9.1: Asthma, 2006-2008

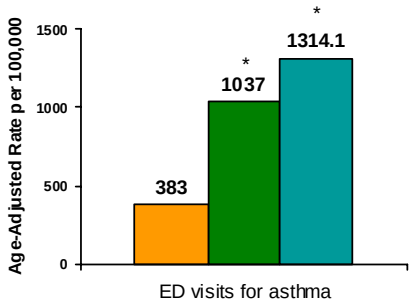


*Higher than state rate
**Lower than state rate

Data source: MassCHIP Emergency Department and Hospitalization datasets

From 2007-2009, approximately the same percentage of residents in the CHNA (including the city of Brockton) age 18 and older reported that they had ever been diagnosed with diabetes as residents of Massachusetts overall (8%). Approximately the same percentage of CHNA residents age 18 and older reported current asthma (12%) as the state overall (10%).

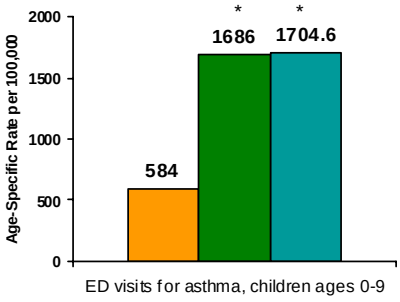
Figure 9.2: ED visits for asthma, by race/ethnicity, Brockton CHNA, 2006-2008



*significantly different from White non-Hispanic

Data source: MassCHIP 2006-2008 emergency department visits

Figure 9.3: ED visits for asthma, by race/ethnicity, Brockton CHNA, 2006-2008



*significantly different from White non-Hispanic

Data source: MassCHIP 2006-2008 emergency department visits

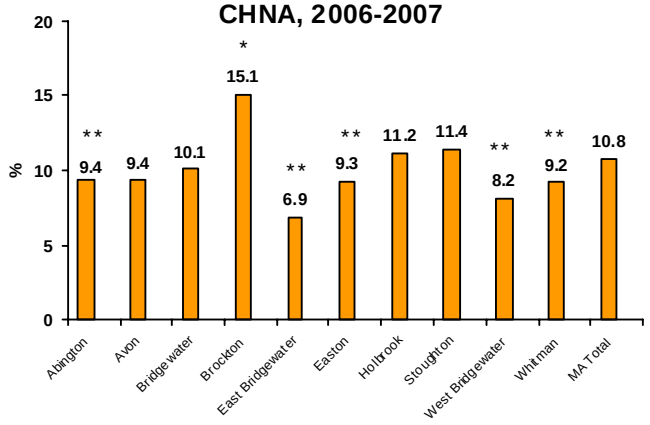
When examining the management of chronic diseases, however, a different story emerges from the city and other CHNA towns (see figure 9.1).

When breaking down management of chronic diseases by race/ethnicity, we also see disparities in emergency department visit rates. The age-adjusted emergency department visit rates for asthma concerning non-Hispanic Black and Hispanic CHNA residents of all ages were over twice as high as the rate for non-Hispanic White residents (see figure 9.2). In children age 0-9, the age-specific emergency department visit rates for non-Hispanic Black and Hispanic CHNA residents were also over twice as high as the non-Hispanic White children (see figure 9.3).

What the Community is Saying …

"…time is spent teaching the difference between what is really an asthma symptom and what is a normal part of the invigoration you feel when you run. [Kids will] think it's asthma because they don't ever move that quickly."—Key informant

Figure 9.4: Prevalence of lifetime asthma among children in kindergarten through grade 8, Brockton CHNA, 2006-2007



**Significantly lower than state rate
*significantly higher than state rate

Data source: MA DPH, Bureau of Environmental Health

The prevalence of asthma in children varies among each of the CHNA towns, according to data from the Asthma Prevention and Control Program at the Massachusetts Department of Public Health. (see figure 9.4).

News

"Asthma complicates back-to-school for many Brockton-area kids"

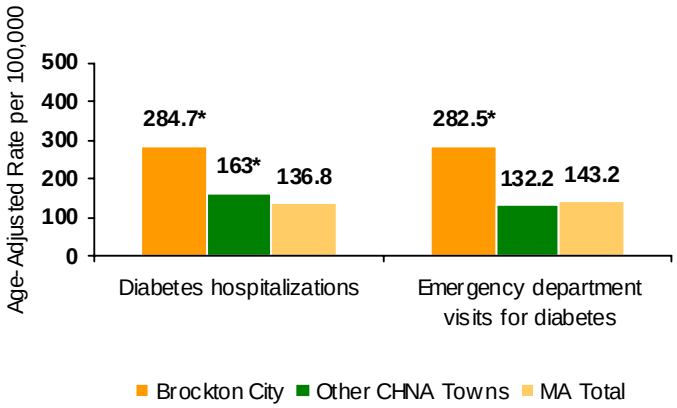
by Amy Littlefield, The Brockton Enterprise, September 6, 2010

Stoughton Youth Commission/Council on Aging Community Garden

Similar issues emerge when examining management of diabetes in the CHNA. The city of Brockton had significantly higher age-adjusted rates of hospitalization and emergency department visits for diabetes than the rate for the state overall (see figure 9.5).

Disparities also exist when examining diabetes management by race/ethnicity: non-Hispanic Black residents of the CHNA (including Brockton) have a higher age-adjusted rate of hospitalization for diabetes (403 per 100,000 people) than non-Hispanic White residents (164 per 100,000). Hispanic CHNA residents (469 per 100,000) also have a significantly higher hospitalization rate than non-Hispanic White CHNA residents for diabetes.

Figure 9.5: Diabetes, 2006-2008



*significantly higher than state

Data source: MassCHIP emergency department visits and hospitalization datasets, 2006-2008

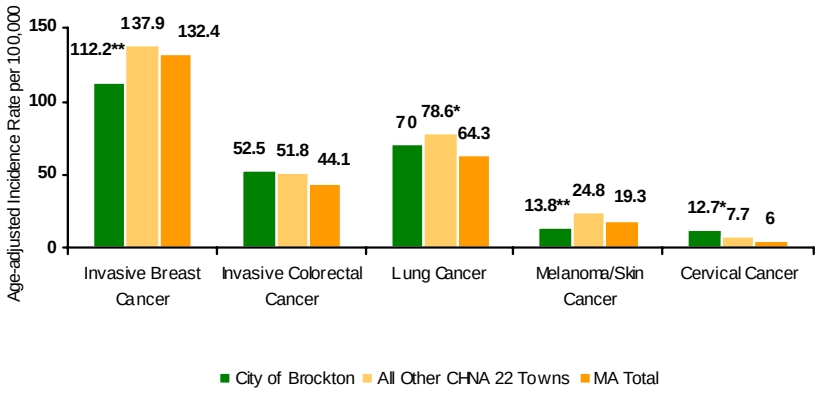
Athletic fields, Whitman-Hanson High School

Intersection with no sidewalks, E. Bridgewater

Figure 9.6 compares the rate of new cases of many types of cancer among women in the city and other CHNA towns to women in Massachusetts. Race/ethnicity disparities also exist for this health issue: the death rate from invasive breast cancer bordered upon being significantly higher in non-Hispanic Black female residents of Brockton (47.5 per 100,000) than in non-Hispanic White female residents of Brockton (21.4 per 100,000) from 2004-2008. While the rate of new cases of invasive breast cancer was significantly lower in Brockton than in the state, the

mortality rate from invasive breast cancer in Brockton during the same time period (26.5 per 100,000) was similar to the state (22.9 per 100,000).

Figure 9.6: Cancer Incidence, Women, 2003-2007



* significantly higher than state
* *significantly lower than state

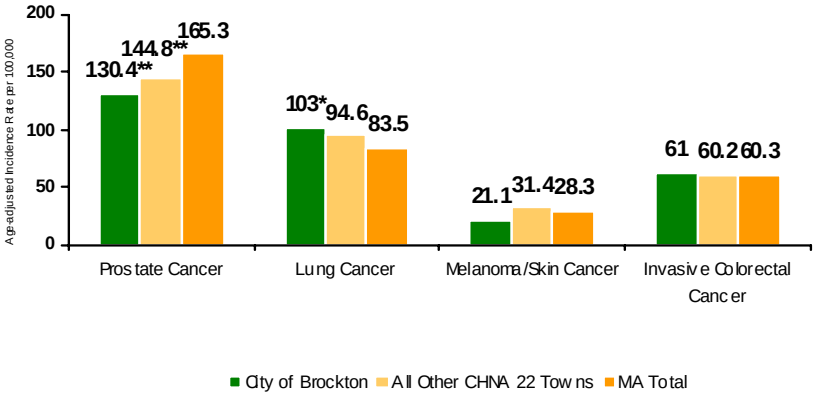
Data source: MassCHIP Cancer Registry dataset, 2003-2007

Figure 9.7 contains the rates of new cases of cancer for men in Brockton, other CHNA towns, and the state. The age-adjusted rate of prostate cancer was lower in men both in the city of Brockton and other CHNA towns from 2003-2007. The rate of invasive prostate cancer in non-Hispanic Black men in the city of Brockton, however, was significantly higher (277 per 100,000) than the rate in non-Hispanic White men in the city (98.6 per 100,000) in the same time period.

Some other chronic health conditions include:

- In the CHNA (including Brockton), the rate of new cases of Lyme disease (46.6 per 100,000) was lower than the state (62.9 per 100,000) in 2008.
- There were five new cases of tuberculosis in the city of Brockton in 2007 and three in CHNA towns outside of Brockton; there were 224 total new cases in the state overall.
- In years including 2004, 2006, and 2008, the CHNA had a greater percentage of people age 18 and older who reported five or more teeth missing due to decay or disease (19.3%) than the state (14.7%).

Figure 9.7: Cancer Incidence, Men, 2003-2007



*significantly higher than state
**significantly lower than state

Data source: MassCHIP Cancer Registry dataset, 2003-2007

Many key informants in CHNA towns outside of Brockton identified the following chronic health problems in area residents:

- Childhood asthma, which tends to be better-controlled among the high-school-age population;
- Type II diabetes in adults;
- Life-threatening allergies in children;
- Lyme disease;
- Oral health problems;
- Tuberculosis—infected people from outside the US;
- Dementia and Alzheimer's disease in older adults.

By the numbers:

- *From 2007-2009, approximately the same percentage of residents of the CHNA age 18 and older reported that they had ever been diagnosed with diabetes (8%) as residents of Massachusetts overall. During the same time period, approximately the same percentage of CHNA residents age 18 and older reported current asthma (12%) as the state overall (10%).*
- *The city of Brockton had a higher age-adjusted rate of hospitalizations and emergency visits for asthma than the state overall.*
- *Race/ethnicity disparities exist both in the rates of emergency department visits for asthma and the rates of emergency department visits for diabetes. These race/ethnicity disparities persist when examining emergency department visits for asthma in children.*

Summary of Community Discussions: What Residents Think

After viewing the "Place Matters" video, participants found that many of the issues present in the video were also present in the city of Brockton. The participants not only listed many health problems they had observed in Brockton residents, but also cited many social determinants of these health problems that they observed in the community. Below is a summary of the health problems and their social determinants that were identified by discussion participants along with a list of organizations or community resources that participants identified as helping them to live healthier lives. Eight out of the ten community impressions sessions were held in the city of Brockton; thus, the data from the community impressions sessions mainly reflects conditions in the city itself. For more detailed information about health problems in the CHNA towns other than Brockton, see page 59 for the results of the key informant interviews.

Health Problems

Multiple participants cited the following health problems that make it difficult for them to live healthy lives:

- Mental health issues including stress and depression;
- Violence;
- Asthma, including both adults and children;
- Diabetes;
- Hypertension;
- Obesity;
- Lack of sleep;
- Substance use, including injection drugs and alcohol.

Individual residents *at particular community impressions sessions also identified the following health problems:*

- *Heart problems;*
- *Cancer;*
- *Tobacco use;*
- *Teenage pregnancy;*
- *Hyperactive children;*
- *Child stress from being overscheduled.*

Social Determinants of Health

Participants in the impressions sessions were asked to identify aspects of their environment that make it harder for them to live healthy lives in their communities. The following is a list of common themes among their responses during the discussion sessions.

Poverty
Multiple participants cited the following themes related to poverty that make it difficult for them to live healthy lives: • The **economic downturn** causing unemployment, underemployment, or necessitating people working multiple jobs; • **Parents working** so they are unable to take kids to activities or unwilling to let them go due to safety concerns; these activities are also expensive; • **Inability to afford health insurance** or having insurance with high copayments for visits and/or medications; • People **do not want to spend money on copayments for sick visits**; they would rather spend their money on food for children; • Many people such as workers of minimum-wage jobs and seniors, are **unable to qualify for services** due to being just above the income guidelines.
Individual residents *at particular community impressions sessions also identified the following issues related to poverty:* • *People who have money are saving it, not spending it, so there is a lack of stimulation to economy;* • *No jobs inside of Brockton, so people have to go to surrounding communities to find work;* • *Multiple generations living in one household due to job losses, causing stress for all who live there;* • *Inability to afford heat; some people have no gas all summer for cooking or hot showers;* • *Large families to support financially;* • *Lack of job opportunities, even for people who complete a four-year college education.*

Housing
Multiple participants cited the following themes related to housing that make it difficult for them to live healthy lives: • **Unaffordable housing,** even though the housing available is of low quality; • **People living in housing that is substandard,** with problems including mold, water damage, inadequate ventilation, and windows that do not close all the way; • **Overcrowding**: one person stated that she was concerned about all of the new housing being built and potential "overcrowding" of the city as a result; one person outside of Brockton noted large numbers of houses with small yards lining area streets, leaving little room for open spaces.
Individual residents *at particular community impressions sessions also identified the following issues related to housing:* • *Homelessness; one resident stated "I never saw [this] much homelessness before I came to Brockton";* • *Absentee landlords/"slumlords";* • *Landlords who are unable to fix problems with houses due to the economy;* • *Older people with unclean housing due to no one taking care of those older adults;* • *Unwillingness to speak up about substandard housing due to gratefulness at having a place to live at all;* • *Many people living in one housing unit;* • *Funding cuts to community programs such as senior centers and programs for children;* • *Many people living in shelters due to high housing costs;* • *In one session, residents stated that the housing has "come a long way" since the 1970's and 80's—"it wasn't fit for human habitation" back then;* • *Housing that is inadequate for people with disabilities (for example, no elevators or second-floor apartments).*

Lack of community cohesion
Multiple participants cited the following themes related to lack of community cohesion that make it difficult for them to live healthy lives: • In neighborhoods, **people do not know one another** or socialize together although they may have been neighbors for ten or more years; • The **"village raises a child" mentality** of previous generations **no longer exists** because people fear retribution or don't trust others.
Individual participants *at particular community impressions sessions also identified the following issues related to lack of community cohesion:* • *People try not to be seen or heard because they do not want to "snitch" on their neighbors if they see anything for fear of repercussions;* • *Negative influences of family (for example, parents using substances);* • *In one suburb, participants cited social pressure on parents for their children to succeed and to over-involve their children in activities;* • *In one session, older adults noticed that there are no more drive-in movie theaters and fewer dances for kids, leaving nothing for them to do.*

Mental health issues
Multiple participants cited the following themes related to mental health issues that make it difficult for them to live healthy lives: • **Unemployment** or **underemployment;** • **The economy** ("worried about what's going to happen tomorrow"); • **Single parenthood:** for example, if one's child is sick and one parent is the only caretaker, they have to miss work/risk being fired; • **Working multiple jobs;** • **Drug and gang activity** outside housing units and **fear for safety**; one resident stated, "the stress is literally killing people".
Individual residents *at particular community impressions sessions also identified the following issues related to mental health issues:* • *Isolation and depression in older adults.*

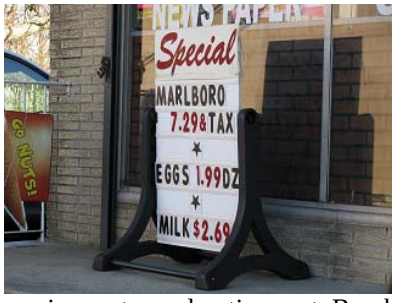
Neighborhood safety
Multiple participants cited the following themes related to neighborhood safety that make it difficult for them to live healthy lives: • **Trash** on the ground everywhere, including condoms and needles (inside and outside of Brockton); • **Boarded-up houses** where people are doing drugs and teenagers are "hanging out"; • **Gang activity;** • **Reduced police presence.**
Individual residents *at particular community impressions sessions also identified the following issues related to neighborhood safety:* • *Empty storefronts and businesses around town where homeless people live or people use substances;* • *Normalization of domestic violence;* • *Bullying in school;* • *Street fighting among people intoxicated or using substances;* • *Lack of sleep among some residents due to drug/gang activity during the night in neighborhoods and housing units;* • *Sex offenders present in town—parents worry about their children, though the schools keep them informed about people in the area;* • *Residents, especially younger residents, would rather go to jail than tell police that crime is happening;* • *Sex workers visible on the streets.*

Eating unhealthy foods
Multiple participants cited the following themes related to unhealthy foods that make it difficult for them to live healthy lives: • **Inability to afford healthy food** such as fruits and vegetables, and thus buying fast food off of the "dollar menu"; • **Fruits and vegetables** may be available at grocery stores, but are **extremely expensive** or of **low quality.**
Individual residents *at particular community impressions sessions also identified the following issues related to eating unhealthy foods:* • *People living in shelters due to inability to afford rent, thus they also have no kitchens to prepare healthy food;* • *Many corner stores with largely unhealthy food choices;* • *Only one farmer's market within the city of Brockton, and it is not particularly accessible to those who work (Fridays from 10:30-1:30);* • *Contaminated or poor soil for growing fresh fruits and vegetables;* • *One resident stated, "'Organic' used to be the norm. My mother used to kill chickens in our backyard. You didn't even need a word for it."*

Physical Activity
Multiple participants cited the following themes related to physical activity that make it difficult for them to live healthy lives: • **Playgrounds in poor condition**; for example, playgrounds made of concrete, no grass growing, no basketball hoops; • **Summer and after-school programs are "expensive"** and often have waiting lists, so they are inaccessible to many adolescents; • **Parents do not want to let their children outside** with **"needles, trash, and broken bottles"** on the ground; • **"Stranger danger"**when both parents are working, and/or perception of huge risk makes parents unwilling to allow children to play outside.
Individual residents *at particular community impressions sessions also identified the following issues related to physical activity:* • *Cannot exercise outside due to safety concerns—problematic for people with hypertension;* • *No one playing on the playgrounds;* • *In Easton, not a lot of participation in the walking school bus because parents are busy or didn't think it was safe for younger kids;* • *Kids cannot walk to school because they would have to cross a number of busy streets.*

Substance Use
Multiple participants cited the following themes related to substance use that make it difficult for them to live healthy lives: • Using substances to **"escape"** the stress of the economy.
Individual residents *at particular community impressions sessions also identified the following issues related to substance use:* • *One participant stated that there are* ***"liquor stores on every corner";*** • ***Needles on the streets;*** • ***Heroin*** *and* ***alcohol*** *use are particularly problematic;* • *Street fighting among people intoxicated or using substances.*

Other Issues
Individual residents *at particular community impressions sessions also identified the following other issues:* • *One resident expressed that there is a "stigma" associated with living in Brockton; that "people treat you different" when a resident says they live in the city. Another person who worked in the city also stated that there was a "cloud" hanging over the city that was evident when she let people know she worked there;* • *One resident reported his father had lung issues from working in the shoe industry;* • *One resident spoke of race/ethnicity discrimination in health care—that some residents felt discriminated against when seeking health care at some facilities in the city;* • *One resident expressed surprise that the town would choose to build a school near the site of an old tannery due to chemicals that might be present in the soil;* • *Traffic congestion in the city of Brockton;* • *Air quality;* • *Outside of Brockton, lack of access to public transportation.*



Convenience store advertisement, Brockton

Community Assets

Discussion participants offered the following community assets that they have observed or experienced within the city. Such assets aid residents in living healthier lives and may seek to rectify the negative social determinants listed above. Such community assets include:

- Health care services;
- MassHealth;
- Women, Infants, and Children (WIC);
- The Brockton public school system;
- Public transportation in the city of Brockton;
- Initiatives in the city of Brockton to encourage physical activity such as D.W. Field Park;
- Stoughton Council on Aging (including the intergenerational garden, transportation to the food pantry and delivery of food pantry food to seniors);
- Farmers' markets;
- New sidewalks in some parts of town;
- Children's museum in Easton;
- Sheep pasture in Easton;
- Ames Pond and the town pool in Easton;
- Prescription assistance at Brockton Neighborhood Health Center;
- Brockton After Dark;
- Clean streets with no garbage/needles etc. all thrown around;
- Ethnic/cultural community based associations/groups;
- Clean/landscaped parks with swings and benches;
- Family planning;
- YMCA;
- Outdoor pool in Brockton;
- New domestic violence shelter recently built;
- Route 24 has recently been repaved;
- New houses being constructed in the city;
- Community activities such as soccer and swimming for children.

How Communities Can Help

Discussion participants listed some ideas for what communities could do to help residents live healthier lives.

- City fines for trash in yards—on tenants or landlords;
- Community gardens in place of boarded-up houses;
- Hold additional "Make Brockton Beautiful" days throughout the year;
- Clean sidewalks when it snows;
- Additional volunteers for neighborhood crime watches;
- Maintain the public neighborhood parks as well as the D.W. Field Park;
- City and ward councilors can become more visible and educate the community about their role and how they can assist the community in addressing all of their needs at the municipal level;
- Allow anonymous reporting of crime;
- Allocate money in "the right places"—one resident gave the example of a brand-new police station and parking lot in one CHNA town while there were 40 kids per classroom in the elementary schools;
- One resident expressed that politicians should "live in our community for one day—and see how they like it";
- More block parties to improve community cohesion, though some residents expressed safety concerns about block parties;
- More street outreach concerning safer sex—community health workers giving out condoms at bars and nightclubs, for example;
- Tax on sporting goods (such as Patriots and Red Sox gear) that would be invested in community programs;
- Increase the number of affordable activities for kids in the city;
- Build more community centers, such as the Boys and Girls Club—the current club is not big enough for a city the size of Brockton;
- Increase police presence;
- More nutrition and cooking classes for people from all different cultures to learn how to cook healthy food within the culture;
- Make healthy options for meals available in schools instead of "fries and pizza";
- "Invest more money in communities that actually need it—people seem to want to [continue to] invest money in communities that are already nice".

Participants also listed some ideas for what community residents could do to improve conditions in Brockton.

- Call city hall if streets/sidewalks need repair;
- Attend city hall meetings to address any concerns and to be more active in decisions that are made on behalf of the community.

Summary of Key Informant Interviews: Major Perceived Health Issues in Towns Outside of Brockton

In order to obtain more information from the communities outside of Brockton, the CHNA Community Health Assessment Subcommittee identified key informants in each of the remaining CHNA towns to be interviewed about perceived health concerns in those communities. Due to confidentiality constraints, individual key informants are not identified in this report. Two key informant interviews were conducted per town. The results of these interviews are listed below.

Health Problems

Multiple key informants identified the following health concerns in CHNA communities outside of Brockton:

- Substance use among adolescents—though key informants stated it was not present in a large number of kids, it is a big problem in some;
    - *"Percentage-wise [there aren't] a lot, but the ones we have take a lot of our time because it's so difficult to kick the habit, they can go into treatment, but they still come out and they're still struggling."*
- Mental health problems among people of all ages, but particularly adolescents;
- Substance use among people of all ages;
- Alcohol abuse among adults;
- Obesity in adults;
    - *"What I observe is a phenomenal amount of obesity, across the board."*
- Childhood obesity;
- Lack of exercise both among children and adults;
    - *"…you figure these parents are coming home at 5:30, 6 o'clock, they're picking the kids up from school they're going home, making a quick dinner, and then they're doing homework, and then it's bed. The parents aren't getting any time to be active."*
- Type II diabetes in adults;
- Childhood asthma, which tends to be better-controlled among the high-school-age population;
- Life-threatening allergies in children;
- Lyme disease;
- Oral health problems;
- Tuberculosis—infected people from outside the US;
- Dementia and Alzheimer's disease in older adults;
- Cardiovascular disease such as hypertension.

Individual key informants identified the following additional perceived health problems present in communities:

- Autism;
- Childhood leukemia;
- Sexually transmitted infections;
- Falls in the elderly;
- Unusually high numbers of hepatitis C cases;
- Pregnancies in teenagers and/or young adults (for example, 18 or 19-year-olds).

Social Determinants of Health

Multiple key informants identified the following conditions in their communities that made it difficult for people to maintain healthy lifestyles:

- Economic situation—subtle signs of poverty;
    - *"I don't know about here, but in other situations, people can be needy but not needy enough to fit the mold. And so they're left, they're falling between the cracks, they make just enough but it's not enough. And that's the tough part that you see."*
    - *"What I am seeing right now in this economy, is a lot of people who probably actually live in very nice homes, who are maybe one step away from foreclosure, who have a great address but may not have the money to buy snacks for their kids' school lunch."*
    - Foreclosure
    - Expense of healthy food
    - Seniors having to make decisions about which medications to take due to inability to pay for them
- Lack of access to health care due to:
    - High copayments (even though kids have insurance)
    - Services that Medicare and Medicaid won't cover
    - People not getting insurance because tax penalty is cheaper than insurance coverage
    - Difficulty navigating the health care system
- Parents have no time to be active or fix healthy meals due to being stressed, working, or otherwise busy;
    - *"I think that's the biggest problem. That parents are stressed, and they don't have the time anymore, or maybe it's a perception that they don't have the time, because I don't think it takes all that much to create healthy meals. But you're running around, it's easy to grab a box of whatever and throw it in a lunchbox, or grab takeout for dinner that's just easy and quick."*
- Lack of mental health counselors for adolescents, or lack of mental health providers in particular towns;
    - *"Sometimes you're begging to have [a provider] take somebody, and it shouldn't be that way. There should be more resources. Not even crisis-level resources—*

evaluation resources and treatment resources. It seems like the kids almost have to get into a real crisis before they're seen readily"

- Lack of public transportation in Whitman, West Bridgewater, Abington, and Easton;
- Cuts to health education and other preventive programs due to budget shortfalls;
    - *"[When funding is cut] you hurt those people that really need it. If you or I don't need that program, it doesn't affect us. But it affects a lot of people. I think we forget that as a society."*
- Lack of dental insurance or dentists who accept MassHealth;
    - *"If you don't have the money, you don't get it done. And if the choice is between paying your rent or fixing your tooth, as long as it doesn't hurt…"*
- Lack of sidewalks or sidewalks in poor condition;
- Lack of well-care clinic due to funding cuts;
- Children not engaging in unstructured play

Individual key informants identified the following problems in their communities that made it difficult for people to stay healthy:

- Not a lot of services for 20-to-50-year olds;
- Not a lot of diversity, so kids of races/ethnicities other than non-Hispanic White might feel isolated;
- Town sports are expensive;
- Availability of substances due to more disposable income for young people;
- Domestic violence and child witnesses;
- Stranger danger—parents do not want their kids playing outside due to fear of abduction;
- Kids from a wide variety of socioeconomic backgrounds in the same school:
    - *"How do I put this delicately …you have a mix of socioeconomics, and it creates somewhat of a disparity that the kids at [the high school] age level especially, I think, experience. There's kids who come into the parking lot with a brand new shiny car, and there are kids who are taking the school bus, all at the same grade level. [The] school-bus people are probably better off in many ways. So you have that as an ongoing tension [for] kids this age."*
- School cafeteria food could be healthier;
- No gym in town;
- No supermarket in one community;
- Violence spilling over from Brockton;
- Older housing and problems with absentee landlords;
- Concerns about septic systems and improperly disposed-of medications seeping into soil;
- Supermarkets with poor-quality vegetables;
- Concern about possible residual health effects from the Baird McGuire plant in Holbrook;
- Foster kids staying in temporary homes—kids do not know own home address or where food is stored in house.

Community Resources

Key informants from individual towns listed the resources in their communities that help them to stay healthy. Below is a list of those resources.

Abington

"There is not one organization in this town that would turn down a child for an inability to pay"

- School psychologists and school adjustment counselors;
- Angel Fund (through the Masons);
- St. Vincent de Paul;
- Lions club;
- Child study group;
- Town day camp in summer, with scholarships available for kids who can't afford it;
- Abington Food Pantry;
- Park and recreation department;
- Town sports for kids too young for school sports;
- Sense of community—people in neighborhoods watching out for each other;
- Farmer's market;
- Beaver Brook Playground;
- Concert series at the town bandstand in the summer;
- Craft fairs tend to be community events;
- Jeff Coombs Foundation;
- Prescription take-back day;
- Library;
- Active senior center with exercise classes and van for transportation.

Covered bridge behind Avon Public Library

Avon

"People want to live in Avon. It's a small town, good school system, people want to live here… it's a nice community, presents well, easy on the eye."

- Miller Tracy playground;
- Apple festival;
- Holiday parades;
- Community concerts in the summer;
- Block parties;
- Collaboration between Board of Health and schools; for example, H1N1 clinics;
- Avon Park and Recreation programs for children during summer;
- Council on Aging offering trips for the elderly;
- School breakfast programs;
- Avon Coalition for Every Student (ACES);
- Collaboration with Holbrook for blood pressure clinics;
- Collaboration with Holbrook for school sports
- Exercise classes for older adults through Council on Aging;
- Meals on Wheels;
- Churches.

Bridgewater

"I think it's a community [where] a lot of people have been here for a long time and know each other. We do have a center of town; I think that helps."

- *"Wonderful"* high school building and grounds with new track;
- Wellness program in school system;
- School cafeterias preparing healthy foods;
- Bridgewater State College—pool and track;
- Grocery store with healthy options for prepared food;
- Fitness center in Bridgewater;
- Raynham Health Center;
- Bridgewater has a town center, which is helpful for community cohesiveness;
- Reading across the curriculum;
- Farmer's market, Hansen's farm, Raynham farm stands, affordable groceries at WalMart SuperStore or Raynham Market Basket;
- School resource officer—wonderful anti-bullying resource;
- Sense of community—veterans' wall in high school for students with deployed family members.

East Bridgewater

"It seems clean and safe—I don't see any violence, and I barely hear…sirens going off"

- School and community sports;
- Key Club at the high school;
- WIC;
- Healthy Families;
- Blood pressure clinics and sessions on foot care at Council on Aging;
- Counseling on diet and medication at Council on Aging;
- Area food pantries;
- Council on Aging assists with Meals on Wheels, fuel assistance applications, SNAP applications, scheduling rides with dial-a-BAT for the older adults;
- Off-site Tai Chi and line dancing classes for older adults;
- Hot meal for older adults and disabled adults at the middle school once per week when school in session;
- Partners Home Care for visiting nurses;
- Old Colony Elder Services;
- Interconnectedness of agencies in surrounding towns.

Easton

"Every neighborhood has its own personality."

- Grocery stores;
- Food pantry;
- Farmer's market—organic produce, but is expensive;
- Air quality;
- Yoga at middle school;
- Charitable organizations helping at Christmas-providing gift cards and St. Mark's providing backpacks for kids who need them;
- Children's museum;
- YMCA;
- Pop Warner;
- Dance (kids' activities—not sure how affordable they are);
- School doctor;
- Medical facilities—Good Samaritan, Brockton Hospital, BNHC;
- Board of Health;
- Exercise classes at Frothingham Hall (Zumba);
- Blood pressure clinics, blood sugar testing, cholesterol testing through VNA nurse.

Holbrook

"It's the little town that could!"

- Town sports leagues;
- Playgrounds—with kids playing basketball;
- Big community track;
- Recreation commission with four-hour day camp for kids during the summer;
- Council on Aging van;
- MBTA provides public transportation;
- Board of Health flu clinics;
- Rabies clinics for animals;
- Community support—large attendance at a fundraiser for local child diagnosed with leukemia;
- Rotary pancake breakfasts;
- Dinners for older adults in the housing authority complex twice per year, community is invited;
- High school has a Halloween party that community is invited to—not just kids attending the public high school.

Track, Bridgewater-Raynham High School

Stoughton

"It [is] really a nice little town!"

- Working on beautifying a birdwatching area;
- Council on Aging/Youth Commission (Tea parties for seniors on importance of socialization, community garden);
- Recreation department;
- Local churches offering services such as leaf-raking for elderly;
- Stoughton public library;
- YMCA (events such as Family Fun Day, also nice facility for exercise);
- Support groups at the Sinai, local rehab hospital;
- Town still has 4th of July events, even in the midst of budget problems everywhere;
- Veterans' program at Town Hall;
- Collaborations among different town departments such as police and fire;
- Private clubs such as Sons of Italy and AmVets;
- Medical Reserve Corps in collaboration with Holbrook, Randolph, and Avon;
- Portuguese speakers present in the medical community;
- Support groups for caregivers of older adults;
- OASIS—Organizing Against Substances in Stoughton;
- Well-maintained sidewalks;
- Playgrounds;
- Recreation department;
- Work with families who cannot afford sports;
- Wellness committee in schools;
- Students Against Destructive Decisions (SADD) at the high school;
- Portuguese festivals;
- Clean up Stoughton day;
- Prescription return day;
- Stoughton VNA;
- Collaboration among police, DA's office, and youth commission;
- Interpreters for English-language-learners and ELL programs.

West Bridgewater

"It's kind of this lovely little secret nestled between Brockton and route 24, we have access to all of these urban type[s] of situations, but we really are proud of our farms and our open space."

- War Memorial Park;
- Friendship Park;
- Agricultural commission (local farms);
- Rail trail connecting both ends of town;
- Park Day;
- Concert series in summer;
- School sports and intramural sports;
- Fundraising dances from PTO;
- Softball shootouts and golf for memorial scholarships;
- Council on Aging;
- Local dentists and orthodontists giving free exams and limited free care;
- Lowe's;
- School cafeterias making healthy food;
- Trucchi's;
- Setup of town includes resources in walking distance of each other such as the schools, senior center, and parks;
- Blood pressure clinics a few times per month at Town Hall, also provides certain shots on request;
- H1N1 clinics and annual flu clinics at the Council on Aging.

Whitman

"I think it's a fairly people-friendly town. We have sidewalks, we have a small downtown community, we have a park, we have two supermarkets, so we have a lot here in Whitman for a small town."

- Parks;
- Supermarkets;
- VFW hands out Thanksgiving baskets;
- St Vincent de Paul society—utilities assistance;
- Town sports for kids and recreation department;
- Active senior center;
- Public health clinic once per week offering blood pressure screenings;
- Walkable town;
- Containers where people may dispose of needles safely;
- Playgrounds;
- Town health and wellness fair;
- Child safety day;
- Active senior center with exercise classes.

What local organizations could do to help community members maintain healthy lifestyles:

- Health promotion in town other than flu clinics;
- Funding for such projects as:
    - Exercise programs at work
    - Making public areas such as parks accessible for exercise
    - Developing walking trails
    - Increasing the amount of healthy cafeteria food available in schools
    - Implementing prevention education programs in the community and holistic health programs in schools
    - BMI collection in schools to send home to parents
- Hold exercise classes as fundraisers, not just bake sales;
- Develop a resource manual listing all programs and services in the area;
- *"The community needs to be better at PR"*—distribute literature explaining what each town department does;
- More mental health outreach and outreach to seniors;
- Maintain or increase budgets for community services such as schools and Boards of Health;
- Scholarships for children to participate in town sports;
    - *"I know there are some families who probably don't do it because of the money. They don't charge a real lot, but if you have three kids and if it's $75 bucks per kid, $100 bucks per kid…that's a lot of money"*
- Prescription drop-off days;
- Utilize school nurses as resources for health planning activities;
- State government can move funding away from top levels of government and more to local level;
- Additional activities for kids during school vacations;
- Promote healthy eating and exercise and make healthier choices more readily available in schools (for example, in school vending machines);
- Provide assistance with transportation in towns where public transportation is difficult to access;
- Hospitals performing community outreach.
    - *"…outreach into the community is the way you have to go to educate or to provide whatever the service might be."*


Sheep pasture, Easton


Bridgewater Town Hall

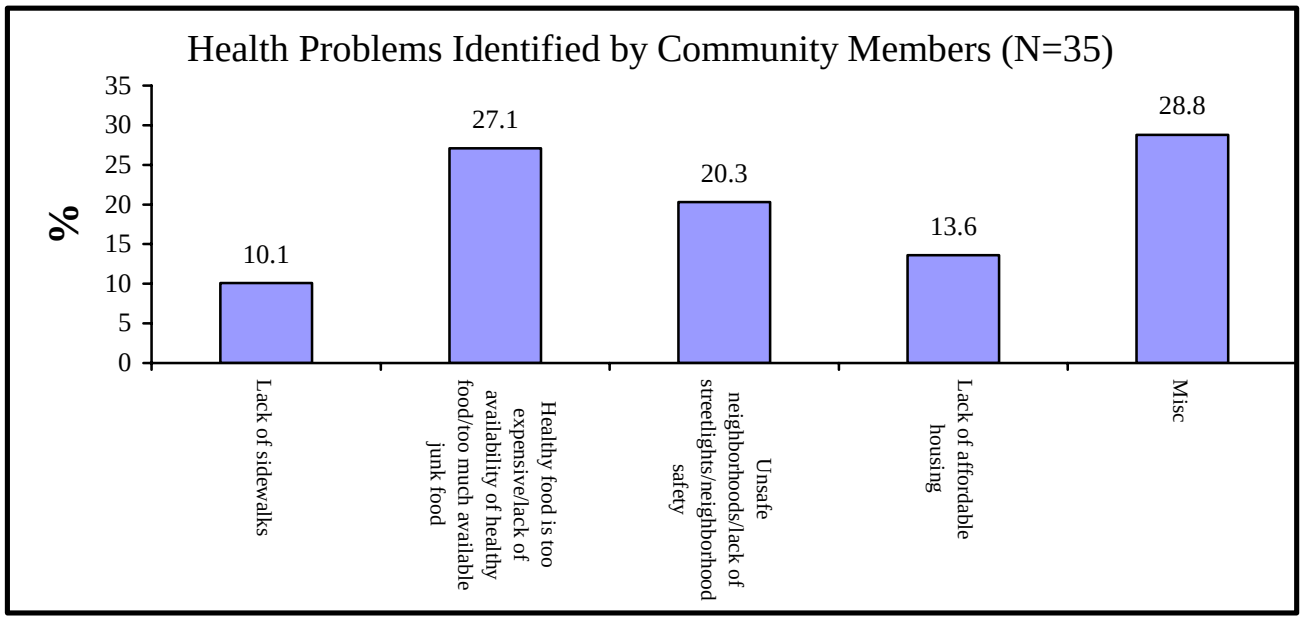
At the end of the interview, key informants were asked if they could identify one health problem or cause of a health problem in their communities that they did not feel was adequately addressed by existing services. Below is a list of individual responses to this question.

Health problems not addressed adequately by existing services:

- Physical health of 20-to-50-year olds;
    - *"I think the physical health of 20-to-50-year olds [is not addressed.] That population is just kind of on their own. I would like to see more nutrition and physical health attention put on that population through the resources in town. So that's definitely a need."*
- Persistent, follow-up mental health care for adolescent psychological problems;
- Hunger;
    - *"I think some people are hungry and they won't admit it. Or that they need food and they need help but they won't admit it. So people go hungry."*
- More resources for people in need (food, insurance, paying bills);
- Stress experienced by caregivers of elderly;
- Need additional activities to promote overall wellness—for example, losing weight, encouraging walking through clubs and well-marked walking paths, lower blood pressure, also educate in the schools;
- Obesity;
- Hepatitis;
- More services for older adults that would allow them to stay in their homes longer, such as cleaning services, nursing services—many times, older adults are still living in their homes alone past the point where they're able to care for themselves adequately;
- Teenage pregnancy—a key informant suggested having sexual education available earlier in school than for high-school-age kids;
- Resources for management of chronic illnesses such as diabetes, cardiovascular disease, and pulmonary/respiratory conditions so that people do not advance in their diseases and become hospitalized.

Results from Anonymous Question Boxes

To attempt to gain more information from community residents, CHNA assessment subcommittee members placed anonymous question boxes in various places in CHNA communities. Below are the results received from the question boxes. To see the survey instrument used for this part of the assessment, please see Appendix D.



Examples of comments classified as "miscellaneous:"

- "Fitness centers expensive";
- "Lack of public transportation";
- "More programs for teenagers";
- "People would rather drink than exercise".

Community assets listed by residents:

- "Looking out for neighbors/compassion";
- "We recycle";
- Food pantries;
- The YMCA;
- Walgreens—"does a great job of informing and delivering many vaccines";
- "Maybe fruit and exercise";
- "I'm not sure about the answer because I don't know about programs that help people to stay healthy";
- "Yes we have a community center";
- "Public transportation";
- "They do health fairs but they don't make them really known".

Programs and Services Available in the CHNA Catchment Area

The following is a list of area health programming, grouped by broad health topic, administered by various agencies in the CHNA catchment area. This list was compiled with the assistance of the Plymouth County Resource Manual published by the Plymouth County District Attorney's Office in October 2009 and the Health Imperatives Service Coordination Collaborative's Resource Guide from 2008.

General Health Services and Health Screening:
Brockton Neighborhood Health Center
Signature Healthcare Brockton Hospital
Signature Healthcare Brockton Hospital's Women's Health Network program/Men's Health Partnership Care Coordination Program
Caritas Good Samaritan Hospital
Massachusetts Community Health Services
Brockton Family Planning

Insurance Services:
MassHealth
MassHealth Family Assistance
BMC Health Net
Network Health
Neighborhood Health Plan

Elder Services:
1-800-AGE-INFO hotline for information about elder services in MA
24 hour Elder Abuse Hotline
Eldercare Locator to find elderly services in your area
MassachusettsLongTermCare.org (to find long-term care facilities around MA)
Councils on Aging in each town
Ann L. Ward Congregate Home—a program of BAMSI
Dom Davies Senior Center—a program of BAMSI
Home/Health and Child Care Services
L.I.F.E. Center
Old Colony Elderly Services
Stoughton Council on Aging

Housing and Homelessness Services:
Father Bill's/Mainspring
Housing Authorities in each town
Self-Help, Inc.
The Ruth House Teen Living
BAMSI Housing Assistance Program
Family-to-Family Project (Somerville)

HIV/AIDS Services:
Brockton Area Multi-Services, Inc. (BAMSI)
Brockton Family Planning
Brockton Neighborhood Health Center
Catholic Charities
Latin American Health Institute
Health Imperatives HIV Integration Services
Project FACE—Faith in Action for Community Education

Mental Health Services:
National Organization of Parents of Murdered Children—southeast MA chapter
MADD (for people affected by drinking and driving)
Vinfen
Department of Mental Health
South Bay Mental Health
Surviving Homicide Aftermath Program of High Point Treatment Center

Disability Services:
Disabled Persons Protection Commission
Massachusetts Rehabilitation Commission
Department of Developmental Services
CommonHealth (insurance services for disabled)
L.I.F.E. Center
BAMSI'S Developmental Disabilities Services
Brockton Supported Employment
Dial-a-BAT
Growthways
The RIDE South (services Holbrook)
South Bay Mental Health's Early Intervention Program
Brockton Area ARC
The Tenancy Preservation Program at MainSpring Coalition for the Homeless

Substance Use Services:
Alcoholics Anonymous
Alanon Family Groups of Massachusetts
Brockton Addiction Treatment Center—a program of High Point
The Castle: Clean and Sober Teens Living Empowered, a program of High Point
High Point Treatment Center
MA Substance Abuse Helpline
South Bay Mental Health
Stairway to Recovery, a program of Latin American Health Institute
The Salvation Army Adult Rehab Center

Emergency Services
American Red Cross

Domestic Violence/Sexual Assault Crisis Services:
Victim Witness Program
SAFEPLAN (courts)
Office of the Attorney General: Victim Compensation
SANE program at Signature Healthcare Brockton Hospital
A New Day (formerly Womansplace)
Brockton Family and Community Resources

Maternal and Child Services
Department of Children and Families, Brockton office
Healthy Start
Conway Children's Advocacy Center
Home/Health and Child Care Services
Self-Help, Inc (Head Start, Community Partnerships for Children, Meld Program)
My Turn, Inc.
South Bay Mental Health Early Intervention
Brockton Family and Community Resources
Greater Brockton Healthy Families Program
Violence Intervention Project at Brockton Family and Community Resources
The Children's Counseling Program at A New Day (formerly Womansplace)
Schools on Wheels

Nutrition Resources
Department of Transitional Assistance—SNAP program
Project Bread
Meals on Wheels
WIC

Food Pantries
Bridgewater Town Food Pantry
Brockton Family and Community Resources
Brockton Seventh Day Adventist Church
Catholic Charities
Charity Guild
East Bridgewater Town Food Pantries
Four Square Gospel Church
Main Spring
Mt. Moriah Baptist Church
My Brother's Keeper
Salvation Army
St. Bridget's Church

St. Martin De Porres Catholic Church
St. Paul's Episcopal Church
St. Vincent de Paul Society Food Pantry
Strictly Sober
Torn Veil Church of God in Christ
Trinity Baptist Church
West Bridgewater Food Pantry

Multi-Service Agencies:
Cape Verdean Association of Brockton, Inc.
Latin American Health Institute
Department of Transitional Assistance
Brockton Area Multi-Services (BAMSI)
Brockton Family and Community Resources
Catholic Charities South
Self-Help, Inc.
United Way of Greater Plymouth County
Center for Haitian American Civil Rights
South Shore Haitians United for Progress
Community Connections of Brockton
Stoughton Youth Commission/Council on Aging

Employment:
Brockton Area Private Industry Council, Inc.
CareerWorks
My Turn, Inc.
YouthBuild Coalition of Massachusetts
YouthWorks Job Program
Catholic Charities Certified Nursing Assistant Home Healh Aide Training Program
Lincoln Technical Institute—provides education with placement assistance for entry into Allied Health, Massage, and Computer Networking careers
Attire for Hire
Self-Help, Inc.

Financial Assistance (Medical or Household Expenses):
Bay State Gas, Southeastern Massachusetts
Citizens Energy Oil Heat Program
Catholic Charities South
Good Neighbor Energy Fund—a program of Salvation Army
Keyspan Energy Assistance
Massachusetts Electric/National Grid
Self-Help, Inc.
Catastrophic Illness in Children Relief Fund (Boston, medical)
EverCare (medical, surgery insurance)

Appendix A: Data Sources Used in This Report

The Massachusetts Department of Public Health offers consumers an opportunity for access to its data through the online Massachusetts Community Information Profile (MassCHIP) system. This system provides either "Instant Topics," which are pre-analyzed reports on a variety of topics available from the MassCHIP website, or "Custom Reports", which are user-generated data queries. The Custom Reports option was used in this assessment to generate the most up-to-date data for the CHNA.

Below are descriptions of each data set used to generate the data available in this report. The descriptions of the data sets can also be found on the MassCHIP website, www.masschip.state.ma.us.

***Mortality Dataset**: Deaths by cause*

***Births Dataset**: Birth data such as number of births, prenatal care, maternal age and education, and congenital anomalies*

***Substance Use Dataset:** Inpatient treatment admissions and admissions due to injection drug use by primary substance categories.* [Note: "year" as used in this dataset refers to fiscal year]

***Cancer Incidence:** New cases of 28 different types of cancers*

***Hospital discharges:** Hospital discharges by disease*

***Emergency visits:** Hospital emergency department visits by disease*

***Behavioral Risk Factor Surveillance System:** Health behaviors and risk factors related to areas such as AIDS, alcohol, nutrition, cancer, smoking, and weight.* [A statewide, landline-only telephone survey of adults age 18 and older that takes place every calendar year and asks questions relating to health behaviors, chronic diseases, and risk factors.]

Demographics were obtained from the **U.S. Census Bureau.** (http://factfinder.census.gov.) The most recent nationwide census was conducted in 2000, but the bureau generates new population estimates every year. The total population estimates for each town in the CHNA are from 2009.

The "Environmental Justice Populations" map was generated using the MetroBoston DataCommon, a project of the Metropolitan Area Planning Council and the Boston Foundation. More information about this unique data source may be found at http://www.metrobostondatacommon.org/html/about.htm.

Appendix B: Common Statistical Definitions

The Asthma Prevention and Control Program at the Massachusetts Department of Public Health provides excellent, accessible explanations of commonly-used statistical terms.

95% confidence interval: *"Confidence intervals help determine whether a difference between two groups is statistically significant. Since all data provided in* [this report] *are estimates, there is some margin of error associated with these estimates; confidence intervals give a measure of how large that margin of error is. A* [95% confidence interval] *means that the true value of the measure falls within the range given by the confidence interval 95% of the time. The difference between two groups is statistically significant if the 95% confidence intervals surrounding these two estimates do not overlap.*

For example, if the [percentage of people with] *asthma in town A is 8.3% (95% CI: 7.4-9.2%) and the* [percentage of people with] *asthma in town B is 9.8% (95% CI: 9.5-10.1%), the difference in asthma between towns A and B is statistically significant because the two confidence intervals do not overlap. However, if town C has a* [percentage of people with asthma that is] *9.8% (95% CI: 8.8-10.8%), the difference in asthma between towns A and C is not statistically significant because these two confidence intervals do overlap. This example shows that even if two towns have the same estimated* [percentages of people with] *asthma (both B and C have an estimated* [percentage] *of 9.8%), it is the confidence interval surrounding these estimates that determines a statistically significant difference with the estimated* [percentage of people with] *asthma in town A."*

Age-adjusted rate:*"A procedure for adjusting rates, designed to minimize the effects of differences in age distributions when comparing rates for different populations. Age-adjusted rates are usually expressed per 100,000 persons. For standardization within MassCHIP the standard population used is the 2000 US population."*[6]

Crude rate: Either the number of people experiencing an event per 100,000 population or the number of events (for example, treatment admissions) per 100,000 population.

Table B-1 on the next page gives formal definitions for statistical terms used in the report:

Table B-1: Definitions of Commonly Used Statistical Terms	
Term	**Definition**
95% Confidence interval	An estimated range of values that is likely to include an unknown population parameter. The true value of an estimate falls between the upper and lower limit of the interval 95% of the time. If the confidence intervals of the catchment area and the state did not overlap, then the difference was considered statistically significant.
Age-adjusted rate	A statistical method allowing comparisons of populations that takes into account age-distribution differences between populations. Age-adjusting takes the 2000 US population distribution and applies it to other time periods under consideration. This assures that such rates do not reflect any changes in the population age distribution.
Crude rate	The ratio of the number of people in which the event of interest happens in a specified time period to the size of the population who may experience this event during the same time period without adjusting for other factors such as age or sex.
All definitions are from the National Cancer Institute's Glossary of Statistical Terms, which can be found at http://seer.cancer.gov/cgi-bin/glossary/glossary.pl.	

Archival data should be interpreted with caution, as limitations exist for each data set used in the analysis. For example, one of the data sets used in this report contained treatment admissions for facilities funded by the Bureau of Substance Abuse Services. This dataset does not contain admissions to private facilities, and thus may not represent the true extent of substance use present in the area. In addition, towns have vastly different population sizes, and admission rates may fluctuate from year to year in towns with smaller populations. Where possible, three years of data were analyzed together to provide more stable estimates; however, the stability of these estimates may be substantially smaller than the stability of estimates for the state overall due to the smaller population of these areas. For more details about each data set, please see Appendix A.

Rates were calculated using the population estimates given by MassCHIP, and thus may overestimate or underestimate the true rate depending on the population changes in a town from year to year. For example, if the population of a town were actually larger than the MassCHIP estimate, then the rate would be overestimated in this report. If the population of a town were smaller than the MassCHIP estimate, then the rate would be underestimated in this report.

Archival data should also be interpreted with caution due to the fact that certain illnesses occur at small numbers at the local level, and therefore, large fluctuations in rates can occur with relatively small fluctuations in numbers of cases from year to year. For example, a town like Avon (estimated population 4,376) might have a greater fluctuation in crude treatment admission rates due to 100 additional admissions in a calendar year than Brockton (estimated population 93,527).This research should be used to indicate only where potential health problems may exist in these communities; further research is necessary to determine the extent of any potential health problems. The archival data analysis in this report contains no inferences about causality.

Appendix C: The Greater Brockton CHNA Community Health Assessment Subcommittee

In February 2010, the CHNA steering committee voted to form a subcommittee that would handle matters related to the assessment. Membership for this subcommittee was recruited from the general CHNA membership at its March meeting, and the first meeting of this subcommittee took place on March 30. The subcommittee met approximately once per month throughout the entire assessment process.

The completion of this assessment would not have been possible without the advice, guidance, and dedication of this subcommittee. Listed below are the members, mission statement, and vision statement of this subcommittee.

Greater Brockton CHNA Community Health Assessment Subcommittee Members

Linda Barros, Self-Help, Inc.
Bonnie Black, Lincoln Technical Institute
Ruth Blais, Salvation Army
Amy Bourkiche, Stoughton Youth Commission/Council on Aging
Nancy DeLuca, Signature Healthcare Brockton Hospital
Jean-Paul Despres, South Bay Mental Health
Mary Eager, Salvation Army
John Eastman, Self-Help, Inc.
Matt Elliott, Lincoln Technical Institute
Maria Evora-Rosa, Massachusetts Department of Public Health
Hilary Lovell, Signature Healthcare Brockton Hospital
Kerrin Miniutti, Lincoln Technical Institute
Robert Retalic, Lincoln Technical Institute
Robert Short, Caritas Good Samaritan Hospital
Teresa Tapper, Stoughton Youth Commission/Council on Aging
Brenda Viveiros, BMC Health Net Plan

Mission of the Greater Brockton CHNA Community Health Assessment Subcommittee:

The mission of the Greater Brockton CHNA Community Health Assessment Subcommittee is to gather information about the health and well-being of residents of the communities within the Greater Brockton CHNA and determine the areas of greatest need. We will then use this information to assist the CHNA in directing resources toward these priority areas.

Our primary goals are to:

- Collect, organize, and analyze data to share with the community;
- Engage community leaders, health and social service providers, and community members in discussions about how the environment of a community promotes or detracts from the health of its residents;
- Identify vulnerable populations within the community so the CHNA may assist them in obtaining resources to achieve an environment in which health and well-being are sustainable for all;
- Promote partnerships among community members, service providers, and community leaders to sustain a healthy environment for community residents.

Vision of the Greater Brockton CHNA Community Health Assessment Subcommittee:

The Greater Brockton CHNA Community Health Assessment Subcommittee envisions a future in which community members, service providers, and community agencies will mobilize using information about community health status and environment to work together toward a healthy, safe environment for all residents.

Appendix D: Questions for Assessment Discussion Sessions and Questions for Anonymous Question Boxes

I. Questions for discussion sessions

1. After viewing this video, which health problems can you identify in your neighborhood? What do you think causes these problems?
Prompts:
Asthma
Diabetes
Cancer
Substance use
Lack of exercise
Poor nutrition
Access to healthier foods
Obesity
Lead poisoning in children
High blood pressure
High cholesterol
Domestic violence
Street violence
Abandoned properties

2. What about the setup of your neighborhood or community makes it difficult for people to stay healthy?
Prompts:
No or poorly maintained sidewalks
Poor lighting in the streets
Violence in streets
No fresh fruit/vegetables easily available in food stores
Old/unsafe housing
Pests in housing

3. What about your neighborhood or community helps people to stay healthy?
Prompts:
Community activities such as organized sports
People in neighborhood watching out for each other
Public parks
Local clinics or doctors' offices
School sports or activities
Community activities such as festivals (togetherness)
Local mental health organizations
Gardens
Farmers markets
Streets with proper sidewalks and lighting

4. What kinds of resources in your community help people to stay healthy? (For example: community events, health organizations, hospitals, clinics, schools, other programs?) Do you know a lot of people who use these services? Why or why not? ***(combine 3 and 4 if time is short)***

5. What can local governments, local health organizations, or individuals in your community do to help community members to stay healthy?

6. If you could identify one health problem or cause of a health problem in your community that you don't think is addressed well enough by existing services, what would that be? What do you think could be done about this problem?

Additional prompt/question:
Would you, as a community member, like to be involved in the process of addressing health care needs? How would you like to be involved?

II. Questions for anonymous question boxes

1. What town do you live in?

2. What about the setup of your neighborhood or community makes it difficult for people to stay healthy? (For example: lack of sidewalks, lack of streetlights, lack of public transportation, healthy food is too expensive, housing is too expensive, unsafe neighborhoods)

3. What about your neighborhood or community helps people to stay healthy?

If you'd like to help with this project, please put your name and the best way to contact you here! Your answers will still remain confidential.

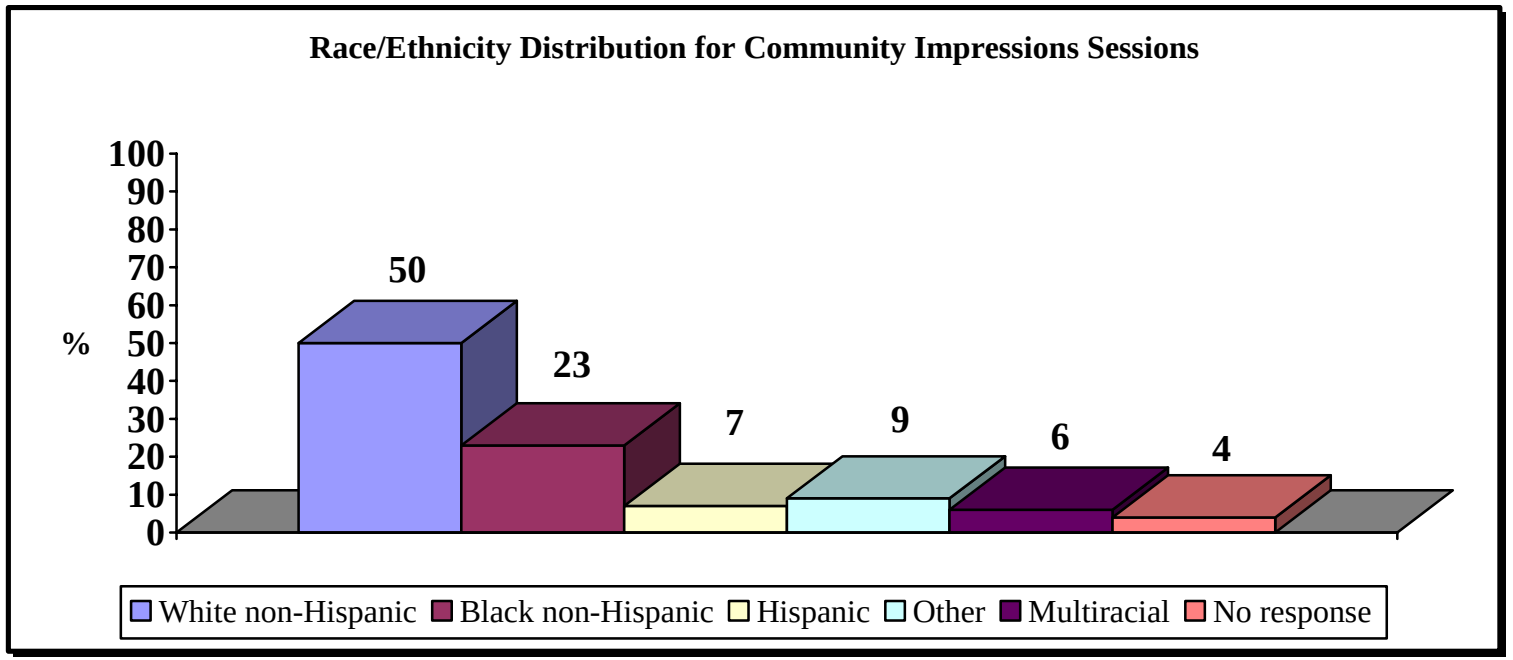
_____

Thank you! Please drop your question sheet in the box when you are finished.

Appendix E: Demographic Information from Community Impressions Sessions

Demographic Information from Community Impressions Sessions								
Host venue	Signature Healthcare Brockton Hospital	Lincoln Technical Institute (residents and evening students)	Cape Verdean Association (co-sponsored with Self-Help)**	Easton Children's Museum	Stoughton Council on Aging	Brockton Neighborhood Health Center	Lincoln Technical Institute (Day students; 3 sessions)	Brockton Parents' Academy
Date session held	July 14, 2010	July 22, 2010	August 11, 2010	August 16, 2010	August 16, 2010	August 18, 2010	August 20, 2010	September 23, 2010
Number of attendees	14	Approx. 50	10	5	6	20	#1: 26 #2: 21 #3: 20	11
Age range	25-66	21-54	29-57	33-58	65-83	25-65	#1: 18-63 #2: 19-52 #3: 19-40	24-72
Sex distribution	13 females, 1 male	At least 24 females, 2 males	8 females, 2 males	5 females	5 females, 1 male	18 females, 2 males	#1: 23 females, 2 males, 1 no answer #2: 19 females, 2 males #3: 18 females, 2 males	10 females, 1 male

**Session conducted in Cape Verdean Creole


Race/Ethnicity Distribution for Community Impressions Sessions
100
90
80
70
60
50
40
30
20
10
0
%
50
23
7
9
6
4
White non-Hispanic
Black non-Hispanic
Hispanic
Other
Multiracial
No response

Appendix F: Script Used for Key Informant Interviews

Thank you for taking time to talk to me today about your experiences working in (CHNA town). My name is Bonnie and I am the Community Health Analyst with the Southeast Center for Healthy Communities (SCHC), which is a program of Health Imperatives in Brockton. I am here today on behalf of the Greater Brockton Community Health Network Area (or CHNA for short.) We're a group of health and social service organizations working to improve the health of residents of the towns in this area. Right now, our group is involved in a process called a community health assessment, which means that we're trying to talk to groups of community members about health problems in their communities so we can find out what the most common problems are. When we collect this information from community residents and put it all together, it will help us to decide what the health priorities of the area should be. The CHNA will then be able to fund projects related to these priorities.

I want to emphasize that the discussion today will remain confidential. The results of this discussion, which will be reported thematically, will be used as part of the CHNA's health assessment process to determine how it can best address health care needs in the area. Your name will never be shared or linked with anything that you say. I want to remind you that I am audiotaping the discussion so I can remember the important ideas you have. The tape will give us the opportunity to review what you said at a later time when we prepare a summary report.

Please tell me your first name, where you work, and how long you have worked there. Do you also live in this town?

1. Which health problems can you identify in your town? What do you think causes these problems?

Prompts:

- Asthma
- Diabetes
- Cancer
- Substance use
- Lack of exercise
- Poor nutrition
- Access to healthier foods
- Obesity
- Lead poisoning in children
- High blood pressure
- High cholesterol
- Domestic violence
- Street violence
- Abandoned properties

As part of this assessment process, we're thinking about health as something more than just what we can get at a doctor's office. Health is also something that starts in our families, in our schools and workplaces, in our playgrounds and parks, and in the air we breathe and the water we drink.* We'd like to ask you about these aspects of your community and how they may affect health outcomes.

2. What about the setup of your neighborhood or community makes it difficult for people to stay healthy?
Prompts:

- No or poorly maintained sidewalks
- Poor lighting in the streets
- Violence in streets
- No fresh fruit/vegetables easily available in food stores
- Old/unsafe housing
- Pests in housing

3. What about your neighborhood or community helps people to stay healthy?
Prompts:

- Community activities such as organized sports
- People in neighborhoods watching out for each other
- Public parks
- Local clinics or doctors' offices
- School sports or activities
- Community activities such as festivals (togetherness)
- Local mental health organizations
- Gardens
- Farmers markets
- Streets with proper sidewalks and lighting

4. What kinds of resources in your community help people to stay healthy? (For example: community events, health organizations, hospitals, clinics, schools, other programs) Do you know a lot of people who use these services? Why or why not?

5. What can local governments, local health organizations, or individuals in your community do to help community members stay healthy? *(ask as follow-up to question 4 if short on time)*

6. If you could identify one health problem or cause of a health problem in your community that you don't think is addressed well enough by existing services, what would that be? What do you think could be done about this problem?

Appendix G: Community Profiles, Greater Brockton CHNA Cities and Towns

	Abington	Avon	Bridgewater	Brockton	East Bridgewater
Total Population (count)	**16,788**	**4,376**	**27,263**	**93,527**	**14,097**
Race/Ethnicity (percent)					
White non-Hispanic	97.5	90.9	88.5	56.4	96.9
Black non-Hispanic	1.1	5.5	6.4	31.1	1.4
Asian/Pacific Islander	0.6	1.3	1.5	3.3	0.6
American Indian	0.2	0.4	0.3	0.4	0.2
Hispanic	0.7	1.9	3.3	8.8	0.8
With a disability, age 5+ (%)	17.4	17.5	12.3	26.7	18.5
Education Level, population age 25 and older (percent)					
Less than 9th grade	1.7	3.1	3.9	7.7	2.2
9-12 grade, no diploma	8.5	6.3	9.3	16.4	9.1
High school grad/GED	35.9	35.2	29.0	35.7	37.2
Some college	20.9	24.4	18.7	18.9	20.6
Associate's degree	11.0	9.9	9.6	7.3	8.6
Bachelor's degree	16.0	14.6	20.6	9.5	16.3
Graduate/professional degree	6.0	6.6	9.0	4.4	6.0
Born outside U.S. (percent)	2.6	3.5	4.5	18.4	3.8
Below poverty level (percent)					
Persons under 200% of poverty level	12.7	20.3	11.9	33.4	14.5
Age 65+, living alone, and below 100% poverty level	15.4	9.8	19.3	22.9	15.2

Estimates from Massachusetts Dept of Public Health, 2005, U.S. Census Bureau, 2000, and U.S. Census Bureau population estimates, 2009.

	Easton	Holbrook	Stoughton	West Bridgewater	Whitman
Total Population (count)	**22,987**	**10,732**	**27,154**	**6,687**	**14,188**
Race/Ethnicity (percent)					
White non-Hispanic	93.1	88.8	86.2	96.2	97.3
Black non-Hispanic	2.9	5.8	8.7	1.5	1.0
Asian/Pacific Islander	2.0	2.1	3.0	0.9	0.6
American Indian	0.1	0.3	0.1	0.3	0.2
Hispanic	2.0	3.1	2.1	1.1	1.0
With a disability, age 5+ (%)	11.7	19.1	18.6	15.5	18.4
Education Level, population age 25 and older (percent)					
Less than 9th grade	1.9	2.6	4.7	3.1	1.1
9-12 grade, no diploma	4.2	9.6	9.0	8.8	8.7
High school grad/GED	25.3	39.5	32.0	34.8	37.4
Some college	19.4	20.1	17.6	23.5	21.4
Associate's degree	9.5	10.1	8.3	9.5	9.6
Bachelor's degree	25.5	12.2	18.9	14.8	16.4
Graduate/professional degree	14.1	6.1	9.4	5.4	5.3
Born outside U.S. (percent)	4.6	5.4	13.7	3.6	2.2
Below poverty level (percent)					
Persons under 200% of poverty level	7.8	17.2	13.8	12.8	16.9
Age 65+, living alone, and below 100% poverty level	20.8	24.4	14.9	20.5	20.3

Estimates from Massachusetts Dept of Public Health, 2005, U.S. Census Bureau, 2000, and U.S. Census Bureau population estimates, 2009.

Endnotes

[i] The Massachusetts Office of Geographic Information (MassGIS). "Datalayers from the 2000 U.S. Census—Enviromnental Justice Populations." Accessed October 27, 2010, from http://www.mass.gov/mgis/cen2000_ej.htm.

[ii] Kim DY Curtis G et al (2002). Relation between housing age, housing value, and childhood blood lead levels in Jefferson County, KY. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1447158/ on November 2, 2010.

[iii] The U.S. Census defines a disability as follows:
The data on disability status were derived from answers to long-form questionnaire items 16 and 17.
Item 16 was a two-part question that asked about the existence of the following long-lasting conditions:
(a) blindness, deafness, or a severe vision or hearing impairment, (sensory disability) and
(b) a condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying (physical disability). Item 16 was asked of a sample of the population five years old and over.
Item 17 was a four-part question that asked if the individual had a physical, mental, or emotional condition lasting 6 months or more that made it difficult to perform certain activities. The four activity categories were:
(a) learning, remembering, or concentrating (mental disability);
(b) dressing, bathing, or getting around inside the home (self-care disability);
(c) going outside the home alone to shop or visit a doctor's office (going outside the home disability); and
(d) working at a job or business (employment disability). Categories 17a and 17b were asked of a sample of the population five years old and over; 17c and 17d were asked of a sample of the population 16 years old and over.
For data products which use the items individually, the following terms are used: sensory disability for 16a, physical disability for 16b, mental disability for 17a, self-care disability for 17b, going outside the home disability for 17c, and employment disability for 17d.
For data products which use a disability status indicator, individuals were classified as having a disability if any of the following three conditions was true:
(1) they were five years old and over and had a response of "yes" to a sensory, physical, mental or self-care disability;
(2) they were 16 years old and over and had a response of "yes" to going outside the home disability; or
(3) they were 16 to 64 years old and had a response of "yes" to employment disability.

[iv] The state of Massachusetts definition of disability, which is used for BRFSS data, is as follows: "Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind."
McKenna M. Tinsley L et al, (2010). *A Profile of Health Among Massachusetts Adults, 2009.* Retrieved December 8, 2010, from
http://www.mass.gov/?pageID=eohhs2terminal&L=4&L0=Home&L1=Consumer&L2=Community+Health+and+Safety&L3=Behavioral+Risk+Factor+Surveillance&sid=Eeohhs2&b=terminalcontent&f=dph_behavioral_risk_c_statewide_rpt_present&csid=Eeohhs2

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Page 18: John Phelan, retrieved November 17, 2010, from http://en.wikipedia.org/wiki/File:A_field_on_the_Town_River,_West_Bridgewater_MA.jpg
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