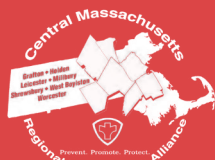
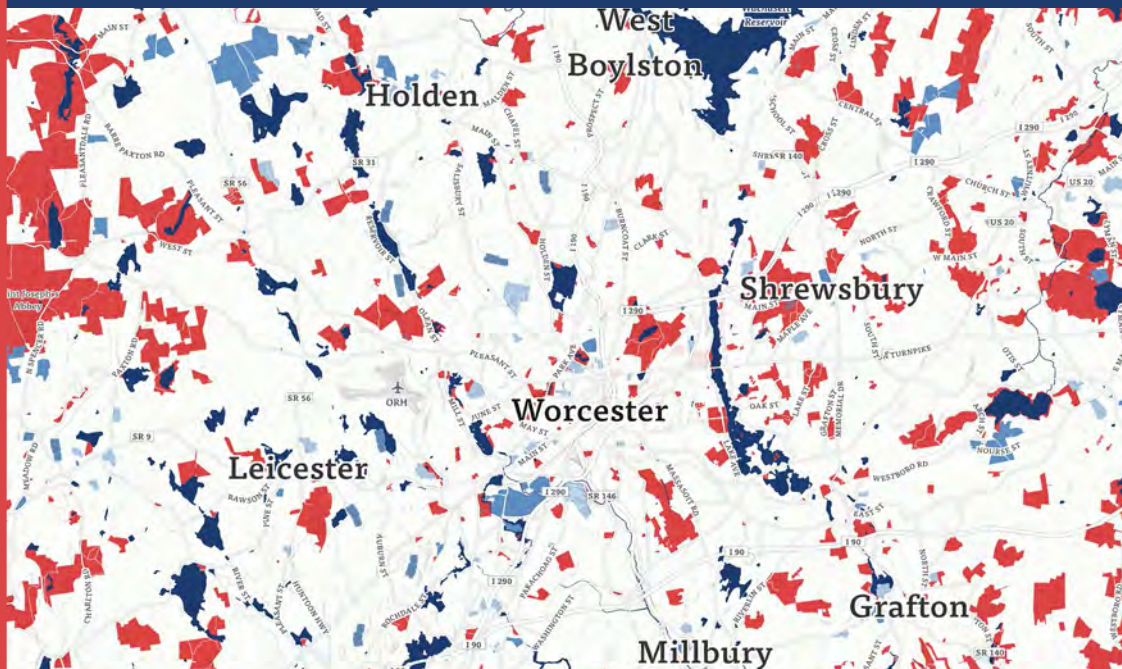


# GREATER WORCESTER

## Community Health Assessment

# 2015 CHA



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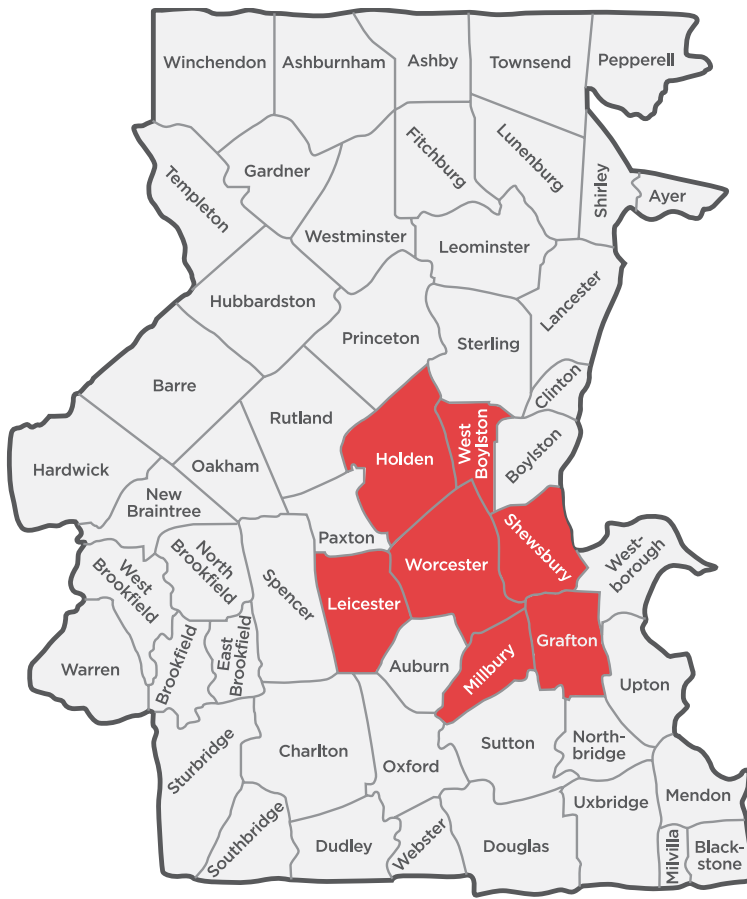


**UMassMemorial**  
**Medical Center**  
A Member of UMass Memorial Health Care



**fallonhealth**

Central MA Regional Public Health Alliance | October 2015



This CHA focuses on the towns of the Central Massachusetts Regional Public Health Alliance (CMRPHA), which includes Grafton, Holden, Leicester, Millbury, Shrewsbury, West Boylston and Worcester.

CMRPHA is a coalition of municipalities working cooperatively to create and sustain a viable, cost-effective, and labor-efficient regional public health district.

## 2015 Greater Worcester Community Health Assessment

### VISION:

Worcester will be the healthiest city  
and CMRPHA the healthiest region  
in New England by 2020.



This Community Health Assessment was conducted November 2014 through September 2015. It serves as a basis for future health improvement efforts carried out by the Central MA Regional Public Health Alliance, UMass Memorial Healthcare, and Fallon Health. It is also intended that this document serve as a resource for community organizations and individuals working to improve the health of the Worcester region. The data presented is as up-to-date as available at the time of publication. Future assessments including updates to this data will be made available annually.

For more information visit:  
[www.healthycentralma.com](http://www.healthycentralma.com)

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YWCA Young Women Leadership Program  
UMass Memorial Emergency Medical System  
Worcester Senior Center  
AIDS Project Worcester  
Central MA Funder's Council

### **Community Events**

Out-to-Lunch Concert Series  
Worcester 4th of July Celebration  
Main South Farmers Market  
Taste of Shrewsbury Street  
Beaver Brook Farmers Market  
YWCA Olympic Day  
Grafton Farmers Market  
Southeast Asian Festival  
New Life Worship Center Family Health & Safety Fair  
Plumley Village Health Care Cookout  
National Night Out  
Worcester Community Dialogues on Race  
Father's Fest  
Elm Park Food Truck Festival

Shrewsbury Farmers Market  
Bike to Work Day Commuter's Breakfast  
Greenwood Apartments Neighborhood Meeting  
Lafayette Apartments Neighborhood Meeting  
Lincoln Park Towers Neighborhood Meeting  
Curran Apartments Neighborhood Meeting  
Pleasant Towers Neighborhood Meeting  
Curtis Apartments Neighborhood Meeting  
Mill Pond Apartments Neighborhood Meeting  
Elm Park Towers Neighborhood Meeting  
1050/1060 Main Street Neighborhood Meeting  
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# 2015 Greater Worcester Community Health Assessment Executive Summary

Advancing the health of the population is not only vital to increasing residents' quality of life, but necessary to ensure the overall success of a community. Health is a product of multiple social factors including education, housing, employment, transportation, and environment. Understanding these factors and their influence on public health is critical to community health improvement.

The City of Worcester Division of Public Health (WDPH), as the lead agency of the Central Massachusetts Regional Public Health Alliance (CMRPHA), UMass Memorial Medical Center, and Fallon Health led a comprehensive Community Health Assessment (CHA) effort to improve the health of the Greater Worcester area. The CHA was conducted in partnership with two other agencies: the YWCA of Central Massachusetts, whose expertise in community engagement was leveraged for much of the qualitative data collection; and Central Massachusetts Regional Planning Commission (CMRPC), whose data management expertise was utilized for secondary data aggregation.

The 2015 Greater Worcester Community Health Assessment (CHA) aims to provide a comprehensive portrait of the region's health status as well as assets and needs as they relate to health.

The 2015 Greater Worcester Community Health Assessment was conducted to fulfill several overarching goals, specifically to:

- Identify the issues impacting the health of the community through a collaborative health planning process;
- Engage the community to identify shared priorities, goals, objectives, and strategies for moving forward in a cohesive and coordinated way;
- Meet best practices for the 21st century community health improvement through maintaining health department standards as set by the Public Health Accreditation Board (PHAB);

- Serve as a community health needs assessment and community benefit planning tool for UMass Memorial Medical Center and Fallon Health, fulfilling Schedule H/Form 990 IRS and Massachusetts Attorney General reporting guidelines, and;
- Provide the foundation for the 2016 Community Health Improvement Plan, a strategic plan for the Central MA Regional Public Health Alliance and Healthy Greater Worcester, CHNA-8.

This CHA focuses on the municipalities that comprise the CMRPHA, including the towns of Grafton, Holden, Leicester, Millbury, Shrewsbury, and West Boylston and the City of Worcester. Focusing the CHA on this geographic area facilitates aligning the hospital, health department, local agencies, and the Community Health Network Area (CHNA) in health improvement efforts.

## Methods

This CHA utilizes the Mobilizing for Action through Planning and Partnerships (MAPP) framework to guide the assessment process. This approach includes methods that are designed to maximize community engagement. The MAPP framework includes six phases: 1) Organizing for Success, 2) Visioning, 3) Four MAPP Assessments, 4) Identifying Strategic Issues, 5) Formulating Goals and Strategies, and 6) Action. This report focuses on Phases 1-4 of the process, which lays the groundwork for the implementation phase of developing and carrying out the Community Health Improvement Plan. Primary data collection included:

- 24 stakeholder interviews and 23 focus groups totaling 221 participants from CEOs to community organizations to youth groups from throughout the region.
- 1,250 respondents completed the CHA Public Survey conducted to assess the community's needs and strengths with regards to healthy living.

- 219 surveys from the ongoing Worcester Free Clinics Coalition survey process gathered information on health care access.
- “Sticky note” exercises conducted at multiple community events throughout the region gathered opinions about what makes a community health.
- 30 individuals participated in Lunch & Learn sessions to discuss current strengths, weaknesses, and opportunities for improvement of the local public health system.
- 33 members of the Advisory Committee completed a survey as a part of the Local Public Health System and Forces of Change Assessment.

Secondary data was used to describe the socio-demographic and health profiles of the CMRPHA. Data sources include the U.S. Bureau of the Census; Behavioral Risk Factor Surveillance System; Massachusetts Department of Public Health’s MassCHIP (Massachusetts Community Health Information Profile) system; mortality and birth records; Essential School Health Services reports from local school districts, and; other national, state, county, and town datasets. Many additional existing reports, including the Regional Youth Health Survey, augmented secondary data collection.

## Results

The CHA Public Survey results identified the CMRPHA’s top seven indicators of a healthy community. Ranked highest to lowest, they are as follows:

1. Low crime/safe neighborhoods
2. Good jobs and healthy economy
3. Opportunities for physical activity
4. Good schools
5. Access to health care
6. Clean environment
7. Access to healthy food

The CHA Advisory Committee identified nine priorities. Priorities were set in order to concentrate efforts, drive collective impact, and focus discussions in developing the 2016 Community Health Improvement Plan. These priorities are not ranked, but rather are presented in alphabetical order:

Access to Care  
Access to Healthy Food  
Cultural Competency  
Economic Opportunity  
Mental Health  
Physical Activity  
Racism and Discrimination  
Safety  
Substance Abuse

## Next Steps

Findings and priorities identified in the Greater Worcester Community Health Assessment will be published and presented to the community and will serve as the foundation of the 2016 Greater Worcester Community Health Improvement Plan (CHIP).

Through a community input and planning process, the CHIP will outline data-driven priority goals, identify evidence-based practice approaches, measurable objectives and strategies for each identified priority “Domain” area. The CHIP serves as the Greater Worcester Regional road map to the future health of the region and intended to be a living document that will be reassessed annually.

Working Groups for each CHIP Domain will be established including stakeholders and residents.

*Alignment for Collective Impact:* Community Benefits programs and initiatives at UMass Memorial Medical Center and Fallon Health focus on addressing health disparities and improving access to care for medically underserved and vulnerable groups of all ages. These programs are designed to respond to identified needs and address health disparities among ethnically diverse, disadvantaged and vulnerable populations identified through a Community Health Needs Assessment conducted every three years. By design, UMass Memorial Medical Center and Fallon Health Community Benefits Plans will closely align with the CHIP.

The CHIP will be utilized to encourage other key organizations, stakeholders, community groups and residents to engage in the overall health and well-being of the seven communities of CMRPHA.





## INTRODUCTION

Advancing the health of the population is not only vital to increasing residents' quality of life but necessary to ensuring the overall success of a community. Health is a product of multiple social factors including education, housing, employment, transportation, and environment. Understanding these factors and their influence on public health is critical to community health improvement.

To accomplish this, the City of Worcester Division of Public Health (WDPH), as the lead agency of the Central Massachusetts Regional Public Health Alliance (CMRPHA), UMass Memorial Medical Center, and Fallon Health led a comprehensive community health assessment effort to improve the health of the Greater Worcester area. The 2015 Greater Worcester Community Health Assessment (CHA) aims to provide a comprehensive portrait of the community's health status, as well as assets and needs as they relate to health.

This CHA focuses on the municipalities of the Central Massachusetts Regional Public Health Alliance (CMRPHA) including the municipalities of Grafton, Holden, Leicester, Millbury, Shrewsbury, and West Boylston and the City of Worcester. Focusing the CHA on this geographic area facilitates aligning the hospital, health department, local agencies, and Community Health Network Area (CHNA) in health improvement efforts.

The 2015 Greater Worcester Community Health Assessment was conducted to fulfill several overarching goals, specifically to:

- Identify the issues impacting the health of the community through a collaborative health planning process;
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- Serve as a community health needs assessment and community benefit planning tool for UMass Memorial Medical Center and Fallon Health, fulfilling Schedule H/Form 990 IRS and Massachusetts Attorney General reporting guidelines; and
- Provide the foundation for the 2016 Greater Worcester Community Health Improvement Plan, strategic plan for the Central MA Regional Public Health Alliance, and strategic plan for the Healthy Greater Worcester, CHNA-8.

This report discusses the findings from the CHA, which was conducted using a collaborative, participatory approach. These findings will inform prioritization for the 2016 Greater Worcester Community Health Improvement Plan (CHIP).

### ***Understanding the Social Determinants of Health and Health Equity***

#### **Social Determinants of Health**

According to the World Health Organization, “social determinants of health are the conditions under which people are born, grow, live, and age. These circumstances are shaped by the distribution of money, power, and resources at global, national, and local levels.”<sup>1</sup> A visual representation of the many determinants of health is shown in Figure 1.

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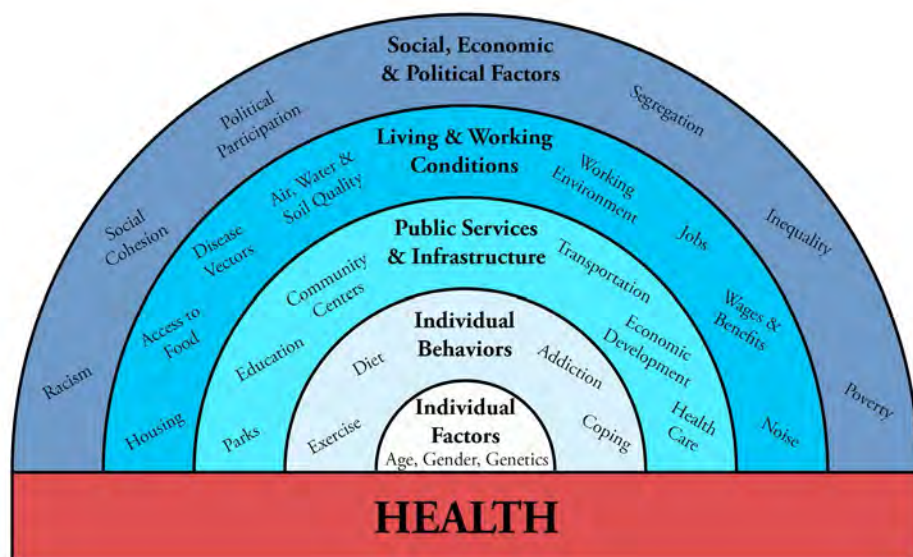
<sup>1</sup> [http://www.who.int/social\\_determinants/en/](http://www.who.int/social_determinants/en/)

## Health Equity

Centers for Disease Control & Prevention notes that “Health equity is achieved when every person has the opportunity to attain his or her full health potential and no one is disadvantaged from achieving this potential because of social position or other socially-determined circumstances. Health inequities are reflected in differences in length of life; quality of life; rates of disease, disability, and death; severity of disease; and access to treatment.”<sup>2</sup>

As is shown in the map in Figure 2, the social determinants of poverty, unemployment, and low educational achievement are found throughout the municipalities in the Alliance, with the most intense interaction of all three occurring in Worcester. The legend provides the number of block groups within the Alliance in each category. The health profile data presented in this report underscores the need to give attention to social equity factors. Rates of chronic diseases, maternal and child health indicators, and overall mortality vary consistently by race and ethnicity. Even in Massachusetts with near universal health insurance coverage, there are barriers to accessing care because of language, transportation, lack of out-of-pocket money for co-payments, and providers who do not accept Medicaid, among other reasons.

**Figure 1. Determinants of Health**



“A healthy community is one where everyone partakes in the economic and social prosperity with no barriers. It’s one where all children have the same opportunities to be healthy and whole.” — Community Member Input

The participants in the prioritizing sessions ranked violence, discrimination and cultural competency, and economic opportunity among the top 10 priorities for the 2016 Greater Worcester Community Health Improvement Plan to address. The public health survey respondents listed the following indicators of a “healthy community,” by order of importance:

1. Low crime/safe neighborhoods
2. Good jobs and healthy economy
3. Opportunities for physical activity (youth sports, walking trails, fitness centers, etc.)
4. Good schools
5. Access to health care (e.g., family doctor)
6. Clean environment
7. Access to healthy food

<sup>2</sup> <http://www.cdc.gov/chronicdisease/healthequity/index.htm>

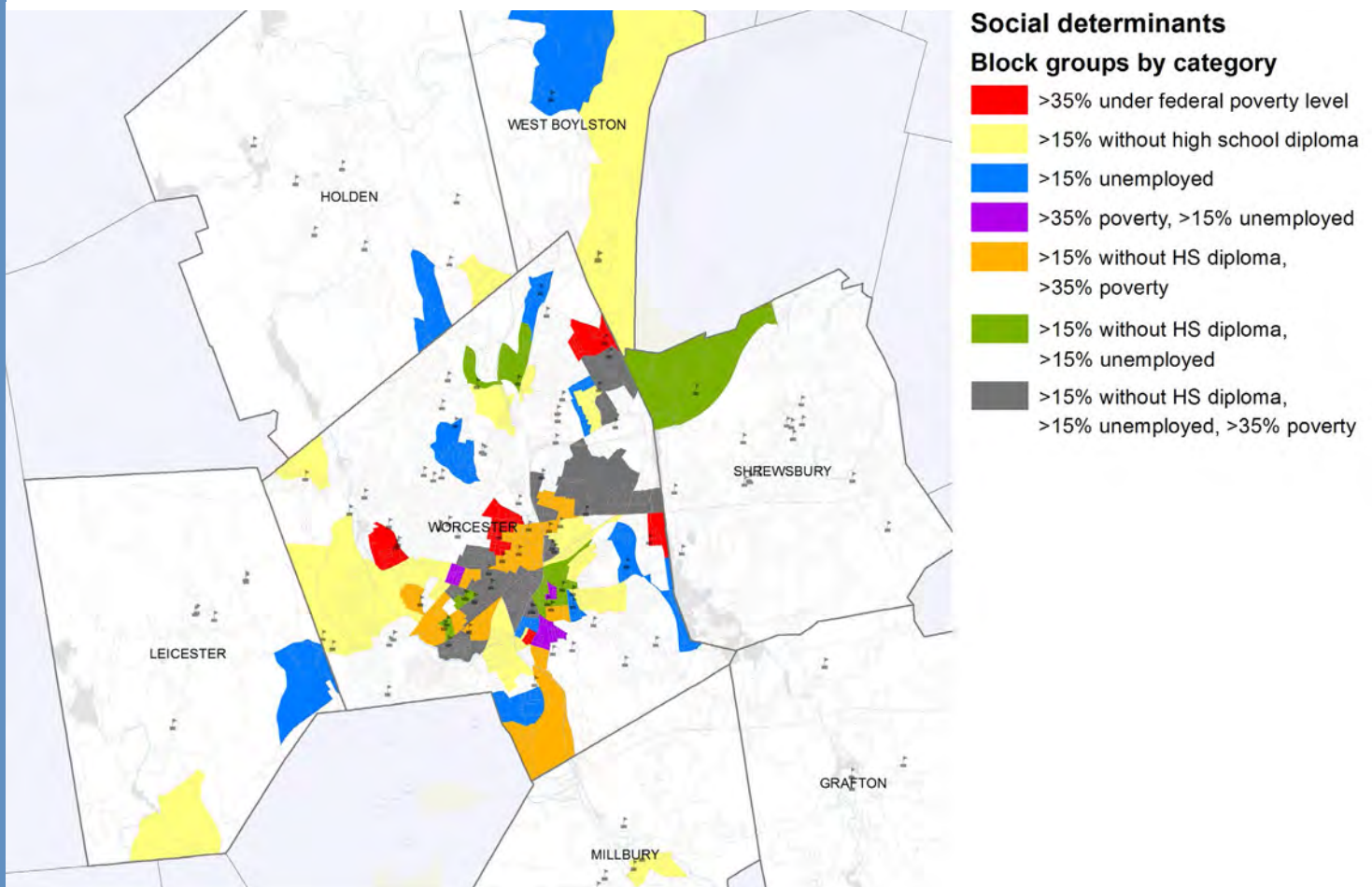
As one young person who participated in a high school focus group put it:

“They have to understand why prostitutes are prostituting, why homeless people are homeless. It’s like pulling weeds out of your garden, you don’t just rip out weeds at the top, you have to take them out at the root and solve those problems and then you will have a nice garden.” — Youth Focus Group Participant

The CMRPHA is committed to understanding these underlying structural issues and addressing them through strategic initiatives.

“I think poverty is a root cause often for health problems because without resources people are hamstrung to get what they need in order to be able to feel empowered to try to make positive change in their lives.” — Stakeholder Interview

**Figure 2. Key Social Determinants of the Central MA Regional Public Health Alliance**





## METHODS

### *MAPP Process*

The CHA facilitating partners chose to utilize the Mobilizing for Action through Planning and Partnerships (MAPP) framework to guide the assessment process. The framework was developed by the National Association of County and City Health Officials (NACCHO) with support from the Centers for Disease Control and Prevention (CDC) and represents a best practice model for health improvement planning. Facilitators used the following tools for guidance: MAPP Field Guide, MAPP User's Handbook, National Public Health Performance Standards Local Implementation Guide, and National Public Health Performance Standards Local Assessment Instrument.

The MAPP framework includes six phases: 1) Organizing for Success, 2) Visioning, 3) Four MAPP Assessments, 4) Identifying Strategic Issues, 5) Formulating Goals and Strategies, and 6) Action. The Assessment process includes phases 1-4 while the Improvement Planning process includes phases 4-6. **Figure 3** and **Figure 4** provide visual representations of this process.

**Figure 3. MAPP Process Visualization**



**Figure 4. MAPP Roadmap Visualization**



### **Phase 1: Organizing for Success and Partnership Development**

#### *Facilitating Partners and Contracted Partners*

A small group of facilitating partners—Worcester Division of Public Health / Central MA Regional Public Health Alliance, UMass Memorial Medical Center, and Fallon Health—coordinated the implementation of the CHA in partnership with two agencies:

1. YWCA of Central Massachusetts whose expertise in community engagement was leveraged for much of the qualitative data collection;
2. Central Massachusetts Regional Planning Commission (CMRPC) whose data management expertise was utilized for secondary data aggregation.

Facilitating partners met on a weekly basis for the duration of the CHA process, beginning discussions in September of 2014.

#### *Steering Committee*

A small Steering Committee consisting of the facilitating partners, contracted partners, and other agencies who complete Community Health Needs Assessments for federal and state requirements

met three times in the beginning of the process to determine the scope of the assessment and to leverage participation in the Advisory Committee.

### *Advisory Committee*

A larger cohort of 50-75 individuals made up an Advisory Committee for the CHA process, provided key input on data collection tools and methods, identified additional stakeholders to engage in the process, and scope of the assessment through bimonthly meetings and online participation.

## **Phase 2: Visioning**

The Steering Committee chose to recommit to the 2012 CHA/CHIP vision of being the healthiest city and region in New England by 2020. This vision is often communicated as: “The healthiest you, in the healthiest city, in the healthiest region,” emphasizing individual as well as community action in improving health.

## **Phase 3: Four MAPP Assessments**

### *1. Community Health Status Assessment*

The Community Health Status Assessment (CHSA) collects quantitative data on key health indicators such as disease prevalence and behavioral risk factors. The CHSA was completed by collecting and analyzing secondary data related to primary, secondary, and tertiary determinants of health. Primary determinants of health are social, physical and economic environment, secondary determinants are behaviors, and tertiary determinants are health conditions.

#### *Secondary Data Collection*

Community demographics including social, economic, and housing data was collected to describe the population of the region. Secondary data sources include the U.S. Bureau of the Census, County Health Rankings, town, state and national databases.

Health and healthcare data was obtained through the Behavioral Risk Factor Surveillance System (BRFSS), a telephone-interview based system of the CDC; hospitalization data was accessed through the Massachusetts Department of Public Health’s MassCHIP (Massachusetts Community Health Information Profile) system; mortality and birth records, and; Essential School Health Services reports from local school districts.

#### *Regional Youth Health Survey*

A regional youth health survey (RYHS) was conducted in the Greater Worcester Region in the 2013-2014 school year with the Diocese of Worcester, the Worcester Public School District, Leicester Public School District, the Millbury Public School District, the Grafton Public School District and the Shrewsbury Public School District. The RYHS was completed by 8,703 students. Many questions from this survey are standardized questions that were adopted from the National Youth Risk Behavior Surveillance System.

#### *Free Clinic Survey*

An ongoing survey by the Worcester Free Clinic Coalition was implemented in the spring of 2015 to collect information on the utilization of the Worcester’s free clinics and the populations that utilize them for health care. At the time of this report, 219 surveys had been completed.

#### *Existing Reports*

A scan of existing reports was completed to supplement the CHSA. The listing can be found in [Appendix A](#).

### *2. Community Themes and Strengths Assessment*

The Community Themes and Strengths Assessment (CTSA) is intended to seek input from the

community on the quality of life perceptions, priorities for action, and available assets that could be mobilized to improve health. Data for this assessment were collected through interviews, focus groups, and surveys.

#### Public Survey

A CHA Public Survey was conducted in 2015 in order to assess the community's needs and strengths with regards to healthy living. As part of this assessment, a survey was created and made open to community members of the Greater Worcester Region. A total of 1,250 respondents completed the survey at the time of this report.

The CHA Public Survey was developed jointly by the facilitating partners with input from the Advisory Committee. The survey was offered in five different languages: English, Spanish, Vietnamese, Arabic and Albanian. Electronic distribution methods for the survey included emails circulated by the Advisory Committee through large employers in the region, municipality websites, paid Facebook and Twitter advertisements, advertisements in online news sources, and through municipality mailing lists. Electronic surveys were completed using SurveyMonkey, a secure and anonymous survey portal. Physical surveys were distributed at dozens of community events, neighborhood crime watch meetings, and in senior centers and libraries throughout the region.

The survey includes 30 items, with questions ranging from perspectives on health environment, to health behaviors and health systems. Twelve of the 30 questions were demographic questions. A comparison of region demographics and survey respondents is included in [Appendix B](#), along with a copy of the English survey.

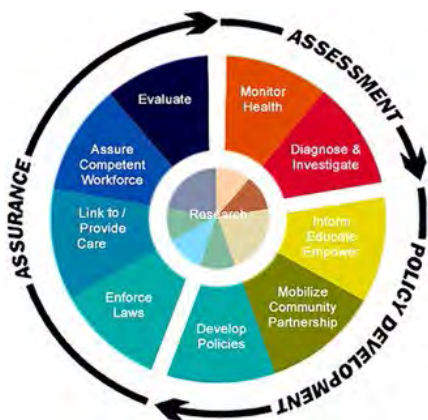
#### Stakeholder Interviews and Focus Groups

Twenty-four stakeholder interviews and 23 focus groups were completed throughout the region totaling 221 participants from CEOs to community organizations to youth groups (full list included as [Appendix C](#)), with a standard set of questions assessing strengths and needs to support a healthy community. Stakeholder interviews and focus groups were conducted between May 2015 and July 2015. The interview guide and the results of an analysis of this data showing most frequent strengths and needs reported by participants are included in [Appendix C](#).

#### Sticky Note Exercise

An exercise for simple participation in data collection was utilized at community events, markets, and festivals by posing two simple questions: “what makes it easy for you to be healthy in your community?” and “what barriers do you face in being healthy in your community?” Summary data from this collection method is included in [Appendix D](#).

**Figure 5. Ten Essential Public Health Services**



### 3. Local Public Health System Assessment

The Local Public Health Systems Assessment (LPHSA) is intended to assess the strengths and weaknesses of the local public health system and the capacity to respond to health needs. The local public health system is defined as the local network of agencies, organizations, and stakeholders that work to positively influence the health of the community. This definition includes organizations beyond the local health department such as clinical providers, schools, public safety, social service organizations, community organizations, faith groups, etc.



### Lunch & Learn Sessions

To assess the capacity of the local public health system in the greater Worcester region, two methods were utilized. A series of “Lunch & Learn” sessions were held in which Advisory Committee members were invited to discuss strengths, weaknesses, short- and long-term opportunities of the local public health system as it relates to each of the 10 Essential Public Health Services (Figure 5). These sessions were held over the course of 10 weeks, and saw over 30 different participants, with many individuals participating multiple times. At each session, consensus voting was used to score the local public health system against model standards established in the National Public Health Performance Standards Local Assessment Instrument, published by NACCHO and CDC.

### Advisory Committee Survey

Additionally, an electronic survey was developed and administered specifically for the Advisory Committee and key stakeholders who were not able to participate in stakeholder interviews or focus groups. Thirty-three individuals participated in the Advisory Committee survey. Questions that were part of this survey contributed to the LPHSA. This survey and a discussion of the results of this assessment are provided in [Appendix E](#).

## 4. Forces of Change Assessment

The Forces of Change Assessment (FoC) is intended to identify the broad trends, factors, and events that may influence local public health both positively and negatively. The FoC was completed in three ways: stakeholder interviews and focus groups, the Advisory Committee survey, and the public survey.

### Phase 4: Identifying Strategic Issues

#### Prioritization

The initial step in this phase is to prioritize areas for developing CHIP strategies. Twenty-four preliminary priorities were identified by analyzing quantitative and qualitative data. The Advisory Committee then rated each of the preliminary priorities on each of the three questions with the following scales:

- What is the magnitude of the health concern?
  - Affects all of the population
  - Affects most of the population
  - Affects some of the population
  - Affects very little of the population
  - Affects a few members of the population
- Given limited resources, how important is it to address the health concern?
  - It is critically important to address
  - It is very important to address
  - It is somewhat important to address
  - It is not very important to address
  - It would be nice to address, but isn't immediately important
- To what degree do we have the ability to effect the health concern?
  - If our community takes action, the concern will be solved
  - If our community takes action, health will improve significantly
  - If our community takes action, health will improve noticeably, but not significantly
  - If our community takes action, health will improve somewhat, but not noticeably
  - If our community takes action, health will not improve

Answers were given weights on a scale of 1-5 for the first and third questions, and a scale of 2-10 for the second question, using the Hanlon Method of prioritization. (J.J. Hanlon, Hanlon Method for Prioritizing Health Problems). Nine priority areas were identified through this process. These are discussed at length in the Priorities section of this report.

### ***Limitations***

With any broad-based comprehensive assessment, individuals and whole populations can be missed or under-represented. Though the facilitating partners made many efforts to reach as diverse a pool of participants in the CHA process as possible, some populations were under-represented in several ways.

The public survey, the most direct means for the public to participate in the CHA, appears to have fallen short in capturing responses from low-income residents, residents who did not speak English, and residents of color, despite the survey being distributed at dozens of community events and in five different languages. The survey was disproportionately completed by respondents identifying as female (76.3%) and respondents between the ages of 18 and 64 (91.6%). Additionally, certain municipalities were represented more than others—while somewhat mirroring geographic distribution of the population, resident participation remained skewed.

Because participation in the assessment was heavily driven by employers, participation by unemployed residents, residents with disabilities, and retired residents was proportionally low. Additionally, stakeholder interviews were mostly with representatives of large institutions rather than community-based and grassroots organizations. In each case of under-representation, efforts were made to hold focus groups to capture those voices—focus groups with youth, seniors, in languages other than English, and in the towns of the Alliance were completed.

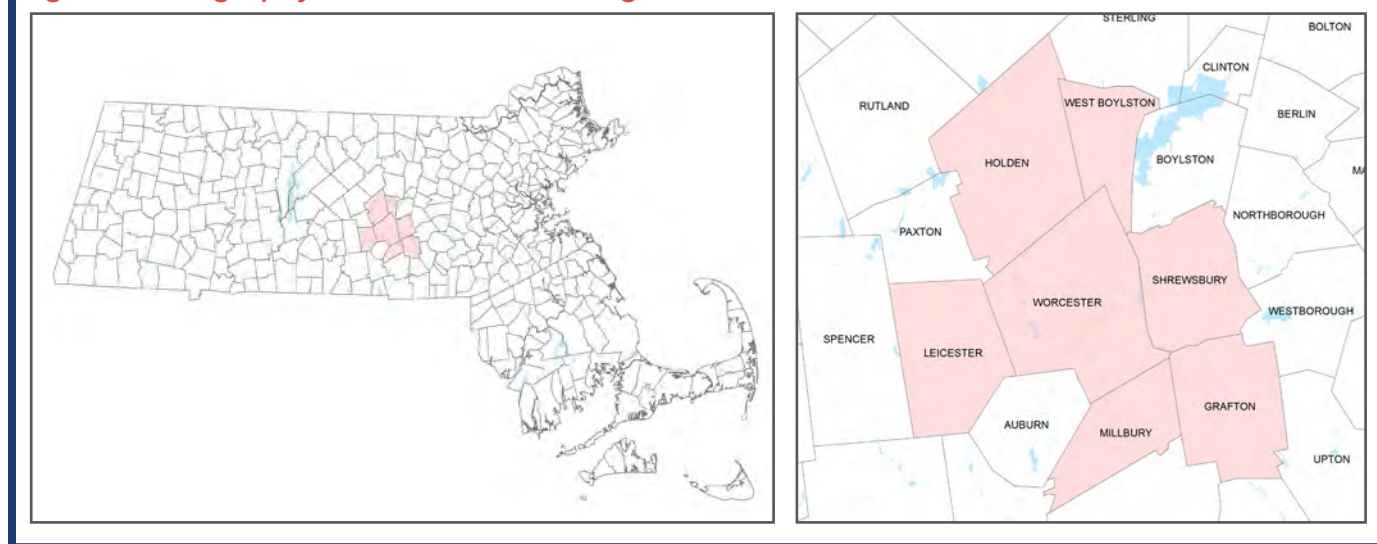
Supplemental reports focusing on specific populations such as seniors and populations outside Worcester are planned to be released in the months following the completion of the CHA.

## DEMOGRAPHIC PROFILE

### Socio-demographics

The Central Massachusetts Regional Public Health Alliance (CMRPHA; the Alliance) is comprised of the seven communities of Grafton, Holden, Leicester, Millbury, Shrewsbury, West Boylston, and Worcester (Figure 6).

**Figure 6. Geography of the Central MA Regional Public Health Alliance**



The CMRPHA municipalities have a total population of 283,664. According to Census data, these communities vary in size and resident composition. Worcester ranks as the most populated city in the Alliance with 181,045 residents, accounting for 64% of the population of the municipalities in the Alliance. In 2010, the second largest municipality within the Alliance was Shrewsbury (35,608 persons) and the third largest municipality was Grafton (17,765 persons) (Table 1). Of the Massachusetts population of 6,547,629 persons, 12% lives in Worcester County (798,552) while 36% of Worcester County residents live in CMRPHA (Table 2).

**Table 1. Population of CMRPHA Municipalities, 2010**

	Grafton	Holden	Leicester	Millbury	Shrewsbury	West Boylston	Worcester	Total
Population	17,765	17,346	10,970	13,261	35,608	7,669	181,045	283,664
% of CMRPHA population	6.3%	6.1%	3.9%	4.7%	12.6%	2.7%	63.8%	

Source: U.S. Census Bureau; Census 2010

**Table 2. Population of CMRPHA and Worcester County, 2010**

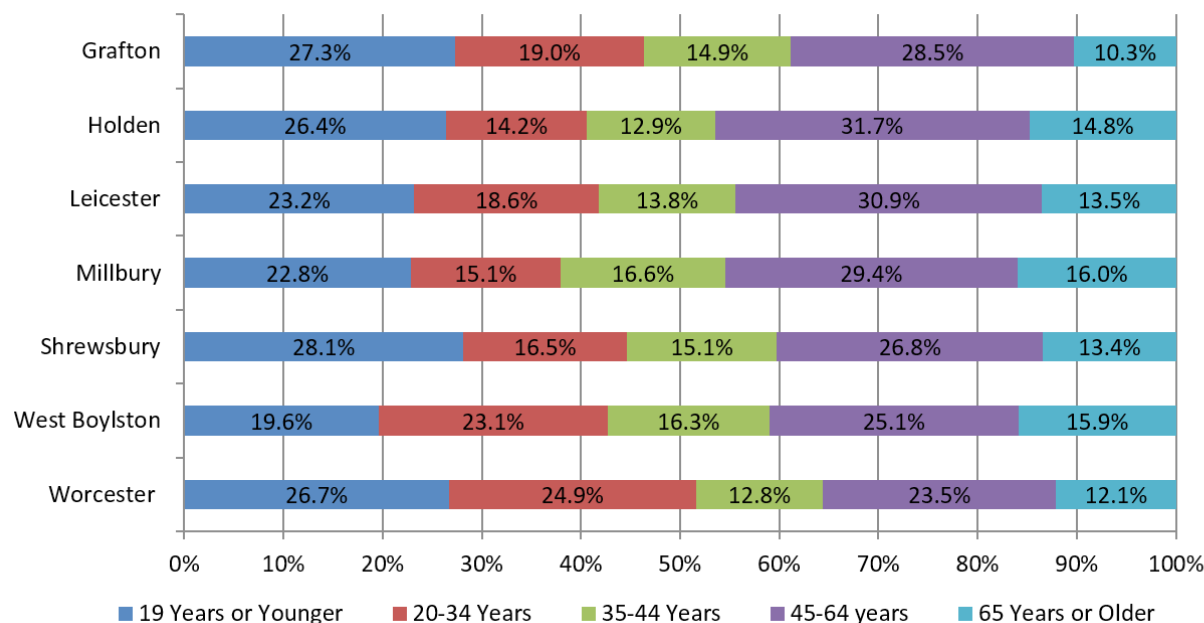
	CMRPHA	Worcester County	Massachusetts
Population	283,664	798,552	6,547,629
% of Massachusetts population	4.3%	12.2%	

Source: U.S. Census Bureau; Census 2010

## Age

Figure 7 indicates the percent of population by age for each municipality in 2013. Approximately a quarter (25.6%) of the population in the region is under the age of 19. Shrewsbury, Grafton and Worcester have the highest percent of residents in this age group (28.1%, 27.3%, 26.7% respectively) and West Boylston the least at 19.6%. The largest age group across the region are people ages 45-64 years of age (25.8%). Holden (31.7%) and Leicester (30.9%) have the greatest percent in this age group compared to Worcester (23.5%) and West Boylston (25.1%). Persons age 65 and older comprise 12.8% of the CMRPHA population. Roughly 16% of the residents of Millbury and West Boylston fall into this age group.

**Figure 7. Age Distribution by Municipality, 2013**



Source: U.S. Census Bureau; American Community Survey, 2011-2013

More than a third (35.8%) of the Alliance population is between the ages of 20 and 44. West Boylston has the largest percent of residents in this group (39.4%) followed by Worcester (37.7%) and Holden has the smallest percent (27.1%).

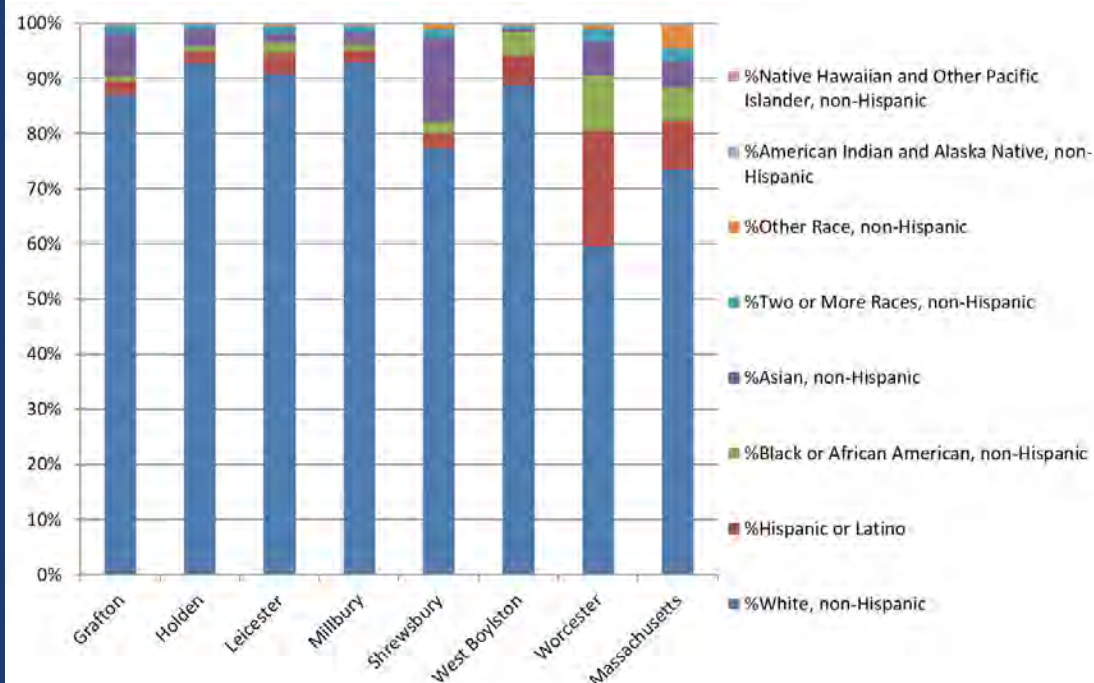
## Race and Ethnicity

Worcester has a smaller percent of the population that is White/Non-Hispanic (59.6%) compared to the other municipalities in the Alliance, which range from 77.3% in Shrewsbury to 92.8% in Millbury. Worcester also is home to the largest percent of Latinos/Hispanics (20.9%) and African American/Black populations (10.2%) among the CMRPHA municipalities. Shrewsbury has the largest percent of Asian population (15.3%) followed by Grafton with 7.7%. Latino residents are the second most populous group in Massachusetts and all CMRPHA municipalities, except for Shrewsbury and Grafton, ranging from 2.2% of the population in Millbury to 20.9% in Worcester (Figure 8).

## Primary Languages Spoken

English is the primary language spoken in all seven CMRPHA municipalities. The only municipalities where the English speaking population is a smaller percent than the state (78.1%) are Worcester (65.2%) and Shrewsbury (75.5%). These two municipalities differ in the second most common language with 16.8% in Worcester speaking Spanish and 11.5% in Shrewsbury speaking European languages. In Worcester and in Shrewsbury, 82.5% and 89.4% of residents speak English very well respectively, as compared to 91.1% of the state population (Table 3).

**Figure 8. Percent of Population By Race/Ethnicity, 2010**



Source: U.S. Census Bureau; Census 2010

“There are over 80 languages spoken in Worcester Public Schools, [due to the city’s] large refugee population. Getting health messages to all of these people is a serious challenge.”  
— Stakeholder Interview

The language diversity in the region is reflected in data from the Alliance school systems. The proportion of “First Language not English” students was the largest in Worcester Public Schools, which shows that almost half (44%) of the students did not speak English as a first language. This is compared to Shrewsbury, which had 21% of students whose first language is not English.<sup>3</sup>

**Table 3. Percent of CMRPHA Population Speaking Different Languages**

	Speak English Very Well	Speak only English	Speak Spanish	Speak other European Languages	Speak Asian Languages	Speak other Languages
Grafton	97.0%	84.9%	2.3%	7.9%	4.5%	0.3%
Holden	98.2%	90.8%	1.0%	5.2%	2.5%	0.6%
Leicester	95.2%	89.2%	4.7%	3.3%	1.8%	0.9%
Millbury	99.2%	92.7%	2.2%	3.6%	0.9%	0.6%
Shrewsbury	89.4%	75.4%	2.4%	11.5%	8.5%	2.1%
West Boylston	98.2%	92.9%	4.6%	2.2%	0.1%	0.2%
Worcester	82.5%	65.2%	16.8%	8.6%	4.9%	4.5%
Massachusetts	91.1%	78.1%	8.1%	8.9%	3.8%	1.2%

Source: U.S. Census Bureau; Census 2010

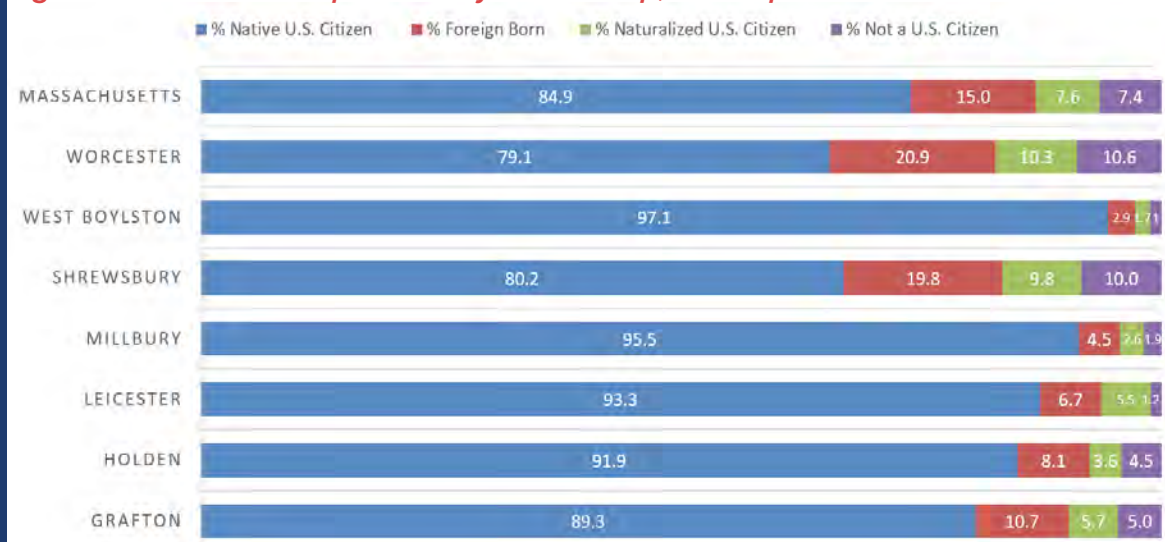
## Citizenship

Overall, the region’s population is predominantly comprised of U.S. Native-Born citizens, ranging from 79.1% in Worcester to 97.1% in West Boylston. Worcester and Shrewsbury are most alike in citizenship make-up with the highest percentages of foreign-born residents in the Alliance (20.9% and 19.8% respectively) and non-citizen residents (10.3% and 9.8% respectively). The two municipalities exceed the respective state rates in both categories (Figure 9).

<sup>3</sup> Massachusetts Department of Elementary and Secondary Education (DESE), Office of English Language Acquisition and Academic Achievement 2013-2014



**Figure 9. Percent of Population by Citizenship, Municipalities and State**

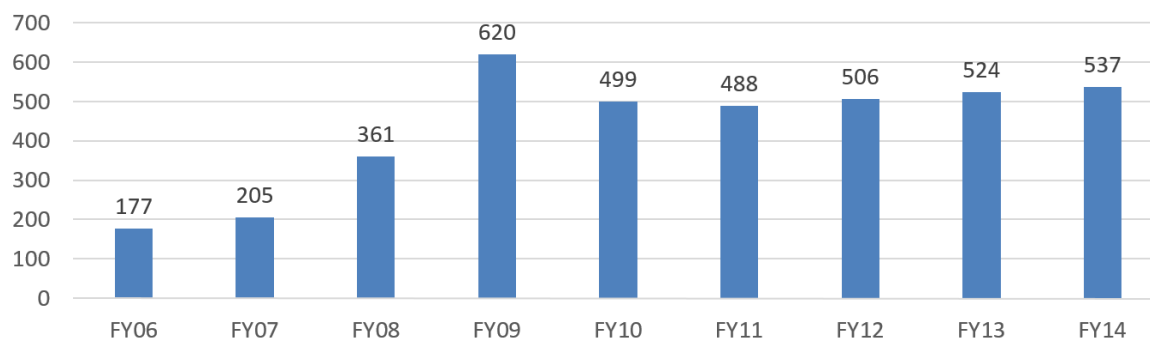


Source: U.S. Census Bureau; American Community Survey, 2011-2013

## Refugees and New Arrivals

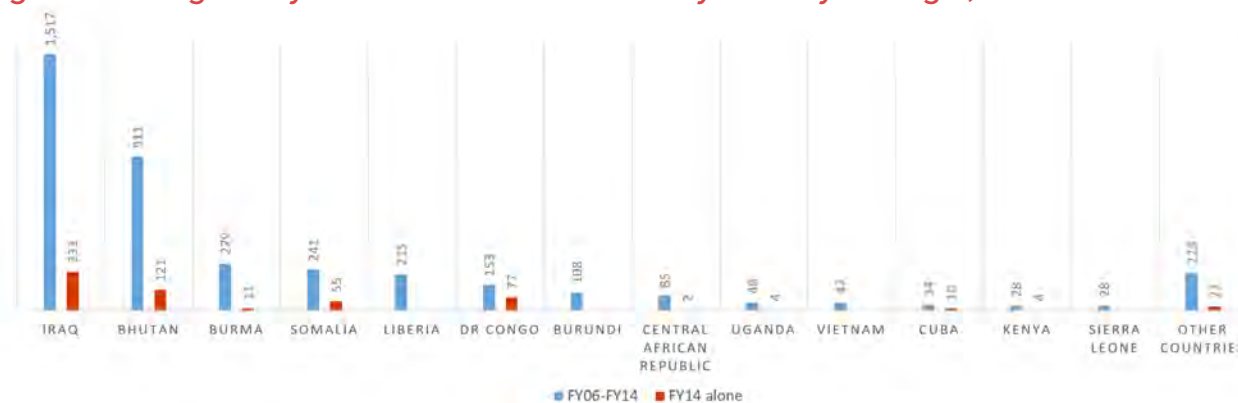
According to the Massachusetts Office for Refugees and Immigrants, new arrivals into the Central Massachusetts region grew from 177 persons in FY2006 to 537 in FY2014 (Figure 10).

**Figure 10. New Refugee/Asylee Arrivals in Central MA by Year, FY2006-FY2014**



Source: MA Office for Refugees and Immigrants (ORI)

**Figure 11. Refugee/Asylee Arrivals in Central MA by Country of Origin, FY2006-FY2014**



Source: MA Office for Refugees and Immigrants (ORI)

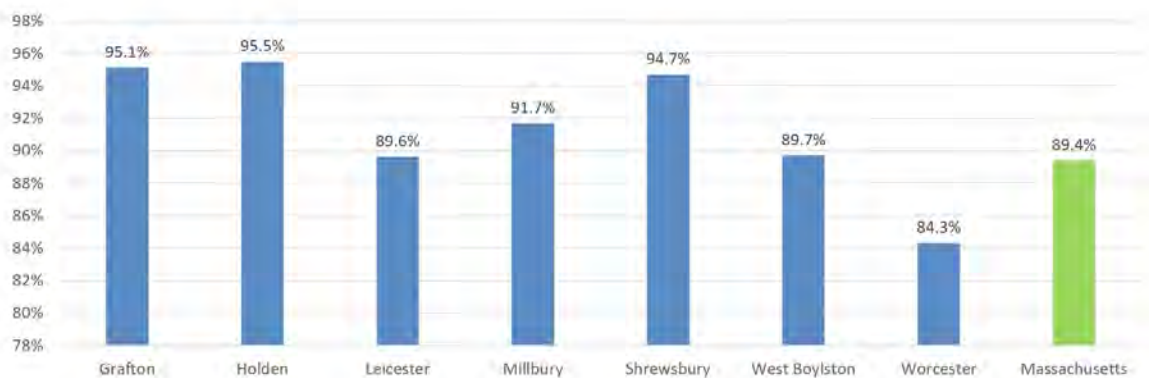


## Education

Residents of Holden, Grafton and Shrewsbury have the highest percent of population who have graduated high school (95.5%, 95.2%, and 94.7% respectively). Worcester has the lowest percent of high school graduates (84.3%). Worcester is the sole municipality in the Alliance with a rate lower than the state (89.4%) (Figure 12).

Table 4 shows the rates of educational attainment by race/ethnicity for the Alliance. White/Non-Hispanic populations have lower rates of not receiving a high school diploma compared to other race/ethnic groups in every municipality.

**Figure 12. CMRPHA Percent of High School Graduate or Higher by Municipality, 2009-2013**



Source: U.S. Census Bureau; American Community Survey, 2009-2013

**Table 4. Population With Less Than a High School Diploma By Race/Ethnicity, 2009-2013**

	% Non-Hispanic White population	% Black or African American population	% Hispanic or Latino population	% Asian population	% American Indian and Alaska Native population
Grafton	5.2	0	11.3	1.7*	0
Holden	4.6	3.6*	10.3	0.0	0
Leicester	8.9	0	29.7	25.9	0
Millbury	8.7	0	0	23.3	0
Shrewsbury	4.9	2.8*	17.7	5.5	28.0
W. Boylston	7.0	23.6	58.4	27.8	88.9
Worcester	10.6	13.3	34.8	28.2	43.2

Source: U.S. Census Bureau; American Community Survey, 2009-2013. Percentages with \* indicate population numbers are too small to be reliable.

## Income

Median household income exceeds the state average in every Alliance municipality except Worcester. The highest median income is found in Grafton (\$89,649); the lowest in Worcester (\$45,944) (Figure 13).

Income varies across race and ethnicity. For example, in Worcester White/Non-Hispanic households had the highest median income (\$52,762) compared to Black/African American households where the median income was \$45,910. Asian households had the second highest median income (\$50,087). Latino and American Indian households had the lowest incomes of \$24,357 and \$14,574 respectively.<sup>4</sup>

<sup>4</sup> U.S. Census Bureau; American Community Survey, 2009-2013

## Poverty

Figure 14 shows the percent of people living below the Federal Poverty Level in the CMRPHA municipalities ranging from a low of 2.7% in Holden to a high of 20.0% in Worcester. The Worcester rate of poverty is nearly twice that of the state (11.0%). The next highest rate of poverty in the Alliance is less than one-third of Worcester's rate (Grafton, 6.3%).

Figure 15 shows poverty by race/ethnicity. The rate of poverty for Latino households in Worcester and CMRPHA (42% and 40% respectively) is greater than double the rate for White households (14% and 20%). The rate of poverty for Black households is lower in CMRPHA (19%) and Worcester (20%) than for the state (22%)(Figure 15).

Figure 16 shows the percent of children living in poverty is lower in Worcester County than in the U.S.; however, it is trending upward in contrast to the declining national rate. Over the past decade, childhood poverty has been fairly similar in Worcester County compared to Massachusetts. While both are trending up, Worcester County is increasing at a greater rate.

The percent of children under age 18 living in poverty by municipality is shown in Table 5. Childhood poverty is highest in Worcester where nearly a third of children are living in poverty (31.4%). Millbury has the next highest percent (10.5%). Holden and Leicester have the lowest rates (2.1%, 2.6%, respectively).

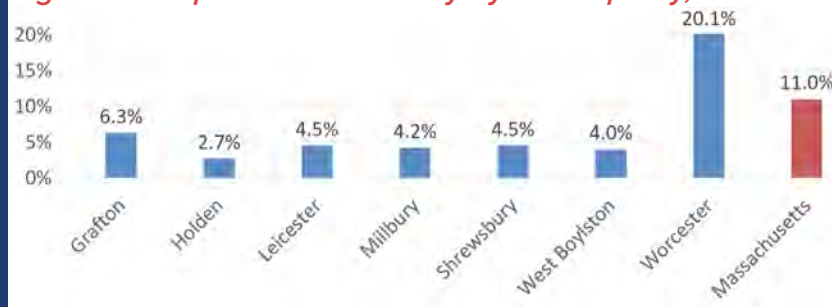
Worcester has the highest percent of seniors age 65 and older living in poverty (14.7%) followed by Grafton (10.0%). West Boylston has the lowest percent (1.6%) (Table 5).

**Figure 13. Median Household Income by Municipality, 2009-2013**



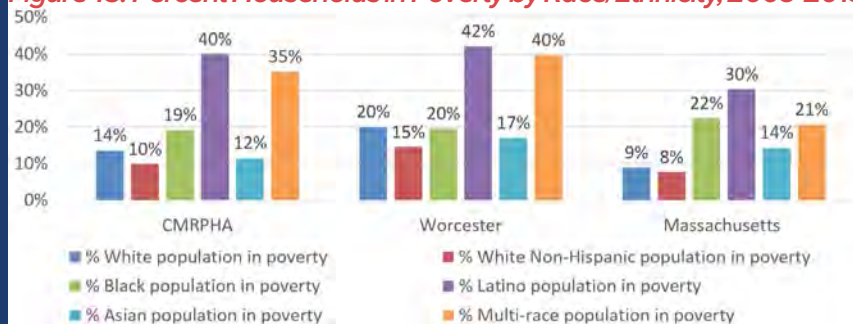
Source: U.S. Census Bureau; American Community Survey, 2009-2013

**Figure 14. Population in Poverty by Municipality, 2009-2013**



Source: U.S. Census Bureau; American Community Survey, 2009-2013

**Figure 15. Percent Households in Poverty by Race/Ethnicity, 2009-2013**



Source: U.S. Census Bureau; American Community Survey, 2009-2013

**Figure 16. Childhood Poverty (under 18) Worcester County, Massachusetts, and the U.S. 2002-2013**



Please see Measuring Progress/Rankings Measures for more information on trends

Source: Robert Wood Johnson Foundation, County Health Rankings, 2015

**Table 5. Percent of Children Under Age 18, Adults Over 65, in Poverty by Municipality**

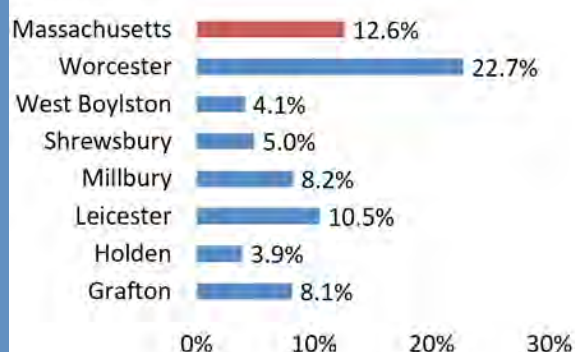
	Grafton	Holden	Leicester	Millbury	Shrewsbury	West Boylston	Worcester
% <18 in Poverty	7.5%	2.1%	2.6%	10.5%	5.4%	3.3%	31.4%
% 65+ in Poverty	10.0%	3.1%	6.0%	4.3%	7.9%	1.6%	14.7%

Source: US Census Bureau; American Community Survey, 2009-2013

## Public Assistance

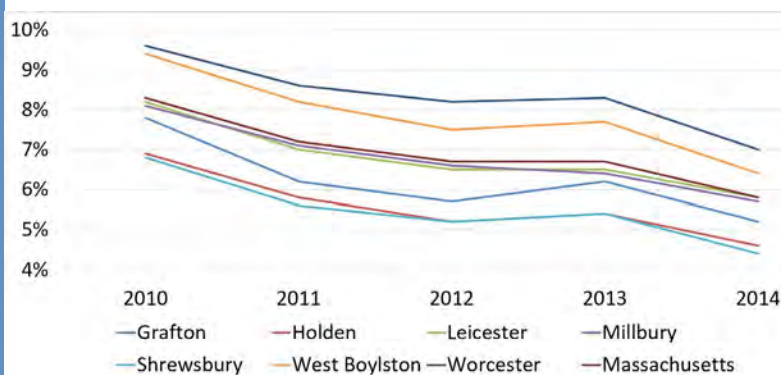
Nearly a quarter (22.7%) of the households in Worcester received public assistance<sup>5</sup> support as compared to 12.6% statewide. Worcester is the only municipality in the Alliance that exceeds the state. Leicester has the next highest rate at 10.5% followed by Millbury at 8.2%. Holden had the lowest percent of households receiving public assistance at 3.9% (Figure 17).

**Figure 17. Percent of Households Receiving Public Assistance, 2009-2013**



Source: U.S. Census Bureau; American Community Survey, 2009-2013

**Figure 18. Unemployment Rates, 2010-2014**



Source: U.S. Census Bureau; American Community Survey, 2009-2013

## Unemployment

Figure 18 shows unemployment rates for the CMRPHA municipalities. Across the Alliance, unemployment declined from 2010 to 2014 (not seasonally adjusted). In 2014, Worcester had the highest unemployment rate (7.0%) followed by West Boylston at 6.4%. Shrewsbury had the lowest unemployment rate (4.4%). Shrewsbury and Holden are the only municipalities in the Alliance that have lower unemployment than Massachusetts (5.8%).

## Transportation

Overall, workers in the Alliance use public transportation to get to work less frequently than statewide. Driving to work is the most prevalent means of transportation with all municipalities again exceeding the statewide percent (80%). Within the CMRPHA municipalities, Holden has the highest percentage of drivers (90%) and Worcester the lowest (74%). Worcester has the highest percent of population who walk to work (6.3%), which also exceeds the statewide percent (4.7%). Worcester and Millbury have the highest percentage of workers who carpool (11% and 11% respectively) (Table 6).

<sup>5</sup> Public assistance income provides cash payments to poor families and includes General Assistance and Temporary Assistance to Needy Families (TANF). Public assistance income does not include Supplemental Security Income (SSI), noncash benefits such as Food Stamps/SNAP, or separate payments received for hospital or other medical care.

**Table 6. Modes of Transportation to Work**

	Grafton	Holden	Leicester	Millbury	Shrewsbury	West Boylston	Worcester
Commuters who drive alone to work	81%	90%	85%	84%	84%	89%	74%
Commuters who carpool to work	8%	5%	7%	11%	7%	7%	11%
Commuters who take public transit to work	3%	0%	1%	1%	1%	0%	4%
Commuters walking to work	1%	1%	3%	1%	2%	1%	6%
Commuters taking other means of transportation to work	0%	0%	0%	0%	1%	0%	1%
Individuals who work from home	7%	4%	5%	4%	4%	3%	4%

Source: U.S. Census Bureau; American Community Survey, 2009-2013



# HEALTH PROFILE

## Overall Health

In 2013, one in five Worcester residents (19.7%) responding to the Behavioral Risk Factor Surveillance Survey reported having fair or poor health. This is significantly higher than the same measure for the state at 13.8%. Sixteen percent reported poor mental health for 15 or more days in the past month. Nearly one in 10 Worcester residents (9.8%) reported 15 or more days in the past month that were limited by poor physical or mental health.<sup>6</sup>

When asked to rate the health of their community, one out of five (21%) respondents said their community was either very unhealthy or unhealthy, half (50%) said their community was somewhat healthy, and 29% said their community was healthy or very healthy. (Figure 19).

## Mortality

The following mortality or death rates are age-adjusted, meaning they are adjusted to be able to make comparisons across communities. For example, a community having a higher percentage of elderly people may have a higher rate of death or hospitalization than a county with a younger population, merely because the elderly are more likely to die or be hospitalized.

The Central MA Regional Public Health Alliance has a significantly higher rate of deaths per 100,000 population from all causes than the state (783 and 663, respectively) (Figure 20). The city of Worcester rate (808) is significantly higher than both the CMRPHA and the state. Millbury's rate (763) is also higher than the state but similar to the CMRPHA rate. Shrewsbury (570) has a lower mortality rate than the state and CMRPHA. Holden (624), Leicester (634), Grafton (649), West Boylston (713) rates are similar to state.

The Massachusetts Department of Public Health also reports premature mortality data (Figure 20). Premature mortality data is defined by MassCHIP as the number of deaths before the age of 75 per 100,000 age-adjusted population.

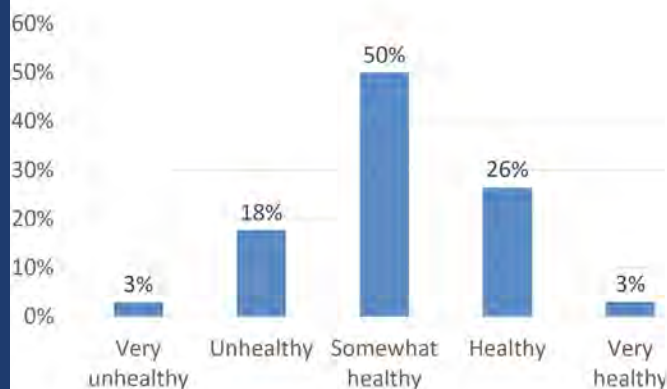
## Premature Death Trends

The County Health Rankings reports on the number of years of potential life lost before age 75 per 100,000 population (age-adjusted) or premature death<sup>7</sup> by county. Worcester County has an estimated 5,556 years of potential lost life before the age of 75 per 100,000 (Figure 21). The average

<sup>6</sup> Behavioral Health Risk Factor Surveillance Survey (BRFSS). MassCHIP, 2013.

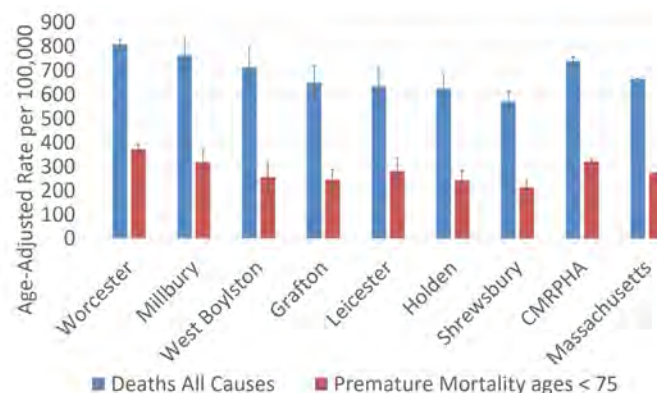
<sup>7</sup> National Center for Health Statistics - Mortality Files. Via the County Health Rankings. University of Wisconsin Population Health Institute. A Robert Wood Johnson Foundation program. Accessed at <http://datawarehouse.hrsa.gov/geoAdvisor/ShortageDesignationAdvisor.aspx> on August 5, 2015.

**Figure 19. How Healthy Is Your Community?**



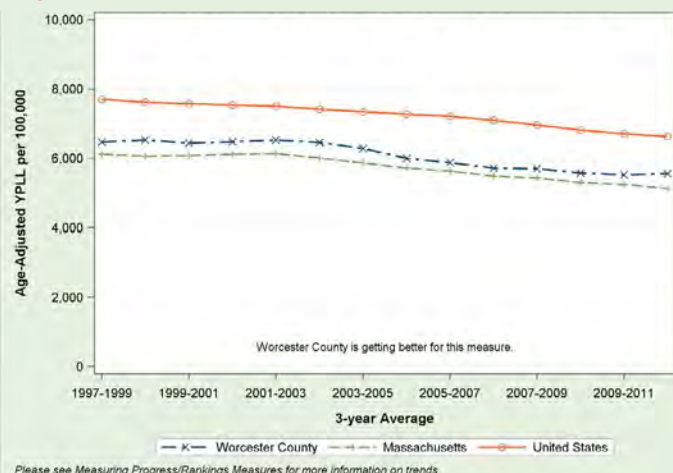
Source: 2015 CHA Public Survey

**Figure 20. CMRPHA Mortality and Premature Mortality Rates by Municipality All Causes, 2010-2012**



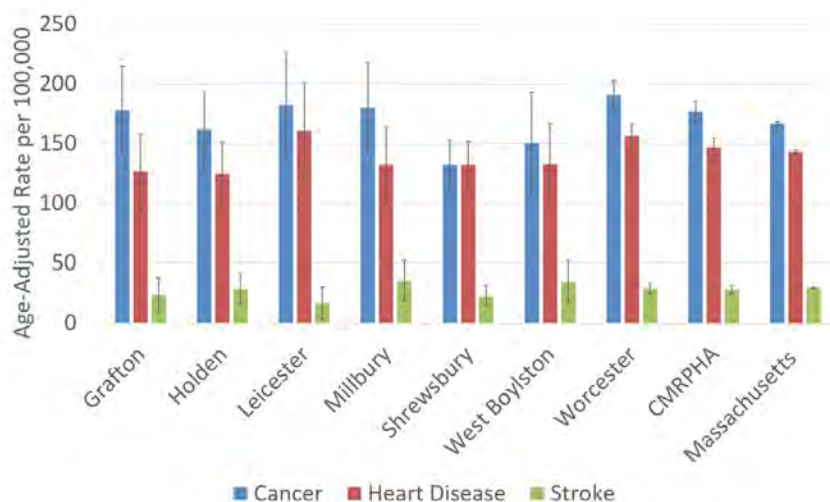
Source: Massachusetts Community Health Information Profile

**Figure 21. Premature Death by Years of Potential Life Lost, 1997-2011**



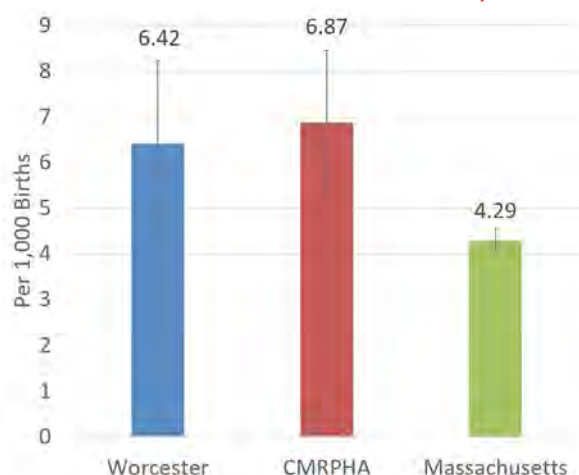
Source: Robert Wood Johnson Foundation, County Health Rankings, 2015

**Figure 22. Top Three Causes of Death, 2010-2012**



Source: Massachusetts Community Health Information Profile

**Figure 23. Infant Death Rates – All Causes, 2010-2012**



Source: Massachusetts Community Health Information Profile

county rate in Massachusetts is 5,118, with a low of 4,152 and a high of 6,638. Figure 21 shows the trend for Worcester County for Premature Death. Worcester County statistically significantly improved on this measure in the 2009-2011 period as compared to the overall 14-year period measured (Figure 21).

The top three causes of death per 100,000 population in Massachusetts are cancer (166), heart disease (143), and stroke (30), Figure 23. For cancer, the CMRPHA (177) is similar to the state. The cancer mortality rate for Worcester (191) is significantly higher than the state and Shrewsbury (132) is significantly lower than both the CMRPHA and the state. Leicester (182), Millbury (180), Grafton (178), Holden (162) and West Boylston (150) are similar to the state in terms of cancer mortality rates (Figure 22).

The mortality rate from heart disease for the CMRPHA (146) is similar to the state. Heart disease mortality for Worcester (156) is significantly higher than the state. Leicester (161), Millbury (132), West Boylston (132), Shrewsbury (132), Grafton (126) and Holden (125) heart disease mortality rates are all similar to the state.

The CMRPHA rate (28) and the rate for each of the municipalities are not statistically different from the state (30) rate for stroke deaths during this period. Stroke mortality rates for these communities are: Leicester (17), Shrewsbury (23), Grafton (24), Holden (29), Worcester (29), West Boylston (35), and Millbury (36) (Figure 22).

### Infant Mortality

For the three-year period of 2010-2012 CMRPHA (6.87) and Worcester (6.42) have significantly higher rates of infant mortality per 1,000 births than the state (4.29) (Figure 23). There is a statistically significant difference between Worcester



infant deaths to white mothers (3.74 per 1,000 births) compared with Hispanic mothers (11.18).<sup>8</sup> There are no significant differences in the aggregated CMRPHA rates by race. Rates for individual communities, other than Worcester, are based on very small numbers and are unreliable for this time period, therefore cannot be accurately reported.

## Chronic Disease

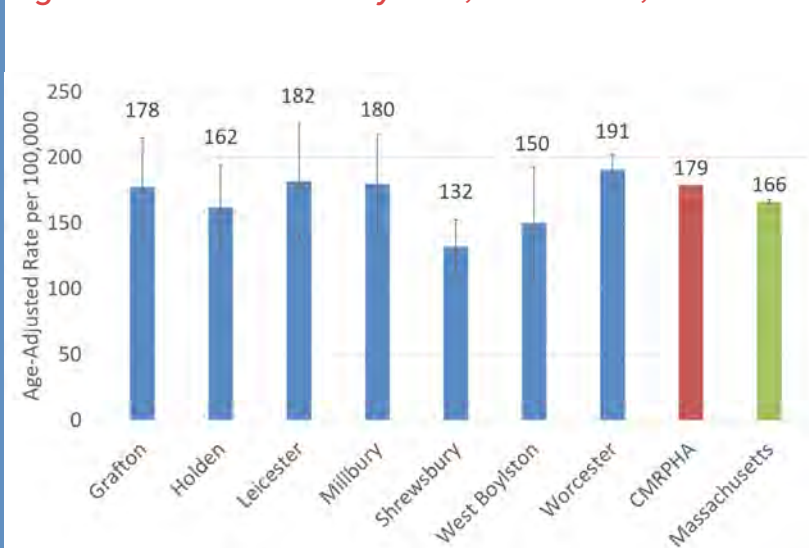
### Cancer

Cancer is the leading cause of death in the CMRPHA region. Healthy People 2020 reports that “many cancers are preventable by reducing risk factors such as: use of tobacco products, physical inactivity and poor nutrition, obesity, and ultraviolet light exposure. Screening is effective in identifying some types of cancers including: breast cancer (using mammography), cervical cancer (using Pap tests), and colorectal cancer (using fecal occult blood testing, sigmoidoscopy, or colonoscopy).”<sup>9</sup>

Figure 24 shows the age-adjusted cancer mortality rates for all cancer types for each CMRPHA municipality as compared to the CMRPHA region and state in 2012. The rate of cancer deaths per 100,000 population in Worcester (191) is significantly higher than the state rate (166). Shrewsbury’s cancer mortality rate (132) is significantly lower than the state rate. The rates for Grafton (178), Holden (162), Leicester (182), Millbury (180), and West Boylston (150) are similar to the state.

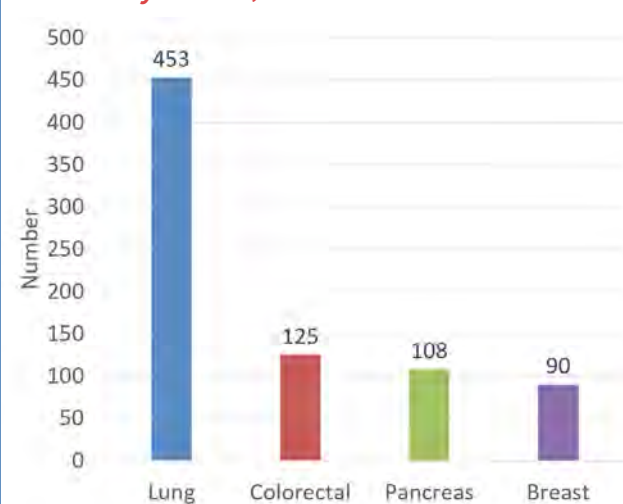
Figure 25 shows the mortality counts for lung, colorectal, pancreas and breast cancers for the combined CMRPHA municipalities with ten or more events for the period of 2010-2012.

**Figure 24. Cancer Mortality Rate, All Cancers, 2010-2012**



Source: Massachusetts Community Health Information Profile

**Figure 25. CMRPHA Top Four Cancer Deaths by Count, 2010-2012**



Source: Massachusetts Community Health Information Profile

Worcester had a significantly higher age-adjusted rate per 100,000 for lung cancer deaths (55) than the state rate (45) between 2010 and 2012. The lung cancer death rates for the remaining CMRPHA municipalities were similar to the state with Grafton (60), Holden (46), Leicester (45), Millbury (68) and West Boylston (44) per 100,000 persons. The age adjusted rate per 100,000 for Worcester is 17, which is statistically similar to the state (14). For the municipalities with ten or more incidences of pancreatic cancer, the age-adjusted rates per 100,000 population for Holden (21), Shrewsbury (11) and Worcester (11) are all similar to the state rate (11), (Figure 26).

<sup>8</sup> Massachusetts Department of Public Health (MADPH), 2010 - 2012

<sup>9</sup> Healthy People 2020; Cancer. Accessed at <http://www.healthypeople.gov/2020/topics-objectives/topic/cancer> on September 6, 2015.

Age-adjusted death rates per 100,000 women due to breast cancer for Shrewsbury (16) and Worcester (19) are similar to the state (19). The other municipalities had fewer than ten events for breast cancer deaths between 2010 and 2012 (Figure 26).

The overall incidence of cancer of all types for each of the CMRPHA municipalities falls within the confidence interval for the state and none are significantly different from the rate for Massachusetts (Figure 27).

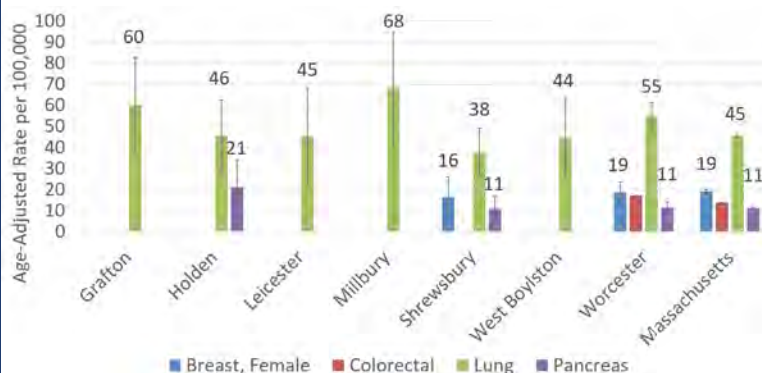
The top four cancers with new cases in the CMRPHA municipalities are lung, breast, prostate and colorectal. The number of new cases (incidence) is shown in Figure 28.

Figure 29 shows that age-adjusted lung cancer incidence rates per 100,000 population are significantly higher in Millbury (97) and Worcester (78) than for the state (68). Lung cancer incidence rates in West Boylston (58), Leicester (87), Holden (65), Grafton (88), and Shrewsbury (60) are all statistically similar to the state.

The incidence of breast cancer per 100,000 women in Worcester (112) is significantly lower than the state (134). Breast cancer incidence rates in Grafton (166), Holden (150), Millbury (135), Shrewsbury (149), and West Boylston (164) are similar to the state as shown in Figure 30. While Leicester's breast cancer incidence rate (180) is numerically the highest in CMRPHA and much higher than the state, the small population makes it difficult to know if this is a significant difference.

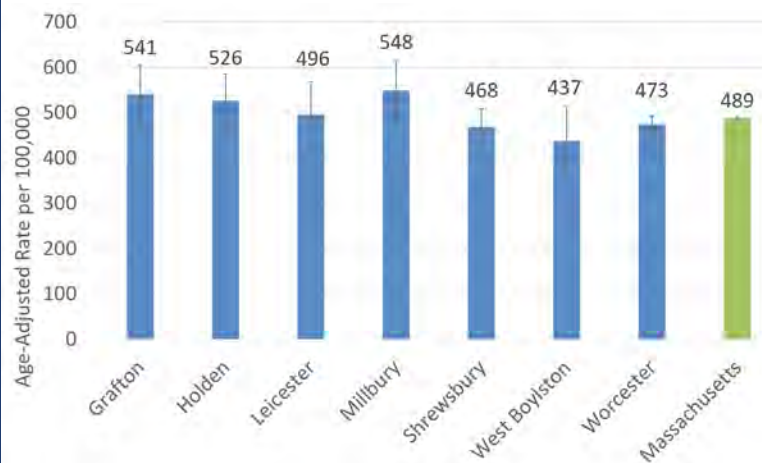
The overall incidence of prostate cancer for each of the CMRPHA municipalities falls within the confidence interval for the state,

**Figure 26. Top Four Cancer Death Rates, 2010-2012**



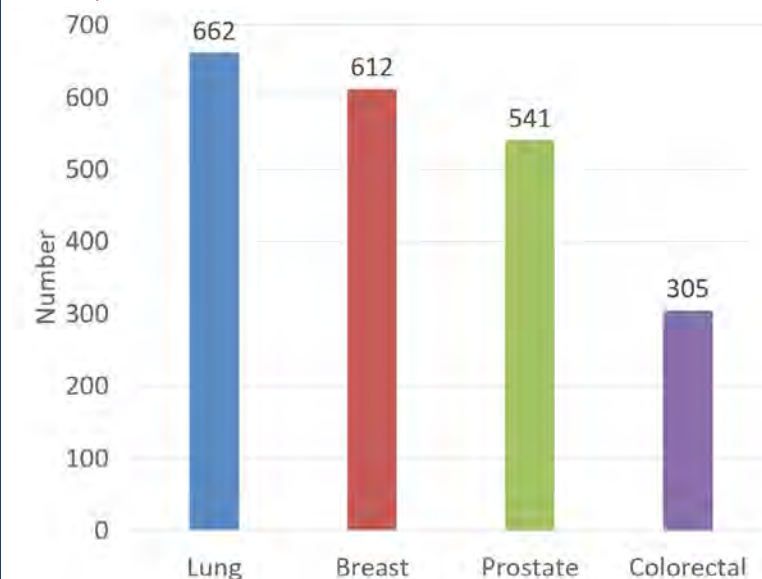
Source: Massachusetts Community Health Information Profile

**Figure 27. Cancer Incidence for All Cancer Types, 2009-2011**



Source: Massachusetts Community Health Information Profile

**Figure 28. CMRPHA Top Four Cancer Incidents by Count, 2009-2011**



Source: Massachusetts Community Health Information Profile

(Figure 31). While Millbury's prostate cancer incidence rate (176) is numerically the highest in CMRPHA and much higher than the state, the small population makes it difficult to know if this is a significant difference.

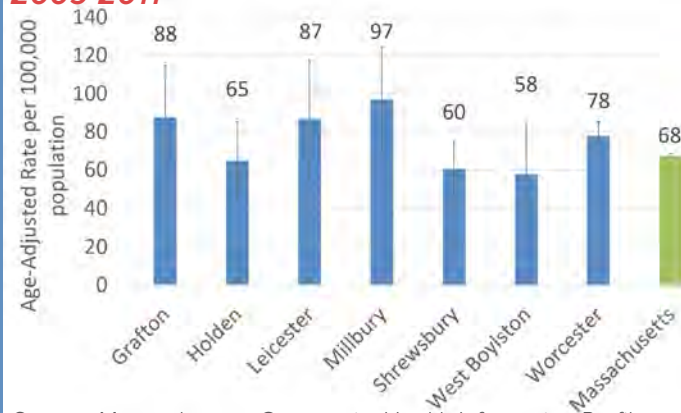
Age-adjusted colorectal cancer rates per 100,000 are significantly lower for Millbury (23) than for the state (40). Grafton (48), Holden (48), Leicester (30), Shrewsbury (29), and Worcester (35) colorectal cancer rates are similar to the state (Figure 32). West Boylston did not have 10 or more events.

The Behavioral Risk Factor Surveillance System (BRFSS) collects survey information on relevant health risk behaviors for individuals 18 years or older. The most recent data is available for Worcester and the state of Massachusetts. Some BRFSS questions are asked on alternate years, so some of the data provided are from 2012 and others from 2013.

Table 7 shows the Worcester BRFSS response percentages for selected health behaviors impacting early cancer detection or prevention. Confidence intervals are included in parentheses beside each data point. Please see Definitions for more information on confidence intervals. A significantly lower percentage of Worcester adults age 50 or over reported having a sigmoidoscopy/colonoscopy (41.3%) within the last five years compared to the state (53%). Nearly one quarter of Worcester adults report they are current smokers.<sup>10</sup>

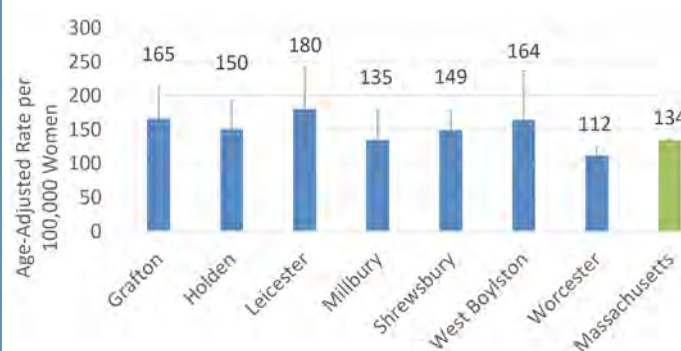
<sup>10</sup> Respondents who reported smoking at least 100 cigarettes in their lifetime and who, at the time of survey, smoked either every day or some days were defined as a "Current Smoker".

**Figure 29. Lung Cancer Rates by Municipality, 2009-2011**



Source: Massachusetts Community Health Information Profile

**Figure 30. Breast Cancer Rates, 2009-2011**



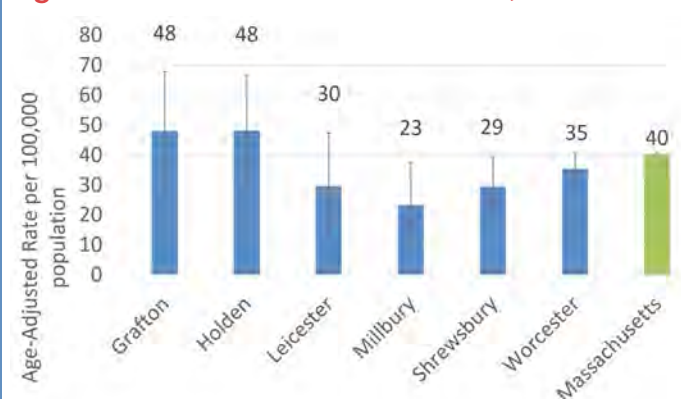
Source: Massachusetts Community Health Information Profile

**Figure 31. Prostate Cancer Rates, 2009-2011**



Source: Massachusetts Community Health Information Profile

**Figure 32. Colorectal Cancer Rates, 2009-2011**



Source: Massachusetts Community Health Information Profile

**Table 7. Health Risk Behaviors in Adults, 2012 and 2013**

	Worcester % (CI)	Massachusetts % (CI)
Smoking prevalence: Current Smoker	23.0 (17.2 - 28.9)	16.6 (15.6 - 17.7)
Had a clinical breast exam, within 2 years*	75.3 (68.3 - 82.4)	82.2 (81.0 - 83.3)
Had a mammogram, within 2 years*	80.5 (75.3 - 85.6)	84.6 (83.5 - 85.7)
Had a pap smear, within 3 years*	76.8 (70.6 - 83.0)	77.6 (76.3 - 78.8)
Had Blood Stool test, within 2 years	13.4 (9.2 - 17.6)	13.7 (12.3 - 15.0)
Had Sigmoidoscopy/Colonoscopy test, within 5 years	41.3 (35.4 - 47.3)	53.0 (51.1 - 54.8)

Source: Behavioral Risk Factor Surveillance Survey, 2013. Measures with “\*” are 2012 data.

## Heart Disease and Stroke

Heart disease and stroke are the second and third highest causes of death for residents of the CMRPHA region. According to Healthy People 2020, “together, heart disease and stroke are among the most widespread and costly health problems facing the nation today. Fortunately, they are also among the most preventable. The leading modifiable (controllable) risk factors for heart disease and stroke are:

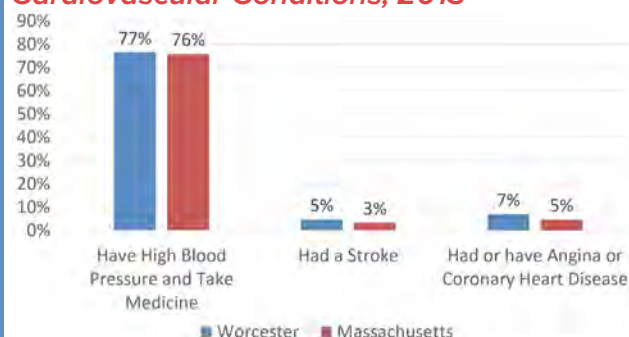
- High blood pressure
- High cholesterol
- Cigarette smoking
- Diabetes
- Poor diet and physical inactivity
- Overweight and obesity”<sup>11</sup>

The prevalence of selected cardiovascular conditions for Worcester residents compared to state averages is illustrated in Figure 33. The measures for Worcester are similar to those statewide. Approximately 77% of Worcester residents responding to the BRFSS report having high blood pressure and take medication for it, nearly 5% have had a stroke, and 7% have angina or coronary heart disease. This information is not currently available for the remaining CMRPHA municipalities.

Figure 34 shows the rate of heart disease hospitalizations per 100,000 population for the CMRPHA municipalities and the state. Worcester (1,006) has a significantly higher rate of heart disease hospitalizations than both the CMRPHA (938) and the state (940) rates. Grafton (707), Holden (829), and West Boylston (750) heart disease hospitalization rates are significantly lower than both the CMRPHA and the state. Shrewsbury (868) rates are significantly lower than state, but similar to the CMRPHA. Leicester (955) and Millbury (902) rates are similar to the CMRPHA and the state.

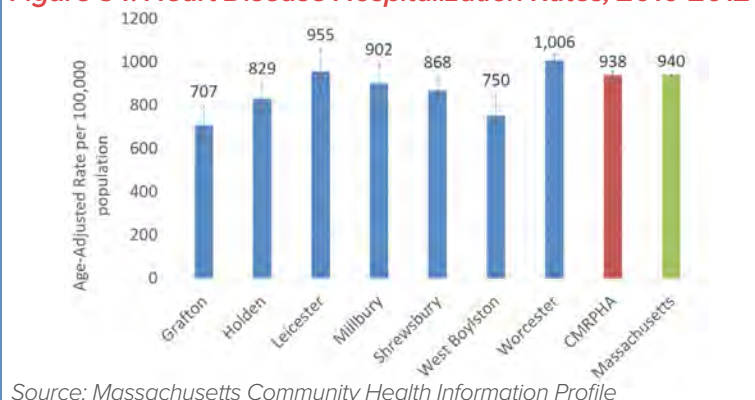
<sup>11</sup> Healthy People 2020; Heart Disease and Stroke. Accessed at <http://www.healthypeople.gov/2020/topics-objectives/topic/heart-disease-and-stroke> on September 5, 2015.

**Figure 33. Worcester Prevalence of Selected Cardiovascular Conditions, 2013**



Source: Behavioral Risk Factor Surveillance Survey, 2013

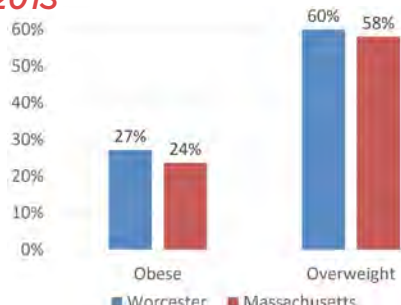
**Figure 34. Heart Disease Hospitalization Rates, 2010-2012**



Source: Massachusetts Community Health Information Profile

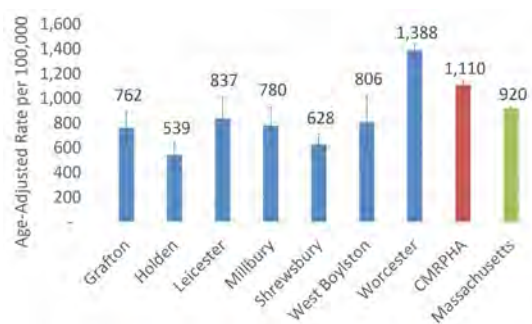


**Figure 35. Worcester Overweight and Obesity Rates, 2013**



Source: Behavioral Risk Factor Surveillance Survey, 2013

**Figure 36. Asthma-related Hospitalizations, 2012**



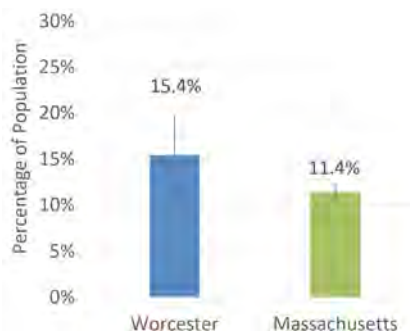
Source: MDPH, Center for Health Information & Analysis

**Figure 37. Pediatric Asthma-Related Emergency Department Visits, 2009-2011**



Source: MDPH Center for Health Information & Analysis

**Figure 38. Adult Asthma Prevalence, 2013**



Source: Behavioral Risk Factor Surveillance Survey, 2013

The percentage of Worcester residents responding to the BRFSS survey who report being obese (27%) or overweight (60%) are similar to the percentages for the entire state (24% and 58%, respectively) (Figure 35). Obesity is defined as having a body mass index (BMI) greater than 30, while overweight is defined as a BMI over 25.

## Asthma

Healthy People 2020 reports that “asthma affects people of every race, sex, and age. However, significant disparities in asthma morbidity and mortality exist, in particular for low-income and minority populations. The causes of asthma are an active area of research and involve both genetic and environmental factors. Risk factors for asthma currently being investigated include:

- Having a parent with asthma
- Sensitization to irritants and allergens
- Respiratory infections in childhood
- Overweight<sup>12</sup>

Asthma hospitalization rates per 100,000 for the CMRPHA (1,110) and Worcester (1,388) are significantly higher than the state (920). The asthma hospitalization rates for Grafton (762), Holden (539), and Shrewsbury (628) are significantly lower than the state. Leicester (837) and Millbury (780) have asthma hospitalization rates similar to the state (Figure 36).

Emergency department visits per 100,000 for children with asthma or asthma-related problems were twice as high in Worcester (1,536 per 100,000 visits) as compared to the rate for Massachusetts (768) (Figure 37).

Figure 38 shows the percentage of Worcester adults who currently have asthma as reported by participants in the BRFSS survey for 2013. Approximately 15% of Worcester adults report having asthma compared to 11% for the state. This difference is not statistically significant.

Similarly, the prevalence of asthma in school age children grades kindergarten through 8th grade, do not show an asthma prevalence higher than

<sup>12</sup> Healthy People 2020; Respiratory Diseases. Accessed at <http://www.healthypeople.gov/2020/topics-objectives/topic/respiratory-diseases> on September 5, 2015.

the state. The CMRPHA aggregate percentage (10.4%) of children, grades K-8 and the individual municipalities of Holden (6.2%), Leicester (5.9%) and Shrewsbury (8.5%) have a significantly lower prevalence of pediatric asthma than the state (Figure 39).

There are significant differences in asthma-related emergency department visits by race. For the CMRPHA the rate of asthma ED visits for Blacks (951) and Hispanic (1,006) races are significantly higher than that for whites (473). Asians (181) rates are significantly lower than Whites. While the asthma ED visit rates for CMRPHA Black and Hispanics are high, they are significantly lower than the state rates for the same races (1,295 and 1,171, respectively) (Figure 40).

### Diabetes

According to the Centers for Disease Control and Prevention (CDC), “diabetes can cause serious health complications including heart disease, blindness, kidney failure, and lower-extremity amputations. Diabetes is the seventh leading cause of death in the United States.”<sup>13</sup> Research shows that diabetes “lowers life expectancy by up to 15 years; increases the risk of heart disease by two to four times; and is the leading cause of kidney failure, lower limb amputations, and adult-onset blindness.”<sup>14</sup>

For diabetes, the CMRPHA municipalities’ hospitalization rate (2,155 per 100,000) is significantly higher than the state’s (1,858) (Figure 41). The diabetes hospitalization rates for both Leicester (2,221) and Worcester (2,641) are significantly higher than the state. Grafton (1,166), Holden (1,254), Millbury (1,446), Shrewsbury (1,481) and West Boylston (1,364) have diabetes hospitalization rates that are significantly lower than the state.

Figure 42 shows the percentage of adults in Worcester, compared to Massachusetts, who reported in 2013 ever having been told they have diabetes or pre-diabetes. The percentages are not statistically different from the state as a whole.

<sup>13</sup> Basics About Diabetes. Centers for Disease Control and Prevention. Accessed at <http://www.cdc.gov/diabetes/basics/diabetes.html> on September 5, 2015

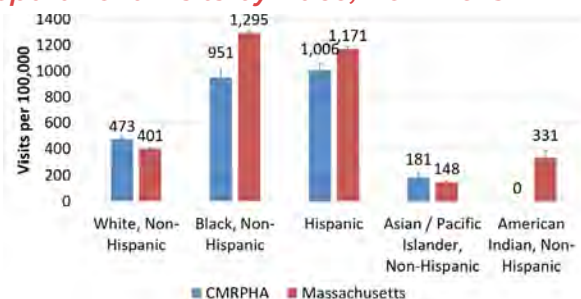
<sup>14</sup> Diabetes. Healthy People 2020. Accessed at <http://www.healthypeople.gov/2020/topics-objectives/topic/diabetes> on September 5, 2015.

**Figure 39. Prevalence of Pediatric Asthma in Grades K-8, 2009-2012**



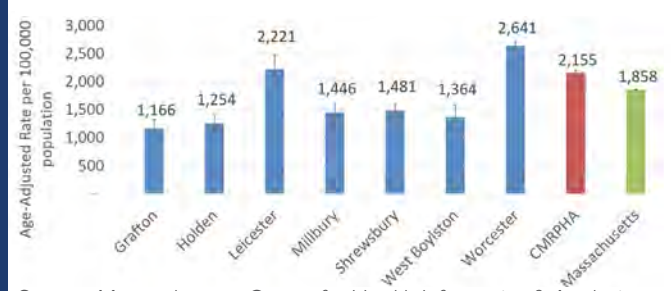
Source: MDPH, Bureau of Environmental Health

**Figure 40. Asthma-Related Emergency Department Visits by Race, 2011-2013**



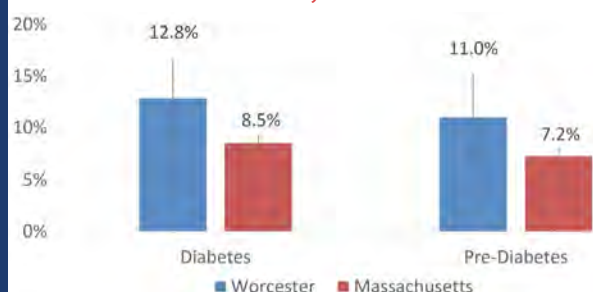
Source: Massachusetts Center for Health Informatics & Analysis

**Figure 41. Diabetes-Related Hospitalization Rates, 2012**



Source: Massachusetts Center for Health Informatics & Analysis

**Figure 42. Worcester Diabetes and Pre-Diabetes Prevalence, 2013**



Source: Behavioral Risk Factor Surveillance Survey, 2013



## Infectious Disease

### Influenza and Pneumonia

Influenza (flu) and pneumonia are respiratory conditions that can cause mild to severe illness. The Centers for Disease Control and Prevention (CDC) reports that for flu, “serious outcomes can result in hospitalization or death.”<sup>15</sup> Vaccinations to prevent influenza and pneumonia are the most common prevention for these infectious diseases.

Pneumonia- and influenza-related hospitalization rates per 100,000 for CMRPHA (837), and Worcester (971) are higher than state (712) hospitalization rate (Figure 43). The Grafton (530) hospitalization rate is lower than state. Holden (693), Leicester (710), Millbury (634), Shrewsbury (665) and West Boylston (635) all have pneumonia and influenza hospitalization rates that are similar to the state.

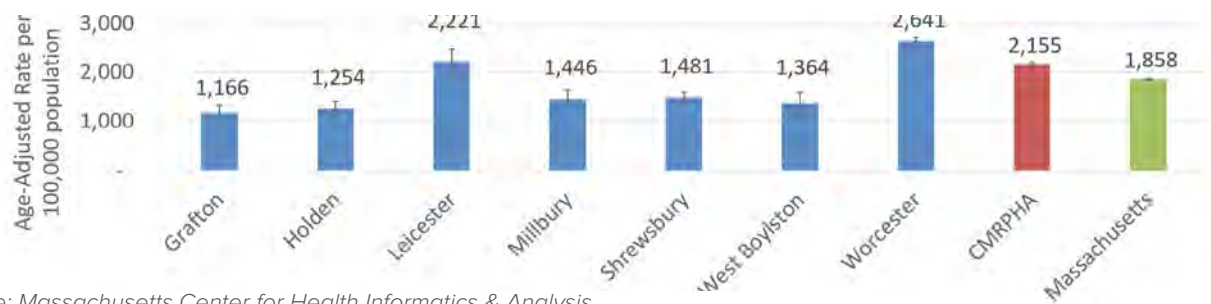
Figure 44 shows that approximately 61% of Worcester adults responding to the BRFSS survey reported having had a flu shot within the prior year as compared to 67% of the state. For Worcester residents age 65 and over, approximately 37% have had a pneumococcal vaccine at some point in their lifetimes. This is similar to the state (35%) overall.

### Sexually Transmitted Infections

Worcester has higher rates of chlamydia than the overall state crude rate per 100,000 population, 583 and 357, respectively. Rates of chlamydia in Grafton (248), Holden (104), Leicester (128), Millbury (121), and Shrewsbury (126) are significantly lower than the state, (357), Figure 45. The rate for West Boylston was not reported due to fewer than ten events.

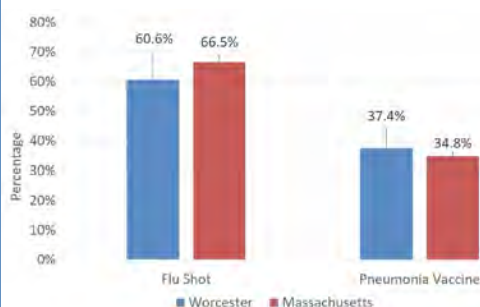
15 Seasonal Influenza: Flu Basics. Centers for Disease Control and Prevention. Accessed at <http://www.cdc.gov/flu/about/disease/index.htm> on September 6, 2015.

**Figure 43. Pneumonia and Influenza-Related Hospitalization Rates, 2012**



Source: Massachusetts Center for Health Informatics & Analysis

**Figure 44. Worcester Adult Immunization Rates, 2013**



Source: Behavioral Risk Factor Surveillance Survey, 2013

**Figure 45. Chlamydia Incidence, 2012**



Source: Massachusetts Community Health Information Profile

In 2012, there were no reported cases of gonorrhea or syphilis in the CMRPHA municipalities except for Worcester. Worcester's incidence of gonorrhea (90) and syphilis (27) are both significantly higher than the state (40 and 13, respectively) (Figure 46). Rates reported are crude rates per 100,000 population.

### HIV/AIDS

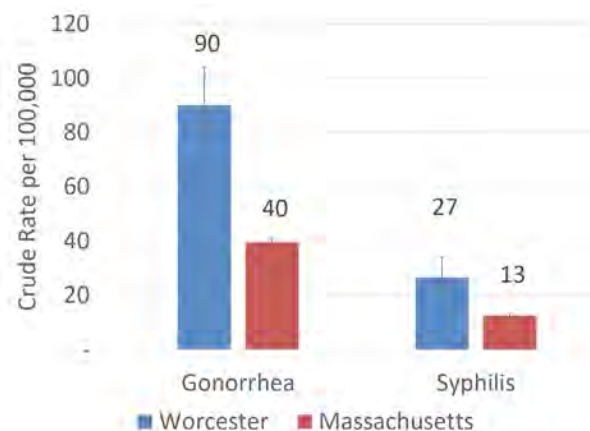
There were 25 new cases (incidence) of HIV reported in Worcester in 2011 and no new cases reported in the other CMRPHA municipalities. The crude rate for Worcester in 2011 was 13.81 per 100,000 population compared to the state at 9.97. This does not reflect a significant difference.

The prevalence (number of total cases at any point in time – new and existing) of HIV/AIDS for the CMRPHA is shown in Figure 47. The HIV/AIDS prevalence crude rate per 100,000 population for Worcester (505) was significantly higher than the rate for the state (273). Prevalence rates for Grafton (96), Millbury (113), Shrewsbury (79), and West Boylston (261) were significantly lower than the state. Holden and Leicester had fewer than ten cases and therefore are not reported.

### Other Communicable Diseases

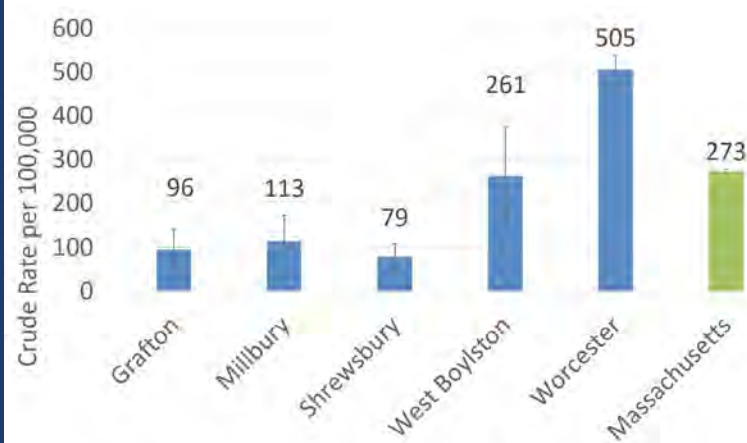
As seen in Figure 48, communicable disease crude rates per 100,000 population in Worcester are higher than the state for Hepatitis B (54 and 25, respectively), Hepatitis C (159 and 119, respectively), Giardia (30 and 10, respectively), and Shigella (8 and 3, respectively). Worcester's crude rate per 100,000 is significantly lower than the state for Lyme disease (30 and 62, respectively) and Campylobacter (9 and 24, respectively). Crude rates per 100,000 for salmonella are similar for Worcester (13) and the state (17).

**Figure 46. Worcester Gonorrhea and Syphilis Incidence, 2012**



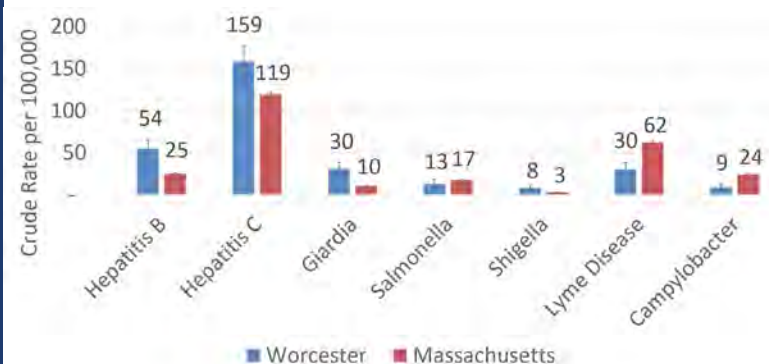
Source: Massachusetts Community Health Information Profile

**Figure 47. CMRPHA HIV-AIDS Prevalence Rate, 2011**



Source: Massachusetts Community Health Information Profile

**Figure 48. Worcester Incidence of Selected Communicable Disease**



Source: Massachusetts Community Health Information Profile

## Injuries

Figure 49 shows the number of deaths by unintentional falls by age for the CMRPHA municipalities in aggregate. Ninety-five percent of deaths by unintentional falls are for those age 45 years and over, with 66% of deaths in the over 75 years age group.

Table shows the number of non-fatal unintentional injury emergency department visits and hospital admissions by age group.

**Table 8. CMRPHA Non-Fatal Unintentional Fall Injury Emergency Department Visits and Hospital Admissions Counts by Age Group, 2011-2013**

Age Group	Hospitalizations	ED Visits
0-10	100	3,270
11-17	34	1,399
18-24	35	1,347
25-44	184	3,557
45-64	611	3,668
65-74	338	944
75+	1,370	1,754
<b>TOTAL</b>	<b>2,672</b>	<b>15,939</b>

Sources: MA Inpatient Hospital Discharge and Outpatient Observation Stay data (Hospital Stays), MA Emergency Department Discharge data (ED Visits), Center for Health Information and Analysis.

While emergency department visits for non-fatal unintentional injuries were distributed throughout the age groups with the highest percentages for those age 45-64 (23%), 25-44 (22%), and 0-10 years (21%); most hospitalizations for non-fatal unintentional falls were for those age 75 years and older (51%) (Figure 50).

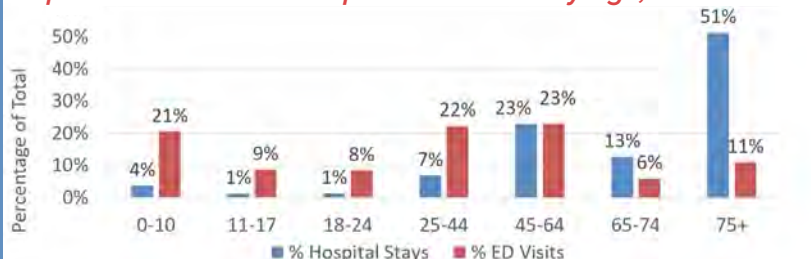
There were 50 fatal injuries to motor vehicle occupants in the CMRPHA municipalities from 2008 through 2012. The distribution of fatalities by age is shown in Figure 51. The age groups with the largest percentage of fatalities due to motor vehicle accidents were age 65 to 74 years (30%) and age 25-44 years (26%) (Figure 51).

**Figure 49. CMRPHA Unintentional Fall Deaths by Age, 2008-2012**



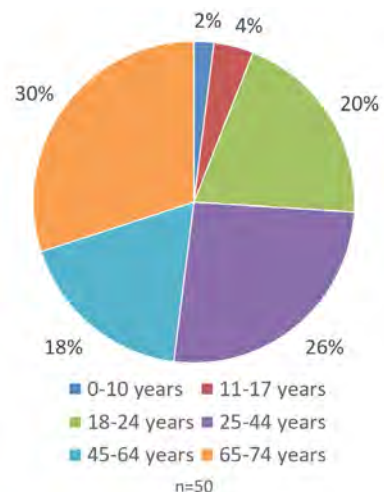
Source: MDPH, Registry of Vital Records and Statistics

**Figure 50. CMRPHA Non-fatal Unintentional Fall Injury Emergency Department Visits and Hospital Admissions by Age, 2011-2013**



Source: Massachusetts Center for Health Informatics

**Figure 51. CMRPHA Fatal Motor Vehicle Occupant Injuries by Age Group Percent, 2008-2012**



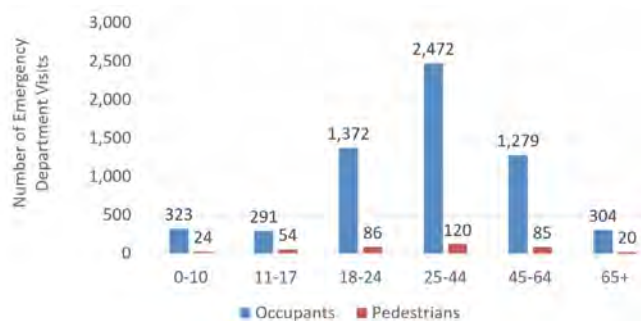
Source: MDPH, Registry of Vital Records and Statistics

Injuries sustained by motor vehicle occupants or pedestrians due to motor vehicle accidents and requiring treatment in the emergency department are shown in Figure 52 for CMRPHA municipalities. The numbers shown include only non-fatal injuries. The largest number of injuries for both occupants and pedestrians were sustained by the 25-44 year age group.

Figure 53 shows the Worcester BRFSS response percentages for respondents who reported nearly always or always wearing a seat belt when in a motor vehicle. Worcester residents had significantly lower percentage for wearing seat belts nearly always or always (83.6%).

Emergency department visits for injuries and poisoning-related conditions by race for CMRPHA are shown below in Figure 54. Emergency department visits for injuries is significantly higher in Blacks (12,048 per 100,000) than the rate for White (9,943), Hispanic (9,316), Asian/Pacific Islander (2,699), and American Indian (6,692) populations. All of the CMRPHA rates are significantly lower than state rates by race, except for American Indian which is not statistically different than the state.

**Figure 52. CMRPHA Emergency Department Visits for Non-Fatal Motor Vehicle Injuries by Age Group, 2011-2013**



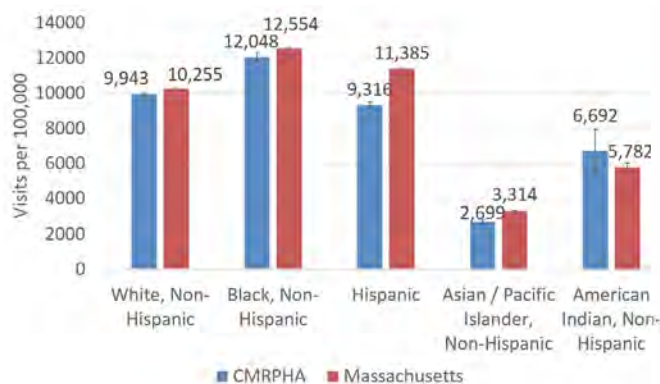
Source: MA Emergency Department Discharge data, Center for Health Information and Analysis, MDPH

**Figure 53. Worcester Seat Belt Usage, 2013**



Source: Behavioral Risk Factor Surveillance Survey, 2013

**Figure 54. Injury and Poisoning-related Emergency Department Visits by Race, 2011-2013**





## IDENTIFYING STRATEGIC ISSUES

### *Local Public Health System Assessment And Forces of Change*

The Local Public Health System Assessment (LPHSA) is intended to assess the strengths and weaknesses of the local public health system and the capacity to respond to health needs. The Forces of Change Assessment is intended to identify the broad trends, factors, and events that may influence local public health both positively and negatively. Access to care, substance abuse, cultural competency, and access to healthy food were four significant areas identified in these two assessments.

#### **Access to Care**

In evaluating the local public health system's capacity to fulfill Public Health Essential Service 7: Link people to needed personal health services and assure the provision of health care, many participants noted that while there are many resources and organizations doing notable work in this area, coordination was significantly lacking among systems and between organizations.

#### **Substance Abuse**

The "opioid crisis" was the top mentioned trend in the Forces of Change Assessment by members of the Advisory Committee and stakeholders.

#### **Cultural Competency**

Changing demographics was the second most mentioned trend in the Forces of Change Assessment by members of the Advisory Committee and stakeholders. Noted trends were the influx in population in Central Massachusetts, particularly among low-income residents, and a shift in populations resettling in the area.

#### **Access to Healthy Food**

Access to healthy food was one of the top noted regional and national forces that will have an effect on public health in the Forces of Change Assessment by members of the Advisory Committee and stakeholders. Both positive forces, such as promotion of local foods, and negative forces, such as proliferation of cheap and unhealthy foods, were noted.

"The system uses traditional methods to reach non-traditional populations. As a result, services are offered primarily during working hours when people that need the services the most are not able to go. Services are offered primarily by people who do not culturally represent the populations being served. The system has very limited partnerships with community-based, faith-based, and other grassroots organizations that would have the best ability to provide linkages and services to socially-disadvantaged and other vulnerable persons."  
—Advisory Committee Survey Participant, LPHSA



## PRIORITIES

Nine priorities were identified by the CHA Advisory Committee (see the Methods Section) in order to best focus this report. These priorities do not reflect every concern voiced by key stakeholders, revealed in surveys, or identified by secondary data. However, priorities were set in order to concentrate efforts, drive collective impact, and focus discussions in the development of the 2016 Community Health Improvement Plan. These priorities are not ranked, but rather are presented in alphabetical order.

- Access to Care
- Access to Healthy Food
- Cultural Competency
- Economic Opportunity
- Mental Health
- Physical Activity
- Racism and Discrimination
- Safety
- Substance Abuse

## ***Priority: Access to Care***

### **Why is this important?**

Access to health care is critical to population and community health, to treat illness, to prevent disease, and to promote good health. Often differential access to care can cause health disparities among diverse populations and poorer health outcomes.

While barriers to health care can include financial barriers, such as lack of health insurance, the Massachusetts Health Care Reform Law of 2006<sup>16</sup> and the Affordable Care Act of 2010 are helping to lessen the impact of historic financial barriers.<sup>17</sup> Non-financial barriers are not necessarily addressed by these changes and can include a shortage of providers, transportation, language issues, cultural differences, timeliness and availability of appointments, and disabilities.

Participants completing the 2015 Greater Worcester Community Health Assessment Public Survey (CHA Public Survey) responded that access to health care (e.g. family doctor) was fifth of the top seven indicators of a healthy community. They also ranked “access to care” as number seven of the top seven conditions that should receive more attention.

Participants further ranked the following top five issues that “make it difficult to get health care”:

1. Long waits for appointments
2. Cost of care
3. Lack of evening and weekend services
4. Insurance problems/lack of coverage
5. Discrimination/unfriendliness of provider or office staff

“Access to health can also be an issue or health services can also be an issue. I am sure through DTA we get MassHealth and there are a lot of benefits through that, but... sometimes, you have to jump through hoops to be able to see a particular doctor for an issue or maybe the doctor you are seeing has such an overload of patients that you are just another person coming in and complaining about something.”

-Focus Group Participant

Survey respondents indicated that they are happy with:

1. The overall health or medical services in the area
2. Access to specialist medical services
3. Health or medical providers who accept their insurance
4. Medical specialists in the area
5. Dental services in the area

In particular, when asked about things that could be improved, respondents expressed they “are not happy with public transportation to area health services.”

<sup>16</sup> Massachusetts Health Care Reform: Six Years Later. Accessed at <https://kaiserfamilyfoundation.files August 7, 2015.>

<sup>17</sup> The Affordable Care Act is Working. June 2015. HHS.gov/HealthCare Fact Sheet. US Department of Health and Human Services. Accessed at <http://www.hhs.gov/healthcare/facts/factsheets/2014/10/affordable-care-act-is-working.html> on August 5, 2015.

Stakeholders and focus group participants rated five out of ten of the top health challenges as those relating to health care access (Table 10, health care access challenges highlighted in blue). The numbering indicates the rank for each issue in terms of importance.

Three of the top ten community strengths were also related to access, with Community Health Centers as the number one community strength. Hospital systems and school-based health were ranked eighth and tenth, respectively.

**Table 9. Top Health Challenges Ranked by Stakeholders**

Top Health Challenge	Priority Rank
Behavioral/Mental Health	1
Opiate/Prescription Drug Abuse	2
Substance Abuse	3
Insurance Costs/Coverage	4
Health Education/Knowledge	5
Obesity	6
Access to Healthy Food/High Costs	7
Language Barriers	8
Transportation	9
Cultural Competence	10

## Central MA Regional Public Health Alliance Status

### Primary Care

The City of Worcester is designated as a Health Professional Shortage Area (HPSA) for low-income populations because of demonstrated low access to primary care providers.<sup>18</sup> Even though there may be an adequate number of primary care providers in Worcester, a HPSA designation means that there are not enough providers caring for low-income patients.

Community Health Centers are health care organizations with a mission to provide care for the under-served and reduce health care disparities among populations. Worcester has three federally-qualified Community Health Centers, Family Health Center of Worcester, the Edward M. Kennedy Community Health Center and Community Healthlink.

Figure 55 shows a map of key healthcare facilities of CMRPHA including hospitals, health centers and free clinics.

According to the US Bureau of Primary Health Care, Worcester-based health centers provided services to 50,134 people in 2013.<sup>19</sup> The detail of the number of people served by type of service is shown in Table 11. Since some people receive more than one type of service, the total number of people receiving services is higher than the total number of unique individuals served (50,134). Some services were located outside of Worcester, however, this number is a small percentage of the total.

There are also seven Free Clinics in Worcester. Six of the free clinics provide primary and preventive services. The other free clinic provides optometry and hearing aid services. Also, the UMass Memorial Ronald McDonald® Care Mobile program provides medical and dental services at 11 neighborhood sites in Worcester and preventive dental care to 20 Worcester schools.

<sup>18</sup> Primary Care HPSA: Low Income – Worcester City. Primary Care: Massachusetts, County and County Equivalent Listing. (May 29, 2015) Accessed at <http://datawarehouse.hrsa.gov/geoAdvisor/ShortageDesignationAdvisor.aspx> on August 5, 2015

<sup>19</sup> 2014 Health Center Profile. HRSA Health Center Program. Bureau of Primary Health Care. Health Resources Services Administration (HRSA). US Department of Health and Human Services. Accessed at <http://bphc.hrsa.gov/uds/datacenter.aspx?q=d&year=2014&state=MA#glist> on September 7, 2015

Figure 56 shows the results of a recent survey<sup>20</sup> of patients regarding the reason they sought care at Worcester free clinics. Respondents could select more than one reason. Financial reasons given included “no insurance” (61%), “doctor or emergency room is too expensive” (6%), and “co-pay or deductible too expensive” (6%). Twenty-eight percent (28%) of survey participants did not have a primary care provider. Twenty percent (20%) could not get an appointment with a primary care provider.

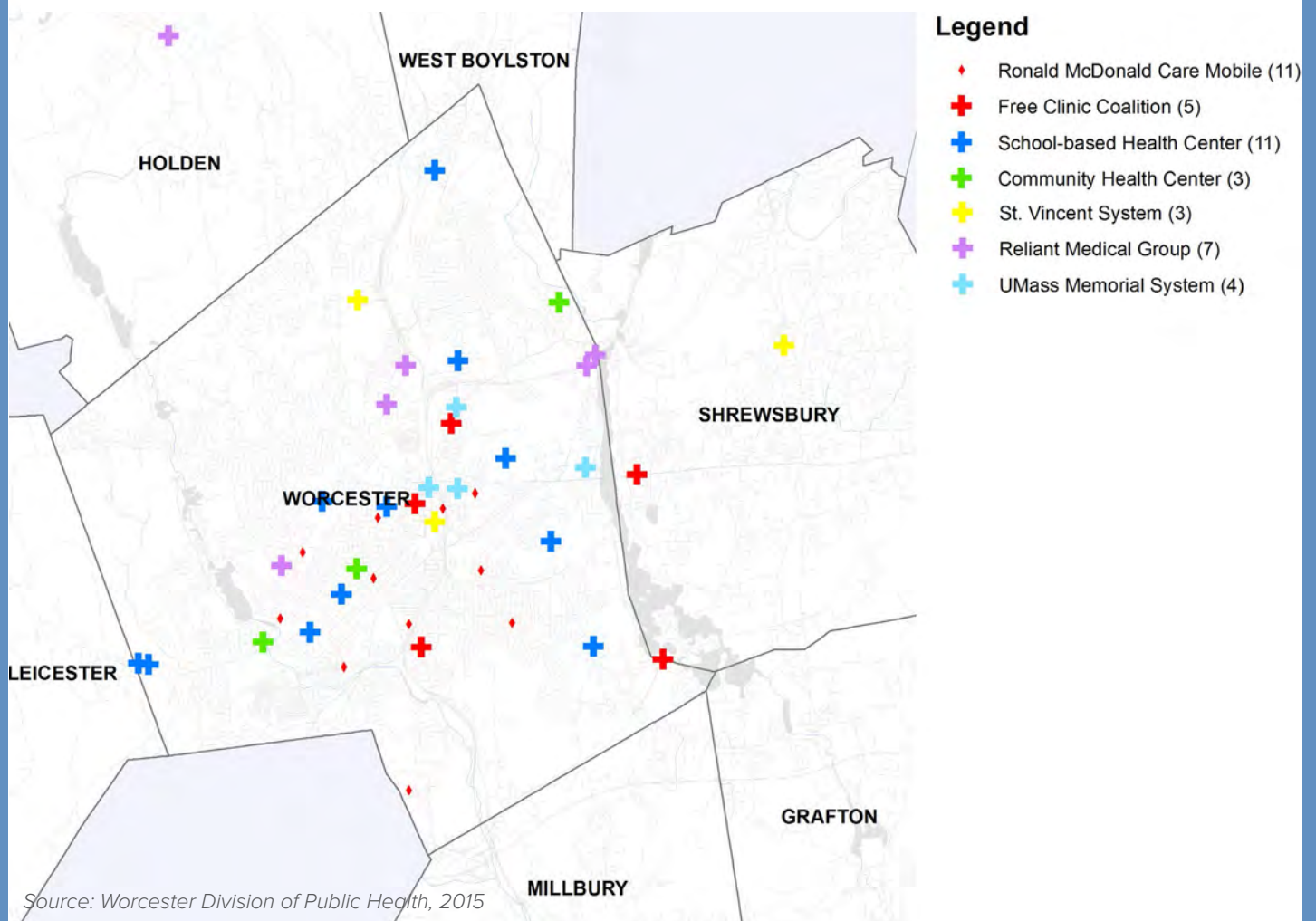
**Table 10. Number of People Served by Worcester-Based Community Health Centers by Service Type, 2013**

Service Type	Number of Patients Served
Medical	40,801
Dental	16,908
Mental Health	3,446
Substance Abuse	294
Vision	2,755

Source: Uniform Data System (UDS), BPHC, 2013

20 Free Clinic Survey Report. July 2015. City of Worcester, Division of Public Health.

**Figure 55. Key Healthcare Facilities of CMRPHA**



### Ambulatory Care Sensitive Conditions

Another measure of access to primary care services is the rate of ambulatory care sensitive conditions<sup>21</sup> (ACSC), those conditions for which hospitalizations may have been prevented through adequate primary care. The number of ACSC hospital stays can be an indicator of poor primary care access. "Hospitalization for diagnoses amenable to outpatient services suggests that the quality of care provided in the outpatient setting was less than ideal. The measure may also represent the population's tendency to overuse the hospital as a main source of care."<sup>22</sup>

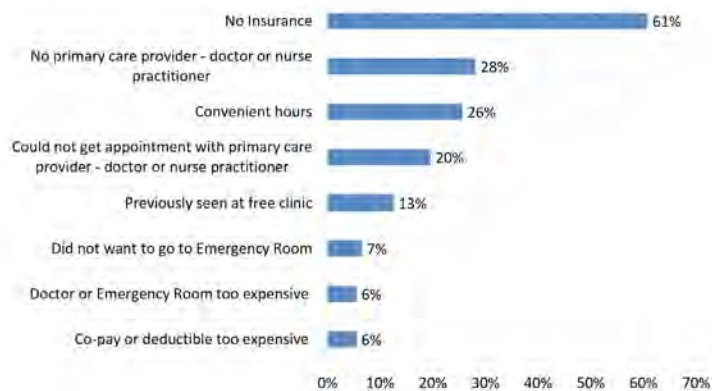
The Dartmouth Atlas of Care, 2012, reports the number of hospital stays for ambulatory care sensitive conditions (ACSC) per 1,000 Medicare enrollees in Worcester County is 65. This is higher than the average for Massachusetts at 63 per 1,000. For Worcester, the same measure is 62.7, similar to the state rate. ACSC admission rates for Blacks in Worcester are 66.8 and Non-Blacks at 61.3 (Figure 57). The County Health Rankings indicates top national performing counties at 41 per 1,000 Medicare enrollees. This indicator is limited to Medicare enrollees and cannot necessarily be extrapolated to other patient populations.

As noted in the Health Profile, hospitalization rates for ambulatory-sensitive conditions (all patients regardless of insurance type) such as asthma, diabetes, pneumonia, influenza, are significantly higher for the CMRPHA municipalities in aggregate than for the state (Figure 58). For municipal specific data, please refer to the Health Profile section for

21 Ambulatory care sensitive conditions include: convulsions, chronic obstructive pulmonary disease, bacterial pneumonia, asthma, congestive heart failure, hypertension, angina, cellulitis, diabetes, gastroenteritis, kidney/urinary infection, and dehydration.

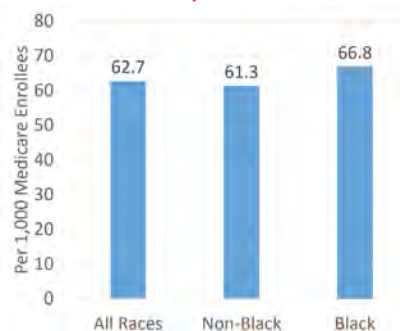
22 Dartmouth Atlas of Care, 2012. Via the County Health Rankings. University of Wisconsin Population Health Institute. A Robert Wood Johnson Foundation program. Accessed at <http://www.countyhealthrankings.org/content/hospitalization-rates-ambulatory-sensitive-conditions> on August 5, 2015.

**Figure 56. Reasons for Seeking Care in Free Clinics**



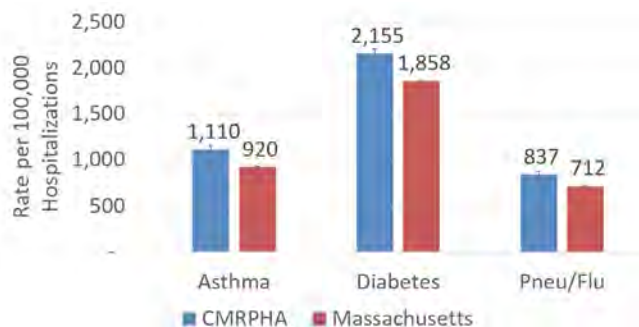
Source: 2015 Worcester Free Clinic Coalition Patient Survey

**Figure 57. Worcester Discharges for Ambulatory Care Sensitive Conditions, 2012**



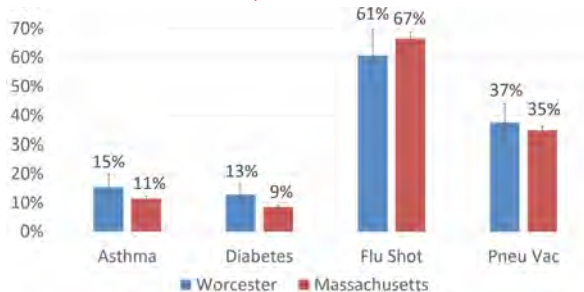
Source: Dartmouth Atlas of Care, 2012

**Figure 58. CMRPHA Selected Ambulatory Care Sensitive Conditions Hospitalization Rates, 2012**



Source: Massachusetts Center for Health Informatics & Analysis

**Figure 59. Worcester Asthma, Diabetes and Adult Vaccination Prevalence, 2013**



Source: Behavioral Risk Factor Surveillance System, 2013



each condition. The Health Profile also shows that pediatric asthma emergency department visits are significantly higher for Worcester compared to the state.

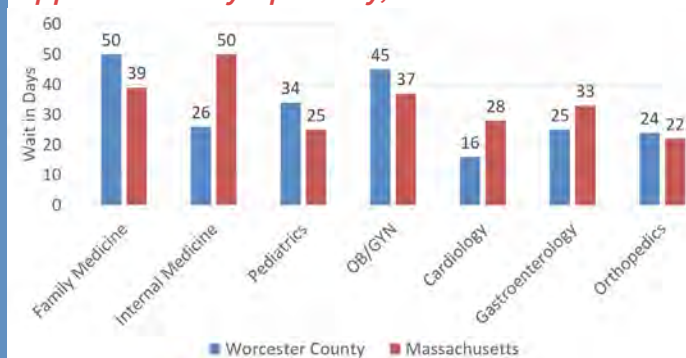
In comparing hospitalization rates for CMRPHA municipalities in aggregate to estimated prevalence rates from the BRFSS results, the prevalence of adult asthma and diabetes in Worcester is similar to the state prevalence while the hospitalization rates are significantly higher than the state rates (Figure 59). Adult influenza and pneumonia vaccination percentages are also similar to the state, while the hospitalization rates for these conditions is higher. This relationship also holds true when comparing to Worcester data, rather than the aggregate CMRPHA data.

Statistically significantly higher rates of hospitalization for asthma, diabetes, pneumonia and influenza without higher rates of prevalence for these conditions, could indicate a primary care access issue for the community.

The Massachusetts Medical Society (MMS) conducted a study of access to care in Massachusetts by county.<sup>23</sup> One measure, wait, in days, for an appointment, is shown in Figure 60 by provider type for Worcester County in 2013. This study does not separate out low-income, uninsured, or other considerations that could impact disparities in provider access. The study reports that residents of Worcester County have longer wait times than the Massachusetts average for appointment with family medicine, pediatrics, and OB/GYN providers. Wait times for specialty care, such as cardiology, gastroenterology and orthopedics are lower than the state average. No confidence intervals were provided in this report.

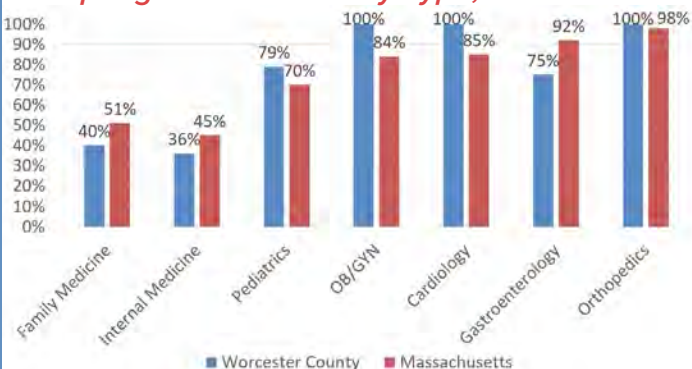
The MMS Patient Access to Care Study also reported on the percentage of providers by type who are accepting new patients. Worcester County has a smaller percentage of family medicine, internal medicine and gastroenterology providers accepting new patients than the Massachusetts average (Figure 61).

**Figure 60. Worcester County Wait in Days for an Appointment by Specialty, 2013**



Source: 2013 MMS Patient Access to Care Study

**Figure 61. Percent of Worcester County Providers Accepting New Patients by Type, 2013**



Source: 2013 MMS Patient Access to Care Study

### Health Insurance Coverage

As illustrated in Table 11, nearly all residents in the CMRPHA had health insurance coverage in the time period between 2009 and 2013. Overall, the findings indicate that at least 95% of the population was covered by some form of health insurance. Holden had the highest number of residents with health insurance (99%). By contrast, Worcester contained the highest number of residents without health insurance (5%). As for Grafton, Millbury, Leicester, Shrewsbury, and West Boylston, the percentage of those without health insurance ranged between 2-4%. It is important to note that this data does not

<sup>23</sup> 2013 MMS Patient Access to Care Study. Massachusetts Medical Society. July 2013. Accessed at <http://www.massmed.org/News-and-Publications/Research-and-Studies/2013-MMS-Patient-Access-to-Care-Study-%28pdf%29/> on September 7, 2015.

represent undocumented residents who are unlikely to have health care coverage, especially adults. Undocumented children are able to access the state's Children's Health Insurance Plan.

**Table 11. Health Insurance Coverage, 2009-2013**

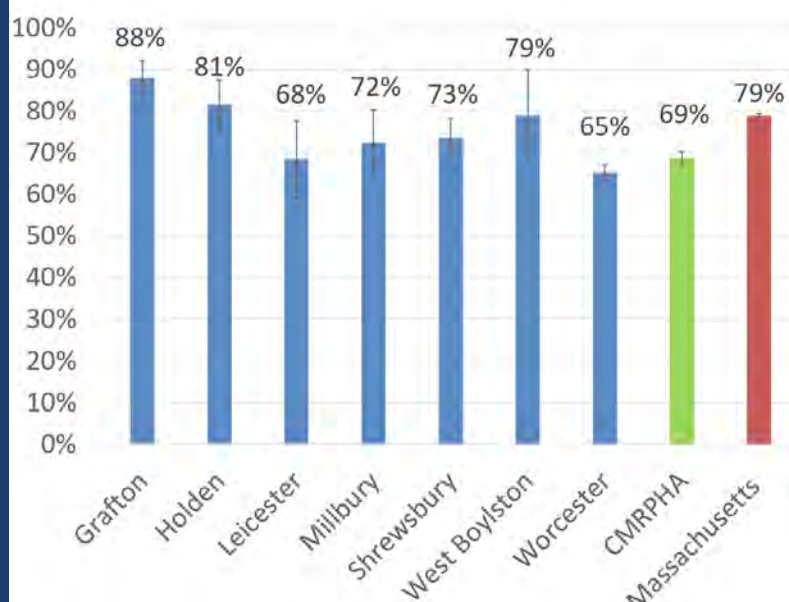
Geography	% Population with Health Insurance Coverage	% Population without Health Insurance Coverage
Grafton	97.3	2.8
Holden	99.2	0.9
Leicester	97.7	2.3
Millbury	96.4	3.6
Shrewsbury	97.5	2.5
West Boylston	97.8	2.2
Worcester	95.1	4.9
Massachusetts	96.0	4.0

Source: U.S. Census Bureau; American Community Survey, 2009-2013

### Adequate Prenatal Care

Adequate prenatal care can support healthy deliveries, while inadequate prenatal care may increase infant mortality (See Infant Mortality data in the Health Profile). There is a statistically significant difference between Worcester infant deaths to White mothers (3.74 per 1,000 births) compared with Hispanic mothers (11.18). Data on adequate prenatal care by race and ethnicity was not available for this report.

**Figure 62. Percentage of Births with Adequate Prenatal Care, 2010**



Source: Massachusetts Community Health Information Profile, 2010

“While it [the number of uninsured] is a very small percentage of our population now, it is still a significant issue for people who are undocumented, or are independently employed or who work for employers who aren't offering benefits. Many of those individuals are still using a patchwork quilt of a frequented system of the churches in Worcester. I personally don't believe that that is a very effective mechanism for receiving comprehensive health care.”

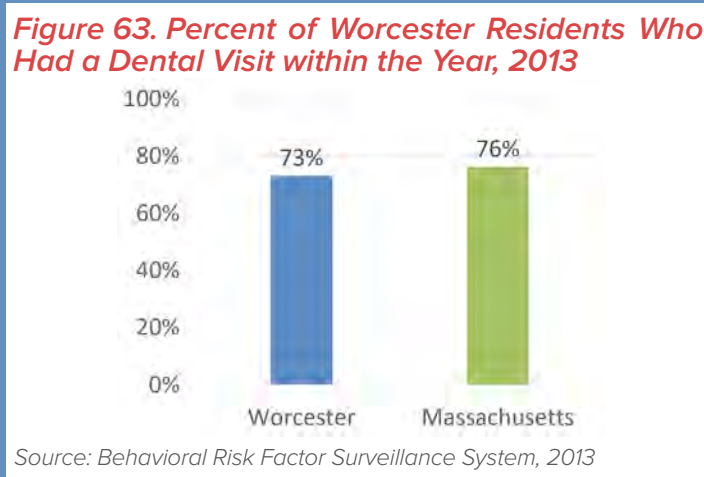
—Stakeholder Interview

Figure 62 shows the percentage of births occurring under adequate prenatal care. Adequate prenatal care is defined by the Kotelchuck Index, also called Adequacy of Prenatal Care Utilization. This index uses information about when prenatal care began and the number of prenatal visits until the delivery of the child to assign a summary score. A score of 80% or greater on the Kotelchuck Index indicates adequate prenatal care.

The Central MA Regional Public Health Alliance had statistically significantly lower percentages of births (69%) with adequate prenatal care than the state average (Figure 62). Worcester (65%), Leicester (68%), and Shrewsbury (73%) were significantly lower than the state. Grafton (88%) was significantly higher than the state on this measure.

### *Dental Access*

On the 2013 BRFSS survey, 73% percent of Worcester residents report that they had a dental visit within the past year. This is similar to the percent of Massachusetts residents, 76%, on this measure (Figure 63).



While, the percentages of Worcester residents visiting a dentist are similar to the state for most residents, 51% of Free Clinic Survey respondents indicated that dental services would “be of interest” to them.<sup>24</sup>

Holden and Shrewsbury are the only municipalities in the Alliance with fluoridated drinking water.<sup>25</sup>

<sup>24</sup> Free Clinic Survey Report. July 2015. City of Worcester, Division of Public Health.

<sup>25</sup> Massachusetts Public Water Systems Receiving Water Fluoridation. January, 2014. Massachusetts Department of Public

## ***Priority: Access to Healthy Food***

### **Why is this important?**

A nutritious diet promotes optimal growth and development in children,<sup>26</sup> and contributes toward a healthy start in school and lifelong health. Eating healthy foods can help maintain healthy weight and reduce individual risks for many conditions, including:

- Overweight and obesity
- Malnutrition
- Iron-deficiency anemia
- Heart disease
- High blood pressure
- Dyslipidemia (poor lipid profiles)
- Type 2 diabetes
- Osteoporosis
- Oral disease
- Constipation
- Diverticular disease
- Some cancers<sup>27</sup>

According to Healthy People 2020, individuals who are at a healthy weight are also less likely to experience complications during pregnancy or die at an earlier age.

The availability of healthy foods is necessary to promote healthy eating and wellness. Access to healthy food is not universal; however, it can contribute to health disparities among populations. The Centers for Disease Control and Prevention describes food deserts as “areas that lack access to affordable fruits, vegetables, whole grains, low fat milk, and other foods that make up the full range of a healthy diet.”<sup>28</sup>

“What does a healthy community look like?... An area that offers seasonal fresh fruits and vegetables like a farmers’ market.”

—Survey Participant

“Obesity is a serious issue in our community. I think food insecurity often makes that worse.”

—Stakeholder Interview

Respondents to the CHA Public Survey selected overweight/obesity as the second most important issue impacting community health. Additionally, they indicated that overweight/obesity ranked third and nutrition fourth as condition that should receive more attention within the community. Survey participants placed access to healthy food as the seventh top indicator of a healthy community.

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*Health, Office of Oral Health.*

26 *Nutrition and the Health of Young People. Centers for Disease Control and Prevention (CDC). Accessed at <http://www.cdc.gov/healthyyouth/nutrition/facts.htm> on August 8, 2015.*

27 *Nutrition and Weight Status. Healthy People 2020. Accessed at <http://www.healthypeople.gov/2020/topics-objectives/topic/nutrition-and-weight-status> on August 17, 2015.*

28 *A Look Inside Food Deserts. Centers for Disease Control and Prevention (CDC). Accessed at <http://www.cdc.gov/features/FoodDeserts/> on August 7, 2015.*



Stakeholder interviewees and focus group participants also listed obesity and access to healthy food as two of the top ten challenges, with obesity at third and access to healthy food/high cost of healthy food at seventh. One of the top community strengths to help offset the challenges is community gardens which was ranked ninth of the top ten community strengths.

Across all of the CMRPHA focus groups conducted with youth, access to healthy food and healthy eating were raised as important issues.

### Central MA Regional Public Health Alliance Status

The United States Department of Agriculture (USDA) defines food access as:

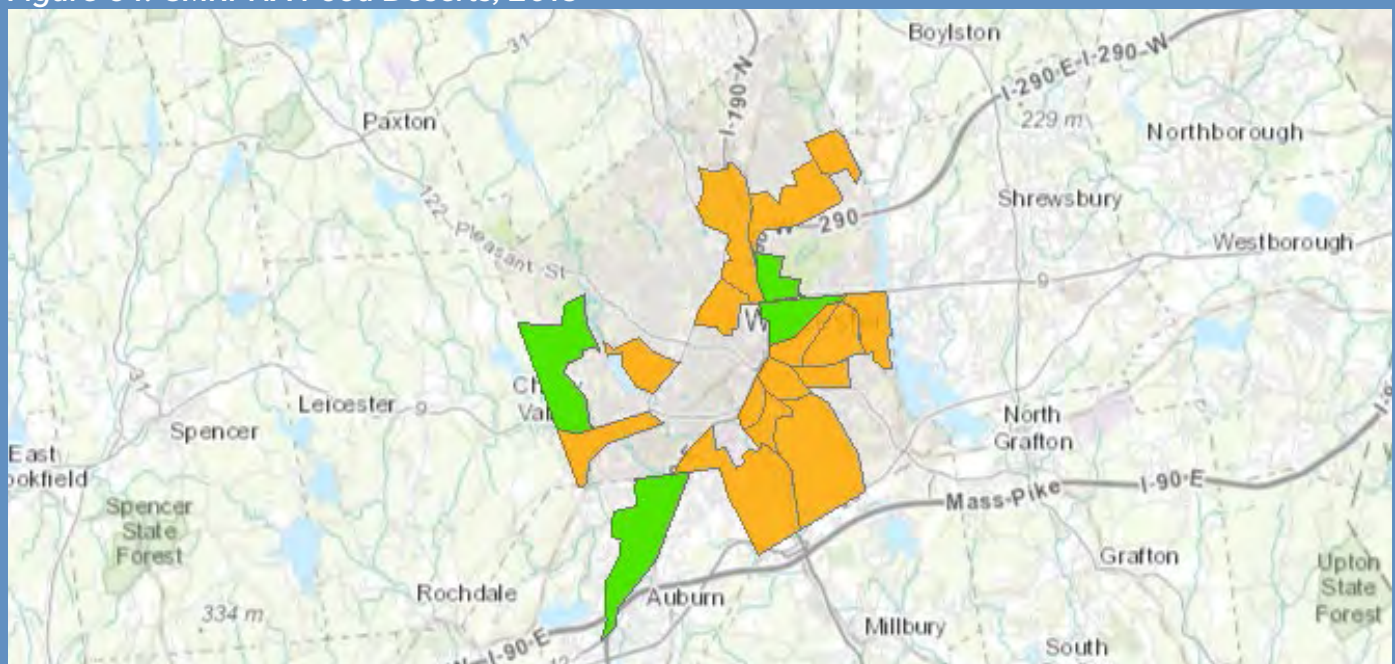
“Limited access to supermarkets, super-centers, grocery stores, or other sources of healthy and affordable food may make it harder for some Americans to eat a healthy diet. There are many ways to measure food store access for individuals and for neighborhoods, and many ways to define which areas are food deserts—neighborhoods that lack healthy food sources. Most measures and definitions take into account at least some of the following indicators of access:

- Accessibility to sources of healthy food, as measured by distance to a store or by the number of stores in an area.
- Individual-level resources that may affect accessibility, such as family income or vehicle availability.
- Neighborhood-level indicators of resources, such as the average income of the neighborhood and the availability of public transportation.”<sup>29</sup>

Figure 64 shows areas of the CMRPHA region designated as food deserts. Food deserts are defined as areas including a significant number of low-income households in an area more than one mile (green) from a supermarket. They also have an expanded definition for those who live more than ½ mile (orange) from a supermarket. The USDA estimates there are approximately 120,000 low income people residing in both the orange and green food desert regions in Worcester County. Of these, more than 62,000 low income residents are estimated to live in the green areas, where a supermarket is one or more miles away.

29 Food Atlas Research Atlas: Documentation. Economic Research Service. US Department of Agriculture (USDA). Accessed at <http://www.ers.usda.gov/data-products/food-access-research-atlas/documentation.aspx> on August 18, 2015.

**Figure 64. CMRPHA Food Deserts, 2015**



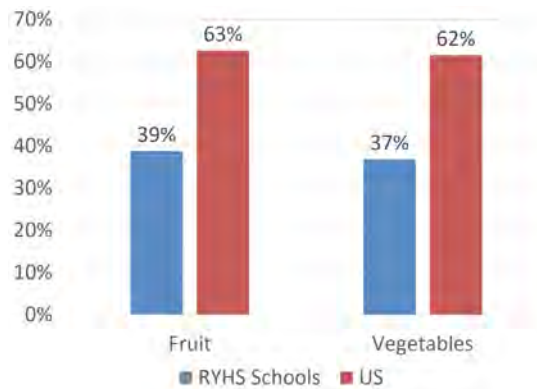
Source: Food Access Resource Atlas, US Department of Agriculture



As noted in the Health Profile, 15% of Worcester County residents responding to the Behavioral Risk Factor Surveillance Survey (BRFSS, 2013) reported eating five or more fruits and vegetables per day. This is statistically similar to the state average of 19%.

For high school students participating in the Regional Youth Health Survey (RYHS),<sup>30</sup> Figure 65 shows the percent who eat at least one fruit (39%) or one vegetable (37%) per day during the past 7 days. The U.S. percentages for these same questions are much higher at 63% for fruit and 62% for vegetables (Figure 65).

**Figure 65. Daily Fruit and Vegetable Consumption in During the Past 7 Days**



Source: 2015 CHA Public Survey

“I also think a problem in our community as far as healthy food is that healthy food is just more expensive. A fast food chicken meal is only \$1.07 and then a salad costs a little more.” —Youth Focus Group Participant

### Farmers' markets

Figure 66 shows the distribution of farmers' markets by municipality. Overall, the majority of farmers' markets are located in the city of Worcester. All markets are open by late spring/early summer and close by mid-autumn. The Worcester Canal District Farmers' market is the only market open year-round. All Regional Environmental Council markets (18) accept SNAP, Women, Infants and Children (WIC) and senior coupons. Including mobile farmers' markets, there are a total of 23. In addition, there are several community gardens in the CMRPHA region. Figure 66 shows both farmers' markets and community gardens.

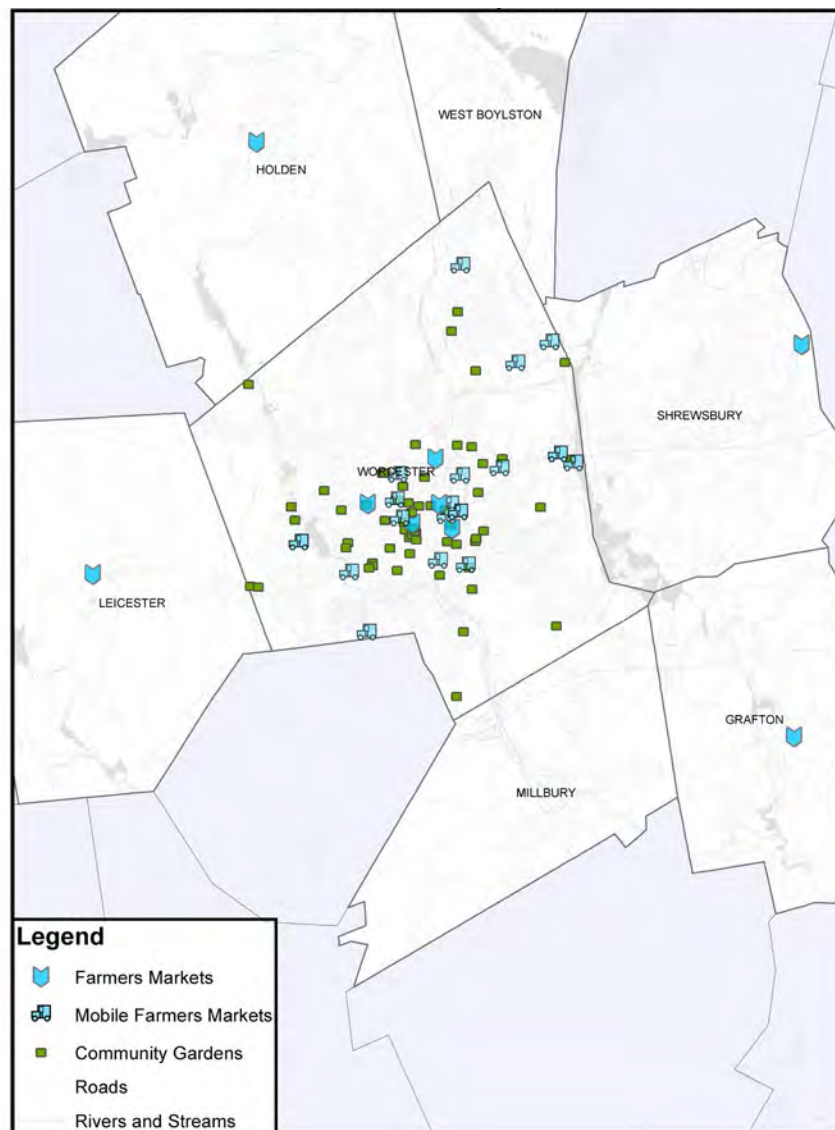
“Access and affordability of fresh goods is probably the biggest barrier. I think, most people know that they should eat better. It's just not as easily accessible for vast numbers of people.” —Stakeholder Interview

### Food Banks

The Worcester County Food Bank serves all CMRPHA municipalities. According to Jean McMurray, Executive Director, “The Worcester County Food Bank, and its network, nourishes healthy people and healthy communities through food distribution, collaboration and advocacy.” There are 50 food banks in the CMRPHA municipalities. Together they provided nutritious food to 71,561 individuals in 26,734 households in the 12-month period between July 2014 and June 2015. Many households were served multiple times. These visits are the equivalent of 312,235 visits for individuals (Table 12).

30 Regional Youth Health Survey Database, 2013-2014 School Year. Unpublished. Provided by the City of Worcester Division of Public Health.

**Figure 66. Farmers' Markets and Community Gardens of CMRPHA**



Source: Worcester Division of Public Health

“The majority of us here get assistance with food. Yes, I can go to the grocery store or the corner store down the street but, is there necessarily going to be healthy options [there]? Am I going to be able to buy fruit for my child? Am I going to be able to feed her organic food? Can I do that off of my income? Can I? What is the process for me to get to the store? Do I have to take a bus? Do I have to walk? I have to pack up my kids and go down there.” —Focus Group Participant

**Table 12. Worcester County Food Bank Households and Individuals Served**

City/Town	# Food Pantries	Unique Households	Unique People	Household Visits	Total People Served (includes repeat)
Grafton	1	30	106	154	541
Holden	1	235	632	1,506	3,894
Leicester	1	215	505	1,295	2,913
Millbury	1	116	302	395	1,094
Shrewsbury	1	523	1,266	5,785	15,615
West Boylston	1	69	144	293	598
Worcester	44	25,546	68,606	107,764	287,580
<b>Total</b>	<b>50</b>	<b>26,734</b>	<b>71,561</b>	<b>117,192</b>	<b>312,235</b>

Source: Worcester County Food Bank, Inc., September 2015

## Prevalence of Obesity

The County Health Rankings has tracked adult obesity trends for Worcester County between 2004 and 2011.<sup>31</sup> The percentage of adults reporting a BMI of 30 or more (obese) in 2011 for Worcester County is 26%. Most striking is the increasing trend on this measure for the region (Figure 67).

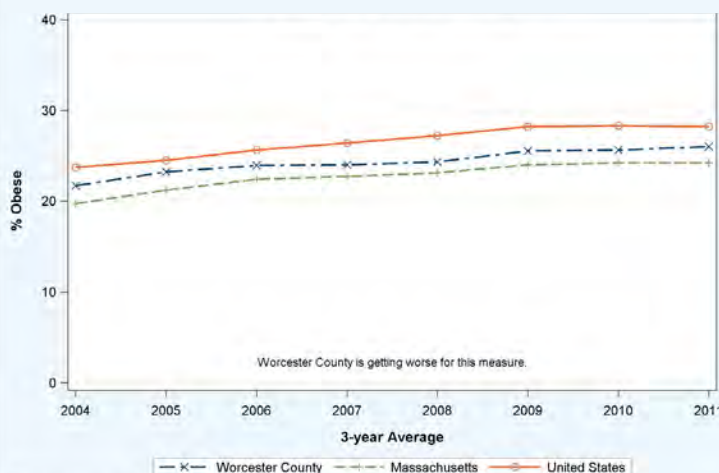
Figure 68 shows the prevalence of obesity among adults living in CMRPHA communities between 2008 and 2010. The rate of adult obesity is the lowest in Holden (15%) and in Grafton (21%). Approximately 22% of adults living in Leicester, Shrewsbury, and West Boylston, are obese. Adult obesity is the most prevalent in Millbury, with a rate of approximately 27% and in Worcester, which has a rate of 25%.

Figure 69 shows the percent of Worcester adults reporting a BMI over 25 (overweight or obese) by race. 73% of the latino population in CMRPHA towns is overweight or obese, as compared to 63% for white residents. All populations in both Worcester and the Alliance are higher than state rates (though not always significantly) except for the Asian population in the region. The disparity observed between white and black residents across Massachusetts is not as pronounced in CMRPHA.

The percentage of first grade children in the CMRPHA whose BMIs were over 25 (overweight or obese) are included by municipality in Figure 70. While confidence intervals are not provided for this data, rates of overweight/obesity in West Boylston (40.6%) and Leicester first graders (37.5%) are considerably higher than the state and other CMRPHA communities. Holden's rate is by far the lowest at 14.0%.

<sup>31</sup> CDC Diabetes Interactive Atlas. National Diabetes Surveillance System. Via the County Health Rankings. University of Wisconsin Population Health Institute. A Robert Wood Johnson Foundation program. Accessed at <http://www.countyhealthrankings.org/app/massachusetts/2015/rankings/worcester/county/outcomes/overall/snapshot> on August 5, 2015.

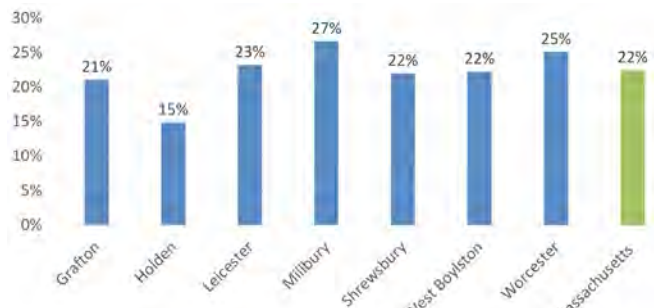
**Figure 67. Worcester County Adult Obesity Trends, 2004 -2011**



Please see Measuring Progress/Rankings Measures for more information on trends

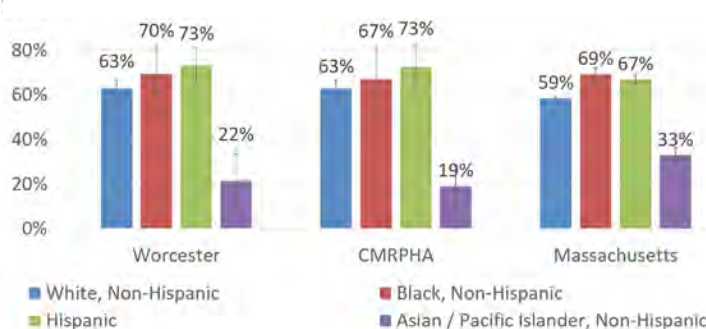
Source: Robert Wood Johnson Foundation, County Health Rankings, 2015

**Figure 68. Prevalence of Adult Obesity, 2008-2010**



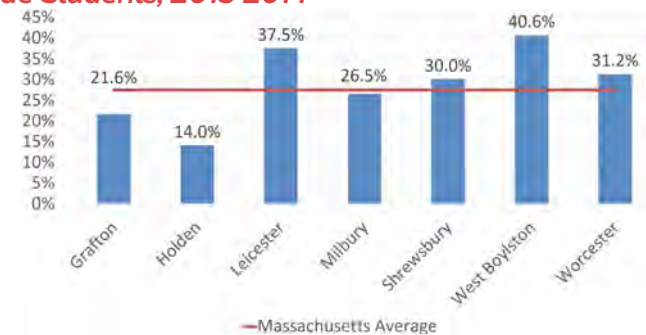
Source: Behavioral Risk Factor Surveillance System, 2008-2010

**Figure 69. Adult Overweight or Obese Percent by Race, 2013**



Source: Behavioral Risk Factor Surveillance System, 2011-2013

**Figure 70. CMRPHA Percent Overweight or Obese First Grade Students, 2013-2014**



Source: Worcester Division of Public Health

## Priority: Cultural Competency

### Why is this important?

Being unable to speak or understand English not only impacts education, job access, and income, but also has a serious effect on the health of populations. People who are not English language proficient may not be able to make an appointment for care. If they do manage to get an appointment, there may be no one who can interpret for them once they get to the health provider. The inability to communicate is frustrating and confusing for both the English speaker and the person who is not English proficient. Miscommunication can lead to misinformation and potentially dangerous outcomes. Cultural differences further exacerbate the problem. Understandings of illness, when and how to access health care, modes of interacting with other people, and health beliefs and mores, are all mediated and defined by the culture people are raised in. This can lead to not accessing care in a timely manner, if at all, contributing to more complex health conditions.

### Central MA Regional Public Health Alliance Status

As discussed in the Socio-Demographic section of this report, English language proficiency varies across the Alliance. Over one third of the population of Worcester (34.8%) is not English language proficient. Spanish is the next common language spoken in Worcester (16.8%) followed by European languages (8.6%). Although English predominates the rest of the municipalities in the Alliance, Shrewsbury has a sizable portion of the population that speaks other European (11.5%) and Asian languages (9.9%).<sup>32</sup> English is not the first language for nearly 45% of students in the Worcester Public Schools. This is true for over 20% of Shrewsbury students.<sup>33</sup>

Data from the UMass Memorial Medical Center shows the volume of medical interpretation requests by language for 2011 (Table 13).

**Table 13. Medical Interpretation Requests at UMass Memorial Medical Center by Language**

Language	2011 Number of Requested	2011 % of All Requested
Spanish	73,099	60%
Portuguese	14,666	12%
Vietnamese	8,731	7%
Arabic	6,921	6%
Albanian	4,733	4%
American Sign	1,744	1%
Other (81 lang.)	12,180	10%
Total	122,074	

Source: UMass Memorial Medical Center, 2011

Worcester is the largest resettlement community in Massachusetts, with 21% of all new arrival refugees/asylees in Massachusetts being placed in Worcester in FY2014.<sup>34</sup> Deeper analysis on new arrivals in Central MA is discussed in the Health Profile.

According to the UMass Memorial Medical Center, the requests for Arabic translation services is increasing as more refugees come into the region.

<sup>32</sup> US Census Bureau; American Community Survey, 2009-2013

<sup>33</sup> Massachusetts Department of Elementary and Secondary Education (DESE), Office of English Language Acquisition and Academic Achievement 2013-2014

<sup>34</sup> MA Office for Refugees and Immigrants (ORI), 2015



“...It’s not only the cultural competence you need...but it’s impossible to provide health care if you don’t have medical interpreters.” — Health Care Provider

The issue of language and cultural barriers was raised in many of the focus groups and stakeholder interviews.

“The folks here, many Asians, told us that it is very difficult for them to access health care. They have so many barriers, if they go to a place, call somebody, the first thing they hear is somebody who speaks either English or Spanish...they hang up or leave.” — Focus Group Participant

Focus group participants in Worcester noted growing populations of people from Brazil who predominantly speak Portuguese, as well as people from Liberia, Ghana and Kenya. They also reflected on the cultural differences and the difficulties the new arrivals face in accessing health care.

“Especially [those from] Ghana, they come with very little health exposure, health system exposure, or preventive care and they tend to have other cultural mores that prevent them from easily accessing the system.” — Focus Group Participant

The impact of having multiple cultural and limited English language proficient populations was noted by several providers during their interviews. In particular the difficulties they face in trying to adequately address the unique needs of these community members in order to produce the best health outcomes, given limited resources:

“Certainly differences by cultural background is something we try to pay attention to here with our interpreter services and other more culturally sensitive ways in addressing patient needs and not assuming one thing. I think we have the right instincts here. I think it’s a question of the needs [that] are great and growing. The needs of the populations are growing and as much as we would like to, we can’t fully resource for every population to meet all of their needs, so we are trying to meet the needs that are most critical. For example, interpreter services for the populations with the largest number of people.”— Health Care Provider

One hospital-based provider who was interviewed suggested that it is important to look at hospital readmission rates by language proficiency and cultural background to really understand the impact



that these factors have on health outcomes and the health care system. As the number of refugees grows, the face of the community changes – and keeps on changing as new and different groups of refugees arrive.

“I think that reaching out to different cultures and teaching them about how doctors aren’t bad is a really big thing, because I know, even in my family, they have heart disease and diabetes and everything that runs in our family, and bad dental health, but none of them want to go to the doctor. [Because] for some reason, it has been set in their minds that medicine is no good, that doctors are not good, they are evil people. I think that there is a huge misconception that all doctors are bad and so we need to reach out to different cultures to teach them about it.” — High School Age Focus Group Participant

## ***Priority: Economic Opportunity***

### **Why is this important?**

The structure of society, the differences in people's everyday lives, the systemic differences in opportunity based on class, gender, race, ethnicity, immigrant status, and income underlies many of the outcomes that we see in the health status data tables provided in this report. Many of the people who were interviewed, or who participated in focus groups, expressed the need to address the underlying social and economic conditions in the region's communities.

“I think everything is so interconnected... everything is about health. You are talking about making the neighborhood more walkable so people can get exercise and not have obesity. We need to make sure our businesses are thriving and that we don't have empty store fronts everywhere...where no one wants to walk by...and that's where a lot of social disorder congregates. How [can] we support small businesses to make sure that they thrive and how can the city put in funding to keep small businesses in place, or encourage them to come into communities that are suffering?” — Worcester Focus Group Participant

### **Central MA Regional Public Health Alliance Status**

When asked what makes it difficult to be healthy in their communities, survey respondents listed money issues as the second greatest difficulty. Also cited were lack of transportation, overwork, lack of jobs, and violence.

“It's a lot about the area where you live [and] what is going on around you. And, it's the community. I guess stronger communities build stronger people and they raise the children up in a better type of atmosphere. When you don't have that fundamental access to basic little things, how can a community thrive? How can children get out of the cycle?” — Focus Group Participant

Survey respondents varied in their perspectives on whether there is economic opportunity in their communities (Figure 71). The greatest opportunity reported is by respondents from Shrewsbury (64%) and Millbury (62%). The least economic opportunity was reported by respondents from Leicester (21%) and Grafton (25%).

According to the County Health Rankings, 2015, Worcester County ranks 11th out of the 14 counties in Massachusetts for Physical Environment (air pollution, drinking water violations, driving distance to work, severe housing problems) and Social and Economic Factors (education, income inequality, children in poverty and single-parent homes, violence, social associations and injury deaths).<sup>35</sup>

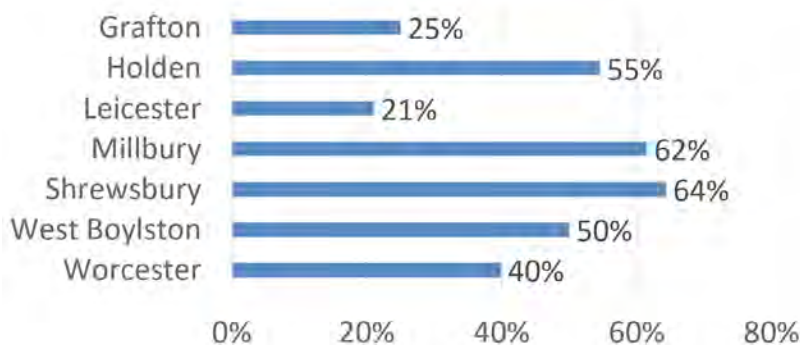
<sup>35</sup> Source: County Health Rankings accessed at: <http://www.countyhealthrankings.org/app/massachusetts/2015/measure/factors/43/datasource> on August 5, 2015

The indicators discussed in the Demographic Profile range widely across the municipalities in the Alliance. Median household income in Worcester is 31% lower than the state, whereas median income in the other six municipalities exceeds the state average.<sup>36</sup>

Educational attainment, income and employment all fall below state averages in Worcester, while they vary across the other municipalities. Less than half (44.4%) of the housing in the city of Worcester is owner-occupied compared to 62.7% statewide and 65.7% nationally.<sup>37</sup> Roughly 42% of renters in Worcester spend more than 35% of their income on rent, an indication of economic distress.<sup>38</sup>

“One of the housing impacts in this neighborhood is that we have some of the oldest buildings...they do not usually meet healthy home standards and there is a high prevalence of asthma and other serious maladies...  
— Focus Group Participant

**Figure 71. Percent of Survey Respondents Saying They Agree There is Economic Opportunity in Their Community**



Source: 2015 CHA Public Survey

“I [still] wonder if when a family gets overwhelmed with their vulnerabilities and their issues, if they’re able to access any kind of care, support and healthcare...”  
—Stakeholder Interview

Across the CMRPHA municipalities, unemployment declined from 2010 to 2014; however, Shrewsbury and Holden are the only municipalities in the Alliance that have lower unemployment than Massachusetts.

In the Main South neighborhood of Worcester, a site of periodic violence and crime, 56% of the residents between the ages of 18 and 24 are classified as unemployed or outside of the labor force.<sup>39</sup> Similar trends are found in other gang- and youth-violence hot spot neighborhoods in the city, such as Union Hill.<sup>40</sup>

For youth, the employment situation is much worse. According to data cited in the Worcester Youth Violence Prevention Strategic Plan:<sup>41</sup>

<sup>36</sup> U.S. Census Bureau, American Community Survey, 2009-2013.

<sup>37</sup> U.S. Census Bureau; 2010 Census.

<sup>38</sup> Worcester Youth Violence Prevention Strategic Plan: Needs and Resources, 2014.

<sup>39</sup> U.S. Census Bureau; 2010 Census.

<sup>40</sup> Union Hill Health Impact Assessment Report, 2013.

<sup>41</sup> Worcester Youth Violence Prevention Strategic Plan: Needs and Resources, 2014.

- “Challenges and barriers discussed in stakeholder interviews included:
  - A lack of opportunities to train youth in the specialized skills needed in the sectors which are experiencing the most growth.
  - A lack of access to reliable transportation for the jobs which are available.
  - The Workforce Investment Board is not able to solicit funds as a city-staffed agency, making it difficult for them to leverage the resources to increase local opportunities, particularly for private sector jobs.
  - There is a tension between the desire to cultivate private sector partnerships for the purpose of providing long-term employment for youth versus the enhancing the capacity of community organizations to provide the case management and transitional support needed for the most vulnerable youth populations. Limited funding often means choosing between these two types of opportunities.
- In 2012, only 27% of working-age teens in Massachusetts were employed.<sup>42</sup>
  - White, non-Hispanic youth are more likely to work than others; in 2010 in Massachusetts, 23-25% of Black, Asian, and Hispanic teens worked versus 36% of White, non-Hispanic youth.
  - In 2010 only 6-7% of low-income Black and Hispanic youth worked in Massachusetts.
  - Northeastern University professor Andrew Sum (2008) reported that “Job losses for teens the past eight years have been significant, but they have been especially severe for a few groups. Low-income Black and Hispanic teens face the equivalent of a Great Depression.”
- Fewer than 30% of Massachusetts high school students have participated in structured career development opportunities.”<sup>43</sup>

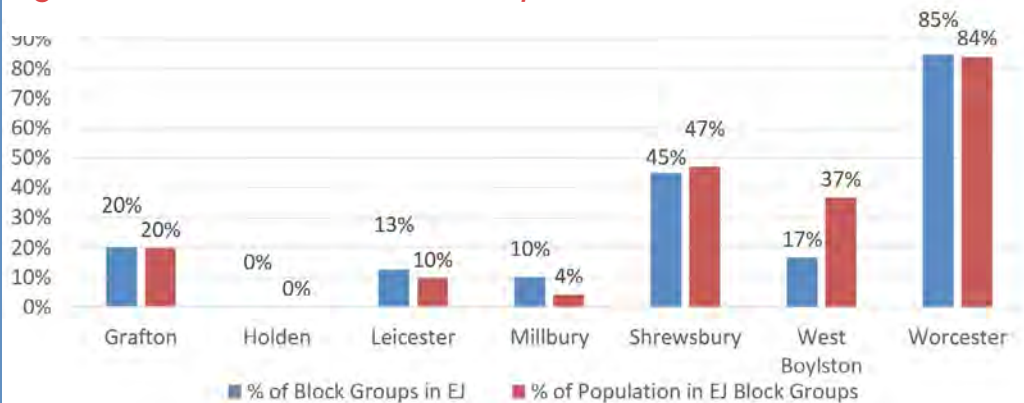
### Environmental Justice Populations

Figure 72 depicts 2010 summary statistics for the Environmental Justice Populations (EJPs) for the CMRPHA communities. According to the Central Massachusetts Metropolitan Planning Organization (CMMPO), EJPs are U.S. Census Block Groups that hold certain attributes making them “neighborhoods of environmental justice concern.” These include low-income populations, minority populations, and linguistically isolated households, defined as households in which no one 14 and over speaks English only, or speaks a language other than English at home and speaks English “very well.”

<sup>42</sup> Paul Harrington and Nancy Snyder, “Signaling Success: Boosting Teen Employment Prospects,” Commonwealth Corporation, <http://www.drexel.edu/provost/clmp/docs/Signaling%20Success-Boosting%20Teen%20Employment%20Prospects%20Apr%202013.pdf>, (April 2013) cited in the Worcester Youth Violence Prevention Strategic Plan: Needs and Resources, 2014.

<sup>43</sup> Andrew Sum et al., “The Continued Crisis in Teen Employment in the U.S. and Massachusetts: The Absence of Any Teen Job Growth in the Recovery from the Great Recession, Low Income and Minority Youth Fare Worst,” Center for Labor Market Studies at Northeastern University, <http://www.rebhc.org/new/wp-content/uploads/2012/05/March262012TeenEmploymentReport.pdf> (March 2012) cited in the Worcester Youth Violence Prevention Strategic Plan: Needs and Resources, 2014.

**Figure 72. Environmental Justice Populations, 2010**



Source: Massachusetts Energy and Environmental Affairs (MA EOEAA), 2010

“Healthiest communities tend to have strongest businesses and strongest economies. Investment in health has serious effects on the economy.”  
— Stakeholder Interview

Worcester has the highest amount of EJ Block Groups (126) and the highest total number of block groups (149). Eighty-four percent (84%) of the population in Worcester lives in EJ Block Groups.


Shrewsbury has the second highest percentage of people in EJ Block groups (47%), followed by West Boylston with 37%. According to the environmental criterion, both Shrewsbury and Worcester include linguistically isolated households. Within the CMRPC Region, 6.3% of households are linguistically isolated.

“When a community isn’t healthy, it affects pretty much every system; children, for example, are living in a system that is perhaps underfunded such as an education system and that leads people to cycles of public benefits and is not a very empowering way to live. If you have underemployment in a community, you have a lower tax base. If you have a lower tax base, your capacity to fund public programs is significantly lower. It is then difficult to attract businesses to a community that perhaps does not have great promise in terms of having the talent to bring on a talented work force. And, so with underemployment and lack of ability to build your tax base, I think it becomes more problematic in terms of how you are going to try and fix these problems.” — Health Care Provider

Less than half of respondents (43%), believed there is an active sense of civic responsibility in their community and a lack of responsiveness of the political structures.

“One of the things I worry about is political representation. Worcester has very low voter turnout. It is incumbent among politicians to not only know their community but to serve their community. That is not happening. There are a lot of interest groups that are narrowly focused, like the East Side business group- they are concerned with a business group of a certain area. The needs of everyday people are not represented, expressed or known, because many people do not believe that elected politicians will change their lives significantly.” — Stakeholder Interview, Worcester





“Unfortunately, in order to get returns you have to make investments and in some cases the investments in the infrastructure and in the community have been lessened because of the varied means and priorities. As a result, the crumbling infrastructure only gets worse and so then we all suffer as a result of it.” — Stakeholder Interview

## ***Priority: Mental Health***

### **Why is this important?**

Mental health is a key component of overall individual health and community health. Healthy People 2020 included mental health in its ten-year agenda, noting “mental disorders are among the most common causes of disability. Mental health issues can be linked to disruptions in family life, employment issues, increased suicide rates<sup>44</sup> and are also closely linked to other chronic diseases, such as cardiovascular disease, diabetes, obesity, asthma, and arthritis.<sup>45</sup> The resulting disease burden of mental illness is among the highest of all diseases.”<sup>46</sup>

“Last time we met [2012 CHA], obesity was the number one issue but I think that has changed now to substance abuse and mental health. That is the number one pressing health issue.” — Focus Group Participant

CMRPHA experts who were interviewed, general community members and focus group participants identified behavioral health and mental health issues as a very high priority and the top health challenge in the region. Respondents to the CHA Public Survey also noted mental health problems as the third highest issue impacting community health, particularly indicating depression as the number one condition that should receive more attention. When asked about community health services they are not happy with, the top two responses were: 1) counseling or mental health services for youth, and 2) counseling or mental health services for adults.

### **Central MA Regional Public Health Alliance Status**

A community mental health assessment for Worcester residents conducted in the spring of 2015 reinforces the concern for mental health issues for the Worcester region. The assessment identified numerous daily challenges facing Worcester residents, including significant economic stress, exposure to violence and trauma, substance use disorders, and medical comorbidity. Non-Western conceptions of mental health and treatment, in addition to stigma, emerged as notable issues for the Worcester community, with stigma being of particular concern to immigrant and refugee groups as well as military veterans.

“Numerous barriers to utilizing mental health services emerged from the interviews, including long waiting lists, navigating the mental health system, language barriers, and several logistical barriers (i.e., hours of operation, transportation, and insurance co-pays).”<sup>47</sup>

The 2013 Behavioral Risk Factor Surveillance System data indicates that 16% of Worcester County residents responding had more than 15 days of poor mental health in a 30-day period. The average percentage for the state is 11%.

44 *Mental Health and Chronic Diseases: Issue Brief No. 2.* October 2012. National Healthy Worksite. National Center for Chronic Disease Prevention and Health Promotion (CDC). Division of Population Health. Accessed at <http://www.cdc.gov/nationalhealthworksite/docs/Issue-Brief-No-2-Mental-Health-and-Chronic-Disease.pdf> on August 6, 2015.

45 Chapman DP, Perry GS, Strine TW. The vital link between chronic disease and depressive disorders. *Prev Chronic Dis* 2005;Jan. Accessed at [www.cdc.gov/pcd/issues/2005/jan/04\\_0066.htm](http://www.cdc.gov/pcd/issues/2005/jan/04_0066.htm) on August 6, 2015.

46 *Mental Health and Mental Disorders.* Healthy People 2020. Accessed at <http://www.healthypeople.gov/2020/topics-objectives/topic/mental-health-and-mental-disorders> on August 6, 2015.

47 Cardemil, E., Stone, R. T., Keefe, K. 2015 Worcester Mental Health Needs Assessment (Draft). June 2015.

The Regional Youth Health Survey (RYHS)<sup>48</sup> was conducted in the Greater Worcester region<sup>49</sup> in the 2013-2014 school year, with 8,703 high school students participating. Nearly one-quarter of participants reported signs of depression where they “felt so sad or hopeless almost every day for two weeks or more in a row that they stopped doing some usual activities.” Twelve percent seriously considered attempting suicide. One in ten made a plan about how they would attempt suicide. Six percent attempted suicide at least once with 2% sustaining injury, poisoning or overdose that required medical treatment (Table 14). These numbers are in line with state and national Youth Risk Behavior Survey (YRBS) data.

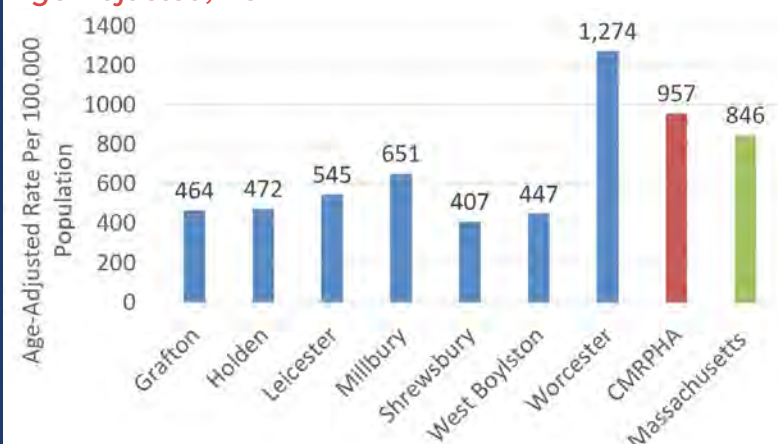
**Table 14. Youth Depression and Suicide Indicators, Regional Youth Health Survey, 2013**

During past 12 months.	Region	State	National
Felt so sad or hopeless almost every day for two weeks or more in a row that they stopped doing some usual activities.	24%	22%	30%
Seriously considered attempting suicide.	12%	12%	17%
Made a plan about how they would attempt suicide.	10%	11%	14%
Attempted suicide at least once.	6%	6%	8%
If attempted suicide, percentage that attempt resulted in injury, poisoning, or overdose that had to be treated by a doctor or nurse.	2%	2%	3%

Source: Regional Youth Health Survey (RYHS) for six school districts in the Greater Worcester area

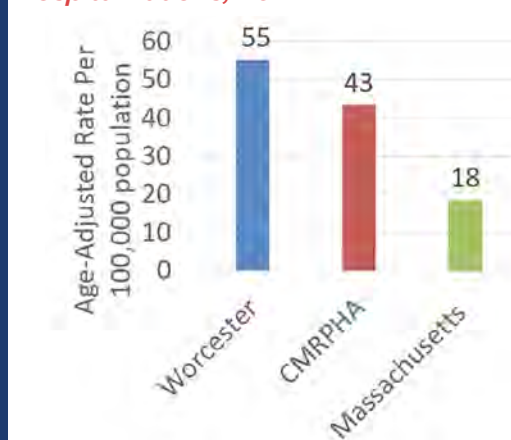
CMRPHA communities have a higher rate of mental disorder hospitalizations per 100,000 population than the Massachusetts average. Figure 73 shows the rates by municipality. Worcester is driving the high rates with a rate of 1,274 per 100,000, 50% higher than the state average (846 per 100,000) for hospitalizations related to mental disorders.

**Figure 73. Mental Health Disorder Hospitalizations, Age-Adjusted, 2012**



Source: Massachusetts Community Health Information Profile

**Figure 74. Self-Inflicted Injury Hospitalizations, 2012**



Source: Massachusetts Community Health Information Profile

Hospitalizations for self-inflicted injuries are also much higher for Worcester than for the state. Figure 74 shows the rates for Worcester, CMRPHA, and the state. Hospitalizations for self-inflicted injuries in Worcester (55 per 100,000) are nearly three times the state average (18 per 100,000) which is pushing the CMRPHA rate (43 per 100,000) to more than twice the state average.

Worcester and the Alliance region have similar rates of suicide deaths as the state at 8.32 deaths per 100,000 population for Worcester, 8.5 for the Alliance region, and 8.62 for Massachusetts.

<sup>48</sup> Regional Youth Health Survey Database, 2013-2014 School Year. Unpublished. Provided by the City of Worcester Division of Public Health.

<sup>49</sup> Schools included: the Diocese of Worcester, the Worcester Public School District, Leicester Public School District, the Milbury Public School District, the Grafton Public School District and the Shrewsbury Public School District.

Non-Western conceptions of mental health and treatment, in addition to stigma, emerged as notable issues for the Worcester community, with stigma being of particular concern to immigrant and refugee groups as well as military veterans. — Worcester Community Mental Health Assessment

#### *Access to Mental Health Care*

The ratio of Worcester County population to the number of mental health providers, including psychiatrists, psychologists, licensed clinical social workers, counselors, marriage and family therapists and advanced practice nurses specializing in mental health care, is 272 residents per provider. This is favorable when compared to the state average of 216:1. However, the County Health Rankings reports the top performing counties in the country as having one provider for each 386 residents.<sup>50</sup> This statistic does not necessarily reflect the need in the CMRPHA region since it includes all of Worcester County.

“We have patients that come in here with severe depression, suicidal, who are waiting months—months—to see a psychiatrist if they can get one at all. And, if they can get an appointment, often times they can’t get there due to lack of transportation. There are not enough psychiatrists and there are big issues with access. I don’t know where the psychiatrist offices are, but they are not near where the people are.” — Focus Group Participant

“There is not enough outpatient mental health care available, we want everyone to be able to get services as soon as they feel the need and that’s not the case in this community. We have months-long waits for people to get in and don’t have sufficient access. The community as a whole will be healthier and happier or more well if we are able to meet those needs better.” — Focus Group Participant

The 2015 Worcester Mental Health Needs Assessment<sup>51</sup> authors made the following recommendations to improve overall community mental health:

1. Greater and broader coordinated care
2. Increased use of case managers, patient navigators/advocates, community health workers
3. Greater network/community among providers
4. More mental health education
5. Culturally competent care
6. Extended hours of operation and better transportation support
7. More opportunities for social interaction

<sup>50</sup> Centers for Medicare and Medicaid Services, *National Provider Identification*, 2014. Via the County Health Rankings. University of Wisconsin Population Health Institute. A Robert Wood Johnson Foundation program. Accessed at <http://www.countyhealthrankings.org/app/massachusetts/2015/measure/factors/62/datasource> on August 5, 2015.

<sup>51</sup> Cardemil, E., Stone, R. T., Keefe, K. 2015 Worcester Mental Health Needs Assessment (Draft). June 2015.

## Priority: Physical Activity

### Why is this important?

The Centers for Disease Control and Prevention report that “people who are physically active tend to live longer and have lower risk for heart disease, stroke, type 2 diabetes, depression, and some cancers. Physical activity can also help with weight control, and may improve academic achievement in students.”<sup>52</sup> Healthy People 2020 further notes that regular physical activity can lower the risk of hypertension, falls and improves bone health. “For people who are inactive, even small increases in physical activity are associated with health benefits.”<sup>53</sup>

Participants in the CHA Public Survey chose low physical activity as the fourth highest top issue that impacts community health. Opportunities for physical activity, such as youth sports, walking trails and fitness centers were ranked as the third highest indicator of a healthy community. Physical activity was ranked second for the top conditions that should receive more attention.

Persons who were interviewed and focus group participants were positive about physical activity opportunities in the region, listing three physical activity related topics as top ten community strengths (Table 15).

**Table 15. Physical Activity Opportunities**

Physical Activity Opportunities	Rank
Affordable Wellness Facilities	4
Parks and Outdoor Activities	6
Youth Programs	7

Source: CHA Stakeholders and Focus Groups

“They are building trees in my neighborhood.”  
—Middle School Focus Group Participant

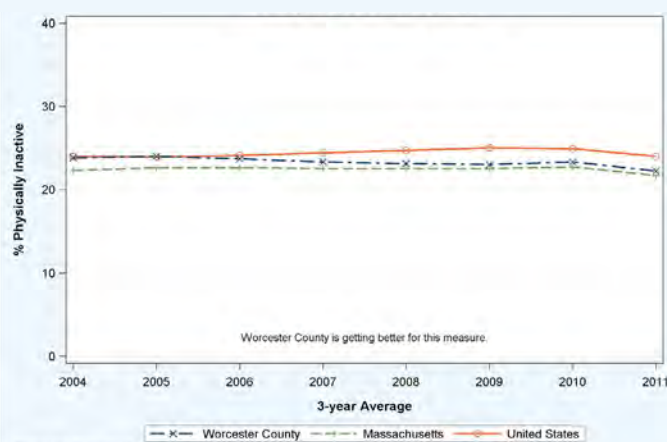
### Central MA Regional Public Health Alliance Status

Nearly three quarters (71%) of Worcester County residents responding to the 2013 Behavioral Risk Factor Surveillance Survey report participating in physical activities for exercise during the past month. This is not statistically significantly different than the state average of 77%.

52 Facts About Physical Activity. Centers for Disease Control and Prevention (CDC). Accessed at <http://www.cdc.gov/physicalactivity/data/facts.htm> on August 18, 2015.

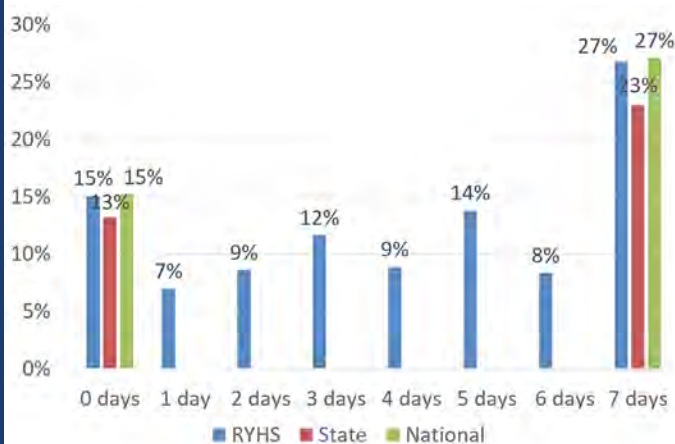
53 Healthy People 2020; Physical Activity. Accessed at <http://www.healthypeople.gov/2020/topics-objectives/topic/physical-activity> on August 18, 2015.

**Figure 75. Worcester County Physical Inactivity Trends, 2004-2011**



Source: Robert Wood Johnson Foundation, County Health Rankings, 2015

**Figure 76. Youth Physical Activity, 2013-2014**



Source: Regional Youth Health Survey, 2013-2014. “During the past seven days, on how many days were you physically active for a total of at least 60 minutes?”



The County Health Rankings reports on Physical Inactivity Trends<sup>54</sup> for Worcester County, the percentage of adults aged 20 and over reporting no leisure-time physical activity in 2011 was 22%. The overall rate in Massachusetts is 21%. Top performing U.S. counties are at 20% or less. Figure 75 shows the trends in physical inactivity in Worcester County from 2004 to 2011. Worcester County is significantly better for this measure (reduction in percentage) in 2011 than in 2004.

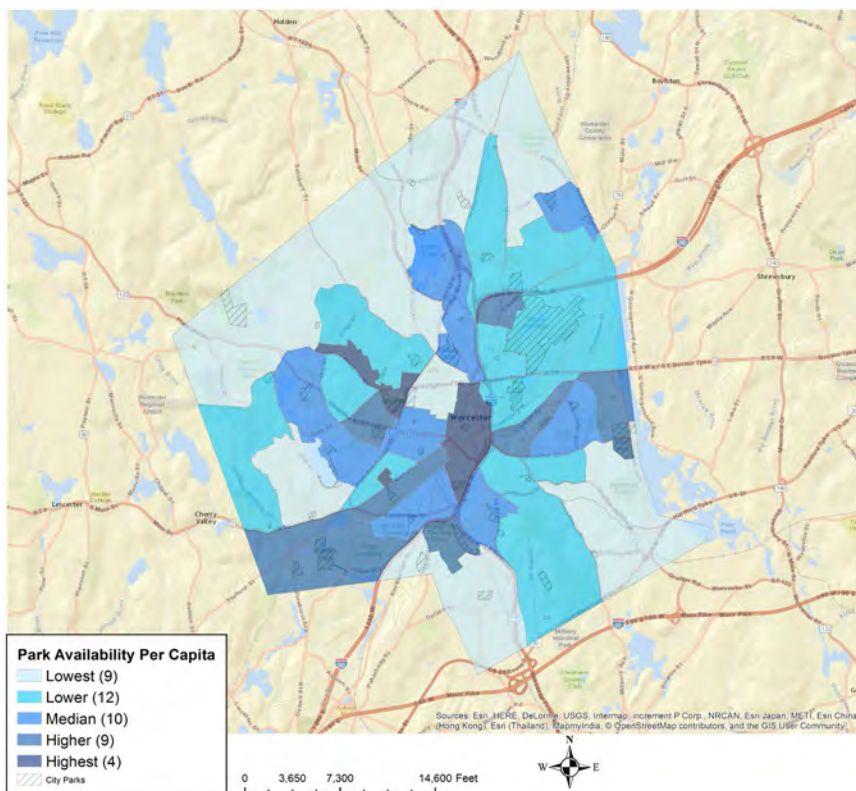
Youth responding to the Regional Youth Health Survey (RYHS) reported similar levels of inactivity, 15% not active for 60 minutes in any day during a seven-day period, compared to state (13%) and national (15%) rates. For those who were physically active for 60 minutes or more every day, the RYHS population (27%) was also similar to state (23%) and national percentages (27%) (Figure 76).

Physical activity and places to go for sports and exercise were raised as issues across the focus groups that were conducted with youth. Lack of parks with recreational equipment such as basketball courts were cited numerous times. In the discussion of safety, participants cited that concerns with violence and gang activity in public spaces compounds the difficulties these children encounter in trying to be physically active.

**“Well, there’s not any sports or organized activities for kids. They could get a basketball court or something.” - Middle School Focus Group Participant**

54 CDC Diabetes Interactive Atlas. National Diabetes Surveillance System. Via the County Health Rankings. University of Wisconsin Population Health Institute. A Robert Wood Johnson Foundation program. Accessed at <http://www.countyhealthrankings.org/app/massachusetts/2015/rankings/worcester/county/outcomes/overall/snapshot> on August 5, 2015.

**Figure 77. Per Capita Acreage of Parks**



Source: Worcester Division of Public Health, 2013

**“You go to the park and you are worried that your kid is going to find a needle stuck in between something.” — Focus Group Participant**

Figure 77 shows the acreage of parks on a per person basis for Worcester. The darkest blue has the highest acreage of parks per person and the lightest has the smallest. Green space such as City-owned parks contribute to not only physical health as an opportunity for physical activity, but to mental and social health as well.<sup>55</sup>

### Walkability

The degree to which a community is walkable is an indicator for not only several physical activity measures—accessibility of parks, frequency of active travel—but also economic vitality and safety from crime and traffic.<sup>56</sup> Walking is the most accessible and frequent form of physical activity.<sup>57</sup>

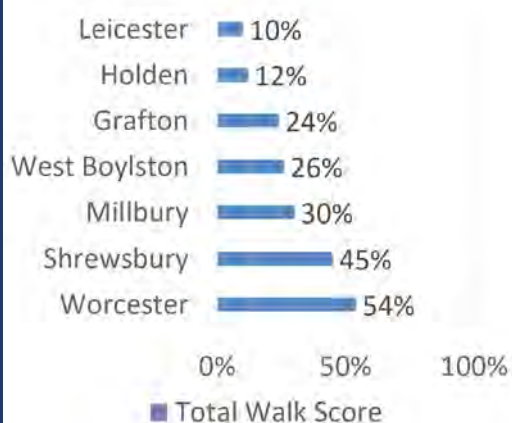
At the time of this report, no communities within the Alliance have adopted a “Complete Streets” policy or a similar administrative policy with the aim of increasing safe travel by walking or biking. Some communities have made discrete efforts in improving walkability.

### Walk Score

Walk Score is a measure of “walkability” of neighborhoods, communities, cities and towns on a scale from 0 - 100 based on walking routes to destinations (amenities) such as grocery stores, schools, parks, restaurants, and retail.<sup>58</sup> A Walk Score is based on walking route distances to nearby amenities. It does not take crime risk or other hazards into consideration. Figure 78 shows the different Walk Scores for each CMRPHA community. Overall, Worcester had the highest total walk score of 54. This indicates that some errands can be accomplished on foot. The most walkable Worcester neighborhoods are the Central Business District (downtown Main Street), University Park and Green Island. Central Business District is the most walkable area in Worcester, with a score of 89. It should be noted, however, that WalkScore is mostly meaningful for smaller areas. While Worcester’s score appears higher, this is based on a handful of samples throughout the city, where some areas score higher and others much lower.

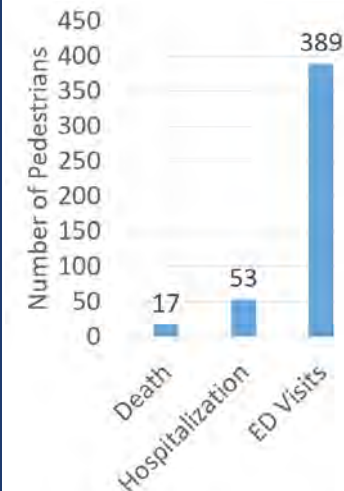
- 55 A. Lee and R. Maheswaran, “The health benefits of urban green spaces: a review of the evidence,” *Journal of Public Health*, September 2010.
- 56 L.K. Brennan Ramirez, et al, “Indicators of Activity-Friendly Communities,” *American Journal of Preventive Medicine*, December 2006.
- 57 US Department of Health and Human Services, Office of the Surgeon General, “Physical Activity and Health: A Report of the Surgeon General,” US Department of Health and Human Services, Washington, DC, 1996
- 58 Walkability, Real Estate, and Public Health Data. Walk Score Professional. Accessed at [www.walkscore.com](http://www.walkscore.com) on August 18, 2015.

**Figure 78. CMRPHA Walk Score by Municipality, 2015**



Source: [www.walkscore.com](http://www.walkscore.com)

**Figure 79. CMRPHA Pedestrians Injured by Motor Vehicles, 2008-2012**



Source: Massachusetts Center for Health Informatics & Analysis

“...I try to ride my bike on the sidewalk even though you’re not supposed to. I’m afraid of getting hit by a car. Bike paths are not only safer but really beautiful scenery.”  
— Stakeholder Interview

Shrewsbury had the second highest Walk Score of 45, suggesting that most errands in this area require a car. The most walkable area in Shrewsbury is Green Drive, which had a score of 74. Similar to Worcester's Main Middle, this indicates that this is a very walkable area.

By contrast, Holden and Leicester had the lowest Walk Scores. Walk Scores between 0-24 indicate that these areas are highly car-dependent. Holden had a total walk score of 12, and Leicester had a total Walk Score of 10. Both of the most walkable areas in these towns ranked as car-dependent.

### Safety

Participants in the CHA Public Survey and Focus Groups commonly cited feeling unsafe as a deterrent to being physically active. Traffic, infrastructure for walking and biking, and crime were all cited as unsafe barriers to physical activity. A more in-depth analysis of safety as it relates to crime can be found in the "Safety" priority area of this report.

During the period of 2008-2012, there were 17 pedestrian deaths in the CMRPHA municipalities due to motor vehicle crashes. Fifty-three (53) pedestrians were hospitalized with non-fatal injuries, and there were 389 emergency department visits due to pedestrian injury (Figure 79). A more in-depth analysis of injury and death due to traffic can be found in the Health Profile.

## Priority: Racism and Discrimination

### Why is this important?

“Discrimination/unfriendliness of provider or office staff” was given by respondents in the CHA Public Survey as one of the top five issues making accessing health care difficult.

Discrimination impacts all aspects of people’s lives from education to income to employment and health outcomes. Growing up in a discriminatory environment leads to feeling a lack of empowerment, an inability to change things.

“I know a lot of people whose needs are not being met because they don’t know why they don’t have a lot of stuff, like a lot of resources and they don’t know what is the key factor. They don’t understand that race plays a big part of why they don’t have certain resources, so they just blame the wrong people.”  
— Focus Group Participant

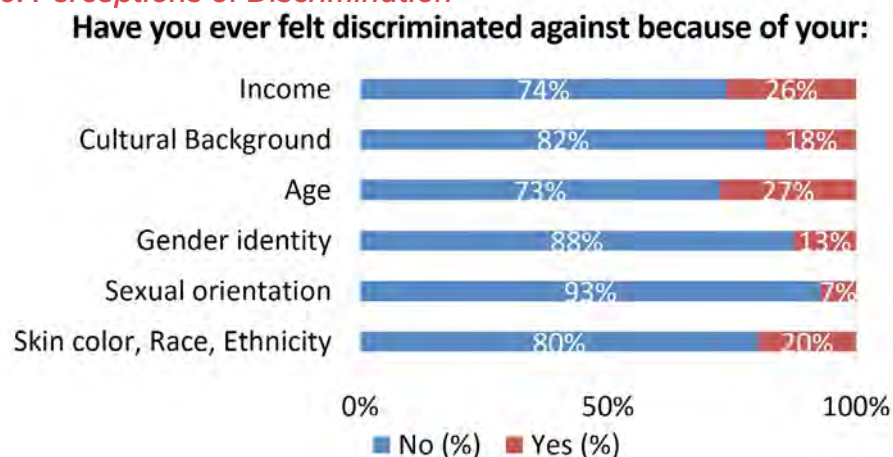
“...if people fundamentally feel like they don’t matter and that their well-being doesn’t matter, that will cost us permanently, so that’s what our organization is focused on fixing, getting underneath those root causes and rebuilding hope and rebuilding a belief that all people matter as the fundamental basis of care” — Stakeholder Interview

### Central MA Regional Public Health Alliance Status

According to the American Community Survey (2013), 22% of all households in Worcester received food stamp/Supplemental Nutrition Assistance Program (SNAP) support. However, 51% of Latino households and 63% of American Indian and Alaska Native households receive such support.<sup>59</sup> These same populations experience higher rates of school dropout, higher unemployment, and more frequent incarceration. Figure 80 shows the reported experience of discrimination among survey respondents across the CMRPHA municipalities.

59 U.S. Census Bureau; American Community Survey, 2009-2013.

**Figure 80. Perceptions of Discrimination**

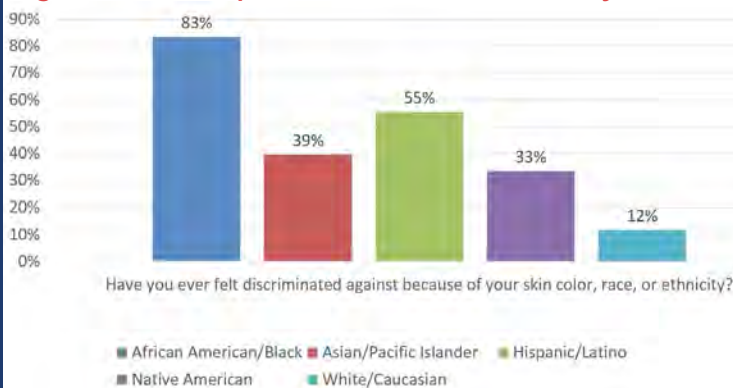


Source: 2015 CHA Public Survey

The percent of those who reported experiencing discrimination varies by type and municipality. Overall, 27.4% of respondents indicated that they experienced age discrimination. This ranges from 54% in Millbury to 8% in West Boylston. Discrimination based on race/ethnicity/skin color was reported by 19.7% overall, ranging from 28% in Worcester to 5% in Leicester. Respondents, ranging from 16% in Shrewsbury to 38% in Millbury, reported income-based discrimination most consistently.

Looking specifically at perceptions of discrimination based on skin color, race, and ethnicity, there is a startling disparity when stratified by race of respondents. While only 12% of survey respondents identifying as White/Caucasian reported feeling discriminated against, a third of all Native American respondents (33%), greater than a third of Asian/Pacific Islander respondents (39%), greater than half of all Hispanic/Latino respondents (55%) and more than four out of five African American/Black respondents (83%) did so.

**Figure 81. Perceptions of Discrimination by Race**



Source: 2015 CHA Public Survey

“I feel like people of color—which means Asian, Hispanic, and African Americans—and women, right now we are not valued too much... are not treated the same.” — Focus Group Participant

### Youth and Discrimination

According to the Youth Health Survey, approximately 11% of students in the region report that they have been made to feel badly because of their race or ethnicity. Of the students that reported they have been treated unfairly because of their race or ethnicity, most have lived in the U.S. only a short time.<sup>60</sup> The same survey found that approximately 76% of students in the region believe it is at least somewhat important to make friends with people who are different.

“We are having a lot of tension with youth, specifically men of color and the police which is very difficult because it causes a lot of stress between families; and also they don’t have the space, or people they can talk to, because racism is such a sensitive subject...” — Focus Group Participant

Youth victims of shootings and homicides in Worcester have been disproportionately Black and Latino men between the ages of 17 and 27. In 2013, Latino males accounted for 55% of all juvenile male arrests and Latino females accounted for roughly 50% of all juvenile female arrests. Arrest rates for these groups continue to rise, as juvenile arrests for other demographic groups fall.<sup>61</sup> The interaction between race, ethnicity, poverty and arrests all but ensures that the cycle will continue.

<sup>60</sup> Worcester Regional Youth Health Survey, 2013.

<sup>61</sup> Clark University. Worcester Youth Violence Prevention and Reduction Strategic Plan: Needs and Resources Analysis, Version 2. February 2014. Worcester Charles E. Shannon Community Safety Initiative.



“At least in this neighborhood, for students of color, I think that there are not enough spaces to heal. We are talking about complex issues around race and racism, I mean, how many of you all have actually had a conversation about what happened in Charleston? Not many, right? So, our schools aren’t having these conversations to meet the needs of students of color. We need to heal through different processes, and to engage in dialogue around race. I think that there is something that’s not being met and needs to be addressed.” — High School Age Focus Group Participant

### Structural Racism

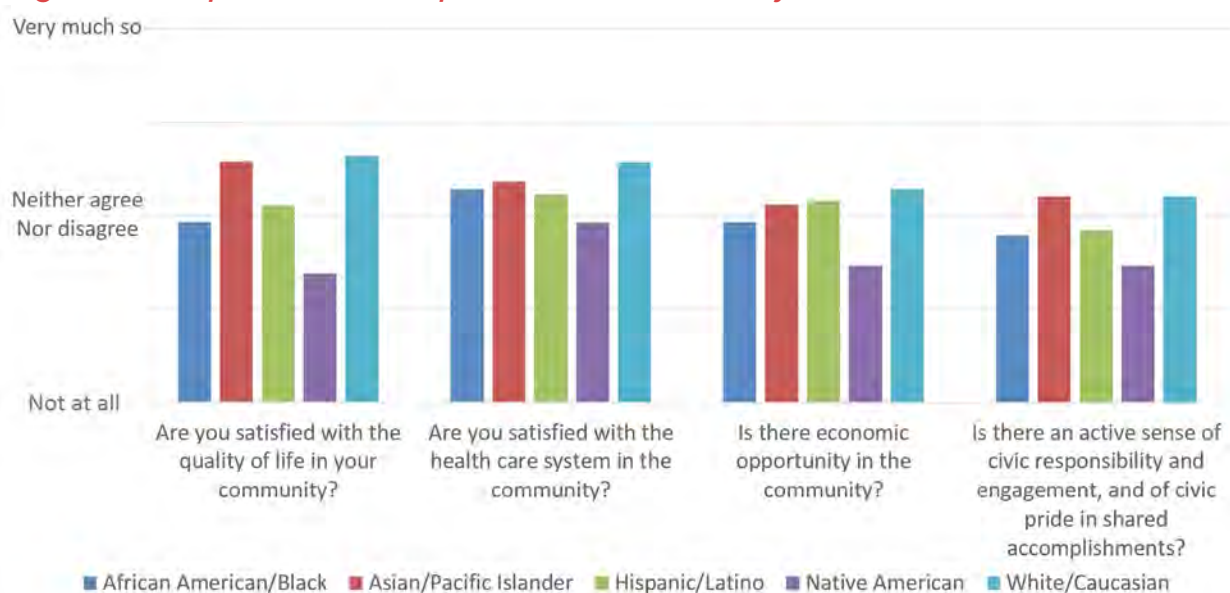
This section of the report largely focused on discrete racism and discrimination, though participants of focus groups, stakeholder interviews, and the public survey commonly referred to a deeper level of racism as a barrier to health.

Structural racism is defined as “the social, economic, educational, and political forces or policies that operate to foster discriminatory outcomes or give preferences to members of one group over others.”<sup>62</sup> The results of these forces can be seen as outcomes throughout the Health Profile and Priority Areas of this report.

Figure 82 shows the disparities in perceptions of several aspects of the community from the 2015 CHA Public Survey. White/Caucasian respondents in the region were more likely to be agree or be satisfied with quality of life, economic opportunity, the healthcare system, and civic pride than all other races and ethnicities.

62 Barker, R. L. (2003). *The social work dictionary (5th ed.)*. Washington, DC: NASW Press

**Figure 82. Disparities in Perceptions of the Community**



Source: 2015 CHA Public Survey

There are costs bigger than the healthcare, criminal justice, and social welfare systems ... the cost of a disconnected, disengaged community is sort of an insidious and rather large cost. You look at what's happening in some of these communities that are really struggling with racism and ... and you see the divide that is being created from the economic middle and upper class and the economic poor. It's creating a divide that is going to be hard to fix. This divide, that some people matter and some people don't, or that there is a group of people worth more, not just in dollars, but in time and energy, than another class, that's a problem that's going to ripple for many many moons—a lot longer than just the cost of the social welfare system today. **If people fundamentally feel like they don't matter and that their wellbeing doesn't matter, that will cost us permanently.**

– Stakeholder Interview

## ***Priority: Safety***

### **Why is this important?**

The issue of safety is multi-faceted and ranges from the very general sense of one's community being a good place to live and to raise children, to very specific factors such as incidence of crime, gun ownership, and acts of violence. Violence and injuries kill more people ages 1 to 44 in the U.S. than any other cause.<sup>63</sup> Nationally, violence and injuries cost more than \$406 billion in medical care.<sup>64</sup>

Beyond their immediate health consequences, injuries and violence have significant impact on the well-being of Americans by contributing to:<sup>65</sup>

- Premature Death
- Disability
- Poor Mental Health
- High Medical Costs
- Lost Productivity

As noted in the discussion of substance abuse in the following pages, drug and alcohol use contribute to the overall safety of the community impacting the rates of domestic violence, child abuse, physical fights, overall crime, and homicide.

### **Central MA Regional Public Health Alliance Status**

Across the region people generally feel safe in their communities. Most people (94%) indicated that they feel safe at home. In response to the question of whether or not their community is a safe place to live, 57% indicated “yes” compared to 25% who do not feel their community is safe. Looking at individual municipalities, 88% of respondents in Shrewsbury agree/strongly agree that their community is safe followed by Grafton (70%), Leicester (65%), Holden (64%), and West Boylston (54%). Forty-six percent (46%) of Millbury respondents and 39% of respondents from Worcester indicated that they feel their communities are safe.<sup>66</sup> Worcester residents tended to feel that violence is increasingly a problem.

When asked if people feel that their communities are safe places to raise children, a majority (59%) agreed compared to 21% who do not. Worcester teens who participated in the youth focus groups raised neighborhood safety as an issue.

**“I want to walk but my mom says “no” cause there are dangerous things out there like people with guns and knives and I don’t want to get hurt or killed.” — Youth Focus Group Participant**

Even in communities where most of the people feel safe, concerns about safety are pervasive. Overall, respondents in the 2015 Public Survey identified low crime/safe neighborhoods as the primary indicator of a healthy community out of 21 possible indicators. This factor was ranked first in five of the seven municipalities in the region with Grafton and West Boylston respondents ranking it lower (7th and 5th respectively).

<sup>63</sup> NCIPC: Web-Based Injury Statistics Query and Reporting System (WISQARS).

<sup>64</sup> Finkelstein EA, Corso PS, Miller TR, Associates. *Incidence and economic burden of injuries in the United States*. New York, NY: Oxford

<sup>65</sup> *Healthy People 2020; Injury and Violence Prevention*. Accessed at <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=24> on September 5, 2015.

<sup>66</sup> The number of respondents was small in several of the municipalities so these results may be unreliable.

Table 16 provides respondents' answers regarding specific types of safety issues across the region's municipalities.

**Table 16. CMRPHA Safety Issue Responses**

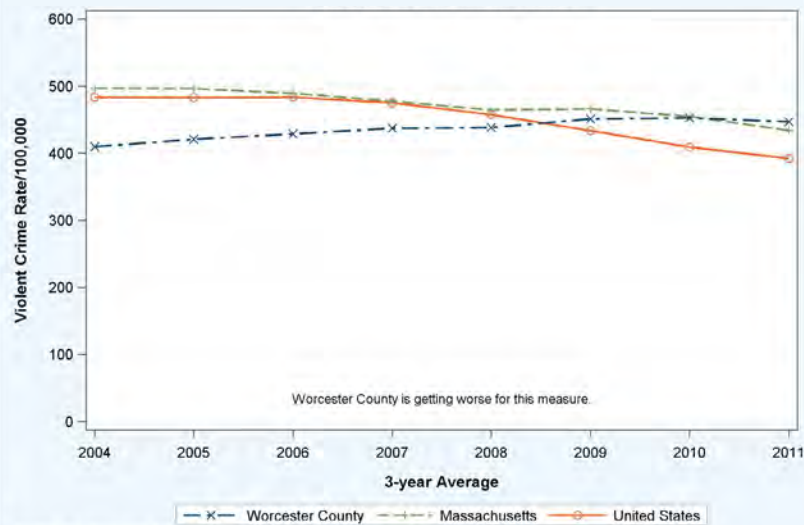
	Grafton	Holden	Leicester	Millbury	Shrewsbury	W. Boylston	Worcester
<b>Have you ever witnessed violence or domestic violence incidents in your community?</b>							
Percent Answering "yes"	50%	33%	55%	85%	30%	46%	61%
<b>Have you ever been a victim of violence or domestic violence?</b>							
Percent Answering "yes"	35%	18%	25%	69%	8%	15%	25%
<b>Have you ever been forced to work against your will?</b>							
Percent Answering "yes"	5%	0%	5%	15%	3%	8%	8%
<b>Have you ever been forced to sell sex to get the things you need?</b>							
Percent Answering "yes"	5%	0%	0%	0%	0%	8%	2%
<b>Do you own a gun?</b>							
Percent Answering "yes"	21%	2%	15%	23%	7%	15%	4%
<b>Do you feel safe in your community?</b>							
Percent Answering "yes"	90%	93%	95%	85%	95%	100%	69%
<b>Do you feel safe at home?</b>							
Percent Answering "yes"	95%	98%	100%	92%	95%	100%	91%

Source: 2015 CHA Public Survey

## Violence

Violence was rated as the top issue impacting community health and ranked sixth for issues that should have more resources devoted to them with 61% of all respondents saying more resources should be dedicated to addressing violence. Seventy percent (70%) of respondents from Worcester supported more attention being focused on violence, even in the context of limited financial and organizational resources.

**Figure 83. Violent Crime Trends, 2004-2011**



Please see Measuring Progress/Rankings Measures for more information on trends

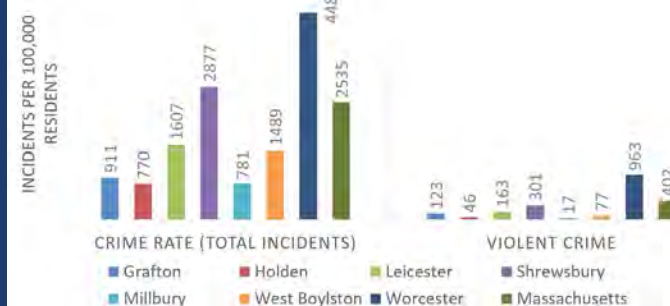
Source: Robert Wood Johnson Foundation, County Health Rankings, 2015

**Figure 84. Selected Crime Rates, 2012**



Source: CityRating.com Massachusetts Crime Statistics

**Figure 85. Selected Crime Rates by Municipality, 2012**



Source: CityRating.com Massachusetts Crime Statistics

Violent crimes are defined as offenses that involve face-to-face confrontation between the victim and the perpetrator, including homicide, forcible rape, robbery, and aggravated assault. According to the County Health Rankings and Roadmap,<sup>67</sup> the Worcester County rate of violent crimes in 2011 was 447 per 100,000 population compared to 443 per 100,000 in Massachusetts as a whole. In the city of Worcester the violent crime rate in 2011 was 988 per 100,000, over twice the rate in the County overall.<sup>68</sup> In contrast to the state and the U.S., violent crime rates are trending up in Worcester County (Figure 83).<sup>69</sup>

Figure 84 shows the rate of violent crimes in CMRPHA, Worcester, and Massachusetts. The crime rates in the city of Worcester are consistently higher across all types of crimes compared to CMRPHA municipalities as a whole.

The overall crime rate per 100,000 in 2012 in the city of Worcester was 4,483 compared to the Massachusetts rate of 2,535. Millbury was the only other municipality in the Alliance that had overall crime rates higher (2,877) than the state. The same pattern holds for crimes against individuals with Worcester having the highest rate (963), which was higher than Massachusetts (402) (Figure 85).

Close to half (45.7%) of survey respondents have witnessed violence in their community, and nearly 21% have been victims of violence. Six percent (6%) of respondents report owning a gun. According to Massachusetts hospital discharge data, the rate of assault-related emergency department visits in Worcester is 772.1 per 100,000 compared to 377.9 per 100,000 statewide.<sup>70</sup> The 2012 Worcester Community Health Assessment identified 3,336 property crimes per 100,000 compared to 2,259 per 100,000 statewide.

**“On my street the only thing that bothers us is the people, they make it dangerous so nobody goes outside.” — Middle School Focus Group Participant**

67 Uniform Crime Reporting – FBI via County Health Rankings accessed at <http://www.countyhealthrankings.org/app/massachusetts/2015/measure/factors/43/datasource> on August 5, 2015

68 United States Department of Justice, Federal Bureau of Investigation. *Crime in the United States, 2011*. Data for years 2008-2011 used for reporting of rates.

69 Uniform Crime Reporting – FBI via County Health Rankings accessed at <http://www.countyhealthrankings.org/app/massachusetts/2015/measure/factors/43/datasource> on August 5, 2015

70 MA Inpatient Hospital Discharge, Observation Stay and Emergency Department Discharge Databases, Center for Health Information and Analysis (CHIA)



## Youth and Violence

According to a recent study, in a sample of 105 “proven risk” young men in Worcester, “31% had contact with the police as a victim before the age of 13. Reasons for this contact include abuse, neglect, ambulance calls, and ‘domestics.’”<sup>71</sup> “Proven risk” is defined in the study as 17-24 year olds most likely to be the victim or perpetrator of serious community violence involving a gun or knife. The Worcester Police Department report that there are roughly 500 gang members under the age of 25 in Worcester.

“I know there are certain places, certain parks, that I can’t go to because my mom says that I can’t because the gang violence is really high or most of the people there are gang-related. So, I think the problem we have is gangs and then violence.” — Youth Focus Group Participant

Fewer students in the region report carrying a weapon for protection compared to state and national averages. Nearly 10% of youths who participated in the Greater Worcester Youth Health Survey of Students (YHS) report having carried a weapon for protection at least one day in the past 30 days, which is lower than the state (11.6%) and the nation (17.9%). Among the same students 2.9% reported carrying a gun, similar to the state average and lower than the national average.<sup>72</sup>

Students in the region generally report feeling safe at school: 2.9 % indicated feeling unsafe within the past 30 days compared to 3.6% at the state level and 7.1% nationally. When asked about in-school violence, 4.6% of students reported being threatened or injured at school at least once in the past 12 months compared to 4.3% at the state level and 6.9% nationally. However, students in the survey experienced being bullied at school less often than their peers statewide and nationally (11.8% versus 13.8% and 14.8% respectively).

The youths in the survey report having been in a physical fight slightly more often than at the state level (21.8% compared to 20.3%) but less often than the national average (24.7%), with more having to seek medical treatment (3.5%) compared to the state (2.1%) and the nation (3.1%). Finally, these youths report a lower percentage of inter-partner violence (4.9%) compared to students nationwide (10.3%).<sup>73</sup>

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<sup>71</sup> Clark University. *Worcester Youth Violence Prevention and Reduction Strategic Plan: Needs and Resources Analysis, Version 2. February 2014. Worcester Charles E. Shannon Community Safety Initiative.*

<sup>72</sup> Worcester Regional Youth Health Survey Report, 2014

<sup>73</sup> Worcester Regional Youth Health Survey Report, 2014

## ***Priority: Substance Abuse***

### **Why is this important?**

Alcohol and other drug use is a high priority for the Central MA Regional Public Health Alliance communities. According to Healthy People 2020, “substance abuse has a major impact on individuals, families, and communities. The effects of substance abuse are cumulative, significantly contributing to costly social, physical, mental, and public health problems. These problems include:

- Teenage pregnancy
- Human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS)
- Other sexually transmitted diseases (STDs)
- Domestic violence
- Child abuse
- Motor vehicle crashes
- Physical fights
- Crime
- Homicide
- Suicide”<sup>74</sup>

The CHA Public Survey respondents identified alcohol or drug treatment services for youth and alcohol or drug treatment services for adults as the 4th and 5th of the top five community health services that they are dissatisfied with. They also ranked addiction/substance abuse as the 5th of the top seven conditions that should receive more attention. Interviewees and focus group participants ranked substance abuse issues as even greater problems with the top two health challenges as 1) opiate/prescription drug abuse and 2) substance abuse.

### **Central MA Regional Public Health Alliance Status**

#### ***Alcohol***

While Greater Worcester youth<sup>75</sup> report slightly lower drinking rates on the Worcester Regional Youth Health Survey 2013-2014 (RYHS) than national averages for the Youth Risk Behavior Survey, nearly one third (30%) of high school students report having at least one alcoholic drink in the past 30 days. Half of these (16%), report having 5 or more drinks in a row in the past 30 days.<sup>76</sup>

About one in five adults in Worcester (19.9%) report binge drinking (5 or more drinks at one time) during the past 30 days. This is consistent with binge drinking rates for the state (19.7%) (Figure 86).<sup>77</sup>

Figure 87 shows the rate for Worcester as significantly higher than that of Massachusetts for adult substance abuse treatment facility admissions where alcohol is the primary substance (683 and 507 admissions per 100,000 population, respectively). Millbury (520) and Leicester (419) have rates statistically similar to the state average. Holden (213), Shrewsbury (216), Grafton (299) and West Boylston (352) are significantly lower than the state average.<sup>78</sup>

#### ***Marijuana***

74 Healthy People 2020; Substance Abuse. Accessed at <http://www.healthypeople.gov/2020/topics-objectives/topic/substance-abuse> on August 5, 2015.

75 Schools included: the Diocese of Worcester, the Worcester Public School District, Leicester Public School District, the Millbury Public School District, the Grafton Public School District and the Shrewsbury Public School District.

76 Regional Youth Health Survey Database, 2013-2014 School Year. Unpublished. Provided by the City of Worcester Division of Public Health.

77 Behavioral Health Risk Factor Surveillance Survey (BRFSS). MassCHIP, 2013.

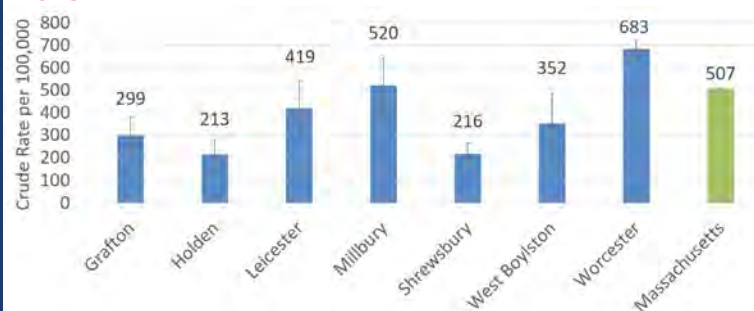
78 MA Bureau of Substance Abuse Services, Substance Abuse Treatment Admissions, MassCHIP Community Health Profile, 2013.

**Figure 86. Worcester Adult and RYHS Youth Binge Drinking (5+ Drinks)**



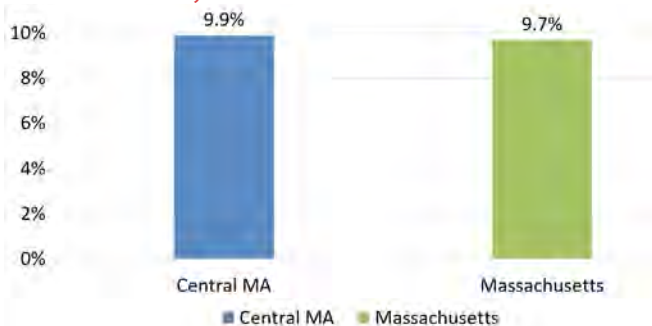
Source: Regional Youth Health Survey, 2013-2014

**Figure 87. CMRPHA Alcohol Treatment Admissions, 2013**



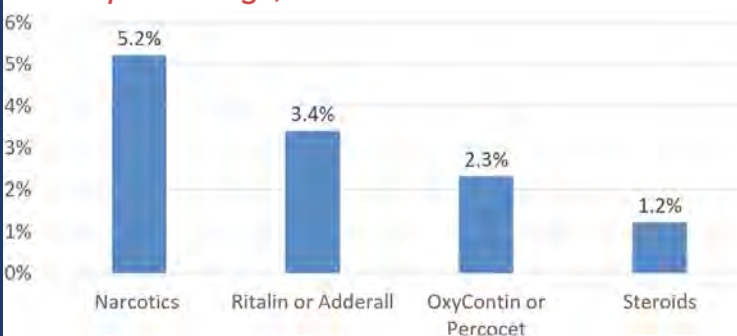
Source: Massachusetts Community Health Information Profile

**Figure 88. Central Massachusetts Marijuana Use in the Past Month, 2010-2012**



Source: National Survey on Drug Use and Health (NSDUH), 2010-2012

**Figure 89. Greater Worcester Youth Illegal Use of Prescription Drugs, 2013-2014**



Source: Regional Youth Health Survey, 2013-2014

High school students in the Greater Worcester area have marijuana usage rates similar to state and national rates. Thirty-six percent of students have used marijuana at least once in their lifetimes; 8% before the age of 13. Almost one quarter (24%) of responding students have used marijuana during the past 30 days.

Data on adult use of marijuana is not available for this report, however, according to the National Survey on Drug Use and Health (NSDUH) (Figure 88), almost one in ten central Massachusetts residents aged 12 and over has used marijuana in the past month.<sup>79</sup> This is similar to the percent use in the state overall.

#### Other Substances

The use of other illegal substances among CMRPHA youth ranges from 5% for ecstasy and inhalants to 2% for heroin and methamphetamines. Each of these rates is slightly lower than national averages, except heroin, which is similar to the national rate.

One in ten high school respondents reports using prescription medications without a doctor's prescription at least once. Figure 89 shows reported student use by type of prescription drug.

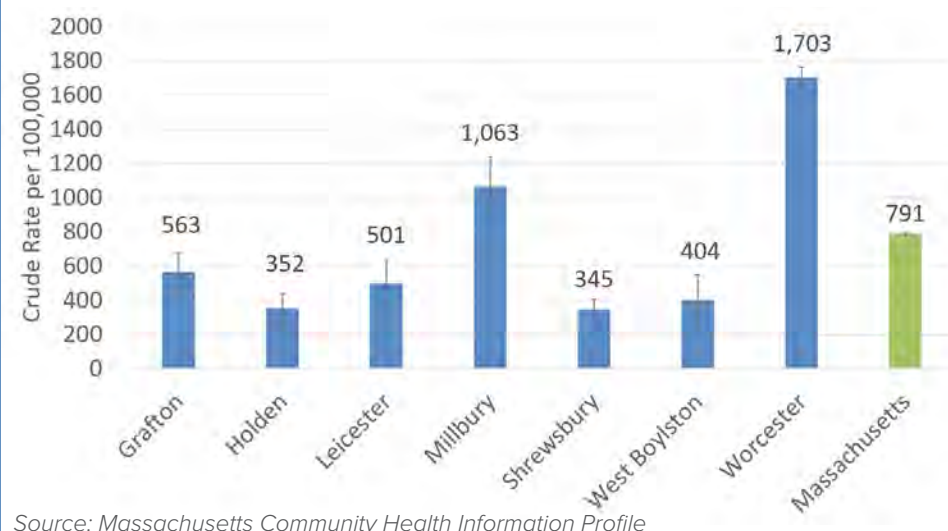
Adult treatment admissions rates for substance abuse where heroin is the primary substance are more than statistically twice as high for Worcester (1,703 per 100,000) as for the state average (791 per 100,000), Figure 90. Millbury is also significantly higher at 1,063 admissions per 100,000 population. Shrewsbury (345), Holden (352), West Boylston (404), Leicester (501) and Grafton (563), are all significantly lower for heroin admissions.

<sup>79</sup> National Survey on Drug Use and Health (NSDUH), 2010-2012

The Worcester Police Department has collected data obtained through 911 calls on the number of reported overdose incidents in the city of Worcester in the past year. Between August 2014 and July 2015, there has been a total of 712 overdoses documented through 911 calls. Five percent (33) of these overdoses were fatal. Since the data is obtained through 911 calls, which do not capture all overdoses, the figures may be understated.<sup>80</sup> Figure 91 shows the sharply increasing trend of reported overdoses for the 20-year period of 1994 through 2014. Overdoses have more than doubled between 2011 and 2014 alone.

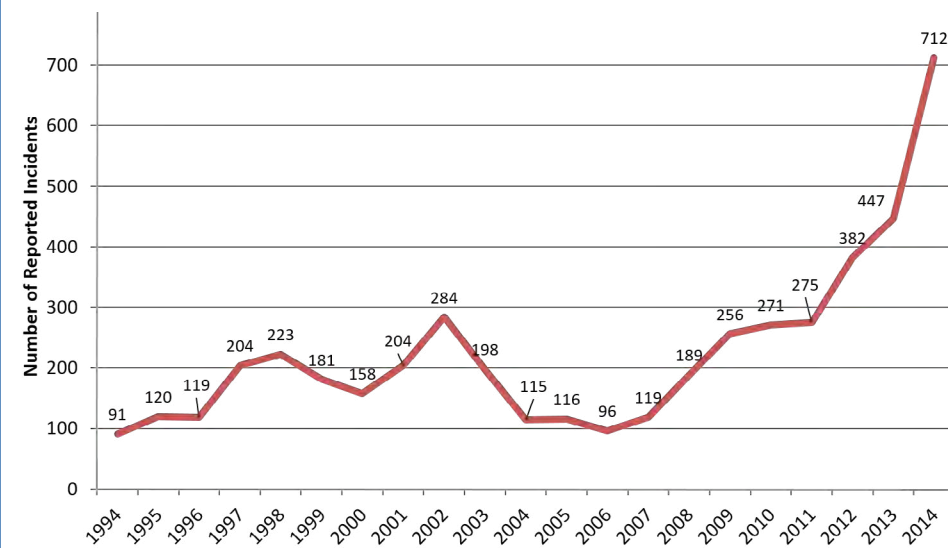
80 Hirsh, MD., Michael P. Medical Director. Memo to Edward M. Augustus, Jr., City Manager. Update on the Opioid Overdose Prevention Plan. August 3, 2015. Provided by City of Worcester, Division of Public Health.

**Figure 90. CMRPHA Heroin Treatment Admissions, 2013**



Source: Massachusetts Community Health Information Profile

**Figure 91. Worcester Reported Overdose Incidents by Year, 1994-2014**



Source: Worcester Police Department

## NEXT STEPS

Findings and priorities identified in the 2015 Greater Worcester Community Health Assessment (CHA) will be published, presented to the community, and serve as the foundation of the 2016 Greater Worcester Community Health Improvement Plan (CHIP).

- Through community input and a strategic planning process, following the steps outlined in MAPP, the CHIP will identify and outline data-driven goals, evidence-based approaches, measurable objectives and strategies for each identified priority area. The CHIP serves as the road map to the future health of the region and, like the CHA, is intended to be a living document that will be reassessed annually.
- Working groups for each priority area outlined in this CHA will meet several times to establish the goals, objectives, and strategies that will have the greatest impact on health over the next three to five years. Work will then begin under the guidance of CHIP “conveners” whose role it is to continually further the implementation of the CHIP. Stakeholders and residents are strongly encouraged to participate in CHIP planning and implementation.
- Alignment for collective impact: Community Benefits programs and initiatives at UMass Memorial Medical Center and Fallon Health focus on addressing health disparities and improving access to care for medically underserved and vulnerable groups of all ages. These programs are designed to respond to identified needs and address health disparities among ethnically diverse, disadvantaged and vulnerable populations identified through a Community Health Needs Assessment conducted every three years. By design, UMass Memorial Medical Center and Fallon Health Community Benefits Plans will closely align with the CHIP.

The CHIP will be utilized to encourage key organizations, stakeholders, community groups and residents to engage in the overall health and well-being of the region. Engagement of each of these parties is vital to fostering a successful process.

We look forward to working together with you to achieve our shared mission of creating the “The healthiest you, in the healthiest city, in the healthiest region.”

For more information on the CHA or CHIP process, or to get involved in CHIP working groups, email [chip@healthycentralma.com](mailto:chip@healthycentralma.com) or visit the Central MA Regional Public Health Alliance website.

“I’m in awe of people who have been working in the community and have been doing this for many years. They are on the front lines and can identify the needs pretty accurately, I think the challenge is finding the resources and finding interventions that are measurable and sustainable. I think if we can do that combined with the talents of the people on the front lines then I think we can make some progress.” - Healthcare Provider Interview



## DEFINITIONS

### Age-Adjusted Rates and Crude Rates

Data are often expressed as a number per 100,000 population. When the number of events measured is divided by the population and converted into a per 100,000 population measure, this is considered a crude rate. In order to better understand the value of data between populations that may have different age distributions, age-adjusted rates are calculated using the ratio of the number of events in a given age group to the population of that age group and adjusting the total rate to reflect these differences.

### Confidence Intervals (CI) and Statistical Significance

For any measure (except a complete census), there is a degree of uncertainty. This is particularly true for small numbers and small populations over short time periods. The degree of certainty or reliability of a measure can be improved by combining several years of data to increase the size of the sample. For example, data for smaller communities within the CMRPHA are often only reliable to report in 3-year intervals.

Confidence intervals (CI) express the degree of uncertainty of a given data point. A large CI means a large degree of uncertainty in the value of the data point; while a small CI means smaller uncertainty. Overlap of confidence intervals between points can mean that the two points are not reliably different from each other and are statistically the same.

When confidence intervals do not overlap between two points, the difference between the data points can be considered statistically significant. When confidence intervals are available and included in this report, they are at the 95% confidence level. This means that it is 95% likely that the data point provided would fall within the range defined by the lower and upper confidence interval if the measure were repeated in the same time period. In this report, confidence intervals are labeled as such in tables or are shown as vertical lines on bar charts.

In this report, “significantly higher” or “significantly lower” indicates a statistically significant difference between two data points. “Not significantly higher”, “not significantly lower”, or “similar to” is language used to indicate that the difference between two points is not different enough to be statistically significant.

In charts, this uncertainty is noted by error bars that show the upper and lower limits to the confidence intervals. CI were included in every case where possible in this report.

### Incidence and Prevalence

The incidence of a disease or condition is the number or rate of new cases in a given period of time. The prevalence includes these new cases, plus any other cases for living people who still have the disease or condition.

### Count

When data is reported in a “count,” it is simply the number of events or occurrences that happen within a given time period.



## *Acronyms*

ACS	American Community Survey
ACSC	Ambulatory Care Sensitive Conditions
BMI	Body Mass Index
BRFSS	Behavioral Risk Factor Surveillance System
CDC	Centers for Disease Control and Prevention
CDC	Community Development Corporations
CEO	Chief Executive Officer
CHA	Community Health Assessment
CHIP	Community Health Improvement Plan
CHNA	Community Health Network Area
CHSA	Community Health Status Assessment
CI	Confidence Intervals
CMMOP	Central Massachusetts Metropolitan Planning Organization
CMRPC	Central Massachusetts Regional Planning Commission
CMRPHA	Central Massachusetts Regional Public Health Alliance
CTSA	Community Themes and Strengths Assessment
DESE	Department of Elementary Secondary Education
DTA	Department Transitional Assistance
EBT/SNAP	Electronic Benefit Transfer/ Supplemental Nutrition Assistance Program
ED	Emergency Department
EJ	Environmental Justice
EJPs	Environmental Justice Populations
EMS	Emergency Medical System
Flu	Influenza
FoC	Forces of Change Assessment
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
HPSA	Health Professional Shortage Area
HRSA	Health Resource Services Administration
LPHSA	Local Public Health System Assessment
MADPH	Massachusetts Department of Public Health
MAPP	Mobilizing for Action through Planning and Partnerships
MassCHIP	Massachusetts Community Health Information Profile
MDPH	Massachusetts Department of Public Health
MMS	Massachusetts Medical Society
NACCHO	National Association of County and City Health Officials
NSDUH	National Survey on Drug Use and Health
PHAB	Public Health Accreditation Board
RYHS	Regional Youth Health Survey
SNAP	Supplemental Nutrition Assistance Program
STDs	Sexually Transmitted Diseases
TANF	Temporary Assistance to Needy Families
USDA	United States Department of Agriculture
WDPH	Worcester Division of Public Health
WIC	Women, Infants and Children
WISQARS	Web-Based Injury Statistics Query and Reporting System
YHS	Worcester Regional Youth Health Survey
YRBS	Youth Risk Behavior Survey



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## Appendix A. Listing of Supplemental Reports

Many existing reports were read and reviewed, however, the following list are those most pertinent to this report. There are also many other sources of information used from research papers, presentations, government agencies, and other sources. Specific sources are included as footnotes throughout the report.

Title	Author/Organization	Date
2012 Greater Worcester Community Health Assessment	City of Worcester, Division of Public Health/CMRPHA	December 2014
2013 Massachusetts Medical Society Patient Access to Care Study	Massachusetts Medical Society	July 2013
2013 National Profile of Local Health Departments	National Association of County & City Health Officials	December 2013
2013 Report on Infant Mortality in the City of Worcester	Worcester Healthy Baby Collaborative	January 2014
2014 Fall Farmers' market Survey Results	City of Worcester, Division of Public Health/CMRPHA	December 2014
2014 Grafton Community Health Assessment	Central MA Regional Public Health Alliance	January 2015
2015 Greater Worcester Community Health Assessment Preliminary Data: Demographic Trends	City of Worcester, Division of Public Health/CMRPHA	July 2015
2015 Worcester Mental Health Needs Assessment (Draft)	Cardemil, E., Torres-Stone, R., Keefe, K.	June 2015
Early Childhood Environmental Scan	Greater Worcester Community Foundation	February 2015
Findings from the 2015 Forces of Change Study	National Association of County & City Health Officials	June 2015
Free Clinic Survey Report	City of Worcester, Division of Public Health/CMRPHA	July 2015
Greater Worcester Community Health Assessment (CHA) Public Survey Report	City of Worcester, Division of Public Health/CMRPHA	August 2015
Greater Worcester Region Community Health Improvement Plan: 2013 Amendment and Annual Report	City of Worcester, Division of Public Health/CMRPHA	December 2013
Massachusetts Healthy Aging Community Profile: Worcester	Tufts Health Plan Foundation	December 2014
Regional Youth Health Survey Report	City of Worcester, Division of Public Health/CMRPHA	May 2014
The Geography of Uninsurance in Massachusetts 2009-2013	Long, S., Dimmock, T.	April 2015
The Prevalence and Intensity of Tobacco Consumption among Youth: Worcester, MA	Samantha Arsenault, Clark University	April 2015
Union Hill Health Impact Assessment Report	City of Worcester, Division of Public Health	November 2013
Update on the Opioid Overdose Prevention Plan	City of Worcester, Division of Public Health	August 2015
Worcester Almanac 2015	Worcester Regional Research Bureau	February 2015
Worcester Youth Violence Prevention & Reduction Strategic Plan: Goals & Strategies	Clark University	May 2014 (updated October 2014)
Worcester Youth Violence Prevention & Reduction Strategic Plan: Needs and Resources Analysis	Clark University	February 2014



## Appendix B. CHA Public Survey Materials

### 2015 Greater Worcester Community Health Assessment Public Survey: Results Report

#### INTRODUCTION

The Greater Worcester Community Health Assessment (CHA) was conducted in 2015, in order to assess community needs and strengths with regard to healthy living. As part of this assessment, a survey was created and opened to community members of the Central MA Regional Public Health Alliance (CMRPHA). A total of 1,250 respondents completed the survey. Respondents included residents from and employees in Worcester, Holden, Shrewsbury, Leicester, Millbury, West Boylston and Grafton.

#### METHODS

The Worcester Division of Public Health (WDPH), UMass Memorial Medical Center, and Fallon Health developed the CHA public survey jointly. The CHA survey was created in five different languages: English, Spanish, Vietnamese, Arabic and Albanian, and was available electronically through Survey Monkey. Links to the survey were posted on WDPH site, Facebook, as well as advertised by community partners and organizations. The survey included 30 items, with questions that ranged from perspectives on health environment, to health behaviors and health systems. Twelve of the 30 questions were demographic questions (presented in the demographic section of the results). The questions were mostly closed-ended, with opportunities for open response comments throughout. A sample of the English survey is included in Appendix A.

#### RESULTS

##### Demographics

A total of 1,250 people completed the English survey. As seen in Figure 1, residents from Worcester make up 64% of the CMRPHA population, but only 46% of the CHA Public Survey respondents. Residents of Shrewsbury make up 13% of the CMRPHA population and 23% of respondents. This is the only municipality where the survey respondents make up a larger percent of the total respondents compared to their CRMPHA percentage of population. The “Other” category is made up of people who work in or are otherwise engaged in the Alliance municipalities.

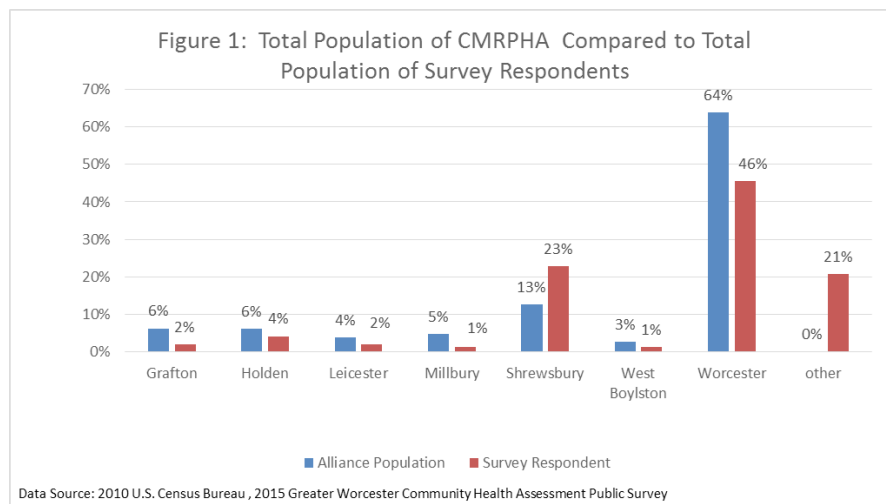
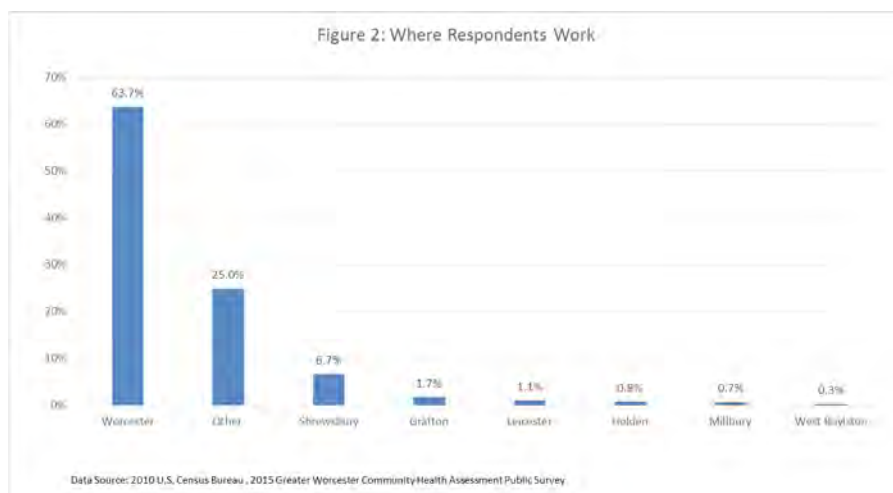


Figure 2 shows the distribution of where respondents work. Almost two-thirds (63.7%) of respondents work in Worcester, 25% work outside of the CMRPHA municipalities.



Seventy-one percent of the survey respondents who live in Worcester, live in neighborhoods other than the ones listed in the survey (Main South, Bell Hill/ Belmont St, Union Hill, and Great Brook Valley). Other neighborhoods where participants live are: Grafton Hill, Vernon Hill, West Side and Tatnuck. About 14% of respondents live in Main South (Figure 3).

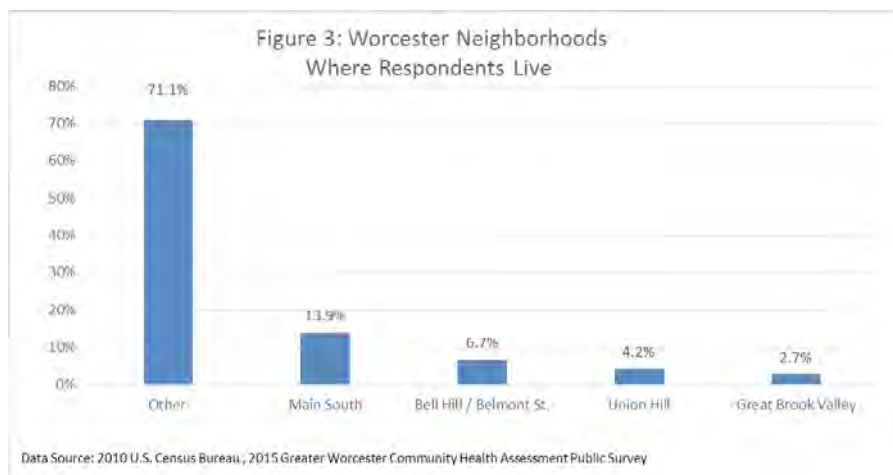
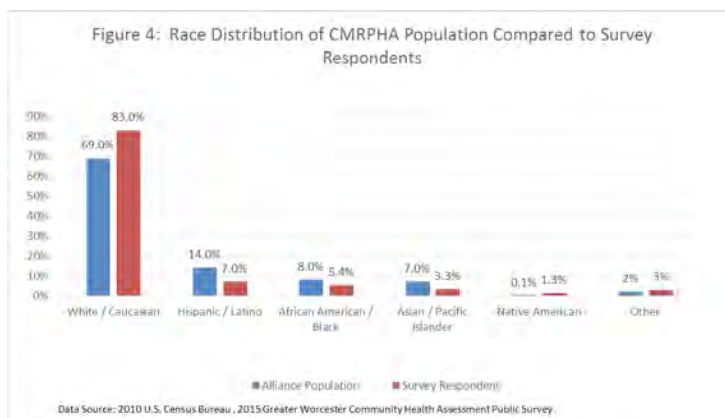


Figure 4 shows the race and ethnicity of survey respondents compared to the CMRPHA population. A larger percentage of survey respondents identified as White/Caucasian (83%) as compared to the CMRPHA population (69%). Hispanic/Latino, Asian/Pacific Islander and African American/Black populations were underrepresented in the survey.





The majority of people who completed the survey were female (76%) compared to 52% in the CMRPHA population. Males were underrepresented in the survey (23.6%) compared to the CMRPHA population (48.5%) (Figure 5).

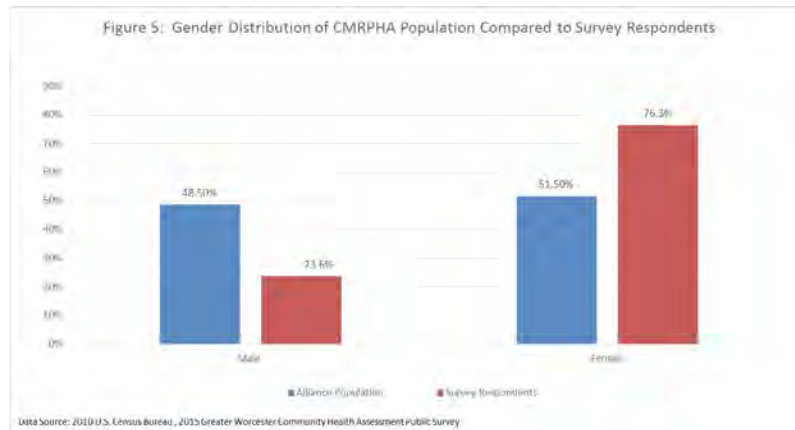
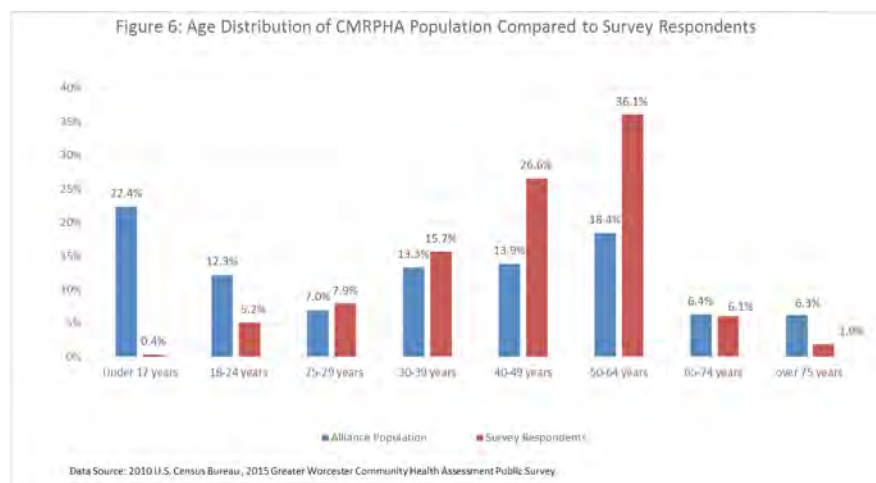
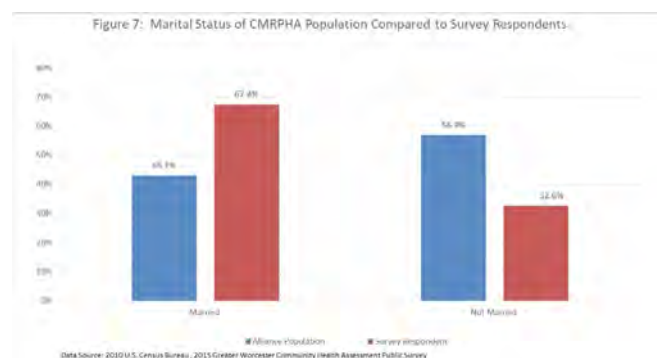


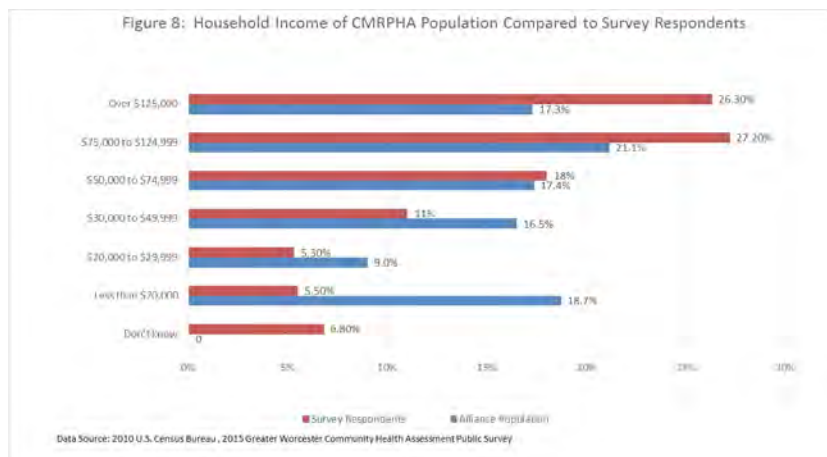
Figure 6 shows age distribution of respondents as compared to CMRPHA population. Although individuals under 17 years old represent 22% of CMRPHA population, they were hardly represented in this survey. Combined respondents under age 25 represented 5.6% compared to 34.7% in the Alliance population. Respondents age 50-64 had the greatest representation (36%) of all age groups; double their representation in the overall Alliance population. Persons aged 40-49 represent 26.6% of respondents compared to 13.9% of Alliance population.



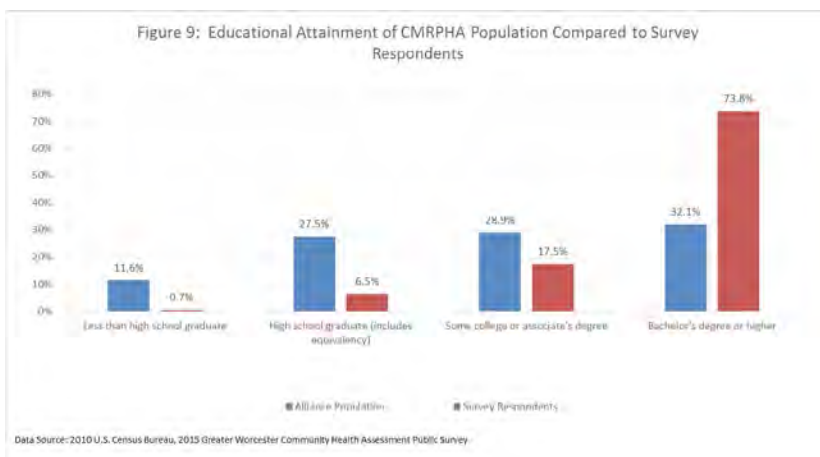
A higher percentage (67.4%) of survey respondents are married compared to the CMRPHA population (43.1%) (Figure 7).



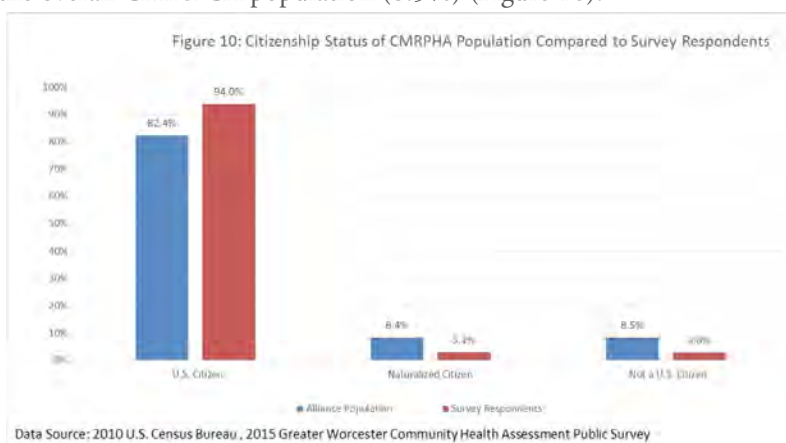
In general, survey respondents had a higher household income compared to the CMRPHA. Twenty-six percent of respondents indicated a household income of over \$125,000, compared to 17% of the total population. While about 19% of the CMRPHA population had a household income of less than \$20,000, only about 5% of respondents indicated the same (Figure 8).



Survey respondents (74%) were more likely to have a Bachelor's degree or higher compared to the overall CMRPHA population (32%). Less than 1% of respondents had less than a high school degree compared to 11.6% of the CMRPHA population (Figure 9).



The majority of respondents were U.S citizens, either born or naturalized. Only 3% of survey respondents were not U.S. citizens. This is less than the overall CMRPCA population (8.5%) (Figure 10).



## Question 1

What does a healthy community look to you?

### Results

Question 1, which was open-ended, had 1053 responses. A text analysis of all responses, revealed “walking,” specifically “safe walking environments,” as the most popular view of what a healthy community looks like. For example, one respondent said, “A healthy community is one where I feel safe to walk around in, night or day—a place that is walkable (having sidewalks and lights at night) and safe to walk around in.” Similarly, another mentioned “A healthy community is one where I feel safe, and I feel safe to allow my children to walk on the sidewalks in town. A healthy community has parks, walking trails, bike trails, a community pool, and recycling.” A clean environment, which includes clean streets, sidewalks, and recreational places, was also frequently mentioned in respondents’ description of a healthy community. The presence of clean water and air was also included in some respondents’ vision of a clean environment. According to one person, a healthy community is one with “nice clean parks, clean streets, pollution regulations and reforms regarding business or corporations.” Other characteristics of a healthy community indicated by respondents include: access to affordable health care and healthy eating.

## Question 2

What makes your community healthy?

### Results

Eighty percent (80%) of survey respondents answered this question. Many indicated social conditions that foster a healthy community such as the presence of accessible health services, parks, walking paths and farmers’ markets. Education and the availability of health education, were also indicated by survey respondents. Despite this, some respondents felt their community was not healthy. For example, one respondent said, “I don’t think my community is healthy. There are a lot of issues in my community. Health wise, a lot of people are obese, have depression, are working on a low income and can’t afford extracurricular activities for their families. There are no support groups for those who need support. And it’s not safe.” Another echoed a similar feeling by saying, “I don’t think my community is healthy in most senses because of the lack of affordable education, healthy foods, lack of accessible green spaces, and high crime with unfathomable amounts of prostitution and drug use.”

## Question 3

Is there anything that stops you or your family from being healthy and/or making healthy choices?

### Results

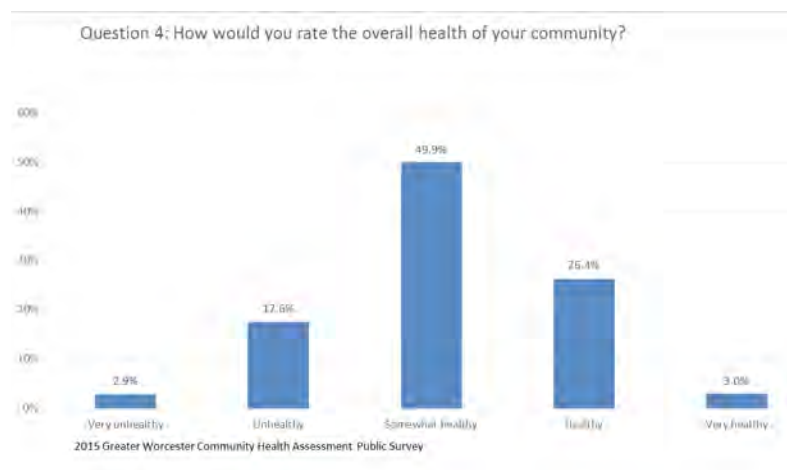
The most common responses to this question were related to the cost of healthy foods in comparison to unhealthier choices. As one respondent put it, “The cost of healthy organic food stops us at times. I know organic is better ... but we just can’t always afford that.” Cost of health care was another type of financial burden for others. The lack of safe walking paths was indicated by others as a deterrent from engaging in physical activities. Time management and accessibility of health care services were some inhibitors listed.

## Question 4

How would you rate the overall health of your community?

### Results

Question 4 was a closed ended question, with 94% of participants responding. Fifty percent (50%) of people felt their community was “somewhat healthy.” While 29% of people believed their community to be healthy or very healthy, only 21% felt it was either “unhealthy” or “very unhealthy.”

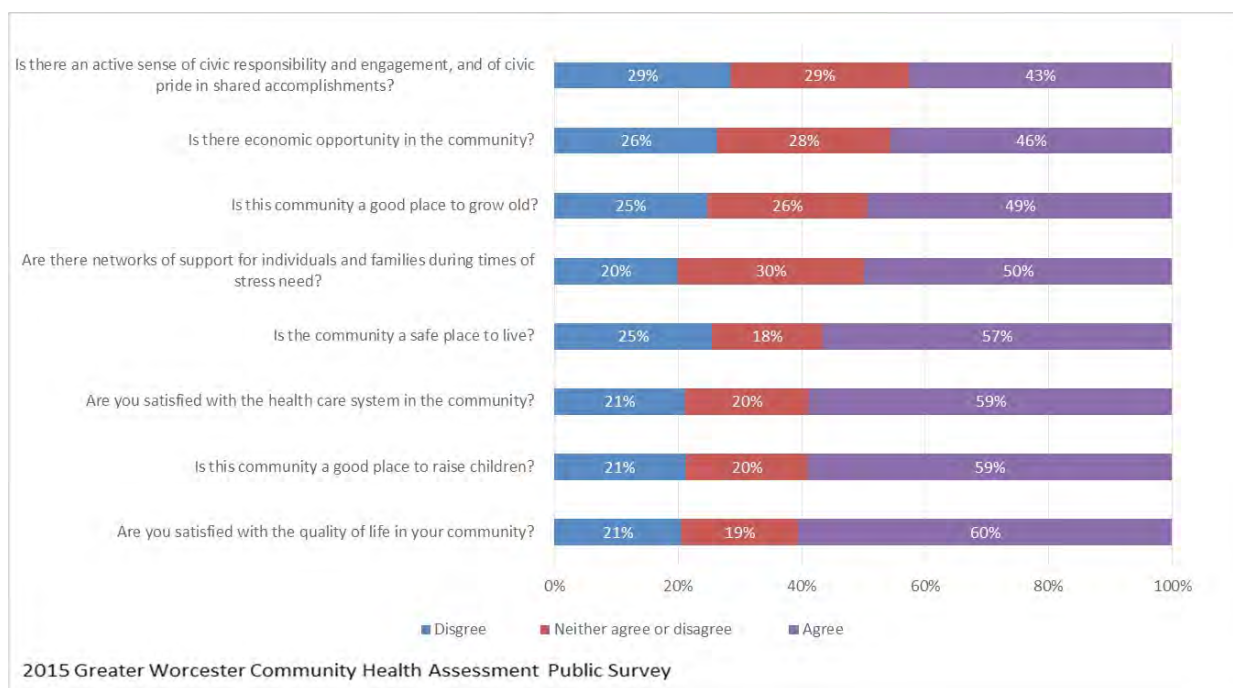


## Question 5

Question 5 asked respondents to rate their satisfaction and perspective on different aspects of their community. There were eight sub questions within this question. Responses to these questions are shown in the figure below.

### Results

A little over half of the survey respondents agreed that they were satisfied with the quality of life and health care system in their community (60% and 59%, respectively). A quarter (25%) of the people disagreed that their community is a good place to live and grow old. Less than half of respondents (43%), believed there is an active sense of civic responsibility in their community. Similarly, less than half of the people felt there was economic opportunity in the community.

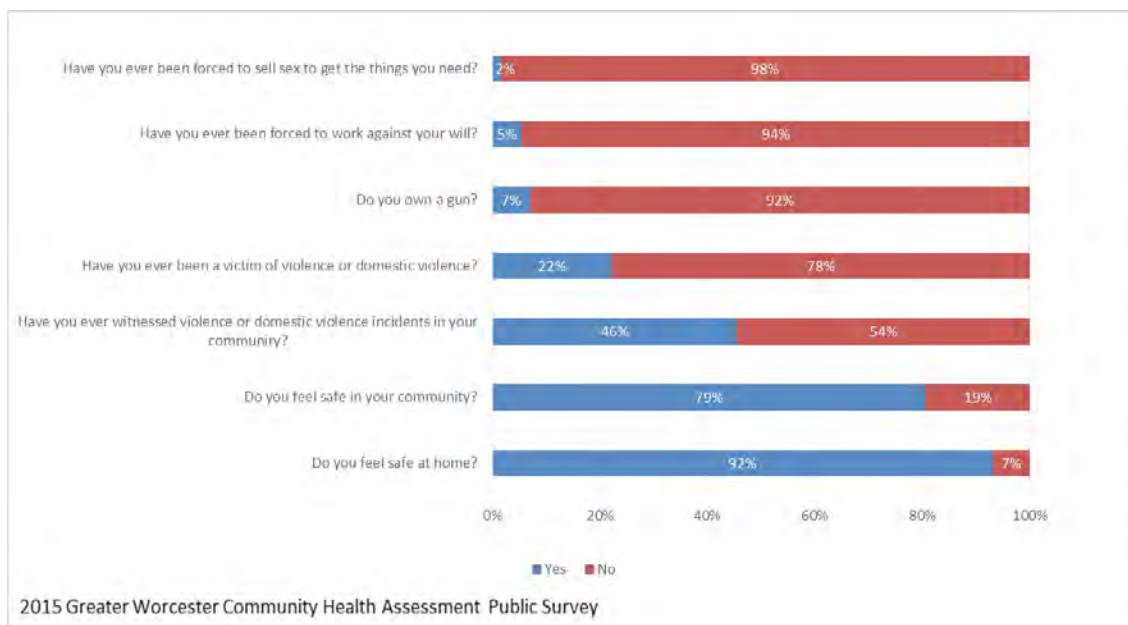


## Question 6

Question 6 included seven sub-questions related safety and perception of safety.

### Results

Seven percent (7%) of respondents indicated that they own a gun. Nearly one quarter (22%), revealed that they had been victims of violence. Furthermore, almost half (46%), have witnessed some form of violence in their community. Nineteen percent (19%) do not feel safe in their community.



## Question 7

How easy is it to cope with day-to-day challenges for you?

### Results

Only 14.2% of people felt that dealing with day-day challenges was “very easy.” Forty-two percent (42%) of people experienced “some challenges” and 5.2% experienced “difficult” challenges.



## Question 8

Do you have a person that you trust to talk to about your challenges and stresses?

### Results

Most people (89%) indicated that they have a person that they trust with their challenges and stresses.



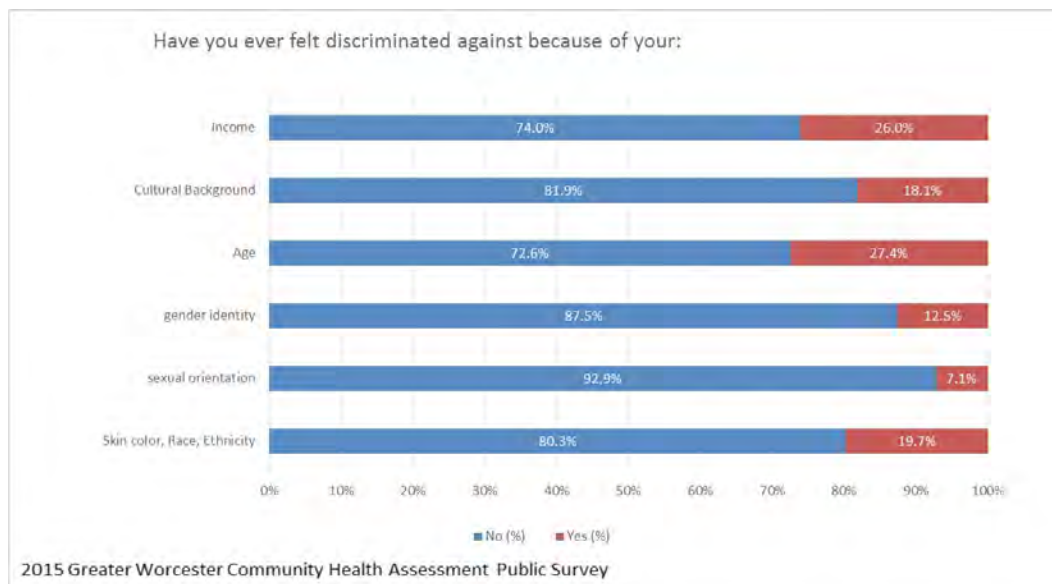


## Question 9

Question 9 was related to respondent experience with discrimination based on characteristics like skin color, age, etc.

### Results

More people indicated that they have experienced discrimination based on age (27.4%) compared to income (26%), race-ethnicity (20%), cultural background (18.1%), gender identity (12.5%), and sexual orientation (7.1%).

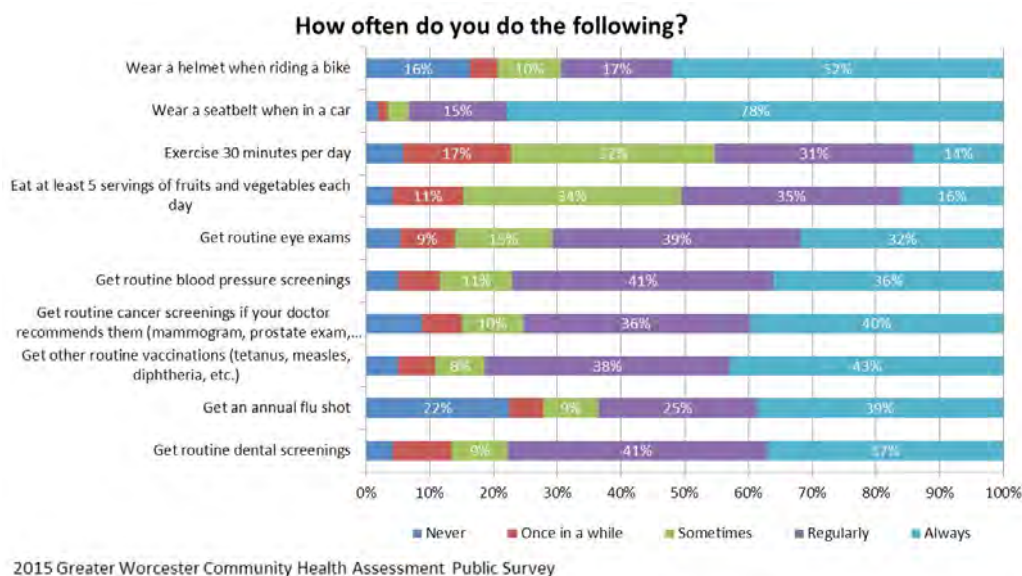


## Question 10

Respondents were asked about a series of health behaviors and the frequency in which they engage in them.

### Results

Over half (52%) of people indicated that they always wear a helmet while biking. Sixteen percent (16%) never wear helmets and 10% only wear them sometimes. Only about 16% of respondents “always” consumed at least five servings of fruits and vegetables per day. Similarly, 14% always exercised 30 minutes per day. Forty percent (40%) of people indicated that they always get the recommended routine cancer screenings, but nearly one quarter (22%) indicated they never get an annual flu shot.

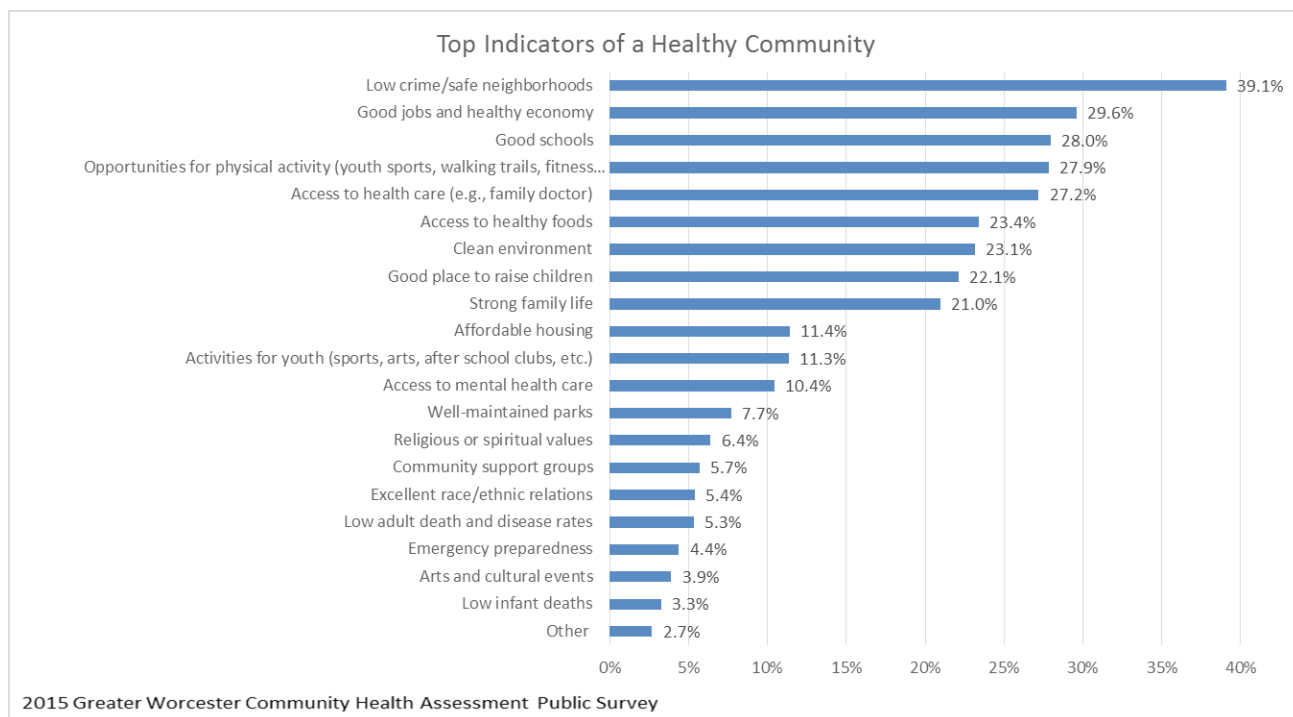


## Question 11

Survey respondents identified in what they believe to be the three top indicators of a healthy community out of 20 listed health indicators.

### Results

Participants' responses, ranked from the most common response to the least, are shown in the figure below. "Low crime/safe neighborhoods" was the most frequent response (39%). Good jobs and healthy economy (29.9%), opportunities for physical activities (28%) and good schools (27.8%), were ranked 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> respectively. Lower ranking indicators included emergency preparedness (4.4%), arts and cultural events (3.9%) and low infant death (3.3%).

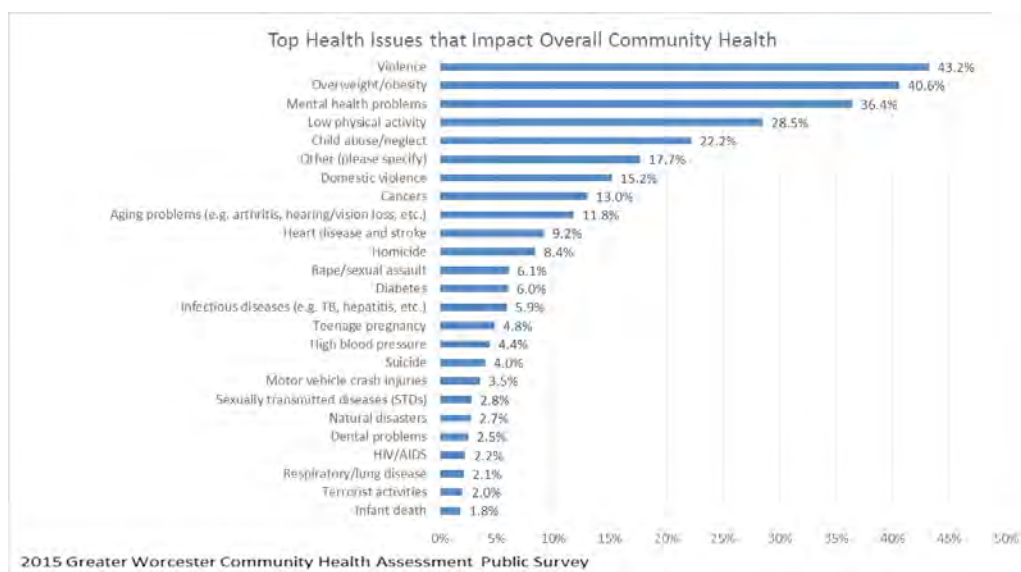


## Question 12

Participants were asked to indicate the three issues that they believe most impact community health out of a list of 25 indicators.

### Results

The top five health issues chosen by survey participants were violence (43.2%), overweight/obesity (40.6%), mental health problems (36.4%), low physical activity (28.5%) and child neglect (22.2%). Close to 18% of people indicated “other.” These participants were given the opportunity to write out what other health issues impact overall health. The most common response was drug abuse/addiction.

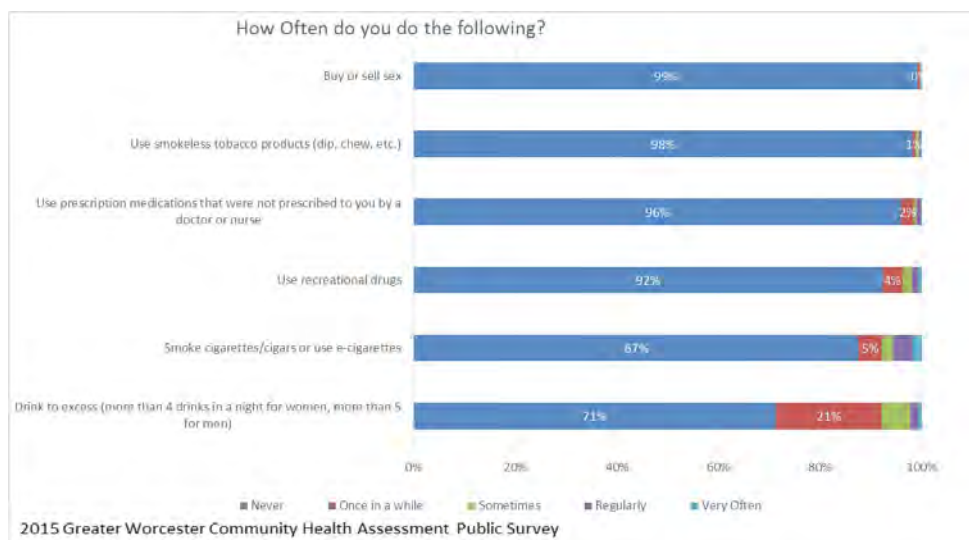


## Question 13

This question asks participants about their engagement in risky health behaviors such as excess drinking, smoking, use of recreational drugs, etc.

### Results

When asked how often they drink to excess, 21% of people indicated, “once in a while,” 6% said “sometimes.” With regard to smoking, 13% of people indicated smoking at least “once in a while.” Few respondents indicated that they engage in the act of buying or selling sex.



## Question 14

Do you have a primary care provider?

### Results

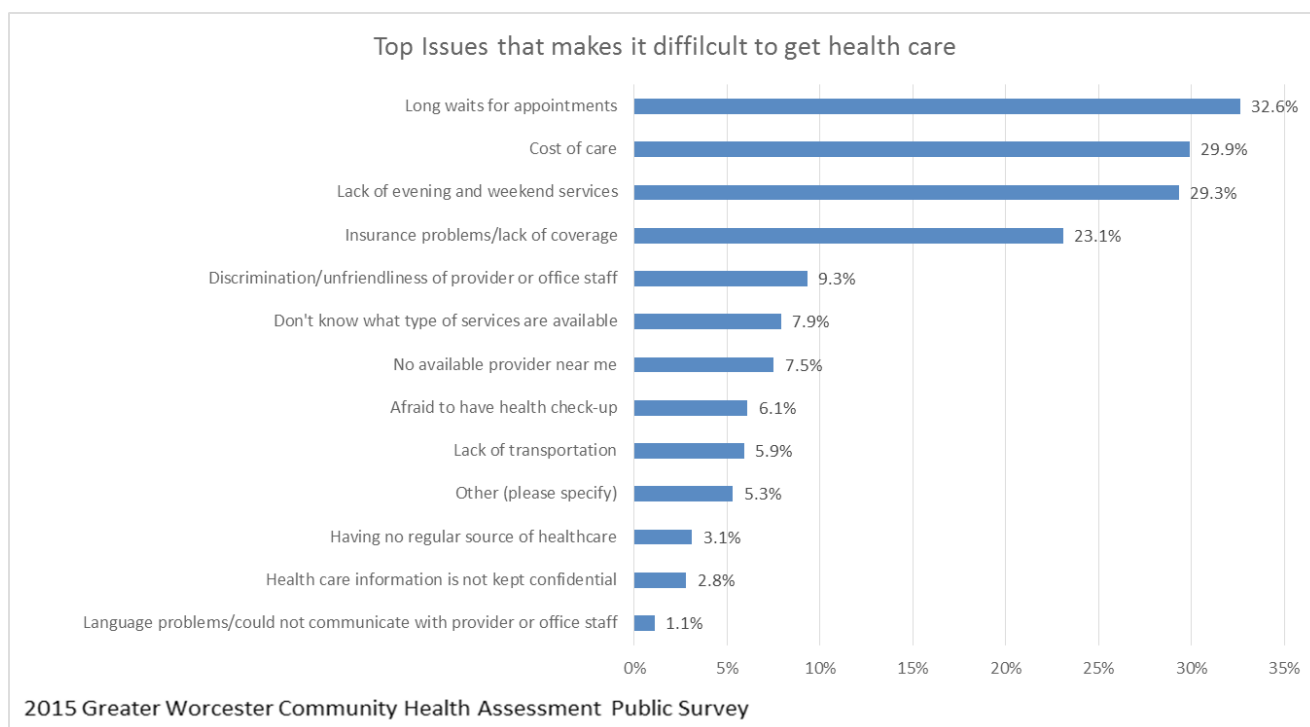
Majority of respondents (96.5%) indicated they have a primary care provider.

## Question 15

Survey respondents were provided a list and asked to check all the possible issues that have made it more difficult to obtain needed health care.

### Results

Thirty-eight percent (38%) of people responded that they have never experienced any issues accessing health care. Of the respondents who have experienced issues, long waits for appointments, cost of care, lack of evening and weekend services, insurance problems/lack of coverage and discrimination/unfriendliness of provider or office staff, were the top five issues chosen.



## Question 16

Participants were given 15 different types of health and social services and asked to indicate how happy or unhappy they are with the services.

### Results

Responses to all 15 services were ranked, and the top five “very happy” and “not happy” services were selected and are shown in the tables below.

Ranking	Top 5 community health services respondent indicated that they are not happy with
1	Counseling or mental health services for youth
2	Counseling or mental health services for adults
3	Public transportation to area health services
4	Alcohol or drug treatment services for youth
5	Alcohol or drug treatment services for adults

Ranking	Top 5 community health services respondent indicated that they are happy with
1	Overall health or medical services in the area
2	Health or medical providers who accept your insurance
3	Access to specialist medical services such as lab testing, X-ray, MRI, etc.
4	Medical specialists in the area
5	Dental services in the area

## Question 17

Participants were given over 20 health conditions and asked to rate how much attention these conditions should receive given limited resources.

### Results

The top seven health conditions indicated by participants as worthy of “more attention” are shown in the table below.

Ranking	Top 7 health conditions that should receive more attention
1	Depression
2	Physical activity
3	Overweight/obesity
4	Nutrition
5	Addiction/Substance abuse
6	Violence
7	Access to care



Progress bar showing 13% completion

1. What does a healthy community look like to you?

Text input field for question 1

2. What makes your community healthy?

Text input field for question 2

3. Is there anything that stops you or your family from being healthy and/or making healthy choices?

Text input field for question 3

4. How would you rate the overall health of your community?

- ☐ Very unhealthy
- ☐ Unhealthy
- ☐ Somewhat healthy
- ☐ Healthy
- ☐ Very healthy

Prev Next

Progress bar showing 6% completion

This survey is voluntary and completely anonymous. No answers will be linked to individuals and we will not contact you to discuss your responses. The survey should take approximately 20 minutes to complete.

We appreciate your feedback and thank you for helping us to work toward becoming the healthiest region in New England by 2020!

Next

## 2015 Greater Worcester Community Health Assessment Survey

### Healthy Communities

 10%

5. Please respond to the following questions using the scale provided.

	Not at all	Neither agree or disagree	Very much so
<b>Are you satisfied with the quality of life in your community?</b> (Consider your sense of safety, well-being, participation in community life and associations, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Are you satisfied with the health care system in the community?</b> (Consider accessibility, cost, availability, quality, and options in health care)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Is this community a good place to raise children?</b> (Consider school quality, day care, after school programs, recreation, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Is this community a good place to grow old?</b> (Consider elderly housing, transportation to medical services, churches, shopping, elder day-care, social support for the elderly living alone, meals on wheels, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3

Not at all

Neither agree or disagree

Very much so

<b>Is there economic opportunity in the community?</b> (Consider locally owned and operated businesses, jobs with career growth, job training/higher education opportunities, affordable housing, reasonable commute, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Is the community a safe place to live?</b> (Consider residents' perceptions of safety in the home, the workplace, schools, playgrounds, parks, and the mall. Do neighbors know and trust one another? Do they look out for each other?)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Are there networks of support for individuals and families during times of stress or need?</b> (Neighbors, support groups, faith community outreach agencies, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Is there an active sense of civic responsibility and engagement, and of civic pride in shared accomplishments?</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments?

Prev

Next

4

25%

6. Please select yes or no for each of the following

No Yes

Have you ever  
witnessed violence or  
domestic violence  
incidents in your  
community?☐☐Have you ever been a  
victim of violence or  
domestic violence?☐☐Have you ever been  
forced to work against  
your will?☐☐Have you ever  
been forced to sell  
sex to get the things you  
need?☐☐

Do you own a gun?

☐☐Do you feel safe in your  
community?☐☐Do you feel safe at  
home?☐☐

Prev

Next

5

31%

7. How easy is it to cope with day-to-day challenges for you?

☐ Very Difficult☐ Difficult☐ Some Challenges☐ Easy☐ Very Easy

8. Do you have a person that you trust to talk to about your challenges and stresses?

☐ Yes☐ No

9. Have you ever felt discriminated against because of your:

No

Yes

skin color, race, ethnicity

☐☐

sexual orientation

☐☐

gender identity

☐☐

age

☐☐

cultural background

☐☐

Income

☐☐

Prev

Next

6

## 2015 Greater Worcester Community Health Assessment Survey

### Health Behaviors

38%

10. How often do you do the following:

	Never	Once in a while	Sometimes	Regularly	Always
Get routine dental screenings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get an annual flu shot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get other routine vaccinations (tetanus, measles, diphtheria, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get routine cancer screenings if your doctor recommends them (mammogram, prostate exam, colonoscopy, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get routine blood pressure screenings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get routine eye exams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eat at least 5 servings of fruits and vegetables each day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exercise 30 minutes per day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wear a seatbelt when in a car	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wear a helmet when riding a bike	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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## 2015 Greater Worcester Community Health Assessment Survey

### Healthy Communities

44%

\* 11. What are the three greatest indicators of a healthy community? Please check only 3.

<input type="checkbox"/> Good place to raise children	<input type="checkbox"/> Clean environment
<input type="checkbox"/> Strong family life	<input type="checkbox"/> Religious or spiritual values
<input type="checkbox"/> Low crime/safe neighborhoods	<input type="checkbox"/> Affordable housing
<input type="checkbox"/> Good schools	<input type="checkbox"/> Emergency preparedness
<input type="checkbox"/> Access to healthy foods	<input type="checkbox"/> Arts and cultural events
<input type="checkbox"/> Opportunities for physical activity (youth sports, walking trails, fitness centers, etc.)	<input type="checkbox"/> Access to mental health care
<input type="checkbox"/> Access to health care (e.g., family doctor)	<input type="checkbox"/> Excellent race/ethnic relations
<input type="checkbox"/> Low adult death and disease rates	<input type="checkbox"/> Community support groups
<input type="checkbox"/> Low infant deaths	<input type="checkbox"/> Good jobs and healthy economy
<input type="checkbox"/> Well-maintained parks	<input type="checkbox"/> Activities for youth (sports, arts, after school clubs, etc.)
<input type="checkbox"/> Other (please specify)	

\* 12. What are the three issues that most impact overall community health? Please check only three.

<input type="checkbox"/> Aging problems (e.g., arthritis, hearing/vision loss, etc.)	<input type="checkbox"/> HIV/AIDS	<input type="checkbox"/> Overweight/obesity
<input type="checkbox"/> Cancers	<input type="checkbox"/> Homicide	<input type="checkbox"/> Rape/sexual assault
<input type="checkbox"/> Child abuse/neglect	<input type="checkbox"/> Infant death	<input type="checkbox"/> Respiratory/lung disease
<input type="checkbox"/> Dental problems	<input type="checkbox"/> Infectious diseases (e.g., TB, hepatitis, etc.)	<input type="checkbox"/> Sexually transmitted diseases (STDs)
<input type="checkbox"/> Diabetes	<input type="checkbox"/> Low physical activity	<input type="checkbox"/> Suicide
<input type="checkbox"/> Domestic violence	<input type="checkbox"/> Mental health problems	<input type="checkbox"/> Teenage pregnancy
<input type="checkbox"/> Heart disease and stroke	<input type="checkbox"/> Motor vehicle crash injuries	<input type="checkbox"/> Terrorist activities
<input type="checkbox"/> High blood pressure	<input type="checkbox"/> Natural disasters	<input type="checkbox"/> Violence
<input type="checkbox"/> Other (please specify)		

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# 2015 Greater Worcester Community Health Assessment Survey

## Health Behaviors



13. How often you do the following:

	Never	Once in a while	Sometimes	Regularly	Very Often
Smoke cigarettes/cigars or use e-cigarettes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drink to excess (more than 4 drinks in a night for women, more than 5 for men)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use recreational drugs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use prescription medications that were not prescribed to you by a doctor or nurse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use smokeless tobacco products (dip, chew etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buy or sell sex	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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# 2015 Greater Worcester Community Health Assessment Survey

## Access to Care



14. Do you have a primary care provider?

☐ Yes  
☐ No  
☐ In No, why not?

15. Have any of these issues ever made it more difficult for you to get the health care that you needed?

(Check all that apply.)

☐ Lack of transportation  
☐ Having no regular source of healthcare  
☐ Cost of care  
☐ Lack of evening and weekend services  
☐ Insurance problems/lack of coverage  
☐ Language problems/could not communicate with provider or office staff  
☐ Discrimination/unfriendly of provider or office staff  
☐ Other (please specify)

☐ Afraid to have health check-up  
☐ Don't know what type of services are available  
☐ No available provider near me  
☐ Long waits for appointments  
☐ Health care information is not kept confidential  
☐ I have never experienced any difficulties getting care

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## 2015 Greater Worcester Community Health Assessment Survey

### Access to Care



16. Please think about the **availability** of health and social services in your community. How happy or unhappy are you with the availability of the following services?

	Not satisfied at all	Somewhat happy	Very happy	Don't know
Overall health or medical services in the area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health or medical services specifically for seniors (65+)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health or medical services specifically for youth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alcohol or drug treatment services for adults	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alcohol or drug treatment services for youth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Counseling or mental health services for adults	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Counseling or mental health services for youth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public transportation to area health services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reproductive health services for youth (birth control, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dental services in the area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Programs or services to help people quit smoking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health or medical providers who accept your insurance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Medical specialists in the area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11

	Not satisfied at all	Somewhat happy	Very happy	Don't know
Interpreter services during medical visits and when receiving health information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social services (WIC, SNAP offices, MassHealth Enrollment, emergency housing, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to specialist medical services such as lab testing, X-ray, MRI, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="text"/>			

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17. Considering limitations of financial and organizational resources, please rate how much attention you think the following conditions should receive.

	Much less attention	Somewhat less attention	Some attention	Somewhat more attention	Much more attention	Don't know/Not sure
Access to care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Addiction/Substance abuse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Air quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asthma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cancer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Depression	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diabetes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency preparedness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health equity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Healthy aging	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heart disease/stroke	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High blood pressure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Infectious diseases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Injury prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Motor vehicle/pedestrian injury	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nutrition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overweight/obesity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sexual health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Suicide	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teen pregnancy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tobacco cessation & prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Violence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Water quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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## 2015 Greater Worcester Community Health Assessment Survey

### Demographics

75%

\*18. What town do you live in?

- ☐ Grafton  
☐ Holden  
☐ Leicester  
☐ Millbury  
☐ Shrewsbury  
☐ West Boylston  
☐ Worcester  
☐ Other (please specify)

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2015 Greater Worcester Community Health Assessment Survey

Demographics

81%

19. What neighborhood do you live in?

- ☐ Main South  
☐ Union Hill  
☐ Bell Hill  
☐ Great Brook Valley  
☐ West Side  
☐ East Side  
☐ Other (please specify)

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2015 Greater Worcester Community Health Assessment Survey

Demographics

85%

20. In what ZIP code is your home located? (enter 5-digit ZIP code; for example, 00544 or 94305)

21. What is your age?

- ☐ 10-13 years old  
☐ 14-15 years old  
☐ 16-17 years old  
☐ 18-24 years old  
☐ 25-29 years old  
☐ 30-39 years old  
☐ 40-49 years old  
☐ 50-64 years old  
☐ 65-74 years old  
☐ 75 years old or older

22. What is your gender?

- ☐ Female  
☐ Male  
☐ Other (please specify)

23. What ethnic group do you most identify with?

- ☐ African American / Black  
☐ Asian / Pacific Islander  
☐ Hispanic / Latino  
☐ Native American  
☐ White / Caucasian  
☐ Other (please specify)

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24. How would you best describe your citizenship status?

- ☐ US Citizen  
☐ Naturalized Citizen  
☐ Not a US Citizen

25. What is your marital status?

- ☐ Married / co-habiting  
☐ Not married / single

26. What is the highest level of education you have completed?

- ☐ Less than high school  
☐ High school diploma or GED  
☐ Associate degree / some college  
☐ College degree  
☐ Graduate or professional degree  
☐ Other (please specify)

27. What is your household income?

- ☐ Less than \$20,000  
☐ \$20,000 - \$29,999  
☐ \$30,000 - \$49,999  
☐ \$50,000 - \$74,999  
☐ \$75,000 - \$124,999  
☐ Over \$125,000  
☐ Don't know

28. Which of the following categories best describes your employment status?

- ☐ Employed, working full-time  
☐ Employed, working part-time  
☐ Not employed, looking for work  
☐ Not employed, NOT looking for work  
☐ Retired  
☐ Disabled, not able to work

## 2015 Greater Worcester Community Health Assessment Survey

### Demographics

94%

29. In what town do you work?

- ☐ Holden  
☐ Granton  
☐ Leicester  
☐ Millbury  
☐ Shrewsbury  
☐ West Boylston  
☐ Worcester  
☐ Other (please specify)

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2015 Greater Worcester Community Health Assessment Survey

Enter a raffle to win up to a \$100 gift card!

100%

Thank you for participating in the 2015 Greater Worcester Community Health Assessment Survey!

Please enter the information below to enter a raffle to win one of several prizes.

*The information provided on this page will not be linked to your responses to previous questions.  
We will only contact you in the case that you win a prize.*

30. Contact Information

Name	<input type="text"/>
Email Address	<input type="text"/>
Phone Number	<input type="text"/>

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Done



## **Appendix C. Stakeholder Interviews And Focus Group Materials**

### **List of Stakeholder Interviews and Focus Groups**

#### **Stakeholder Interviews (24)**

Barbara Weinstein, UMass Memorial Medical Center  
Dr. William Corbett, UMass Memorial Medical Center  
Dr. Robert Baldor, UMass Memorial Medical Center  
Sara Connor, UMass Memorial Medical Center  
Angela Bovill, Ascentria Care Alliance  
Anh Vu Sawyer, Southeast Asian Coalition  
Charise Canales, Worcester Common Ground  
Chris Cernak, UMass Memorial Medical Center  
Deborah Ekstrom, Community Healthlink  
Dr. David Harlan, Diabetes Center for Excellence  
David Connell, YMCA of Central MA  
Patrick Hughes, Fallon Health  
David Hillis, Fallon Health  
Frances Anthes, Family Health Center of Worcester  
Dr. Joseph Sawyer, Shrewsbury Public Schools  
Dr. Jan Yost, Health Foundation of Central MA  
Kevin Mizikar, Town of Leicester  
Dr. Max Rosen, UMass Memorial Medical Center  
Tim Garvin, United Way of Central MA  
Toni McGuire, Edward M. Kennedy Health Center  
Dr. Eric Dickson, UMass Memorial Health Care, Inc.  
David Bennett, UMass Memorial Medical Center  
Dr. Warren Ferguson, UMass Medical School  
Edward M. Augustus, City of Worcester

## **Focus Groups (24 groups, 204 participants)**

Boys & Girls Club of Worcester, High/Middle School Youth (2)

Centro Las Americas

Dismas House

Everyday Miracles

Friendly House, Middle School Youth

College of the Holy Cross Students

Hector Reyes House Residents

HOPE Coalition

Main South Community Development Corporation, Residents

Oakhill Community Development Corporation, Stakeholders

Worcester Housing Authority Better Life Program

Youth 4 District 4

Youth Empowerment and Activism Worcester

YWCA Young Parents Program

YWCA Young Women Leadership Program

UMass Memorial Emergency Medical Services

Worcester Senior Center, Clients

AIDS Project Worcester HIV Positive Clients (2)

AIDS Project Worcester Clients, IV Drug Users

AIDS Project Worcester Trans4mations Support Group

AIDS Project Worcester Latino Support Group

Central MA Funder's Council

# Focus Group & Key Informant Interview Facilitator's Guide

## BACKGROUND/INTRODUCTIONS

- Introduce yourself and thank participants for agreeing to come.
  - “Thank you for volunteering your time and coming this morning. I am {NAME} – I work for/with the {Agency}. My organization is working with UMass Memorial Healthcare, Fallon Health, the Worcester Division of Public Health and others to complete the 2015 health assessment. I'll be moderating our discussion today.”
- Explain group guidelines and tell how long the focus group will last.
  - “We have the discussion scheduled for one hour today. During the discussion we're going to be talking about health in your community. This is a part of an assessment called the 2015 Greater Worcester Community Health Assessment, which we hope to publish this fall.”
  - “Again, I am here just to facilitate the session today. You won't hurt my feelings or make me feel good with whatever opinions you might give. We are interested in hearing your point of view even if it is different from what others have expressed.”
  - “I'm going to make every effort to keep the discussion focused and within our time frame. If too much time is being spent on one question or topic, I may move the conversation along so we can cover all of the questions.”
  - “We want to make sure that we record an accurate picture of health in your community. If you can include specific examples or stories in your responses that would be extremely helpful.”
- Address confidentiality
  - “We will be audio-taping the discussion because we don't want to miss any comments. But, we will only be using first names today and there will not be any names attached to the comments on the final report. You may be assured complete confidentiality.”
- Participant introduction
  - “On that note, please introduce yourselves – first names are fine. Let's just go around the table.”

## INTERVIEW CONTENT

1. What does health mean to you?
2. What do you do to stay well? How do you access wellness services when you need them?
3. What do you need to feel healthy? Do you feel encouraged to live a healthy lifestyle?
4. What assets or services does your community have that support health or make it easier to be healthy?
5. What efforts or initiatives have been successful in helping meet local health or healthcare needs? Have specific organizations played a lead role in these efforts?
6. What are the most pressing health issues in your community? What should be done about these issues?
7. Are there any populations whose needs are not being served? What should be done to correct this?
8. Why isn't anything being done now to address either of these issues?
9. What are the consequences to the community in not addressing this issue?
10. Are there any other significant barriers to health or making healthy choices in your community?
11. Are there specific changes that could be made in your community to help people make better health choices?

## CLOSING

- Offer an opportunity for any short final comments participants would like to make. Thank participants.
  - “Thank you very much for your input today. We are just about out of time. Are there any last comments that anyone would like to make? The information you provided will help us inform the advisory committee in writing the final report and in allocating resources for future health improvement projects.”
  - “If you have any questions later on please feel free to contact the Advisory Committee at [cha@healthycentralma.com](mailto:cha@healthycentralma.com). The final report will be available online once it is published. Thank you so much for taking the time to talk with me today.”

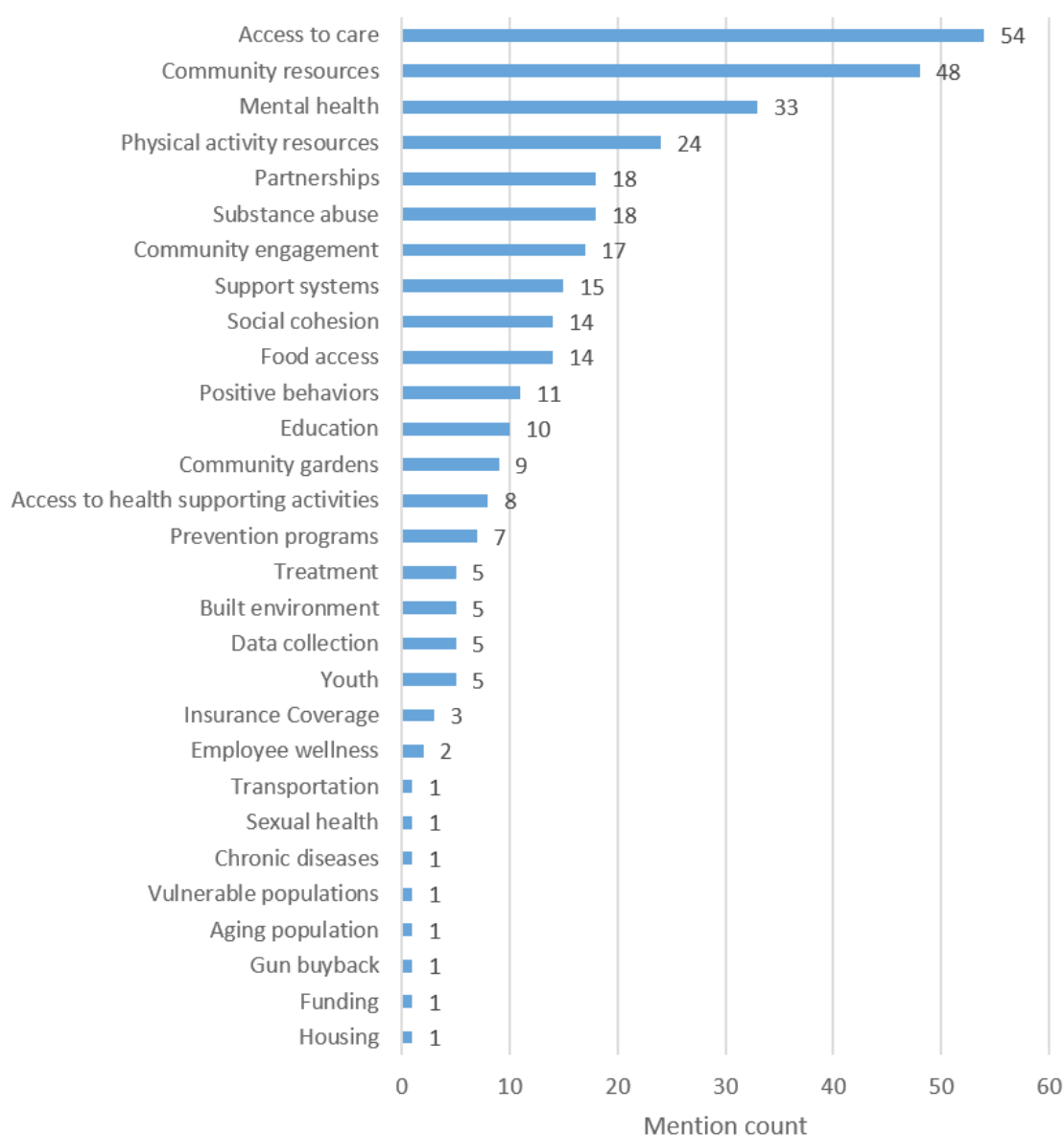
## Stakeholder Interview and Focus Group Results

Respondents speaking to the strengths in access to care in the community most often noted Community Health Centers and School Based Health Centers.

Local health organizations, youth programs, the YMCA, and neighborhood centers were most frequently cited as strengths in community resources.

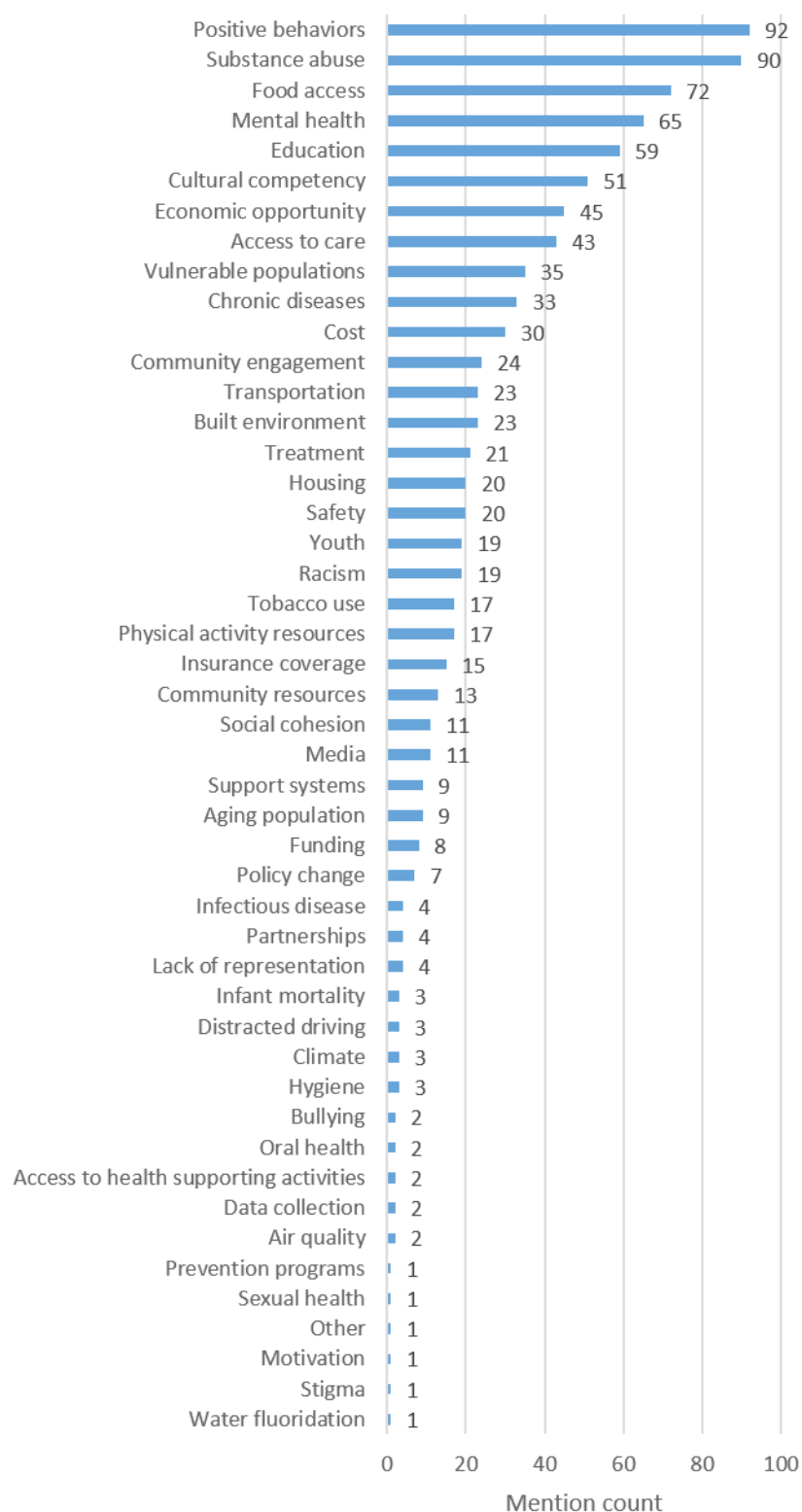
In regards to physical activity resources, the region's public parks and recreation programs for youth were commonly noted as community strengths.

Areas noted as strengths by  
Focus Group and Stakeholder Interview participants





## Areas noted as challenges by Focus Group and Stakeholder Interview participants



Behaviors were commonly cited as challenges for healthy communities. Participants noted regular exercise, time management, eating well, and generally taking care of oneself as challenges to being healthy.

Participants speaking to the challenges in access to care in the community most often noted difficulty in maneuvering the system and disintegration of care.

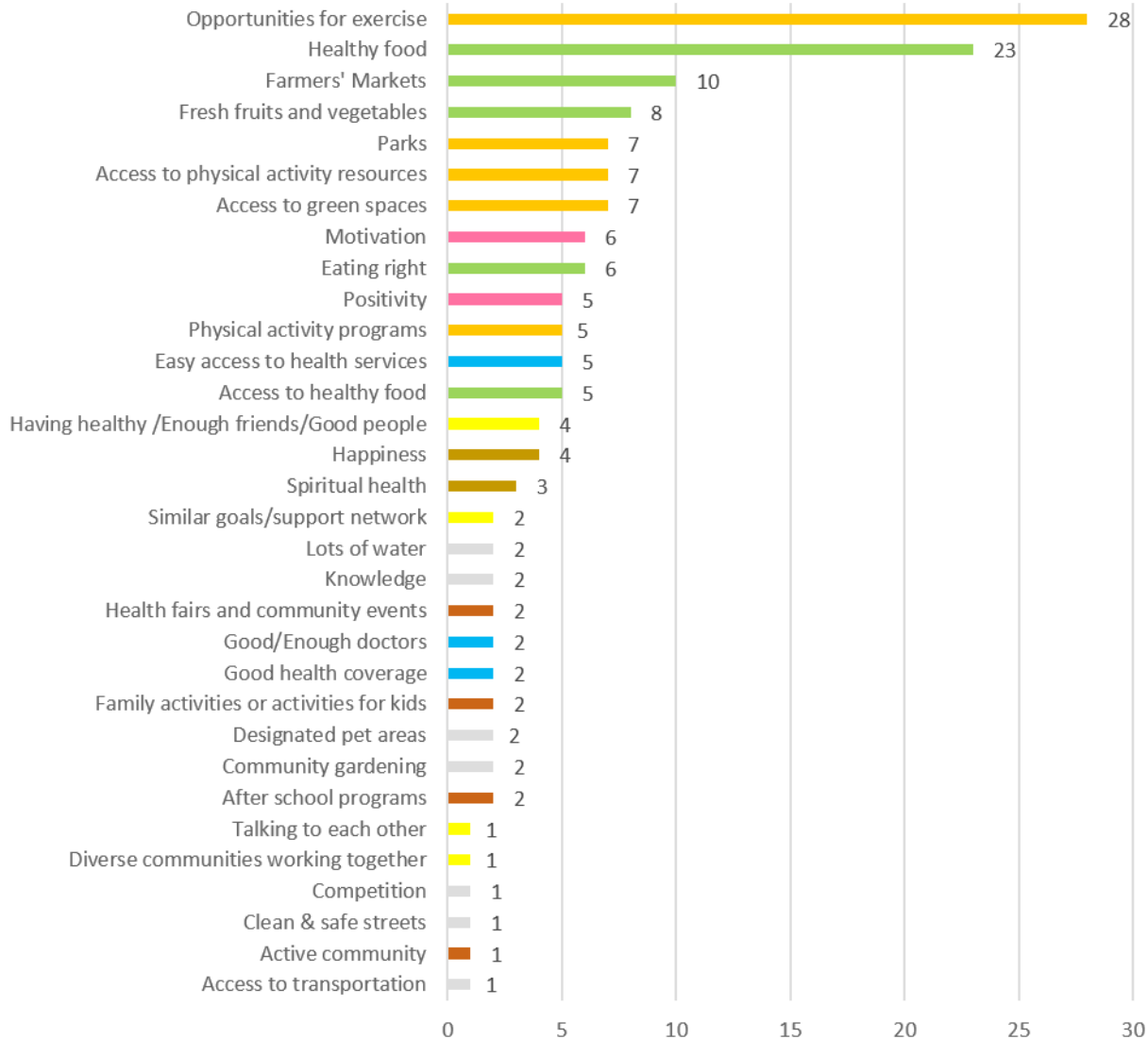
The category of “food access” includes responses ranging from high availability of unhealthy foods to the need for farmers markets.

In regards to substance abuse, opiates and alcohol were cited most often as community challenges.

Vulnerable populations remarked on by participants were largely refugees, the homeless population, and transgender individuals.

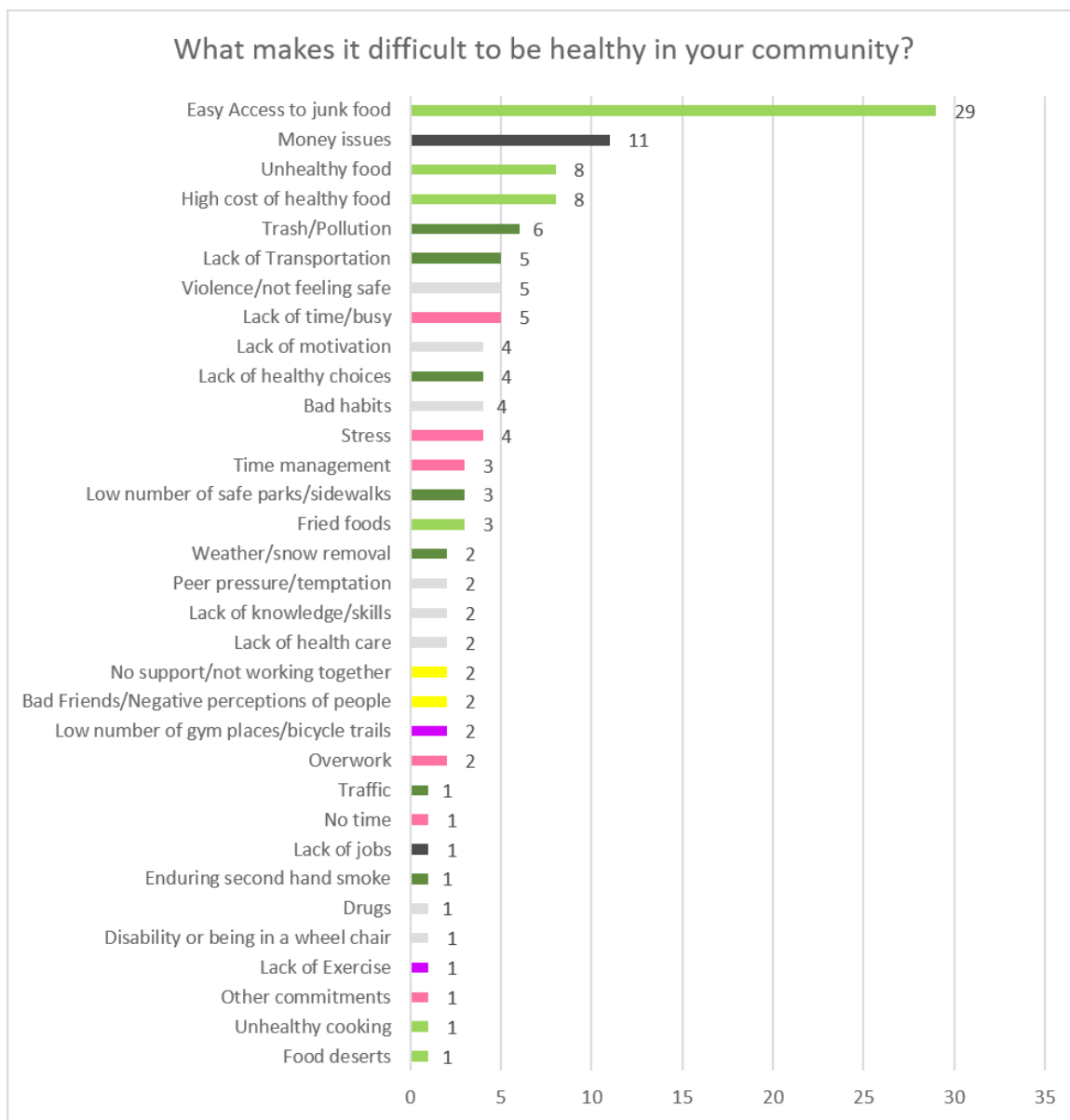
## Appendix D. Sticky Note Exercise Results Summary

### What Makes it Easy to be Healthy in Your Community?



#### Categories




	Physical activity opportunities and resources	54
	Healthy food and food access	52
	Motivation and positivity	11
	Access to care	9
	Social cohesion	8
	Spiritual health and happiness	7
	Active community	7
	Other, uncategorized	11






#### Categories

	Unhealthy food and poor access to food	50
	Built environment	19
	Economic pressures	12
	Competing priorities and stress	9
	Lack of social cohesion	4
	Lack of physical activity resources	3
	Other, uncategorized	21

# Appendix E. Advisory Committee CHA Survey





  	<p><b>Advisory Committee CHA Survey</b></p>
<p><i>Introduction</i></p> <p>As experts in your fields, your contributions are vital to fully understanding the challenges and strengths our region faces in maintaining and improving health. This survey will be used to supplement three of the four MAPP assessments: Community Themes &amp; Strengths, Local Public Health Systems Assessment, and Forces of Change. Because some advisory committee members were not able to participate in Lunch &amp; Learns and other data collection methods, this survey offers another opportunity to contribute.</p> <p>This survey does not overlap with the community survey and is specifically designed for the input of advisory committee members. We anticipate that it will take approximately 20 minutes to complete. We thank you for your continued commitment to this process. We are well on our way to a strong and constructive Community Health Assessment!</p>	

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  	<p><b>Advisory Committee CHA Survey</b></p>
<p><i>Introduction</i></p> <p><b>1. What type of agency do you represent? (Check all that apply)</b></p> <p><input type="checkbox"/> Hospital system</p> <p><input type="checkbox"/> Community health center</p> <p><input type="checkbox"/> School</p> <p><input type="checkbox"/> Government</p> <p><input type="checkbox"/> Elected official</p> <p><input type="checkbox"/> Community-based organization</p> <p><input type="checkbox"/> Youth-serving agency</p> <p><input type="checkbox"/> Funding agency</p> <p><input type="checkbox"/> Faith-based organization</p> <p><input type="checkbox"/> Substance abuse services provider</p> <p><input type="checkbox"/> Mental health provider</p> <p><input type="checkbox"/> I do not represent an agency</p> <p><input type="checkbox"/> Other (please specify) <input type="text"/></p>	

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Local Public Health Systems Assessment

Advisory Committee CHA Survey

This section of the survey is intended to assess the activities, capacities, and competencies of the local public health system in relation to the 10 Essential Public Health Services.

The local public health system encompasses all organizations and individuals working to provide services for the community. This includes the health department, healthcare, public safety, education, non-profits, faith organizations, elected officials, mental health, social service providers, etc. Participants are encouraged to think broadly about the role of their organization and their partner organizations in the delivery of services.

The questions below are adapted from the National Public Health Performance Standards, Local Public Health System Assessment Instrument (Local Instrument), Version 3.0.

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Advisory Committee CHA Survey

Essential Service 1: Monitor the health status to identify community health problems

Key questions: What is going on in our community? Do we know how healthy we are?

6







**7. To what extent is the local public health system doing the following:**

	Minimal	Moderate	Significant	Don't know
Assessing, accurately and continually, the community's health status	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identifying threats to health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Determining health service needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paying attention to the health needs of groups that are at higher risk than the total population	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identifying community assets and resources that support the public health system in promoting health and improving quality of life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using appropriate methods and technology to interpret and communicate data to diverse audiences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Collaborating with other stakeholders, including private providers and health benefit plans, to manage multi-sectorial integrated information systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What are some particular strengths, weaknesses, and opportunities for improvement of the above activities?

7

**Advisory Committee CHA Survey**

*Essential Service 2: Diagnose & investigate health problems*




Key questions: Are we ready to respond to health problems or health hazards in our region? How quickly do we find out about problems? How effective is our response?

**8. To what extent is the local public health system doing the following:**

	Minimal	Moderate	Significant	Don't know
Accessing a public health laboratory capable of conducting rapid screening and high-volume testing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establishing active infectious disease epidemiology programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Creating technical capacity for epidemiologic investigations of disease outbreaks and patterns of the following: (a) infectious and chronic diseases (b) injuries, and (c) other adverse health behaviors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What are some particular strengths, weaknesses, and opportunities for improvement of the above activities?

8

**Advisory Committee CHA Survey**

*Essential Service 3: Inform, educate, and empower people about health issues*




Key questions: How well do we keep segments of our community informed about health issues?

**9. To what extent is the local public health system doing the following:**

	Minimal	Moderate	Significant	Don't know
Creating community development activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establishing social marketing and targeted media public communications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing accessible health information resources at community levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Collaborating with personal healthcare providers to reinforce health promotion messages and programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working with joint health education programs with schools, churches, workplaces, and others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What are some particular strengths, weaknesses, and opportunities for improvement of the above activities?

10

**Advisory Committee CHA Survey**

*Essential Service 4: Mobilize community partnerships to identify and solve health problems*




Key questions: How well do we truly engage people in local health issues?

**10. To what extent is the local public health system doing the following:**

	Minimal	Moderate	Significant	Don't know
Convening and facilitating partnerships among groups and associations (including those not typically considered health related)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Undertaking defined health improvement planning process and health projects, including preventive screening, rehabilitation and support programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building on a coalition to draw on a full range of potential human and material resources to improve community health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What are some particular strengths, weaknesses, and opportunities for improvement of the above activities?

10

### Advisory Committee CHA Survey

*Essential Service 5: Develop policies and plans that support individual and community health efforts*

Key Questions: What local policies in both the government and private sector promote health in my community? How well are we setting healthy local policies?

**11. To what extent is the local public health system doing the following:**

	Minimal	Moderate	Significant	Don't know
Ensuring leadership development at all levels of public health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensuring systematic community-level and state-level planning for health improvement in all jurisdictions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing and tracking measurable health objectives from the (CHIP) as a part of a continuous quality improvement plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establishing joint evaluation with the medical healthcare system to define consistent policies regarding prevention and treatment services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing policy and legislation to guide the practice of public health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What are some particular strengths, weaknesses, and opportunities for improvement of the above activities?





### Advisory Committee CHA Survey

*Essential Service 6: Enforce laws and regulations that protect health and ensure safety*




Key Question: When we enforce health regulations are we technically competent, fair, and effective?

**12. To what extent is the local public health system doing the following:**

	Minimal	Moderate	Significant	Don't know
Enforcing sanitary codes, especially in the food industry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Protecting drinking water supplies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enforcing clean air standards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Initiating animal control activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Following-up hazards, preventable injuries, and exposure-related diseases identified in occupational and community settings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitoring quality of medical services (e.g., laboratories, nursing homes, and home healthcare providers)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reviewing new drug, biological, and medical device applications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What are some particular strengths, weaknesses, and opportunities for improvement of the above activities?



### Advisory Committee CHA Survey

*Essential Service 7: Link people to personal health services and provide healthcare when unavailable*




Key Question: Are people in my community receiving the health services they need?

**13. To what extent is the local public health system doing the following:**

	Minimal	Moderate	Significant	Don't know
Ensuring effective for socially disadvantaged and other vulnerable persons into a coordinated system of clinical care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing culturally and linguistically appropriate materials and staff to ensure linkage to services for special population groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensuring ongoing care management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensuring transportation services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Orchestrating targeted health education/promotion/disease prevention to vulnerable population groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What are some particular strengths, weaknesses, and opportunities for improvement of the above activities?

13

### Advisory Committee CHA Survey

*Essential Service 8: Assure a competent public health and personal healthcare workforce*




Key Question: Do we have a competent public health staff? Do we have a competent healthcare staff? How can we be sure that our staff stays current?

**14. To what extent is the local public health system doing the following:**

	Minimal	Moderate	Significant	Don't know
Educating, training, and assessing personnel (including volunteers and other lay community health workers) to meet community needs for public and personal health services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establishing efficient processes for professionals to acquire licensure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adopting continuous quality improvement and lifelong learning programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establishing active partnerships with professional training programs to ensure community-relevant learning experiences for all students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Continuing education in management and leadership development programs for those charged with administrative/executive roles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What are some particular strengths, weaknesses, and opportunities for improvement of the above activities?

14

**Advisory Committee CHA Survey**

*Essential Service 9: Evaluate quality of personal and population-based health services*




Key Questions: Are we meeting the needs of the population we serve? Are we doing things right? Are doing the right things?

**15. To what extent is the local public health system doing the following:**

	Minimal	Moderate	Significant	Don't know
Assessing program effectiveness through monitoring and evaluating implementation, outcomes, and effect	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing information necessary for allocating resources and reshaping programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What are some particular strengths, weaknesses, and opportunities for improvement of the above activities?

16

**Advisory Committee CHA Survey**

*Essential Service 10: Research for new insights and innovative solutions to health problems*





Key Questions: Are we discovering and using new ways to get the job done?

**16. To what extent is the local public health system doing the following:**

	Minimal	Moderate	Significant	Don't know
Establishing full continuum of innovation, ranging from practical field-based efforts to fostering change in the public health practice to more academic efforts that encourage new directions in scientific research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Continually linking with institutions of higher learning and research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Creating internal capacity to mount timely epidemiologic and economic analyses and conduct health services research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What are some particular strengths, weaknesses, and opportunities for improvement of the above activities?

17

   	<p>Advisory Committee CHA Survey</p>
<p>Community Theme &amp; Strengths</p>	
<p>* 17. What are the most pressing health issues in your community? What should be done about these issues?</p> <div></div>	
<p>* 18. Are there any populations whose needs are not being served? What should be done to correct this?</p> <div></div>	
<p>* 19. Are there any other significant barriers to health or making healthy choices in your community?</p> <div></div>	



Last updated: 11/19/15

11/11/15: Original document

11/19/15: Corrected typos on pages inside cover, iv, viii



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## Evaluation of Impact, 2013-2015

UMass Memorial Medical Center developed and approved an Implementation Strategy to address significant health needs identified in the 2013-2015 Community Health Needs Assessment (CHA). These programs support the Greater Worcester Community Health Improvement Plan (CHIP) which was developed collaboratively with the Worcester Division of Public. The Implementation Strategy closely aligns the CHIP and addresses the following health needs through a commitment of Community Benefit programs and resources:

- Domain 1: Increase Access to Health Care
- Domain 2: Promote Healthy Weight
- Domain 3: Promote Health Equity by Addressing Health Disparities (Cross cutting across all Domain Areas)
- Domain 4: Promote Positive Youth Development
- Other: Enhance the Public Health Infrastructure of the Community

To accomplish the Implementation Strategy, goals were established that indicated the expected changes in the health needs as a result of community programs and activities. Strategies to address the priority health needs/Domains were identified and impact measures tracked. The following tables outline the impact made on the selected significant health needs since the completion of the 2013-2015 CHA. UMass Memorial has a dedicated Community Benefits Department that works closely with community organizations and reports activities to the UMass Memorial Health Care Board of Trustees.

Domain 1: Increase Access to Health Care		
Goal	Programs/Strategies to Address Health Need	Outcomes/Impact
Support programs and develop collaborative efforts that will improve access to care for the medically underserved/uninsured in Worcester.	<ul style="list-style-type: none"> <li>➤ Remove the stigma and barriers often associated with youth accessing mental health services.</li> </ul>	<ul style="list-style-type: none"> <li>➤ H.O.P.E. Coalition Peer leaders developed a Youth Mental Health Model that integrates counselors into the staff at youth organizations.</li> <li>➤ Through this partnership with UMass Memorial, the Massachusetts Society for the Prevention of Cruelty to Children (MSPCC) counselors are on staff at: <ul style="list-style-type: none"> <li>• The Worcester Youth Center</li> <li>• Boys &amp; Girls Club</li> <li>• You, Inc.</li> <li>• Girls, Inc. (newly added in FY15)</li> <li>• Friendly House (newly added in FY15)</li> </ul> </li> <li>➤ Approximately 2,100 youth were served during the period by this program through one-on-one counseling, therapeutic groups and crisis intervention.</li> <li>➤ A Return-On-Investment (ROI) report was completed by the Community Development Training Institute at Clark University in 2013 indicating for every \$1 invested, \$2.24 will be gained through reductions in publicly financed mental health service provision.</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Reach medically-underserved</li> </ul>	UMass Memorial Ronald McDonald® Care Mobile program:

	populations including those who are uninsured, underinsured, or not connected to primary care medical services or dental providers.	<ul style="list-style-type: none"> <li>➤ Served a total of 11,917 patients</li> <li>➤ Provides services at 20 schools/ 10 neighborhoods across the city of Worcester</li> <li>➤ Screenings and educational sessions held at special events and schools</li> <li>➤ Care Mobile manager co-leads the Worcester Free Clinics Coalition which is conducting an on-going survey to identify more information about the patient population utilizing these services</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Educate vulnerable populations on insurance enrollment and provide technical advice on issues pertaining to navigating the health care system.</li> <li>➤ Provide insurance enrollment assistance and support health care reform efforts</li> </ul>	<ul style="list-style-type: none"> <li>➤ In 2013 and 2014 insurance enrollment assistance was provided to a total of 21,985 people by UMass Memorial Medical Center Benefit Advisors.</li> </ul>
<b>Chronic Conditions</b>	<ul style="list-style-type: none"> <li>➤ Address the high rate of tooth decay among children in the City of Worcester due to a lack of fluoridation in the city's water supply.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Coordination of the Central Mass Oral Health Task Force which ensures the provision of preventive dental services in Worcester public and charter schools.</li> <li>➤ In FY15, obtained agreement with the Worcester Public Schools (WPS) to pilot an Opt-Out option for dental screenings to be conducted for all students at the Union Hill elementary school. WPS also agreed to pilot dental X-Rays at South High School.</li> <li>➤ Developed steps to promote an education campaign to reduce sugary snacks and candy intake by elementary school students.</li> <li>➤ Through the collaborative, a minimum of 9,000 children received preventive dental services during the academic school year.</li> <li>➤ Provided support to two community health centers in 2013 to support their oral health services.</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Utilizing a Community Health Worker model, reduce the high rate of absenteeism related to asthma at Belmont Street Community School focusing on the Bell Hill neighborhood and Plumley Village public housing site.</li> </ul>	<ul style="list-style-type: none"> <li>➤ In 2013, UMass Memorial consulted with Boston Children's Hospital to adopt an asthma home-visiting pilot project based on their successful evidence-based model.</li> <li>➤ The pilot utilized specially trained Community Health Workers to conduct home visits for students of Belmont Street Community School identified by the school nurse as having high rates of absenteeism due to/related to asthma.</li> <li>➤ In addition to Belmont Street Community School, program partners included: UMass Memorial Pedi-Primary Care, UMass Memorial Plumley Village Health Services, UMass Memorial Office of Community Relations and Community Legal Aid.</li> <li>➤ CHWs identified and addressed home triggers, ensured families understood medications use, conducted follow-up and communicated</li> </ul>

		<p>with PCP and school staff.</p> <ul style="list-style-type: none"> <li>➤ Pilot outcomes: program included a total of 30 families with children with high rates of absenteeism due to asthma.</li> <li>➤ All participants received basic education to improve medication understanding and adherence, Asthma Action Plan review, home triggers assessment, supplies and referrals to address identified triggers and education and supplies for environmentally friendly house cleaning products to eliminate use of chemicals/cleaners that are asthma triggers. <ul style="list-style-type: none"> <li>○ Four homes had successful pest mitigation completed as the result of Community Health Worker (CHW) interaction and referral to the City of Worcester Public Housing.</li> <li>○ Three homes were referred to Community Legal Aid for guidance or assistance with housing issues.</li> <li>○ One home had a serious mold issue resolved as a result of CHW communication with the property landlord.</li> <li>○ All participants were provided with information about the City of Worcester Wheels to Water summer swimming and recreation program.</li> </ul> </li> <li>• Referrals were made to CHWs to address identified home triggers and education.</li> <li>• Several homes received successful pest mitigation as the result of CHW interaction and referral to the City of Worcester Public Housing.</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Reduce the high rate of pediatric asthma hospitalization and ED use in Worcester through a comprehensive, city-wide approach; secure funding to expand home visiting, community/clinical linkage program.</li> </ul>	<ul style="list-style-type: none"> <li>➤ UMass Memorial worked closely with the Worcester Division of Public Health and other stakeholders to secure funding from the Prevention and Wellness Trust Fund (PWTF) to address a community-wide public health/chronic disease prevention initiative. Strategies of the PWTF include: addressing preventable health conditions, including Pediatric Asthma, using evidence-based and evidence-informed programs, policies and systems change. This effort was funded out of the state's Chapter 224-Health Care Reform cost containment effort to establish linkages between community public health and clinical care.</li> <li>➤ The PWTF award secured \$600,000 for UMass Memorial over 2.5 years for a city-wide Pediatric Asthma community/clinical linkage.</li> <li>➤ The UMass Memorial Pediatric Asthma Pilot project played a significant role in positioning the city of Worcester for the PWTF grant award.</li> <li>➤ UMass Memorial Co-Chairs the PWTF Pediatric Asthma Intervention. <u>Other Clinical partners include:</u> Edward M. Kennedy Community Health Center (Co-Chair), The Family Health Center of Worcester, UMass Memorial Pedi-Primary Care, Pediatric Pulmonology, Plumley Village Health Services and the Office of Clinical Integration. <u>Community partners include:</u> Worcester Public Schools and Head Start</li> </ul>

		<p>Program, Worcester Community Legal Aid and the City of Worcester Division of Public Health and Healthy Homes Office.</p> <p>➤ Outcomes as of September, 2015:</p> <ul style="list-style-type: none"> <li>• 60 high risk Pedi-Pulmonology patients receiving meds in school during the 2013-2014 academic year had a total of 93 ER visits. In 2014-2015 ER visits for these patients decreased to 38.</li> <li>• Asthma Policy Task Force addresses environmental issues in schools established; Pilot launching at three public schools with high asthma rates.</li> <li>• In ten months, UMass Memorial sites (Pedi-Primary Care, Plumley Village Health Services, Pedi-Pulmonology and Community Relations) completed:</li> <li>• Home visits completed: 71 Baseline, 37 30-Day Follow Up, 7 6-Month Follow Up</li> </ul>
	<p>➤ Reduce risk and rate of injuries among seniors due to falls resulting in increased ED usage and hospitalization.</p>	<p>➤ In 2015, secured \$104,267 from the PWTF to develop a community-clinical linkage senior falls program with the UMass Memorial Trauma Clinic.</p> <p>➤ Secured bi-lingual AmeriCorps member to be trained and work as CHW to conduct home visits for senior patients identified by the UMass Memorial Trauma Clinic to address risk for fall factors within the home and conduct referrals to Matter of Balance, Tai Chi classes and home remediation.</p>
	<p>➤ Reduce substance abuse relapse among Latino men through case management and the delivery of wrap-around services that allow them to successfully graduate from the program and live independently.</p>	<p>➤ Supported the Executive Medical Director position at the Hector Reyes House, a residential substance abuse treatment program for Latino men that provides intensive counseling, state-of-the-art interventions for substance abuse, access to medical care, psychiatric services, training and employment options. The program serves between 20-25 men annually.</p>
	<p>➤ Improve access to health care services for seniors living at six Worcester Housing Authority locations and other vulnerable populations at a community-based Latino organization.</p>	<p>➤ Supports a hospital physician to provide medical services to a total of approximately 850 individuals. Total numbers served yearly decreased during the past three years due to lack of elder patient participation at the public housing sites.</p>



<b>Domain 2: Promote Healthy Weight</b>		
<b>Goal</b>	<b>Programs/Strategies to Address Health Need</b>	<b>Outcomes/Impact</b>
Reduce overweight/obesity among youth and adults and support efforts that promote Healthy Weight.	<ul style="list-style-type: none"> <li>➤ Increase knowledge of growing fresh produce and access to healthy food in food insecure areas through Community Garden efforts.</li> </ul>	<ul style="list-style-type: none"> <li>➤ The Grant Square Community Garden in Bell Hill was developed in partnership with the Regional Environmental Council (REC) with support from UMass Memorial and the City of Worcester, which provided land use at a public park for the garden. The garden includes a total of thirty raised beds maintained by youth gardeners and residents. Produce from the garden is made available to the Bell Hill neighborhood and at 15 stops in food insecure areas across the city through the REC "Veggie Mobile" mobile Farmers' market. Three of the Veggie Mobile stops are in the Bell Hill neighborhood and average between 60-90 customers per week.</li> <li>➤ Established an urban agriculture, youth leadership program for youth working at the Grant Square garden.</li> <li>➤ Hospital funding supports the doubling of SNAP (food stamp) benefits at Veggie Mobile sites.</li> <li>➤ Established a community garden at the Plumley Village Public Housing site. UMass Memorial supported the garden at Plumley Village beginning in 2011. The garden became self-sufficient, run by 26 participating residents, in 2013.</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Increase knowledge of growing fresh produce and access to healthy food in food insecure neighborhoods through Community Garden efforts.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Established a backyard gardening program in the Bell Hill neighborhood in 2013. The program had eight participants in 2013 and has increased to 25 homes in 2015. The effort provides another highly effective means of bringing fresh produce to the neighborhood, while educating individuals and families about healthy eating and how to grow their own food.</li> <li>➤ The hospital funds materials for the garden beds and leverages resources for the beds which are built by the Worcester Vocational School and the Worcester Carpenters Union. Soil is provided by the City of Worcester and the hospital partners with the Regional Environmental Council to provide seedlings and conduct soil testing.</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Promote healthy eating and nutrition education among vulnerable populations by funding and leveraging funding for Cooking Matters classes and educational grocery store tours to be offered at community sites.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Funded and leveraged funding for Cooking Matters classes to be offered at five community sites. During 2013 and 2014, a total of 816 individuals participated in healthy cooking classes, grocery store tours and one time educational sessions held at community events. Classes are currently being held in 2015 and to date, 23 people have participated in healthy cooking classes and 318 people have participated in grocery store tours.</li> <li>➤ Beginning in 2014, UMass Memorial supported the Worcester Division of Public Health in a coordinated public awareness campaign to</li> </ul>

		<p>promote 5-2-1-0 Let's Go! With messaging that recommends five or more fruits and vegetables per day, no more than two hours of recreational screen time, at least one hour of physical activity and no sugar-sweetened drinks. Multiple resources were devoted to promoting change within organizations and 5-2-1-0 messaging is featured on public buses.</p> <ul style="list-style-type: none"> <li>➤ UMass Memorial is a member of the Worcester Food and Active Living Policy Council Steering Committee, which convenes the Community Health Improvement Plan (CHIP) Healthy Eating &amp; Active Living Work Group and the Childhood Obesity Sub-Group targeting healthy weight and healthy eating efforts. The group focuses on policy and advocacy to promote healthy eating.</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Support and increase awareness of the 5-2-1-0 healthy eating campaign.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Working with the Worcester Division of Public Health, supported the development of the 5-2-1-0 healthy eating public awareness campaign including bus wraps.</li> <li>➤ Provided funding to the Southeast Asian Coalition (SEAC), enabling youth members to participate weekly in 54321Go! evidence-based workshops, a "MyPlate" nutrition program. An average of 20 youth participated in physical fitness activities every week.</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Increase access to physical activity and recreation opportunities for inner city children and youth that incorporates a summer healthy nutrition intervention and swimming lessons for youth.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Supported the "Recreation Worcester" program - formerly Wheels to Water- that included opportunities for learning (to reduce summer learning loss), recreation, youth development, and nutrition, with students able to receive three meals a day through a partnership with Worcester Public Schools summer school. The increased breadth and depth of the program enabled WDPH to hire 77 young people as program staff. During the period, a total of 4,483 youth registered for the program.</li> </ul>
		<ul style="list-style-type: none"> <li>➤ Supported physical activity and exercise through weekly afterschool and summer programs at Belmont Community and City View schools. A total of 336 children participated in summer and afterschool exercise programs funded by UMass Memorial.</li> </ul>
		<ul style="list-style-type: none"> <li>➤ Funding from the hospital also supported the 5210 Let's Go! curriculum and enhanced gym and swim program at the YWCA of Central Massachusetts for 95 preschoolers and yoga for 20 of those preschoolers in 2015. An additional 60 preschoolers participated in other exercise programs funded by the hospital during the period.</li> </ul>

<b>Domain 4: Promote Positive Youth Development</b>		
<b>Goal</b>	<b>Programs/Strategies to Address Health Need</b>	<b>Outcomes/Impact</b>
Support at-risk youth programs that promote positive youth development (e.g., substance abuse, tobacco, mental health and violence prevention).	<ul style="list-style-type: none"> <li>➤ Support youth leadership development programming aimed at reducing violence, Alcohol, Tobacco and other Drug (ATOD) abuse.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Healthy Options for Prevention and Education (HOPE) Coalition/ Youth Substance Abuse Prevention Task Force: HOPE is a youth-adult partnership created to reduce youth violence, substance use and promote adolescent mental health.</li> <li>➤ HOPE Peer Leaders co-chair the Youth Substance Abuse Prevention Task Force along with the Worcester Division of Public Health to reduce alcohol, tobacco and other drug (ATOD) use among young people.</li> <li>➤ Their work resulted in the establishment of an ordinance banning tobacco sales from all healthcare institutions including pharmacies. HOPE also organizes “Kick-Butt” campaigns and lobbying efforts to reduce tobacco use.</li> <li>➤ HOPE Peer Leaders conducted a Social Norms campaign reaching 750 students at North High School to communicate accurate information about the prevalence of healthy behavior in order to reinforce healthy behaviors among youth and reduce to reduce smoking, underage drinking and prescription drug abuse. In total during the period, HOPE reached approximately 3,000 people with its “I’m About this Life” social norms campaign.</li> <li>➤ HOPE Youth Art Initiative: In collaboration with the Worcester Art Museum, HOPE Coalition Peer Leaders in 2013 developed a program to enable youth to positively express themselves through art. The artwork focused on youth substance abuse and was displayed through social media and publically at the City of Worcester’s 2013 CHIP report-out to the community at City Hall, the Massachusetts Organization for Addiction Recovery (MOAR) annual meeting attended by 200 people and the city’s Town Hall meeting on underage drinking, marijuana use, and prescription drugs.</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Retrieve as many firearms as possible from the community and educate gun owners on the proper storage of guns in the home as a means of reducing violence and injury.</li> </ul>	<ul style="list-style-type: none"> <li>➤ UMass Memorial Injury Prevention program holds annual Goods for Guns program to incentivize the return of guns by community members. A total of a minimum of 232 guns were retrieved during the period to date (program still to be held in 2015).</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Enhance the knowledge, skills and networks of front line youth workers by increasing their understanding of risk factors, effective planning, program</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>HOPE Coalition Youth Worker Training Institute (YWTI):</b> is a 15 week course offered in collaboration with Clark University and was developed based on a needs assessment conducted among youth and executive directors of youth-serving agencies. This educational opportunity empowers youth workers to be more effective in delivering services to</li> </ul>

	development and self-evaluation.	<p>high risk youth. HOPE now partners with Clark University to offer university credit to youth workers who take Institute courses.</p> <ul style="list-style-type: none"> <li>➤ Through a partnership with Clark University, YWTI students are able to register for credit courses at no cost at the graduate school Community Development program. A total of 116 community youth workers completed the Youth Worker Training Institute, alongside 8 Clark students. Approximately 15 of the community youth workers enrolled in the Professional Certificate in Youth Work Practice program.</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Provide services and support to an organization where at-risk youth can build lasting, positive change by addressing root causes of poverty.</li> <li>➤ Foster self-sustainability of the organization.</li> </ul>	<ul style="list-style-type: none"> <li>➤ UMass Memorial provided support to the Worcester Youth Center since its launch in 1994. This organization was spearheaded by UMass Memorial in 1994 due to an identified great need and became financially independent from UMass Memorial as of May, 2013. During the period, a total of approximately 2,400 youth utilized the recreational, leadership, workforce and academic programs; 230 completed work readiness, 98 received subsidized employment, 117 enrolled in GED classes, and 217 had grade level increase and 32 obtained a GED</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Support employment and pre-employment training for youth as a means of reducing violence and breaking the poverty cycle providing exposure to workforce skills and career paths.</li> </ul>	<ul style="list-style-type: none"> <li>➤ The City of Worcester Youth Opportunities Office coordinates employment and pre-employment training for youth with the Worcester Community Action Council. Working with the state-funded YouthWorks program, the office partners with nonprofit and for-profit organizations to create meaningful job placements for young people. UMass Memorial's support of the Youth Office has helped Worcester youth job programs to collectively secure nearly \$2 million in funding annually. A total of 1389 youth were placed in jobs during the period.</li> </ul>
		<ul style="list-style-type: none"> <li>➤ Building Brighter Futures With Youth (BBWF): UMass Memorial provides summer employment at many medical center departments. Program serves approximately 40 students annually. Students work 24 hours per week.</li> <li>➤ While most BBWF students are placed in departments across the hospital system, five youth are employed annually at Grant Square Community Garden in Bell Hill through YouthGROW, a food justice program of the Regional Environmental Council.</li> </ul>
		<ul style="list-style-type: none"> <li>➤ YouthConnect, an anti-violence program involving eight agencies—The Boys &amp; Girls Club of Worcester, Friendly House, Girls Inc., Worcester Youth Center, Y.O.U., Inc., YMCA, YWCA and the Massachusetts Society for the Prevention of Cruelty to Children—provides recreational,</li> </ul>

		educational and cultural activities to underserved middle schoolers. On average, 200-300 youth participate daily in activities during the summer.
	<ul style="list-style-type: none"> <li>➤ Strengthen the existing social service network in Worcester by coordinating a system of care for vulnerable transition age youth (ages 17-24) and advocating for the resources needed for primary and secondary prevention of homelessness.</li> <li>➤ Enroll homeless/vulnerable young people in intensive case management throughout the year.</li> </ul>	<ul style="list-style-type: none"> <li>➤ The Compass Project, a collaborative community-based initiative, focused on ending youth homelessness in Worcester, conducted an extended evaluation of Compass case management, including 55 youth active in case management for at least 1 month from January 1, 2013 through June 30, 2014</li> <li>➤ <i>Outcome evaluation focused on 27 youth with 6-month follow-up data (changes from baseline to 6 months):</i></li> <li>➤ 67% of youth had increased housing stability, with 38% reaching stable housing (score 4-5) at 6 months</li> <li>➤ 44% had improvement in life skills</li> <li>➤ 70% had improvements in family relations</li> <li>➤ 44% had improvements in mental health</li> <li>➤ 56% had improvements in locus of control score (thinking they can control their circumstances, vs. their circumstances being out of their control) Youth involved also reported improvements in life satisfaction, family conflict, and family cohesion.</li> </ul>

<b>Other: Enhance the Public Health Infrastructure of the Community</b>		
<b>Goal</b>	<b>Programs/Strategies to Address Health Need</b>	<b>Outcomes/Impact</b>
	<ul style="list-style-type: none"> <li>➤ Develop and support strategies and systems that enhance the public health infrastructure of the Greater Worcester community.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Supported opportunities and partnerships that aimed to improve the public health in the community through the development of the 2013-2015 Community Health Needs Assessment (CHA) and the Community Health Improvement Plan (CHIP) which is reviewed annually.</li> <li>➤ Provided funding to support the Worcester Division of Public Health Infrastructure including the Worcester Youth Office, 5-2-1-0 Lets Go! Campaign, Recreation Worcester and other city-lead initiatives.</li> <li>➤ In partnership with stakeholders, reactivated the CHNA-8 Healthy Communities Coalition as a strategy to support the 2015-2018 CHIP strategies.</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Establish a Center for Public Health Practice to expand the infrastructure of the Worcester Division of Public Health and enhance public health interventions and efforts.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Center for Public Health Practice at Clark University launched in 2014: New collaboration advances work of Worcester Division of Public Health (WDPH), by informing public health practice. WDPH provides faculty and students with unique research and practicum experiences. A total of 24 students participated in the program in 2014 and 2015.</li> <li>➤ The effort: <ul style="list-style-type: none"> <li>• Builds capacity for the city's public health infrastructure that</li> </ul> </li> </ul>

		<p>brings evidence-based models</p> <ul style="list-style-type: none"> <li>• Fosters the pipeline of students and graduates for WDPH workforce</li> <li>• Engages students to work closely with the WDPH on public health efforts including data compilation for the 2015-2018 CHA conducting focus groups and public surveys at community events; and other projects in 2015</li> <li>• Hospital contribution supported the Coordinator position</li> </ul> <p>➤ This program aided in enabling WDPH to be the first in the state to apply for Public Health Accreditation through the federal accreditation board.</p>
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