Heywood Healthcare
Athol Hospital | Heywood Hospital

UMassMemorial
HealthAlliance Hospital

Community Health Assessment of North Central Massachusetts Executive Summary May 2015




Developed in Partnership with the Joint Coalition on Health, the Montachusett Public Health Network, Community Health Connections and Center for Health Impact (formerly Central MA AHEC)

MONTACHUSETT PUBLIC HEALTH NETWORK

Community Health Connections
We take great care of you!

JCOH Joint Coalition On Health

Center for Health Impact®

Acknowledgements

Study Partners

Community Health Connections

HealthAlliance Hospital

Heywood Healthcare

- Athol Hospital
- Heywood Hospital

The Joint Coalition on Health

The Montachusett Public Health Network

Qualitative Activities

The qualitative work was completed with the combined efforts of the: Study Partners; Westwinds Clubhouse; North Quabbin Community Coalition; Veteran's Homestead, Inc.; 15 West Teen Coffeehouse; Clinton Hospital; Montachusett Opportunity Council; New Hope Baptist Church; Community Health Connections; Hope Center; Fitchburg Senior Center; Goodrich Academy Alternative High School; Regional Behavioral Health Collaborative; and Center for Health IMPACT™ (formerly known as the Central Massachusetts Area Health Education Center, Inc.) staff and consultants.

Quantitative Data and Qualitative Data Analysis

Center for Health IMPACT™ (formerly known as the Central Massachusetts Area Health Education Center, Inc.) staff and consultants: Joanne L. Calista, Jena Bauman Adams, Lisa Renee Holderby-Fox, Nancy K. Esparza, Jacquelyn Toledo, Talena Thu Ngo, Chioma Nnaji, and Emily MacRae.

The study authors would like to extend special thanks to the many individuals who participated in Focus Groups and Key Informant interviews. Your willingness to thoughtfully engage in this process has provided vital insights and commentary for this report. Thank you!

Funding

Funding for this assessment was provided by HealthAlliance Hospital, Heywood Healthcare, and the Joint Coalition On Health.

EXECUTIVE SUMMARY

The 2015 *Community Health Assessment of North Central Massachusetts* is an updated review[1] of health status, issues, and related factors that have an impact on residents living in a very diverse area of the State. The current study was conducted as a collaborative effort between Heywood Healthcare's Heywood Hospital and Athol Hospital; HealthAlliance Hospital; the Joint Coalition on Health (JCOH); the Montachusett Public Health Network (MPHN); and numerous other community partners that provide health-related services, as well as organizational and individual advocacy, via hospitals, health centers, rehabilitation centers, primary care physician and specialty networks, public health networks, schools, and community-based organizations. The study researchers and report writers were staff and consultants of the Center for Health IMPACT™ (formerly known as the Central Massachusetts Area Health Education Center, Inc.), located in Worcester, Massachusetts.

Purpose

Many important initiatives have resulted from past community health assessments of North Central Massachusetts. The current comprehensive study of overall health in the North Central Massachusetts region, including exploration of health status, issues, concerns and assets in communities defined by lines drawn upon a map, as well as the real social issues crossing those invisible lines, is intended to provide up-to-date and salient data to inform stakeholders from every sector of the community in their efforts to improve the health and welfare of persons living in North Central Massachusetts.

Methodology and Data Sources

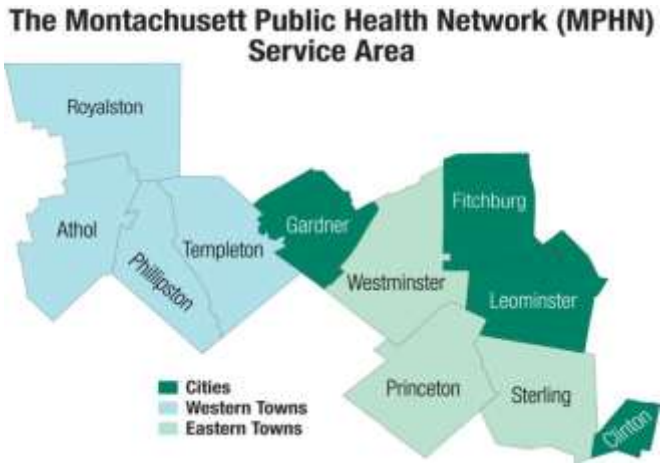
Quantitative data for this study were obtained from many of the same resources used in prior assessments, including MassCHIP data obtained by individual request and configured manually in collaboration with MA DPH; the Youth Risk Behavior Survey (YRBS) data; U.S. Census data; and other authoritative data sources (e.g., state and federal governmental organizations or agencies) subject to rigorous review and data verification processes.

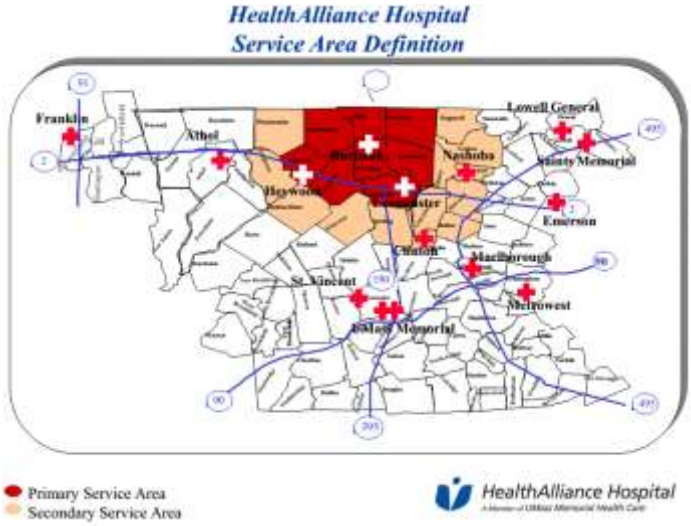
Qualitative data were gathered through 16 Focus Groups with 228 participants and 26 Key Informant interviews with individuals representing diverse communities and populations of North Central Massachusetts.

Study Area Overview

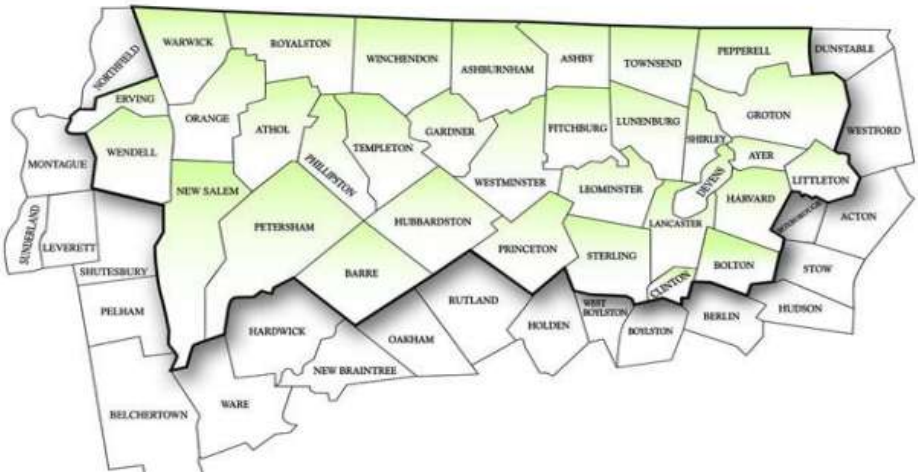
The following maps depict the regional configurations in which the data are presented:

[1] The previous report was the 2011 *Community Health Assessment of North Central Massachusetts.*





Heywood Healthcare – Athol Hospital and Heywood Hospital Service Areas



The Study Area configuration for the current assessment includes the 30 municipalities listed below, including nine (9) cities and towns included for the first time in this report (in italics) and excluding six (6) cities and towns represented in prior reports: Barre, Berlin, Hardwick, New Braintree, Oakham, and Rutland.

Ashburnham	Clinton	Harvard	***New Salem***	Princeton	Townsend
Ashby	***Erving***	Hubbardston	***Orange***	***Royalston***	***Warwick***
Athol	Fitchburg	Lancaster	Pepperell	Shirley	***Wendell***
Ayer	Gardner	Leominster	***Petersham***	Sterling	Westminster
Bolton	Groton	Lunenburg	***Phillipston***	Templeton	Winchendon

Within the **Health Status and Outcomes** section of the report, some data sets reflect a further distillation of data from the communities of: Princeton/ East Princeton; Lancaster/South Lancaster; Groton/West Groton; Townsend/West Townsend; and Winchendon/Winchendon Springs, resulting in a presentation of data from 35 communities.

The Study Area communities are diverse in many ways, including falling into three counties (Worcester, Franklin and Middlesex), and exhibiting other contrasts that may be broadly considered as: eastern/western geographies; mostly homogenous/more diverse populations; and more affluent/economically struggling residents. Additionally, 80% of the included cities and towns are classified "rural," defined as having fewer than 500 people per square mile (MacDougall and Campbell, 1995), which comprise 49% of the Study Area population.

Summary of Findings

DEMOGRAPHICS

> *Overall, but uneven population growth ● Older population than the State in general ● Slightly more females than males ● 91% of population is non-Hispanic, Caucasians ● 8.5% of population is Hispanic/Latino ● 3% of population is non-Hispanic, Black/African American ● 2% of population is non-Hispanic, Asian ● A few communities have larger percentages of ethnically/racially diverse population than in State overall ● "I think we fall short a little when it comes to diversity and being sensitive to linguistic needs"*

Population Growth*:* In 2010, the Study Area population was 268,539, a 3.96% increase from 2000 and a slightly higher growth rate than the State's during the same time period (3.1%). However, it should be noted that the five largest cities and towns in the region: Leominster, Fitchburg, Gardner, Clinton and Athol, all experienced growth

rates lower than the State's, and four Study Area communities lost population: Gardner, Leominster, Townsend, and Wendell.

***Age and Sex**:* Different from past assessments, the Study Area population in 2010 was older than in the State overall, with 52% of Study Area residents aged 50 years or older compared to 33.5% in the State. This may reflect not only an aging population, but also the new configuration of cities/towns in the current study. Similar to the State population of 51.6% females to 48.4% males, the Study Area has slightly more females (50.5%) than males (49.5%).

Race/Ethnicity: The Study Area population comprises primarily non-Hispanic, Caucasians (91%). Latinos are the largest racial/ethnic group (8.5%) in the Study Area, representing a slight increase from 2000 to 2010. Notably, three Study Area cities have higher percentages of population that identify as Latino: Fitchburg at 21.6%, Clinton at 15% and Leominster at 14.5%. The percentage of the Study Area population that is non-Hispanic, Black/African American is 3%, as compared with 6.6% in the State overall. Three percent (3%) of the Study Area population identifies as "Some Other Race." Two percent (2%) of the Study Area population are Asian, compared with the State percentage of 5.3%. Three percent (3%) of the Study Area population identifies as "Two or More Races."

SOCIODEMOGRAPHICS

Lower incomes than in State overall ● Wide income ranges between cities and towns in area ● Many individuals and families struggling with poverty and unemployment ● Higher percentage of married-couple households than in State, except in five largest cities/towns ● In five largest cities/towns, lower percentages of married-couple households; higher percentages of single women with children under 18; higher percentages of adults aged 65 and older living alone ● Homeless individuals living in temporary hotel housing is a concern ● Decreased unemployment, but income insecurity continues ● Low levels of educational attainment in some areas

***Income**:* The estimated average per capita income in the Study Area was lower at $32,679 than in the State overall ($35,763), with the lowest per capita income in Orange at $21,203 and the highest in Bolton at $55,369. The lowest median annual household incomes were between $47,019 and $48,333 in Fitchburg, Athol and Gardner; Clinton, Leominster, and Royalston also reported median household incomes below the State level. The highest median annual household incomes were reported in Sterling and Princeton, both with reported median annual household incomes of more than $100,000.

***Poverty**:* One-third of the Study Area cities and towns reported higher percentages of population living in poverty than the overall State percentage of 11.4%, with the highest percentages of poverty, ranging from 14.4% to 15.8% in Gardner, Wendell, Fitchburg, Ayer and Athol. Likewise, the percentage of children living in families below 100% of the poverty level was higher than the State's (14.9%) in Lancaster, Warwick, Wendell, Athol, Gardner, Shirley, Royalston, most notably Fitchburg at 31.5%. Percentages of persons aged 65 and over living below 100% of the poverty level were also higher than the State's (9.3%), ranging from 12.5% to 16.8% in Gardner, Fitchburg, Clinton and Templeton.

Household composition: The percentage of households comprised of married couples is much higher in the Study Area (77%) than in the State as a whole (46.3%) with many children under the age of 18 living within those households – except for in the area's five largest cities/towns (Athol, Clinton, Fitchburg, Gardner, and Leominster), where there are lower rates of households composed of married couples; higher rates of households made up a single woman with children under the age of 18; and high rates of older adults aged 65 and older living alone.

***Unemployment**:* Unemployment levels have dropped throughout the Commonwealth to the rate of 8.9% in 2013. In the Study Area, only the town of Orange at 10.6% had a higher rate of unemployment than the State's. Despite these decreased unemployment rates, there remains great concern among Study Area community members and leaders about the generally poor economy and the significant impacts of poverty upon the health and well-being of individuals and families.

Homelessness: 2014 Point in Time HUD data reported 158 known individuals who were homeless in the Study Area, mostly ages 25 and older, with 33% under the age of 18 and 8% between the ages of 18-24. Data regarding the numbers of homeless individuals in rural communities or the numbers of youth experiencing homelessness in specific cities and towns of the Study Area were not publicly available for this report.

Educational Attainment: In 2010, 11.3% of Massachusetts residents aged 25 and over did not possess a high school diploma, and 24.9% did not go beyond receiving a high school diploma or equivalent. In the Study Area, there were three municipalities with higher levels of residents with no high school diploma: Athol at 15.3%, Fitchburg at 15.6% and Gardner at 18%. At the opposite end of the spectrum is the town of Harvard where there was a 97.4% 4-year graduation rate in 2013.

HEALTH STATUS AND OUTCOMES

Maternal and Child Health

Higher teen birth rates across Study Area than in the State with highest rates among Hispanic/Latinas ● Lower rates of adequate prenatal care among racial/ethnic groups in the Study Area than for the State ● Higher rate of infant mortality than State, twice as high as State in Fitchburg ● Nearly double the rate of women that smoked during pregnancy than in the State

In 2010, the Study Area fertility rate was slightly higher than in the State overall. Eighty-one percent of births were to White, non-Hispanic mothers; 12.21% to Latino/Hispanic mothers (mostly in Fitchburg, Leominster); 3.09% to non-Hispanic, Black/African American mothers; and 2.6% to non-Hispanic Asian/Pacific Islander mothers. The five largest cities/towns reported the highest birth rates. The teen birth rate in every city and town in the Study Area, except for Pepperell, was higher than the State's. The teen birth rate was highest among Hispanic/Latina mothers at 49.46 (mostly in Fitchburg and Leominster). There was adequate prenatal care for 77.02% of the Study Area births, similar to the State rate of 78.94%; however, rates for adequate prenatal care among racial/ethnic groups were all lower than for the State. Thirty-eight percent of expectant mothers in the Study Area received publicly-funded prenatal care, with the highest percentages of recipients in the 5 largest cities/towns, and the highest overall, 57.69%, in Orange. Low Birth Weight (LBW) was present in a majority of Study Area communities, though the percentage of LBW at 7.95% was only slightly higher than the State rate of 7.76%. The Study Area infant mortality rate was higher than the State's rate of 4.38 per 1,000 live births; in Fitchburg, the rate was more than twice the State rate at 9.17. In 2010, 11.64% of women smoked during pregnancy in the Study Area, nearly double the rate of women who smoked during pregnancy in the State as a whole (6.29%). These rates were even higher, above 20% in three Study Area cities/towns: Athol at 21.21%, Gardner at 22.41% and Orange at 24.36%. The Study Area had a slightly lower percentage of mothers who were either breastfeeding at discharge or planning to breastfeed at 79.84% than the State rate (81.8%); however, in the five largest cities/towns, percentages of mothers who were either breastfeeding at discharge or planning to breastfeed were lower than the Study Area average.

Lead Poisoning: Out of the 232 children who reported elevated blood lead levels and the 43 diagnosed with lead poisoning in 2012 in Massachusetts, three (3) were in the Study Area: two (2) in Fitchburg, and one (1) in Leominster.

Oral Health: Access to oral health services in the Study Area and a higher rate of total tooth loss than in the State among the older population continue to be challenges; however, many initiatives during the past decade have positively impacted oral health.

Behavioral Health:

Indicators of mental health issues are among highest in State ● Psychiatric hospitalization rate, depression prevalence and suicide rates are higher than in State ● Alcohol use and binge drinking has decreased ● Higher percentage of smokers across all age groups than in State, especially among adult women ● Reported heroin use as primary substance used has increased

Mental Health: Indicators of mental health issues in Fitchburg, Gardner, Athol, and Leominster are among the highest in the State. The psychiatric hospitalization rate of 1230.4 per 100,000 in the area is much higher than the State rate of 873.8; prevalence rates for depression and poor mental health are high and the suicide rate is higher than the State rate of 9.0: Orange at 12.8, Gardner at 14.8, Athol at 17.3, and Winchendon at 19.4. The Study Area had a lower Mental Disorder Mortality Rate of 44.64 deaths per 100,000 compared to the State at 54.18, though the rates were higher in nine Study Area communities. Per data from the 2011 YBRS, the percentage of Study Area youth that reported feeling sad or hopeless (27.9%) is less than in the U.S. (28.5%), but more than in the overall State (25%). LGBTQ youth in particular expressed struggling with anxiety, ADHD, sensory processing disorders, and depression. The Study Area's Suicide Mortality rate 11.65 per 100,000 is notably higher than the State rate of 8.45.

Substance Use*:* The nature of substance use and abuse varies within the Study Area, although community clinicians, social service providers, community leaders and community members all cited it as a significant problem. Alcohol use, including binge drinking has decreased to lower than State rates in most of the Study Area across age groups, as have alcohol/substance related hospitalizations (343.97 per 100,000 for the State and 271.14 for the Study Area), although several communities have higher rates than the State's. The Study Area has a higher percentage of current smokers than in the State in every age group, except for 65-74 year olds with equal percentages to the State. Notably, adult women in the Study Area had a higher percentage of smokers at 22.3%, which is 4.4 percentage points higher than in the State. Educational attainment did not impact most of the percentages.

Opioid Use**:** In the context of the opioid crisis in Massachusetts, increased opioid use is a major concern in the Study Area. The rate of Opioid-Related Hospitalizations in 2011 was lower in the Study Area than in the State as a whole, although Gardner had a much higher rate than in the overall State. Likewise, the Opioid-Related Mortality Rate was slightly lower in the Study Area at 9.32 per 100,000 than in the State (9.7), although the five largest cities and towns in the Study Area had higher rates, ranging from Gardner at 10.27 to Athol at 19.41, to the highest rates in Ashby at 42.51 and Pepperell at 28.34. Of great concern, there was a 12.7% increase from 2010 to 2014 in the percentage of

Study Area individuals admitted to a BSAS-supported treatment program that identified heroin as their primary substance of use. In the five largest cities and towns, the percentage increase was higher at 22% in Clinton, 19% in Gardner and 15.4% in Fitchburg; and two times higher.

Chronic Disease

Adults across age groups are more overweight in the Study Area than in the State, especially those aged 45 – 74 ● The percentage of Study Area adults with current or past diabetes has increased since the last report and is higher than in the State ● High blood pressure and high cholesterol are higher in most age groups than in the State ● Adult women report higher rates of disability than men.

In the Study Area, adult respondents reported being overweight at a consistently higher percentage than in the State (59.3%) across all age groups, with reported percentages higher than 70% in the 45-54 age group (71.5%), the 55-64 age group (72.4%) and the 65-74 age group (73.6%). Childhood overweight and obesity is a concern as well, though percentages in children are more comparable to State percentages. However, 56% of Study Area residents report engaging in regular physical activity (defined as a 30 minute session at least 5 times a week), which is equal to the State percentage (though notably fewer college graduates in the Study Area reported regular physical activity, just 55.9% versus the State rate of 63.5%)

The percentage of Study Area adults that currently have or have had diabetes in the Study Area has increased in all age groups since the prior community assessment, and is currently higher at 9.3% than the State percentage (8%). Non-Hispanic, Black/African Americans have the highest percentage of reporting current or prior diabetes in both the State and in the Study Area. The percentage of Study Area adults reporting they have been diagnosed with high blood pressure is lower than the State's for 35-44 year olds, but higher than the State for every other age group. Likewise, the percentage with high cholesterol was higher than for the State in all age groups except for the 65-74 year old age group. For both the Study Area and the Commonwealth, adult men have higher percentages of having been diagnosed with high diabetes or high cholesterol than adult women.

The percentage of the population diagnosed with asthma during their lifetime in the Study Area at 15.3% is similar to the State's (15.4%). Broken down by age, however, percentages were lower in the Study Area for all age groups except for in the 25-34 age group, with 19.9% as compared to the State at 18.5%, and in the 75+ age group at 11.5% compared to the State at 8.7%. In both the Study Area and the State, a higher percentage of women have been diagnosed with asthma than men.

Disability indicators are comparable between the State and the Study Area, at about 23% of respondents, though slightly higher in the Study Area's 65-74 age group. Adult

women in the Study Area reported having a disability at a higher rate (25.2%) than their male counterparts (20%). Reported disability among the Study Area population with less than a high school education was lower at 24.6% than in the State at 34.7%.

Disease-Related Mortality

Mortality rates in the Study Area from all diseases are higher than rates in the overall State, except for the age-adjusted Breast Cancer Mortality rate for women ● Cerebrovascular Disease Mortality and Coronary Heart Disease Mortality are significantly higher in the Study Area than in the State

***Overall Mortality**:* The Overall Mortality Rate, defined as the number of deaths per 100,000 people, was 668.82 for the State in 2011 and higher at 737.16 for the Study Area. Three of the five largest cities and towns had even higher rates: Gardner at 802.61, Athol at 868.14 and Fitchburg at 873.16. As in the overall State, the highest rate of overall mortality by race/ethnicity in the Study Area was 948.11 for Black/African American, Non-Hispanics as compared to 735.86 for White, Non-Hispanics. Premature mortality, defined as the number of deaths occurring before the age of 75 per 100,000 persons, was slightly higher in the Study Area in 2011 at 310.42 than the State rate at 273.41.

***Cancer**:* The age-adjusted cancer (all types) mortality rate was slightly higher at 169.3 per 100,000 in the Study area than in the State (165.65) and higher in Gardner and Leominster than in the overall Study Area. As in the State, Black/African American, Non-Hispanics in the Study Area had the highest cancer mortality rate of 231.23 as compared with 170.83 for White, Non-Hispanics. The age-adjusted breast cancer mortality rate for women in the Study Area was lower at 17.85 per 100,000 than the overall State rate (19.26). By race/ethnicity, data for the Study Area were available only for White, Non-Hispanic women at an overall rate of 18.91 as compared to 19.82 in the State. However, the highest rates for age-adjusted breast cancer rates in Massachusetts were found in Black/African American, Non-Hispanic women at 25.5 per 100,000. The age-adjusted lung cancer mortality rate in 2011 in the Study Area was higher at 50.23 than in the State (44.63). Three of the five largest cities and towns had higher rates: Fitchburg at 54.19, Gardner at 66.52, and Clinton at 71.62.

Cerebrovascular Disease Mortality: In 2011, the Study Area had a significantly higher age-adjusted cerebrovascular disease mortality rate of 54.82 per 100,000 than in the overall State (29.83). Three of the five largest cities and towns had even higher rates: Athol at 61.75, Leominster at 74.36 and Fitchburg at 79.57. By race/ethnicity, Hispanics/Latinos in the Study Area had the highest rate at 69.89; notably, the rate in Leominster was much higher at 106.15.

***Coronary Heart Disease Mortality**:* In 2011, the Study Area had a significantly higher age-adjusted coronary heart disease mortality rate of 107.44 per 100,000 than in the overall State (91.44). All of the five largest cities and towns had even higher rates, ranging from 114.8 in Leominster to 134.95 in Gardner. Coronary heart disease mortality rates were similar for all racial/ethnic groups in the Study Area as compared to the State: White, Non-Hispanics at 105.98; Hispanics at 107.15 and Asian/Pacific Islander, Non-Hispanics at 46.99. However, the rate for Black/African American, Non-Hispanics in the Study Area was much higher than in the State – 280.08 compared to 97.05.

***Chronic Liver Disease Mortality**:* In 2011, the Study Area had a slightly higher age-adjusted chronic liver disease mortality rate of 10.54 per 100,000 than the State's rate (7.45). Of the five largest cities and towns, rates were similar to the Study Area as a whole, except for Athol with a significantly higher rate of 43.41.

***Diabetes Mellitus Mortality**:* In 2011, Massachusetts had an age-adjusted diabetes mellitus mortality rate of 14.36 per 100,000, while the Study Area had a higher rate of 19.4. Of the 5 largest cities and towns in the Study Area, Leominster had a similar rate at 16.6, while Gardner and Fitchburg both had higher rates at 23.56 and 28.25, respectively. By race/ethnicity, in the Study Area, Hispanics had the highest rate at 32.24 per 100,000, followed by White, Non-Hispanics at 19.42. Black/African American, Non-Hispanics had the lowest rate at 16.1 per 100,000.

Parkinson's Disease Mortality: In 2011, the Study Area had a higher age-adjusted Parkinson's Disease Mortality Rate of 8.39 than in the overall State (6.52). Of the 5 largest cities/towns in the Study Area, only Gardner had a rate higher than the Study Area, which was significantly higher at 18.56.

Injuries and Violence

In 2011 the Study Area had a self-inflicted injury rate that was more than 124 times the State rate. ● The motor vehicle-related mortality rate was ten times higher in the Study Area than in the State, and especially high in Fitchburg, Gardner and Athol ● Four cities reported higher rates of child maltreatment than in the State, some with significantly higher rates ● The total number of restraining orders has increased in the Study Area, most significantly in Fitchburg

***Self-Inflicted Injuries*:** Defined as injuries judged by hospital staff to be an intentional effort to hurt or kill oneself, in 2011, the Study Area had a self-inflicted injury rate of

72.39 – more than 124 times the State rate of .58 per 100,000. Three of the five largest cities and towns had rates higher than the Study Area's already high rate: Clinton at 102.95, Athol at 103.59 and Gardner at 133.5. The highest rates of self-inflicted injuries were found in Gardner and Winchendon at 133.5 and 135.92, respectively.

Homicide: In 2011, within the Study Area, two homicides in Leominster were the only reported deaths due to homicide.

Weapons-Related Injuries: In 2011, there were 1,860 weapons-related injuries in Massachusetts. The Study Area experienced 70 weapons-related injuries during this time. The only municipalities in the Study Area to report numbers of weapons-related injuries in 2011 were Fitchburg (16), Gardner (13), Clinton (10), and Leominster (8).

Injuries and Poisonings: The Study Area had a similar age-adjusted injuries and poisonings mortality rate at 46.86 as the State's (43.7). Three of the five largest cities and towns rates higher than the region: Leominster at 47.51, Fitchburg at 47.57 and Gardner at 50.51.

Motor Vehicle-Related Mortality*:* In 2011, the age-adjusted motor vehicle-related mortality rate for Massachusetts was 5.48 per 100,000. The Study Area had a significantly higher rate of 52.98. The 5 largest cities and towns in the Study Area had the highest rates for motor vehicle-related mortality: Leominster was close to the Study Area rate at 50.81; Fitchburg at 64.61; Gardner at 67.25; and Athol at 91.43. (Data for Clinton were unavailable.)

Child Maltreatment: The 2010 reported rate of maltreatment of children (defined as persons less than 18 years old) was 56.3 per 1,000 residents in Massachusetts, representing an increase from 51.9 in 2009. Four cities in the Study Area had rates of maltreatment of children higher than the State. In some instances, the rates were significantly higher: Leominster at 72.2; Fitchburg at 102; Gardner at 110.5; and Athol at 185.4.

Domestic Violence: Data on domestic violence (also referred to as "Intimate Partner Violence" or IPV) are limited for various reasons. However, other indicators, such as numbers of restraining orders, can help illuminate the scope of domestic violence occurring in a geographical area. In the Study Area, among selected courts, the total number of restraining orders has increased 39% from 1,786 in 2010 to 2,477 in 2013. These totals represent filings in the towns of Ayer, Clinton, Fitchburg, Gardner, Leominster, Orange, and Winchendon. Most of the increases range from 21% - 41%, but Fitchburg is noteworthy for its 76% increase, representing an increase to 659 orders filed in 2013 from 375 orders filed in 2010.

Infectious Diseases

In the Study Area, the cities and towns with the highest rates of Hepatitis C were in Athol (86.33 per 100,000), Shirley (83.25), and Leominster (68.7). The rate of HIV/AIDS in the Study Area was much lower, ranging in the largest cities from 154.42 in Clinton to 250.55 in Fitchburg. Chlamydia data were not available for the Study Area overall; however, among the five largest cities and towns, two had rates higher than the State's (360.45): Fitchburg at 399.38 and Leominster at 520.19.

Primary Care Manageable Hospitalizations

In 2011, the age-adjusted rate for asthma hospitalizations in Massachusetts was 152 per 100,000. The rate for the Study Area was lower at 134.95. Of the five largest cities and towns in the Study Area, Leominster and Fitchburg had higher rates at 188.45 and 214.85, respectively. The age-adjusted rate for hospitalizations in the Study Area for angina was 10.48 based on 30 hospitalizations, compared with 9.04 per 100,000 in the State based on 696 admissions. The Study Area had a higher age-adjusted rate for bacterial pneumonia hospitalizations at 335.4 than the State rate of 291.49 per 100,000. Three of the five largest cities and towns had even higher rates: Leominster at 346.45, Fitchburg at 390.62 and Gardner at 444.7.

Incarceration and Re-Entry

Incarceration and reentry data for the community are included for the first time in this report as a reflection of its identification by the community health assessment partners as a local priority, as well as a State and national priority. The Study Area contains two Department of Correction facilities – the North Central Correctional Institution at Gardner, and the MCI Shirley Souza-Baranowski Correctional Center in Shirley. In addition, women from the Study Area are also served at the Western Massachusetts Women's Correctional Center under the Hampden County Correctional system in Chicopee.

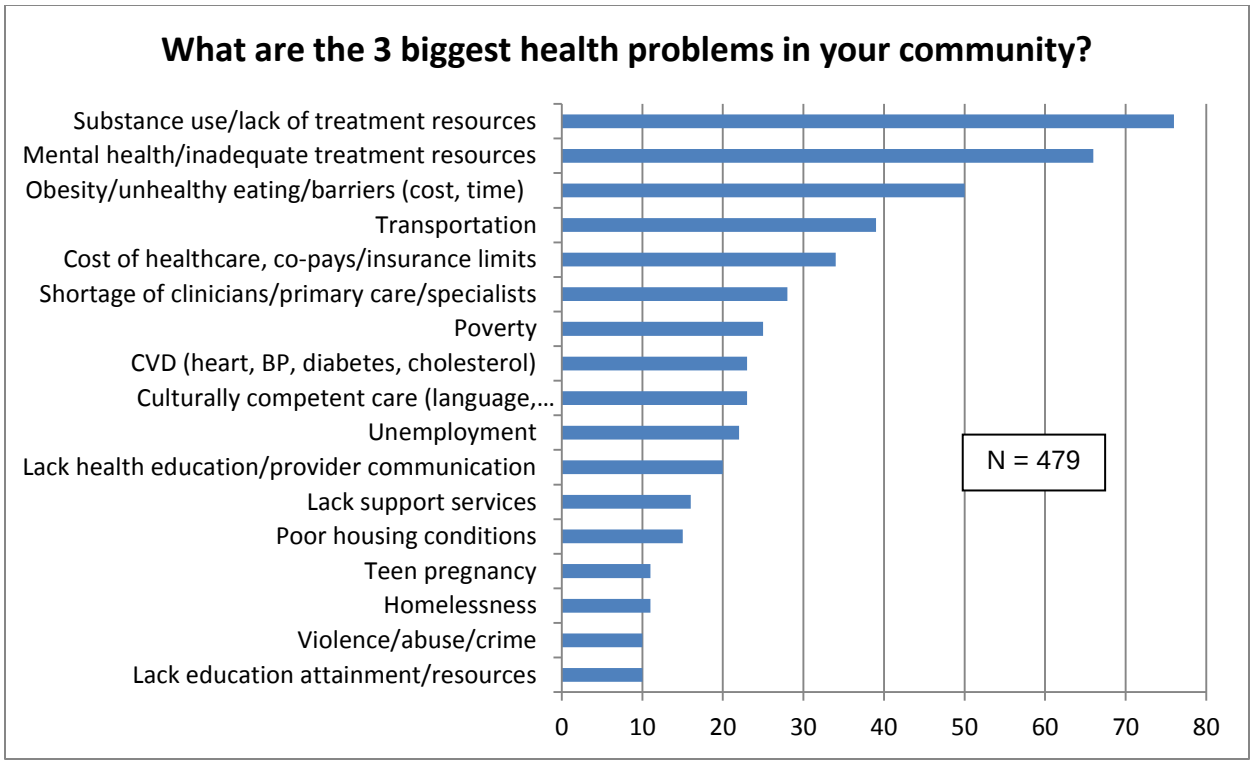
More detailed quantitative data may be found throughout this report and in **Appendix A: Comprehensive Data Summary**

Community Voices: *Key Themes from the Qualitative Data*

Community Assets: Many community strengths and assets were identified during the course of this Study. Health and social services organizations and other community-based organizations were consistently cited as critically important to the health of their communities. Examples included clinics and hospitals; school-based health programs; senior centers; veterans organizations; churches/faith-based organizations; youth groups and centers; food pantries and community kitchens; Meals on Wheels; libraries; drop-in centers; YMCAs; charity organizations; local banks (help with utility payments); and community colleges. Strong collaboration among service agencies was cited by multiple interviewees and across multiple Focus Groups. Other community strengths that were highlighted included the natural beauty of the Study Area and the willingness of residents to help one another. Several community assets that stood out during the qualitative activities are highlighted in the body of the report.

As part of the Focus Group process, participants were invited to list their responses to the question "What are the three biggest health problems in your community?" Five hundred fifty-three problem statements were submitted – or an average of 2.4 responses ("problems") submitted per 228 Focus Group participants. Among the statements submitted, 49 different health problems were identified; however, 479 (87%) of them fell into one of the 17 categories as represented in the following chart. *It is important to note that problems were submitted by participants of Focus Groups who resided in multiple cities and towns, and therefore the problems identified are not attributable to any specific cities or towns.*

he top four "problems" identified were: 1) Substance use and a lack of access to adequate treatment resources; 2) Mental health problems and a shortage of mental health providers and services; 3) Obesity and unhealthy eating, including a lack of information about nutrition and other barriers to buying, preparing and serving healthy foods; 4) Lack of adequate public transportation to service the needs of residents in the Study Area, especially in the more rural areas.



The problems identified reflected the main themes that emerged across the Focus Group discussions and the Key Informant interviews. More detailed information about themes across Focus Groups, as well as themes that emerged within particular Focus Groups and during Key Informant interviews are included in the full report and in *Appendix B: Community Voices*.

***Substance Use**: "Alcohol and drug use is a real problem, especially access to treatment resources and especially in the rural areas. For example, there are not detox, treatment or stabilization step 1 or step 2 resources in those areas at all."* Substance use has been a consistent concern in past assessments of the health status of the Study Area. In the current study, issues of substance use and abuse were paramount. A lack of adequate treatment resources – both short term and long term – and the related impacts of substance use and abuse on individuals and communities were emphasized by nearly all of the study participants. This may be reflective of the opioid overdose crisis occurring in many parts of Massachusetts, including in the Study Area. However, alcohol use was highlighted as a serious health problem as well.

***Mental Health:** "The world feels scary and frightening and the services are not enough."* Clinicians, health and social service providers, community adults, and youth across racial and ethnic groups alike stated that untreated mental health problems are increasing among both adults and youth in the communities of the Study Area. There was widespread concern about the shortage of mental health counselors in general,

trauma counselors, and specialists to work with specific populations (e.g. pediatric, adolescents, LGBTQ individuals, non-English speaking, and racial/ethnic groups); waiting lists for mental health services; inadequate access to psychiatric care and hospitalization; and insurance coverage issues that limit placements. Depression, stress and trauma were cited as common concerns, as well as a lack of hope for the future – especially among youth, and high rates of suicide ideation and suicides. Descriptions of stigma related to mental illness diagnoses and suicide-related behaviors were mentioned as an ongoing barrier to mental health-seeking behavior.

Obesity and Unhealthy Eating: *"We eat too much unhealthy foods because they are cheap or easily accessible (fast foods, cheap snacks/drinks.)"* Interestingly, while unhealthy eating, a lack of access to healthy foods, too little exercise and a lack of information or education about nutrition were mentioned during several focus groups and by several Key Informants, the topic did not generate as much discussion and did not emerge to be one of the most urgent barriers to good health. However, based on their responses when asked to identify the three biggest health problems in their communities, participants clearly rank obesity and unhealthy eating as high among their health problems.

Transportation: *"Because there is little transportation, [people] can't access quality health care."* Insufficient public transportation and poor transportation infrastructure were widely identified as having a negative impact on community health and safety in every focus group and in multiple interviews with Key Stakeholders. Participants stated that transportation in the Study Area has not improved or has worsened, identifying the condition of roads, bridges and poor street lighting and also a lack of sufficient and affordable public transportation services as major barriers to staying healthy and accessing health services. Participants reported waiting hours to catch a bus, having to push baby carriages in inclement weather in order to make appointments; having to walk to the doctor's office even when very sick, and ending up in places *"you shouldn't be"* because of limited transportation. The impact of insufficient public transportation resources was considered even worse for those residing outside the Study Area's cities. *"Elders in small towns are far away from health services out in the boonies; if you're in a rural area, you're pretty much on your own."*

Poverty: *"We're all poor."* The economy, unemployment and poverty continue to exacerbate many issues associated with health and access to healthcare in the Study Area, despite decreases in unemployment since the last community health assessment in 2011. The accumulative and ongoing impact of economy-related stressors are considered to have an ongoing impact on mental health, substance use and abuse, violence, healthcare seeking behavior and general health status in in Study Area communities. Both community members and community leaders described a common state of resource insecurity among large numbers of community members who are either living in poverty, or have just enough money or resources to get by, but not

enough to feel secure or be able to weather new circumstance that might arise and require more. Descriptions of choices between putting food on the table and purchasing prescribed medications; purchasing nutritious foods vs. less expensive "fast food"; or not seeking healthcare because of the high cost of co-pays for each visit, were common.

Housing and Homelessness: *"The housing stock is old and chopped up." "Homeless families in hotels… temporary placements are now turning permanent."* Homelessness and insecure housing were themes that arose throughout the qualitative data. Participants identified what they perceived as an increase in homelessness, questioning if there was a relation to the opioid crisis. In addition, service providers and community members alike expressed concern about the unanticipated relocation of homeless families to long term hotel stays in the region with corresponding impacts upon the families as well as on the regional educational and human service systems. The qualitative data reflected serious concerns about the living conditions of renters in the region; problems related to old and inadequately maintained housing stock; and increased conflict between tenants and landlords.

Child and Adolescent Health: *"Every school system, every school should have a health curriculum from 4th – 12th grade."* Adults and youth alike expressed concern about the health of children and adolescents in the region, in particular about their social/emotional and mental health, and about a lack of adequate resources tailored for children and youth. Examples provided included the need for more pediatric mental health and treatment services, health education, employment opportunities, and encouragement for educational attainment, mentoring and expanded recreational options.

Social and Cultural Isolation*: "So then they are sitting out there alone with all their problems."* Despite widespread agreement about and appreciation of community members' willingness to help each other and the positive impact of strong organizational collaboration in the Study area, social and cultural isolation was considered by most Focus Group participants to have worsened in the past few years. Participants expressed concern about the isolation of elders; rural residents; LGBTQ individuals; families living in hotels; recent immigrants; and newcomers to the country. Wintertime was said to increase isolation in the Study Area and participants consistently mentioned a relationship between social and cultural isolation with loneliness, mental health problems, and drug and alcohol use.

More detailed qualitative data, including quotations and concerns expressed within and across qualitative Focus Groups and Key Informant interviews, appears throughout the report, in the **Community Voices** section of the report and in **Appendix B: Community Voices**.