# Lawrence General Hospital

## 2013 Community Health Needs Assessment

September 6, 2013

Lawrence General Hospital
So good. So caring. So close.

Health Resources in Action
*Advancing Public Health and Medical Research*

# TABLE OF CONTENTS

# EXECUTIVE SUMMARY

**Background**

Lawrence General Hospital is a private, non-profit community hospital providing the Merrimack Valley and southern New Hampshire regions with high quality, high value medical care for the whole family. As a way to ensure that Lawrence General is achieving its vision and meeting the needs of the community, the Hospital undertook a comprehensive community health needs assessment (CHNA) in the summer of 2013.

The Lawrence General Hospital CHNA focused on the Hospital's primary and secondary markets, which include the towns of: (primary) Lawrence, Methuen, North Andover, Haverhill, and Andover in Massachusetts (MA) as well as (secondary) Middleton (MA), Georgetown (MA), Salem (NH), Plaistow (NH), Atkinson (NH), Boxford (MA, and Tewksbury (MA).

**Community Health Needs Assessment Methods**

The CHNA utilized a participatory, collaborative approach to look at health in its broadest context. The assessment process included: synthesizing existing data on social, economic, and health indicators in the region; administering a public survey completed by 156 residents and 231 health or social service providers; and conducting focus groups and five interviews with providers, community-based organizational staff, and residents to identify the perceived health needs, challenges to accessing services, current strengths and assets, and opportunities for action in the community. The qualitative discussions in the 2013 CHNA engaged over 60 individuals.

**Findings**

The following provides a brief overview of key findings that emerged from this assessment:

<u>Demographics</u>

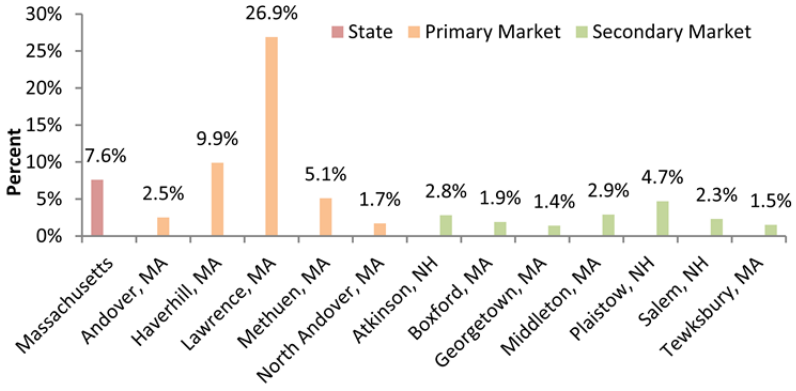
- **Population:** In 2011, the total population of the Lawrence General Hospital (LGH) service area was estimated to be 341,140, up 4.3% from 2000 (327,180). The area is comprised of twelve communities that vary by size, growth patterns, wealth, and diversity of residents.
- **Age Distribution:** Focus group participants and key informants described the region served by LGH as multi-age, with children, youth, young adults, students, families, middle-aged residents, and seniors. Lawrence (28.8%) and Boxford (28.5%) had the highest proportions of children under age 18, which were above the state average (21.8%), while Atkinson had the highest proportion of residents age 65 and over (17.4%).
- **Racial and Ethnic Diversity:** Key informants and focus group participants specifically noted a large Hispanic or Latino population in the region, with recent increases in the African and Central American immigrant communities. While the communities of Atkinson, Boxford, Georgetown, Plaistow, and Tewksbury are over 90% non-Hispanic White, 72.9% of Lawrence's population is non-White, Hispanic. Additionally, the most commonly spoken non-English language in Lawrence is Spanish, with over 68% of the population reporting speaking Spanish at home.

> *"It's a small town, but you can find a little bit of everything – different cultures and different strokes of life. It's fun."*
>
> —Community resident

Social and Physical Environment

- **Income and Poverty:** Residents described the region as economically diverse, including a mix of middle class families and families living in poverty. According to the 2011 American Community Survey estimates, the household median income in the region ranged from a low of $31,478 in Lawrence –less than half that of MA ($65,981) – to a high of $137,159 in Boxford. Additionally, more than one in four families in Lawrence lives below the federal poverty level (26.9%) (Figure 1).

**Figure 1: Percent of Families below Poverty Level by Massachusetts and Service Area, 2007-2011**




DATA SOURCE: U.S. Department of Commerce, Bureau of the Census, American Community Survey 5-Year Estimates, 2007-2011

- **Employment:** Unemployment in the area was described by key informants as impacting all other aspects of life, ranging from one's ability to address health issues to community cohesion and housing. While the unemployment rate in most of the hospital service area's communities is lower than that of MA (8.1%), 9.0% of Haverhill residents and 8.6% of Lawrence residents were unemployed.
- **Educational Attainment:** Quantitative results show high educational attainment among residents of Andover, North Andover, Atkinson, Boxford, and Georgetown, which had a greater proportion of residents with a college degree or higher compare to the state (38.7%). Lawrence, however, has lower levels of educational attainment, where 11.7% of adults had a college degree or higher.
- **Housing:** While participants described housing in the region as relatively affordable compared to other parts of MA, they did note that housing costs were not affordable for low-income residents. Quantitative data reveal that housing affordability varies in the region. Monthly mortgage costs range from $1,944/month in Lawrence to $3,198/month in Boxford and monthly rental costs are range from $850/month in Lawrence to $1,786/month in Boxford.
- **Transportation:** Quantitative data indicate that percentages of individuals with access to a vehicle for commuting to work (alone) varies from 64.1% in Lawrence to 93.3% in Plaistow, compared to 72.3% across MA. Transportation also emerged in qualitative discussions as a challenge to accessing services among low income populations.
- **Crime and Safety:** Several key informants and focus group participants cited crime in the region as a major concern and stressor for residents. Rates of violent and property crime are highest in Lawrence (994.2 and 3,228.7 per 100,000 population, respectively), which are above statewide rates (428.4 and 2,258.7 per 100,000 population, respectively).

Community Strengths and Assets

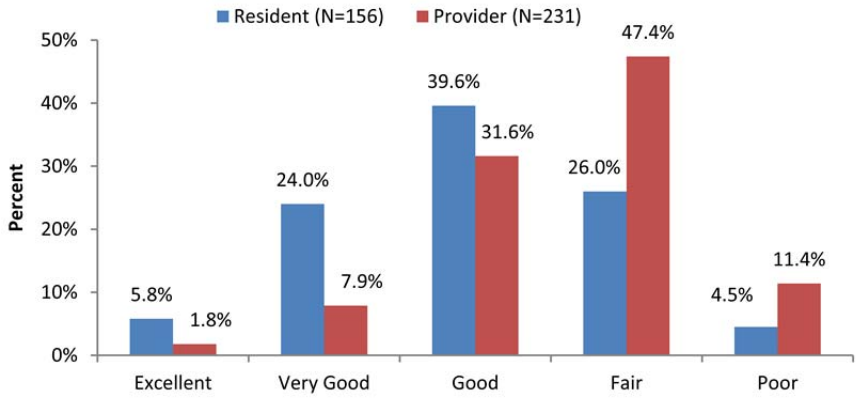
- Focus group and interview participants cited a number of strengths and assets in the region, highlighting the spirit of collaboration amongst organizations and a sense of community among residents.
- Other assets that participants named were related to the quality of health care services in the region as well as diversity of the region.

> *"Partnerships are incredible. People are willing to work hard to work together."*
> —Stakeholder/service provider

Health Behaviors and Outcomes

- **Perceived Community and Individual Health Status:** As seen in Figure 2**,** among CHNA survey respondents, 69.4% of residents and 41.3% of providers described the community's health as good, very good, or excellent. Obesity, drugs and alcohol abuse, and depression/mental health issues were identified as top community health concerns across the region among both resident and provider respondents.

**Figure 2: Perceived Community Health Status by Survey Respondent Role, 2013**




DATA SOURCE: Lawrence General Hospital Community Health Needs Assessment Survey, 2013

- **Premature Death:** Quantitative data for premature death show variability across the LGH primary service area. Georgetown (329.7 per 100,000 population), Haverhill (325.4 per 100,000 population), and Lawrence (292.0 per 100,000 population) reported higher rates of premature mortality than the statewide rate (273.6 premature deaths per 100,000 population) for MA.
- **Healthy Eating, Physical Activity, and Overweight/Obesity:** Several focus group participants and key informants cited obesity as a primary health concern for children and adults in the region. Residents described access to healthy and affordable food as a critical issue in the region that contributes to overweight and obesity. Quantitative data indicate that Lawrence (31.0%) and Methuen (25.8%) had the highest percent of obese adults in the area, above that of MA (22.7%). Results from the Behavioral Risk Factor Surveillance System Survey show that adults in Lawrence and Methuen were also least likely to report the recommended intake of fruits and vegetables and engage in daily physical activity.
- **Chronic Disease:** When asked about health concerns in their community, asthma emerged as a pressing health issue cited by key informants and focus group participants, many of whom attributed the high rates of asthma in the area to housing conditions. Lawrence had a higher proportion of adults diagnosed with asthma (10.9%) and diabetes (10.6%) than the state (10.1% and 7.5%, respectively).
- **Cancer:** Data on cancer screenings indicate that a similar proportion of adults in CHNA 11 and across the state receive regular screenings, while adults in CHNA 12 are less likely to receive regular screenings. In Lawrence, 53.6% of adults reported having had a colorectal cancer screening and 90.3% of women reported having a mammogram.
- **Substance Use and Abuse:** Substance use and abuse was a key concern described by residents in the CHNA focus groups, especially prescription and illicit drugs. Tobacco use was not discussed frequently in the focus group or interview discussions; however, according to the Behavioral Risk Factor Surveillance System survey, Haverhill (21.0%), followed by Lawrence (19.4%) and Methuen (17.8%), reported smoking rates higher than that of the state (15.8%).

> *"The largest growing problem we have right now is prescription drug use. It's worse than ever."*
> —Community resident

- **Mental Health:** Mental health emerged as a major health concern among residents and key informants in the region. They emphasized that the co-existence of mental health issues and chronic health conditions is an issue that affects residents and cited the need for more holistic care. In 2009, Lawrence and Methuen had the highest rates of ED visits for mental disorders (5,425.2 and 4,012.1 per 100,000 population, respectively), hospitalizations for mental disorders (4,650.2 and

4,042.3 per 100,000 population, respectively), and suicide deaths (7.5 and 10.0per 100,000 population, respectively), all of which were similar to or above the statewide rates.

- **Maternal and Child Health:** Maternal and child health did not emerge in the CHNA discussions as a pressing health concern; however, some rates of negative birth outcomes are higher in the service area than MA. The infant mortality rate was highest in Middleton and Lawrence (11.3 and 10.6 per 100,000 population, respectively) and more than double the MA rate (4.9 deaths per 100,000 population). Births among teenagers (mothers aged 15 to 19 years old) was highest in Lawrence at 6,094.1 births per 100,000 female teens in 2010 – nearly four times higher than the MA rate (1,683.0 births per 100,000 teens),
- **Infectious Diseases:** Infectious diseases were not brought up in the CHNA focus groups and interviews; however, rates of sexually transmitted infections (STIs) are higher in some areas in the region than statewide. Lawrence had the highest rate of Gonorrhea (47.8 per 100,000 population) and Chlamydia (918.0 per 100,000 population), both of which exceeded the statewide rates (37.9 and 322.1 per 100,000 population, respectively).

Healthcare Access and Utilization

- **Resources and Use of Health Care Services:** When asked about health resources in the region, residents described the local hospital facilities in the region favorably, citing the mammography center, new emergency rooms, and other infrastructural improvements as major assets. Among CHNA survey respondents, 93.5% of resident respondents indicated that they have at least one person or facility they consider as their personal health care provider, while 85.0% of provider respondents indicated that they perceived their patients/clients have at least one person or facility that they consider as their personal health care provider.
- **Challenges to Accessing Health Care Services:** Among resident survey respondents, the most often cited barriers to accessing care were the lack of evening or weekend services, long wait times for appointments, and the cost of care/co-pays. For providers, they perceived their patient's/client's major challenges to accessing care to be insurance problems/lack of coverage, lack of knowledge around what services are available, and the cost of care/co-pays. Additional health care access themes that emerged during the qualitative discussions included: a limited supply of primary care and mental health providers, providing culturally competent care for immigrant populations, and improved coordination of care.

> *"Patients with mental health issues come in crises but it's first come, first serve and there aren't enough inpatient beds for mental health around the whole state to fill them…Patients sit in the ER for days waiting, and it's even worse if they have a co-morbidity problem"*
>
> —Stakeholder/service provider

- **Health Information Sources:** Residents look to a variety of sources for their information on health. When resident CHNA survey respondents were asked the sources from which they receive the majority of their health information, they were most likely to say doctor/nurse, Internet, and TV/radio/newspapers.

Vision for the Future

- Survey respondents were asked to identify the areas they considered to be priorities for addressing in the future. Resident respondents were most likely to identify offering more programs or services focusing on obesity/weight control and prevention of chronic diseases (e.g., heart disease or diabetes) as the top areas of focus. While provider respondents also perceived their patient's/client's top priority areas for the future as offering programs or services focusing on prevention of chronic diseases, they also selected providing more counseling or mental health services as a top priority.

> *"I want it to look like the better parts of Lawrence – nice beautiful houses, clean green yards, garbage always taken out…Speed limits are enforced."*
>
> -- Community resident

- Other areas that were noted as focus group and interview participants' vision for the future included: healthy living, workplace health, improved employment and poverty, reduction in crime, and working together to address public health needs.

**CONCLUSIONS**

- The following key health issues emerged as areas of potential concern in the assessment, both from an epidemiological perspective and resident/provider areas of interest: obesity, chronic disease (cancer, diabetes, and asthma), substance abuse, mental health, and health care access.
- Overarching conclusions that cut across multiple topic areas include the following:
  - There is wide variation in the region in population composition and socioeconomic levels, with Lawrence residents in particular facing unique socioeconomic and health concerns.
  - Substance use and mental health were considered growing, pressing concerns by focus group and interview respondents, and issues for which the current services were not seen as necessarily addressing community needs.
  - Chronic diseases and their related risk factors disproportionately affect residents of some of LGH's service area, especially asthma, diabetes, and cancer.
  - Despite improvements in health care coverage, residents still experience barriers to accessing care.
  - Opportunities exist to build on community assets, such as community cohesion and collaboration, and coordinate efforts to address the needs of the community.

# INTRODUCTION

## BACKGROUND

Lawrence General Hospital is a private, non-profit community hospital providing the Merrimack Valley and southern New Hampshire regions with high quality, high value medical care for the whole family. For more than 135 years, the extremely dedicated doctors, nurses, and staff of Lawrence General have been committed to strengthening our hospital and our community.

Lawrence General Hospital (LGH) is clinically affiliated with both Beth Israel Deaconess Medical Center and Floating Hospital for Children at Tufts Medical Center. These affiliations ensure that Lawrence General's patients have an expanded roster of specialty services and clinics available locally, greatly decreasing the need to travel to Boston for high quality care.

Lawrence General's vision for the hospital is to become a stellar regional health system known for the highest quality, highest value, service, efficiency, and compassionate care. To achieve the highest levels of quality and patient satisfaction, the Hospital's philosophy of care focuses around these four core values:

- ***Quality –*** Value quality by actions and strive for excellence.
- ***Integrity –*** Build honest and ethical relationships.
- ***Compassion –*** Empathize with the physical, emotional, and spiritual needs of the sick and injured.
- ***Service –*** Respond to and try to exceed the expectations of those served by or involved in the organization.

As a way to ensure that Lawrence General is achieving its vision and meeting the needs of the community, the Hospital undertook a comprehensive community health needs assessment (CHNA) in the summer of 2013. Health Resources in Action (HRiA), a non-profit public health consultancy organization, was engaged to conduct the CHNA. The CHNA included reviewing existing social, economic, and health data of the Merrimack Valley region as well as conducting a public survey and in-depth discussions with providers, community-based organizational leaders, and residents to identify the perceived health needs of the community, challenges to access services, the current strengths and assets, and opportunities for action.

## DEFINITION OF COMMUNITY

The Lawrence General Hospital CHNA focused on the Hospital's primary and secondary markets, which include the towns of: (primary) Lawrence, Methuen, North Andover, Haverhill, and Andover as well as (secondary) Middleton, Georgetown, Salem (NH), Plaistow (NH), Atkinson (NH), Boxford, and Tewksbury. While the survey and secondary data aimed to cover this large geographic area, the key informant interviews and focus groups focused on the towns of Lawrence, Methuen, and Haverhill, communities that are in the geographic proximity of the Hospital and have the most economically disadvantaged populations of the region. The CHNA paid close attention to the challenges and needs specifically of the medically underserved within the Hospital's service area.

# METHODS

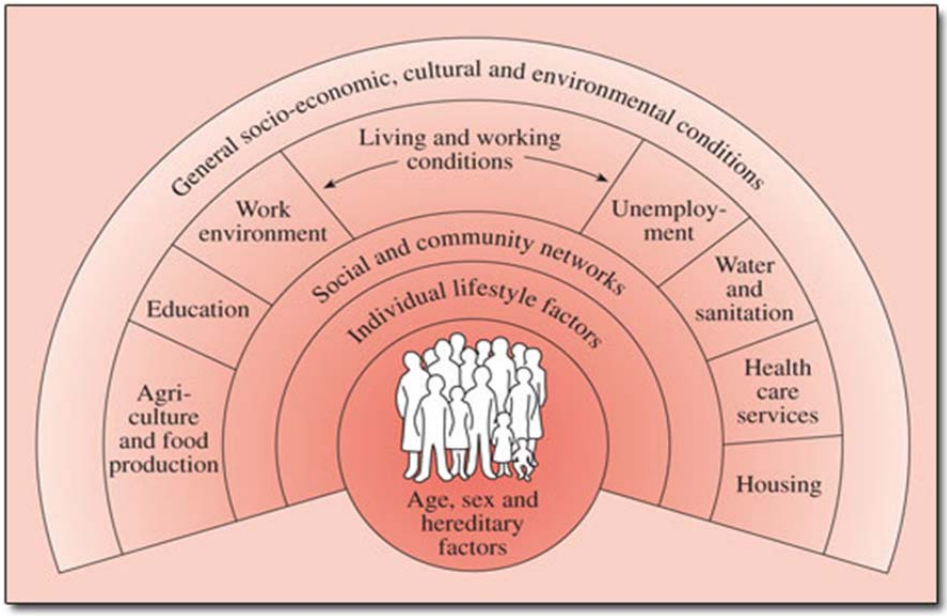
The following section describes how the data for the CHNA were compiled and analyzed, as well as the broader lens used to guide this process. Specifically, the CHNA defines health in the broadest sense and recognizes that numerous factors at multiple levels impact a community's health — from lifestyle behaviors (e.g., diet and exercise), to clinical care (e.g. access to medical services), to social and economic factors (e.g., employment opportunities), to the physical environment (e.g., air quality). The beginning discussion of this section discusses the larger social determinants of health framework which helped guide this overarching process.

**SOCIAL DETERMINANTS OF HEALTH FRAMEWORK**

It is important to recognize that multiple factors have an impact on health and that there is a dynamic relationship between real people and their lived environments. Where we are born, grow, live, work, and age—from the environment in the womb to our community environment later in life—and the interconnections among these factors are critical to consider. That is, not only do people's genes and lifestyle behaviors affect their health, but health is also influenced by more upstream factors such as employment status and quality of housing stock. The social determinants of health framework addresses the distribution of wellness and illness among a population.

The following diagram provides a visual representation of this relationship, demonstrating how individual lifestyle factors, which are closest to health outcomes, are influenced by more upstream factors such as educational opportunities and the built environment.

**Figure 1: Social Determinants of Health Framework**




DATA SOURCE: World Health Organization, Towards a Conceptual Framework for Analysis and Action on the Social Determinants of Health: Discussion paper for the Commission on the Social Determinants of Health, 2005.

## DATA COLLECTION METHODS AND INFORMATION SOURCES

### Quantitative Data: Reviewing Existing Secondary Data

The Lawrence General CHNA incorporates data on important social, economic, and health indicators pulled from various sources, including the MA Department of Public Health (MASSCHIP), U.S. Census, Centers for Disease Control and Prevention, and U.S. Bureau of Labor. Types of data included self-report of health behaviors from large, population-based surveys such as the Behavioral Risk Factor Surveillance System (BRFSS), as well as vital statistics based on birth and death records. All tables and graphs note the specific data source.

The Lawrence General Hospital (LGH) primary and secondary service areas are comprised of a total of 12 communities that cross state lines (Massachusetts and New Hampshire), county lines (Essex County MA, Middlesex County MA, and Rockingham County NH), and Community Health Network Areas (CHNA 11 and CHNA 12). (Community Health Network Areas were developed by MA Department of Public Health and are local coalitions of public, non-profit, and private sectors that work together to build healthier communities in MA through community-based prevention planning and health promotion.)

Table 1 identifies all towns that compose CHNA's 11 and 12. Further, those that fall within LGH's primary market area are highlighted in orange, and those the fall within the secondary market area are highlighted in green. This color code will remain consistent throughout the length of this report.

**Table 1: Community Health Network Areas within which the LGH Primary Service Area Falls, by Town**

| CHNA 11 |
|---|
| Andover |
| Lawrence |
| Methuen |
| Middleton |
| North Andover |

| CHNA 12 |
|---|
| Amesbury |
| Boxford |
| Georgetown |
| Groveland |
| Haverhill |
| Merrimac |
| Newbury |
| Newburyport |
| Rowley |
| Salisbury |
| West Newbury |

DATA SOURCE: Massachusetts Department of Public Health, MassCHIP, City/Town, CHNA, County, and EOHHS Region Lookup Table, 2013

Much of the health data are not available at the town level; therefore, health data by CHNA (CHNA 11 and CHNA 12) are provided. Additionally comparable data for New Hampshire were not always available for the specific towns within the secondary markets, and therefore these communities were omitted in some of the secondary data graphs.

**Community and Provider Survey**

In order to gather quantitative data that were not provided by secondary sources as well as to understand public perceptions around health issues, a brief survey was developed and administered online to residents and health/social service providers within the Merrimack Valley. The survey was administered online in both English and Spanish.

The survey included an automatic skip pattern where community residents were taken to one section of the survey to answer questions about their perceptions of community health needs and priorities, while health and social service providers were taken to a different section to answer similar questions about their patients, rather than themselves.

Lawrence General staff reviewed and provided feedback on the survey and also assisted with disseminating the survey link via their organizational networks (for them to send on to their clients/patients/residents that they serve), within Lawrence General Hospital, and to the local media. The survey was administered during the first three weeks of July 2013. The survey used a convenience sample for gathering information but strong efforts were made to disseminate the survey through multiple venues and media to yield a broad cross-section of respondents from the region.

**A total of 387 respondents who either live or work in the CHNA focus area (Lawrence General Hospital primary or secondary markets) completed the survey.** Among these, 156 residents and231 health or social service providers completed the survey.

Table 2 shows the distribution of resident and provider survey respondents by demographic characteristics.

The main CHNA report provides the findings of the survey among the overall resident and overall provider samples. Due to sample sizes, analyses do not focus on distinctions by specific community. However, these analyses are provided for the resident sample in the back of the report in Appendices A and B, where results are provided for Lawrence residents only, Methuen and Haverhill (combined), North Andover and Andover (combined), and Lawrence General secondary market communities (combined). Towns are combined due to small sample sizes.

**Table 2: Lawrence General CHNA Survey Respondent Characteristics by Respondent Role**

| | Resident (N=156) | Provider (N=231) |
|---|---|---|
| **Age** | | |
| Under 18 years old | 0.0% | 0.0% |
| 18-29 years old | 6.2% | 12.4% |
| 30-49 years old | 36.5% | 37.8% |
| 50-64 years old | 46.9% | 46.6% |
| 65 years or older | 10.4% | 3.1% |
| **Gender** | | |
| Male | 27.1% | 8.9% |
| Female | 72.9% | 91.1% |
| **Race/Ethnicity** | | |
| White, non-Hispanic | 71.2% | 62.8% |
| Black, non-Hispanic | 0.6% | 0.9% |
| Hispanic | 15.4% | 16.0% |
| Asian, non-Hispanic | 1.3% | 1.3% |
| Other race, non-Hispanic | 1.3% | 2.2% |
| 2 or more | 0.6% | 0.4% |
| **Educational Attainment** | | |
| HS Diploma or Less | 14.6% | 4.1% |
| Some College | 30.6% | 24.8% |
| College graduate or more | 54.9% | 71.2% |
| **City/Town of Residence** | | |
| Andover, MA | 7.8% | 7.5% |
| Atkinson, NH | 0.9% | 1.9% |
| Boxford, MA | 2.6% | 1.2% |
| Georgetown, MA | 0.0% | 1.2% |
| Haverhill, MA | 19.0% | 23.0% |
| Lawrence, MA | 32.8% | 24.8% |
| Methuen, MA | 15.5% | 15.5% |
| Middleton, MA | 0.0% | 0.0% |
| North Andover, MA | 10.3% | 11.2% |
| Plaistow, NH | 0.9% | 5.0% |
| Salem, NH | 8.6% | 8.1% |
| Tewksbury, MA | 1.7% | 0.6% |
| **City/Town of Employment** | | |
| Andover, MA | 4.9% | 2.2% |
| Atkinson, NH | 0.0% | 0.0% |
| Boxford, MA | 0.0% | 0.0% |
| Georgetown, MA | 0.0% | 0.0% |
| Haverhill, MA | 3.5% | 1.3% |
| Lawrence, MA | 81.7% | 94.7% |
| Methuen, MA | 2.8% | 0.4% |
| Middleton, MA | 0.0% | 0.0% |
| North Andover, MA | 4.9% | 0.9% |
| Plaistow, NH | 0.0% | 0.4% |
| Salem, NH | 1.4% | 0.0% |
| Tewksbury, MA | 0.7% | 0.0% |
| **Work for Lawrence General Hospital** | - | 83.6% |

DATA SOURCE: Lawrence General Hospital Community Health Needs Assessment Survey, 2013

**Qualitative Data: Focus Groups and Interviews**

During June-July 2013, three focus groups and five key informant interviews were conducted in the region to gather feedback on people's priority health concerns, community challenges to addressing these concerns, current strengths of the area, and opportunities for the future. A CHNA advisory group comprised of approximately 24 members from the hospital and other area institutions, including administrators, clinicians, and front-line staff provided guidance on identification of key informant interviewees and focus group audiences (see Appendix C for a list of CHNA advisory group members). The key informant interviews and focus groups included discussions with low income community residents, frontline staff in community health and social service organizations, patients, clinicians, and organizational leaders from a range of sectors. The qualitative discussions in the 2013 CHNA engaged over 60 individuals. A list of key informant and focus group participants is provided in Appendix D.

A semi-structured guide was used across interviews and focus groups to ensure consistency in the topics covered. Each focus group and interview was facilitated by a trained moderator, and detailed notes were taken during conversations. The collected qualitative data were coded and analyzed thematically, where data analysts identified key themes that emerged across all groups and interviews. Frequency and intensity of discussions on a specific topic were key indicators used for extracting main themes. While town differences are noted where appropriate, analyses emphasized findings common across the region. Selected quotes – without personal identifying information – are presented in the narrative of this report to further illustrate points within topic areas.

**Limitations**

As with all research efforts, there are several limitations related to the assessment's research methods that should be acknowledged. There were several instances when secondary data sources (e.g., unemployment rates, behavioral data estimated by the BRFSS) did not provide community-level data or reported inconsistent geographic scopes. For example, data were sometimes available for each town in the Merrimack Valley region, while in other cases, data were available only for CHNA 11 or CHNA 12. Additionally, comparable health data were not available for the specific towns in New Hampshire.

Likewise, data based on self-reports should be interpreted with particular caution. In some instances, respondents may over- or underreport behaviors and illnesses based on fear of social stigma or misunderstanding the question being asked. In addition, respondents may be prone to recall bias—that is, they may attempt to answer accurately, but they remember incorrectly. In some surveys, reporting and recall bias may differ according to a risk factor or health outcome of interest. Despite these limitations, most of the self-report surveys analyzed in this CHNA benefit from large sample sizes and repeated administrations, enabling comparison over time. However, it is important to note that the Lawrence General Health Community Health Needs Assessment Survey – also self-reported data – used a non-random sampling method and therefore its findings may not be representative of the larger population.

Similarly, while the qualitative data collected for this study provide valuable insights, results are not statistically representative of a larger population due to non-random recruiting techniques and a small sample size. Data were collected at one point in time and therefore findings, while directional and descriptive, should not be interpreted as definitive.

# FINDINGS

## DEMOGRAPHICS

This section describes the population of the Merrimack Valley region. Numerous factors are associated with the health of a community including what resources and services are available (for example, safe green space, access to healthy foods, transportation options) as well as who lives in the community. While individual characteristics such as age, gender, race, and ethnicity have an impact on people's health, the distribution of these characteristics across a community is also critically important and can affect the number and type of services and resources available.

### Population

In 2011, the total population of the Lawrence General Hospital (LGH) service area was estimated to be 341,140, up 4.3% from 2000 (327,180). The area is comprised of twelve communities that cross state lines (Massachusetts and New Hampshire), county lines (Essex County MA, Middlesex County MA, and Rockingham County NH), and Community Health Network Areas (CHNA 11 and CHNA 12). Further, this area has been stratified by primary markets (Andover MA, Haverhill MA, Lawrence MA, Methuen MA, and North Andover MA) and secondary markets (Atkinson NH, Boxford MA, Georgetown MA, Middleton MA, Plaistow NH, Salem NH, and Tewksbury MA).

These twelve communities vary by size, growth patterns, wealth, and diversity of residents. Lawrence, the largest city, comprised 22% of the region's population in 2011 (Table 3). The next largest towns in the area, Haverhill and Methuen, comprised 18% and 14% of the service area's total population, respectively. The smallest community, Atkinson, with a population of 6,739 in 2011, comprised about 2% of the total population. The town that reported the largest growth since 2000 was Middleton (14.1%) while Plaistow experienced the largest decrease in population size (1.0%).

**Table 3: Population Change in Massachusetts and Service Area, 2000 and 2011**

| Geographic Location | 2000 Population | 2011 Population | % Change 2000 to 2011 |
|---|---|---|---|
| Massachusetts | 6,349,097 | 6,512,227 | 2.6% |
| Primary Markets | | | |
| Andover, MA | 31,247 | 32,945 | 5.4% |
| Haverhill, MA | 58,969 | 60,544 | 2.7% |
| Lawrence, MA | 72,043 | 75,761 | 5.2% |
| Methuen, MA | 43,789 | 46,785 | 6.8% |
| North Andover, MA | 27,202 | 28,156 | 3.5% |
| Secondary Markets | | | |
| Atkinson, NH | 6,178 | 6,739 | 9.1% |
| Boxford, MA | 7,921 | 7,950 | 0.4% |
| Georgetown, MA | 7,377 | 8,083 | 9.6% |
| Middleton, MA | 7,744 | 8,839 | 14.1% |
| Plaistow, NH | 7,747 | 7,667 | -1.0% |
| Salem, NH | 28,112 | 28,893 | 2.8% |
| Tewksbury, MA | 28,851 | 28,778 | -0.3% |

DATA SOURCE: U.S. Department of Commerce, Bureau of the Census, 2000 Census and American Community Survey 5-Year Estimates, 2007-2011

**Age Distribution**

Focus group participants and key informants described the region served by Lawrence General Hospital as multi-age, with children, youth, young adults, students, families, middle-aged residents, and seniors. One key informant noted that there is a large population of students who commute to towns in the region to attend classes at a local community college.

Of all the towns in the region, Lawrence (28.8%) and Boxford (28.5%) have the highest proportions of children under age 18 (Table 4). These proportions are also higher than the state average (21.8%). Atkinson had the highest proportion of residents age 65 and over (17.4%) while Lawrence had the lowest (8.7%). The largest proportion of the populations in each of the towns is between the ages of 45 to 64 years.

**Table 4: Age Distribution by Massachusetts and Service Area, 2007-2011**

| Geographic Location | Under 18 yrs old | 18 to 24 yrs old | 25 to 44 yrs old | 45 to 64 yrs old | 65 yrs old and over |
|---|---|---|---|---|---|
| Massachusetts | 21.8% | 10.3% | 26.8% | 27.4% | 13.7% |
| Primary Markets | | | | | |
| Andover, MA | 27.0% | 6.4% | 20.4% | 31.7% | 14.5% |
| Haverhill, MA | 23.7% | 7.4% | 21.7% | 35.1% | 12.1% |
| Lawrence, MA | 28.8% | 12.1% | 21.7% | 28.7% | 8.7% |
| Methuen, MA | 23.8% | 8.4% | 18.6% | 36.0% | 13.2% |
| North Andover, MA | 25.4% | 9.7% | 15.1% | 36.4% | 13.4% |
| Secondary Markets | | | | | |
| Atkinson, NH | 22.7% | 5.0% | 10.4% | 44.5% | 17.4% |
| Boxford, MA | 28.5% | 5.0% | 9.4% | 44.9% | 12.2% |
| Georgetown, MA | 27.9% | 5.6% | 15.3% | 40.1% | 11.1% |
| Middleton, MA | 22.1% | 7.7% | 17.7% | 39.9% | 12.6% |
| Plaistow, NH | 25.4% | 6.6% | 11.1% | 46.3% | 10.6% |
| Salem, NH | 22.9% | 8.1% | 15.7% | 39.7% | 13.6% |
| Tewksbury, MA | 22.8% | 6.8% | 17.2% | 39.0% | 14.2% |

DATA SOURCE: U.S. Department of Commerce, Bureau of the Census, American Community Survey 5-Year Estimates, 2007-2011

**Racial and Ethnic Diversity**

> *"[We have] the highest concentration of Latinos in the state."*—Stakeholder/service provider participant

> *"It's a small town, but you can find a little bit of everything. Different cultures and different strokes of life. It's fun."*—Community resident participant

Resident focus group participants characterized the region as diverse, with recent demographic changes by race and ethnicity. Several key informants and focus group participants noted the large Hispanic or Latino population in the region, many of whom predominantly speak Spanish and originate from the

Caribbean (e.g., Dominican Republic, Puerto Rico, Cuba). Participants also mentioned recent increases in the African and Central American (Salvadoran and Guatemalan) immigrant communities.

Table 5 and Figure 2 illustrate variation in the levels of racial and ethnic diversity across the LGH service area. The communities of Atkinson, Boxford, Georgetown, Plaistow, and Tewksbury are over 90% non-Hispanic White. By contrast, more than three-quarters of Lawrence's population is non-White, with Hispanics comprising 72.9% and non-Hispanic Asians comprising 3.1% of the population. Haverhill has the largest non-Hispanic Black population in the area (2.8%), while Andover has the largest non-Hispanic Asian population (9.6%).

**Table 5: Racial Composition by Massachusetts and Service Area, 2007-2011**

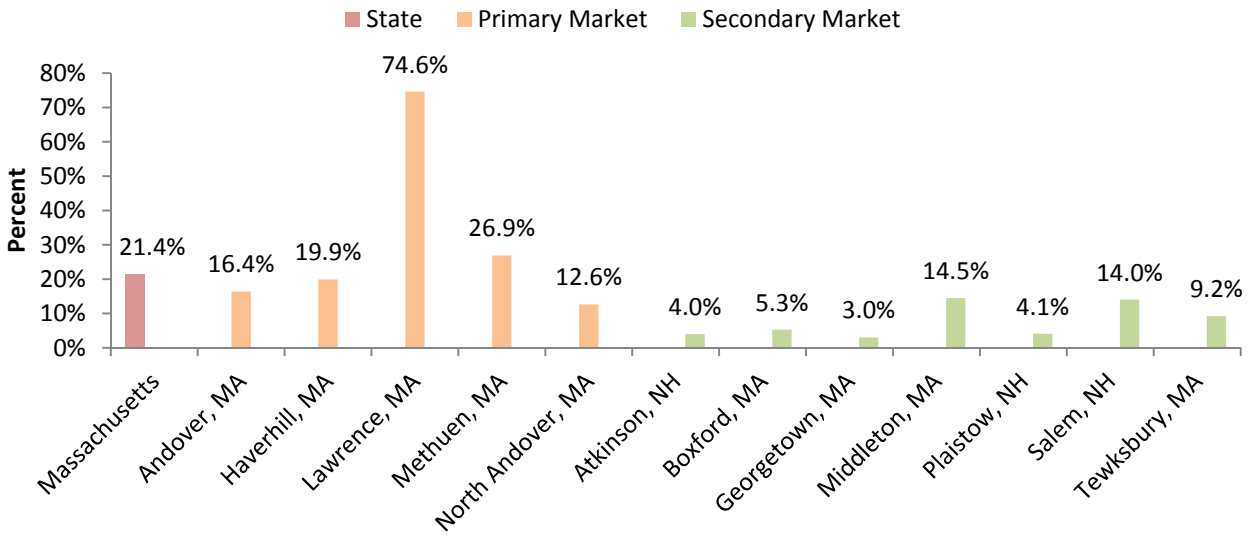
| Geographic Location | White | Black | Asian | Hispanic/ Latino | Other |
|---|---|---|---|---|---|
| Massachusetts | 76.9% | 6.1% | 5.3% | 9.3% | 2.4% |
| Primary Markets | | | | | |
| Andover, MA | 83.4% | 1.1% | 9.6% | 4.1% | 1.8% |
| Haverhill, MA | 79.0% | 2.8% | 2.0% | 14.0% | 2.2% |
| Lawrence, MA | 21.5% | 1.6% | 3.1% | 72.9% | 0.9% |
| Methuen, MA | 75.1% | 1.9% | 4.6% | 17.6% | 0.8% |
| North Andover, MA | 89.1% | 1.2% | 5.4% | 2.9% | 1.4% |
| Secondary Markets | | | | | |
| Atkinson, NH | 96.1% | 1.3% | 0.0% | 1.5% | 1.1% |
| Boxford, MA | 96.9% | 0.0% | 1.5% | 0.6% | 1.0% |
| Georgetown, MA | 97.8% | 0.3% | 0.1% | 1.2% | 0.6% |
| Middleton, MA | 85.2% | 0.4% | 5.5% | 7.2% | 1.7% |
| Plaistow, NH | 96.0% | 1.0% | 0.7% | 1.8% | 0.5% |
| Salem, NH | 87.7% | 0.8% | 2.8% | 6.2% | 2.5% |
| Tewksbury, MA | 91.9% | 1.5% | 3.8% | 1.7% | 1.1% |

NOTE: White, Black, and Asian include only individuals that identify as one race; Hispanic/Latino include individuals of any race

DATA SOURCE: U.S. Department of Commerce, Bureau of the Census, American Community Survey 5-Year Estimates, 2007-2011

Additionally, almost three-quarters of Lawrence's population speak a language other than English at home, a proportion far higher than other towns in the region and the state as a whole (Figure 2). According to the U.S. Census, the most commonly spoken non-English language in the city is Spanish, with over 68% of the population reporting speaking Spanish at home.

**Figure 2: Percent of Population Who Speak Language Other Than English at Home by Massachusetts and Service Area, 2007-2011**




DATA SOURCE: U.S. Department of Commerce, Bureau of the Census, American Community Survey 5-Year Estimates, 2007-2011

While focus group and interview participants largely celebrated the diversity of residents in the region, others noted the challenges of meeting the needs of a diverse population, such as language barriers experienced by residents for whom English is their second language and eligibility for and access to health care, which may be influenced by immigrant status and language use. They also commented that there was some backlash to the growing diversity in that some residents who have been in the region longer believed in the stereotypes of newer immigrants. They indicated that this could challenge future community dynamics.

## SOCIAL AND PHYSICAL ENVIRONMENT

Income and poverty are closely connected to health outcomes. A higher income makes it easier to live in a safe neighborhood with good schools and many recreational opportunities. Higher wage earners are better able to buy medical insurance and medical care, purchase nutritious foods, and obtain quality child care than those earning lower wages. Lower income communities have shown higher rates of asthma, obesity, diabetes, heart disease, and child poverty. Those with lower incomes also experience lower life expectancies.

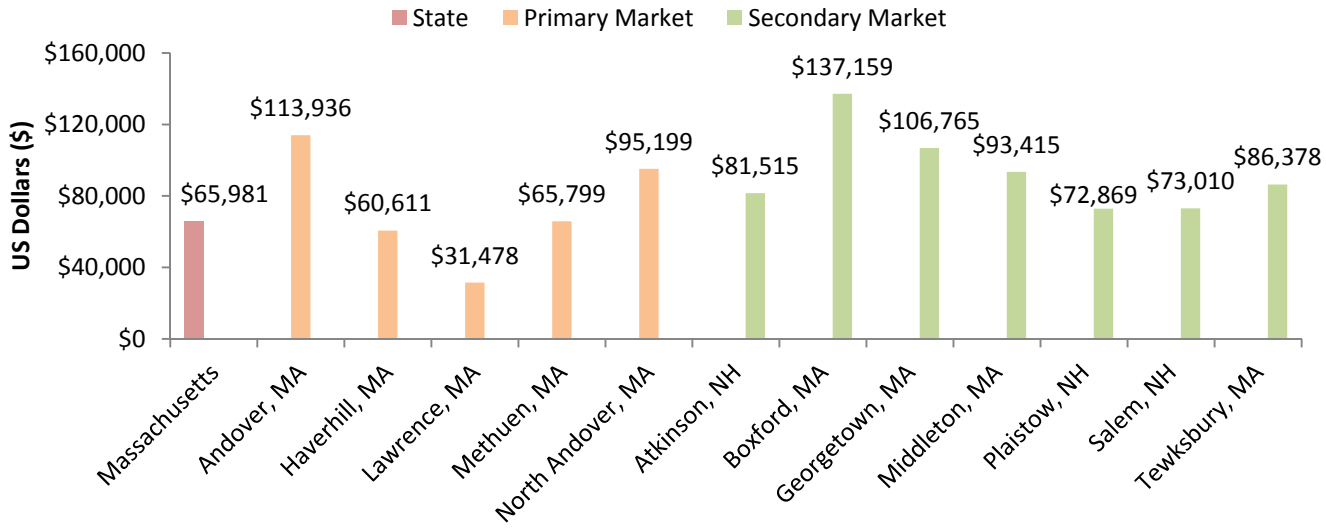
### Income and Poverty

> *"We also serve a diverse group of communities, Andover is a top feeder city and they have money."* —Stakeholder/service provider participant
>
> *"We are living and working in a community that has a lot of need."* —Stakeholder/service provider participant
>
> *"[The] unemployment rate is so much higher than the state*."—Stakeholder/service provider participant

Residents described the region as economically diverse, including a mix of middle class families and families living in poverty. One key informant described Andover as a relatively wealthy community, while focus group participants commented that most towns in the area were working class. Several participants noted high rates of poverty and unemployment in the area that were above those of the state. One key informant described the region as one in which families in transition reside, contributing to population turnover. This key informant explained, *"For a long time, people came to Lawrence to get themselves up and then leave, so [there are] always new families."*

Quantitative data validate these perceptions. According to the 2011 American Community Survey estimates, household median income was much lower in Lawrence than statewide and in the rest of the region. However, in all but three communities, median income for the LGH service area communities was higher than that for Massachusetts as a whole (Figure 3). Three communities had a median household income greater than $100,000, with the highest in Boxford ($137,159). The town of Methuen had a median houseful income close to the state average. Lawrence's median household income in 2011 was $31,478, far lower than that of the state and the rest of the service area.

**Figure 3: Median Household Income by Massachusetts and Service Area, 2007-2011**

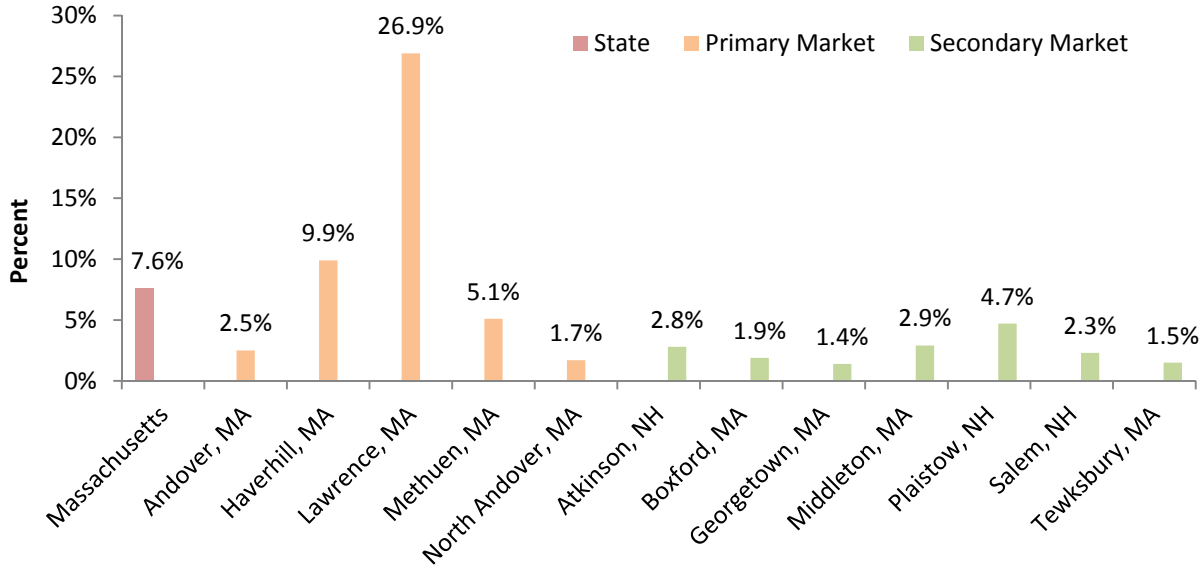



DATA SOURCE: U.S. Department of Commerce, Bureau of the Census, American Community Survey 5-Year Estimates, 2007-2011

Poverty rates across much of the service area vary (Figure 4). While the percentage of families in poverty in most of the service area's communities is lower than that of the state (7.6%), 9.9% of Haverhill families and more than one quarter of Lawrence's families had incomes below the federal poverty level (26.9%).[1]

[1] These data discuss the percentage of individuals whose income in the past 12 months fell below the federal poverty level, which is adjusted for family size. For example, the federal poverty level is $14,570 for a family of two and $22,050 for a family of four.

**Figure 4: Percent of Families below Poverty Level by Massachusetts and Service Area, 2007-2011**

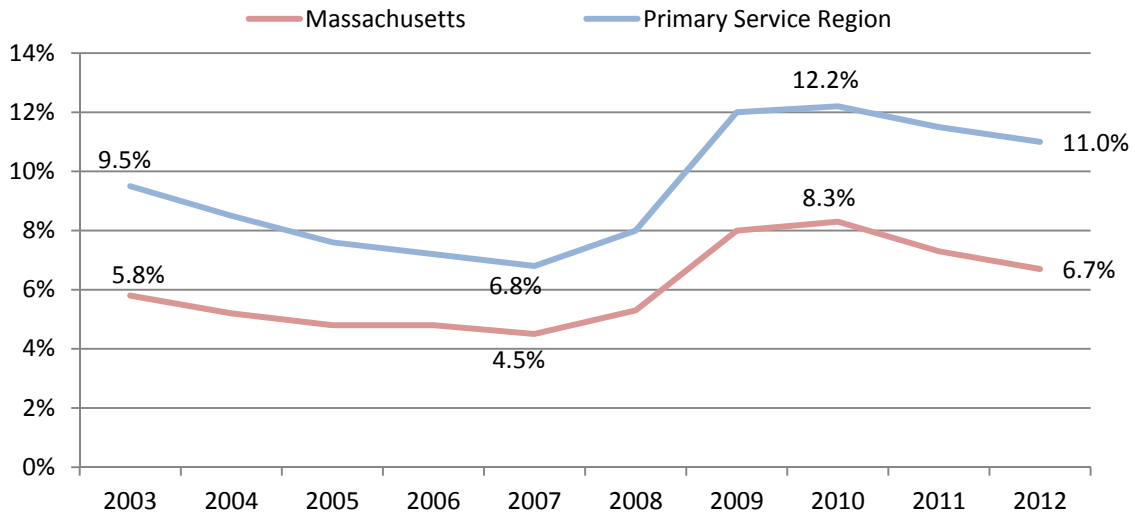



DATA SOURCE: U.S. Department of Commerce, Bureau of the Census, American Community Survey 5-Year Estimates, 2007-2011

**Employment**

Unemployment in the area was described by key informants as impacting all other aspects of life, ranging from one's ability to address health issues to community cohesion and housing. As one key informant illustrated, *"the lack of jobs leads to other health issues, social isolation, and the feeling that you're not contributing."* Annual unemployment data from 2003 to 2012 indicate that the LGH primary service region experienced higher unemployment than the state (Figure 5), although both the region and state experienced parallel ebbs and flows in unemployment. The unemployment rate was highest in 2010 (12.2% for the region and 8.3% for the state), and has since decreased.

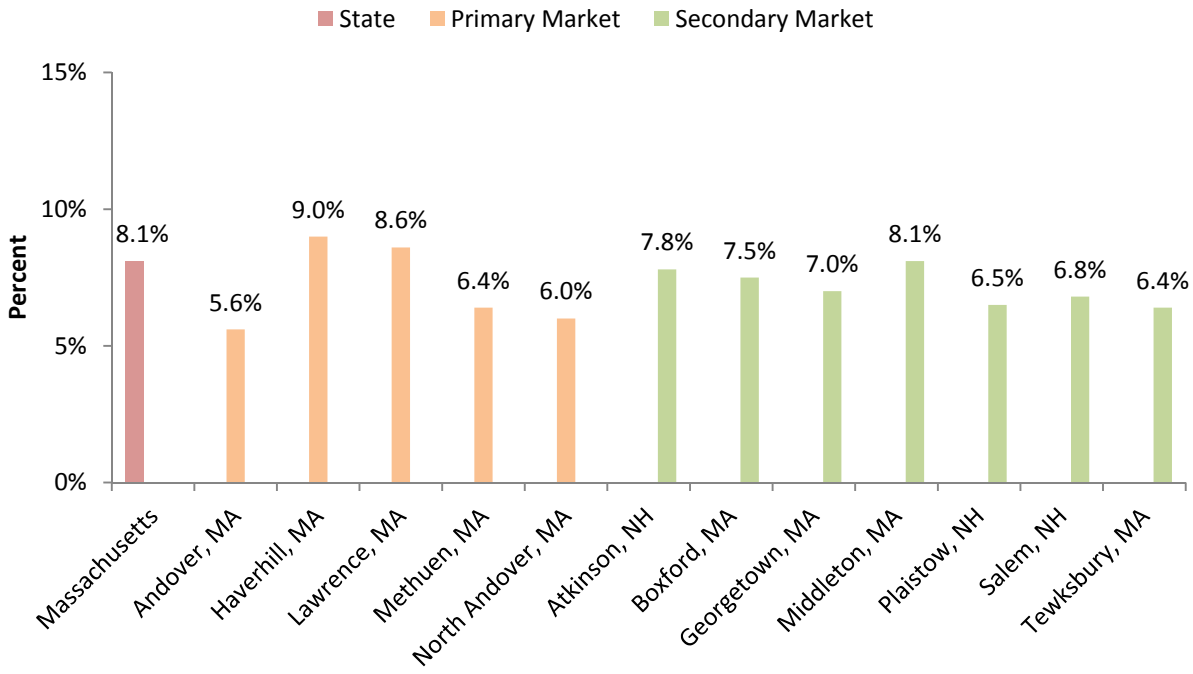
**Figure 5: Unemployment Rate by Massachusetts and Service Region, 2003-2012**




NOTE: The primary service region is defined as Lawrence-Methuen-Salem, MA-NH NECTA Division
DATA SOURCE: United States Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics, 2003-2013

Figure 6 estimates the percentage of the employable population that was unemployed 2007-2011 (aggregated due to small sample sizes for the American Community Survey). While the unemployment rate in most of the service area's communities is lower than that of the state (8.1%), 9.0% of Haverhill residents and 8.6% of Lawrence residents were unemployed. Middleton had the same unemployment rate as the state, while Andover had the lowest (5.6%).

**Figure 6: Percent of Population Age 16+ years Unemployed by Massachusetts and Service Area, 2007-2011**

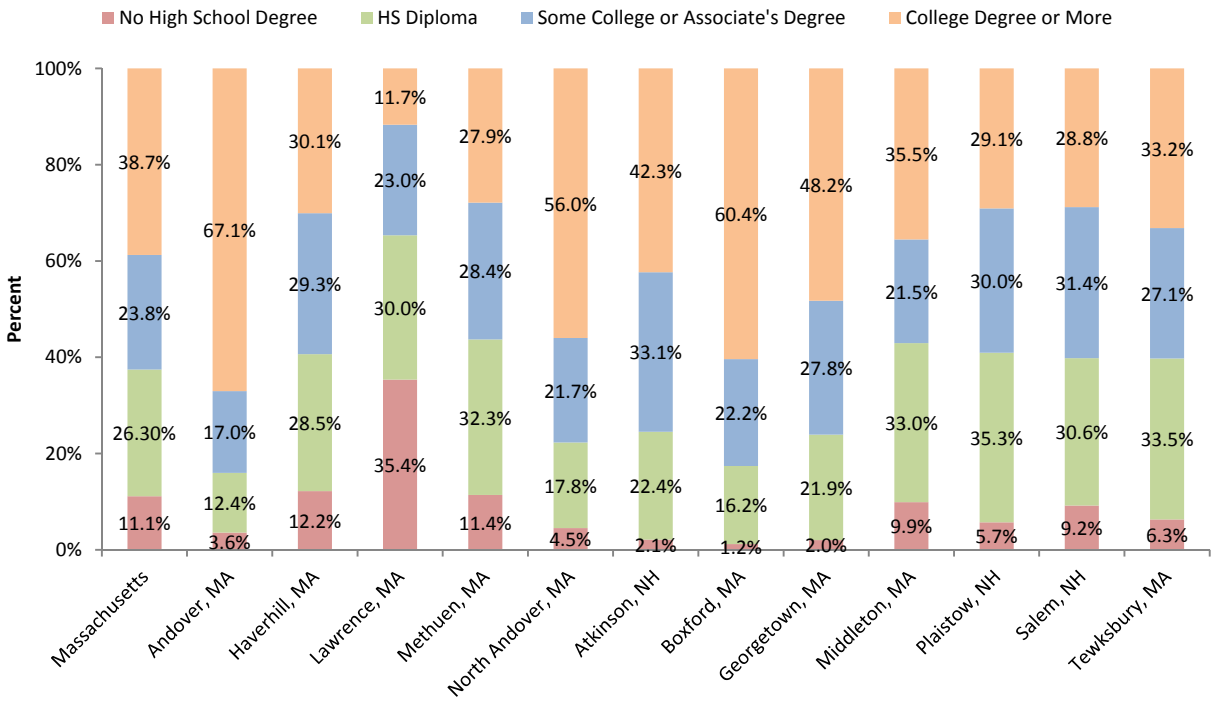



DATA SOURCE: U.S. Department of Commerce, Bureau of the Census, 2000 Census and American Community Survey 5-Year Estimates, 2007-2011

**Educational Attainment**

While some key informants noted successes of the school system, they expressed concerns regarding the high school dropout rate, and indicated that the quality of education could improve. Quantitative results show high educational attainment among many of the area's communities (Figure 7). The proportion of residents with a college degree or higher in Andover, North Andover, Atkinson, Boxford, and Georgetown is higher than for the state overall (38.7%). The proportion of adults with less than a high school diploma is very low in these towns as well. Lawrence, however, has lower levels of educational attainment. Only 11.7% of Lawrence adults have a college degree or higher, which is less than half the rate for the state overall, and 35.4% of adults had less than a high school diploma.

**Figure 7: Educational Attainment of Adults 25 Years and Older by Massachusetts and Service Area, 2007-2011**




DATA SOURCE: U.S. Department of Commerce, Bureau of the Census, American Community Survey 5-Year Estimates, 2007-2011

**Housing**

> *"Housing [is] pretty affordable compared to other cities, but not affordable for [low] income people."* —Stakeholder/service provider participant

While participants described housing in the region as relatively affordable compared to other parts of the state, they did note that housing costs were not affordable for low-income residents in the region. One key informant interviewee noted that there is overcrowding of housing specifically in certain areas of Lawrence. Connecting housing to health, several focus group participants and key informants cited housing quality as a major contributor to the prevalence of asthma in the region.

Quantitative data reveal that housing affordability varies in the region. As shown in Table 6, median monthly mortgage expenditures or monthly rental costs are higher for several towns in the region than for the state as a whole. Monthly mortgage costs range from $1,944/month in Lawrence to $3,198/month in Boxford. This compares to $2,145/month on average for the state. Monthly rental costs are also higher in the region than statewide ($1,037/month), ranging from $850/month in Lawrence to $1,786/month in Boxford.

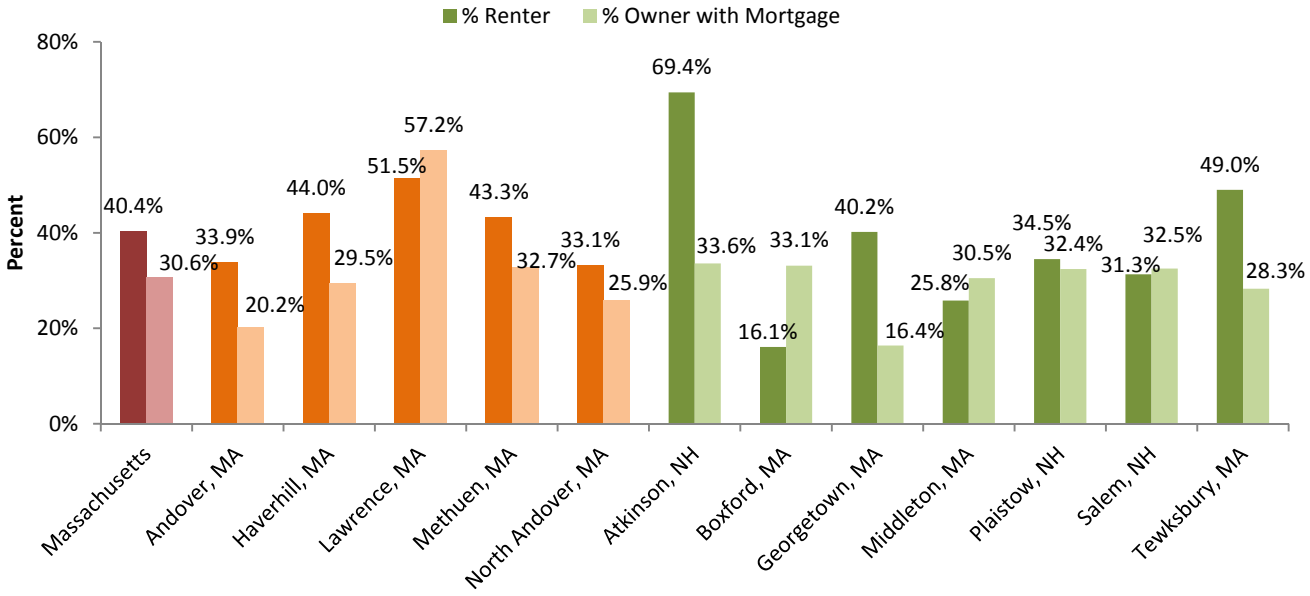
**Table 6: Monthly Median Housing Costs for Owners and Renters by Massachusetts and Service Area, 2007-2011**

| Geographic Location | Monthly Rent Costs ($) | Monthly Mortgage Costs ($) |
|---|---|---|
| Massachusetts | $1,037 | $2,145 |
| Primary Markets | | |
| Andover, MA | $1,062 | $2,788 |
| Haverhill, MA | $974 | $1,944 |
| Lawrence, MA | $850 | $2,049 |
| Methuen, MA | $941 | $1,991 |
| North Andover, MA | $1,300 | $2,685 |
| Secondary Markets | | |
| Atkinson, NH | $910 | $2,097 |
| Boxford, MA | $1,786 | $3,198 |
| Georgetown, MA | $905 | $2,557 |
| Middleton, MA | $1,104 | $2,604 |
| Plaistow, NH | $1,075 | $2,078 |
| Salem, NH | $990 | $2,105 |
| Tewksbury, MA | $1,311 | $2,331 |

DATA SOURCE: U.S. Department of Commerce, Bureau of the Census, American Community Survey 5-Year Estimates, 2007-2011

While absolute housing costs are important to consider, they do not necessarily speak to how housing prices compare to the overall cost of living. Figure 8 illustrates the percentage of renters and owners whose housing costs comprise 35% or more of their household income. Generally, this proportion is lower for home owners with a mortgage than for renters. Lawrence, MA and Atkinson, NH stand out for their housing to income ratio, where over half of Lawrence homeowners and renters and 69.4% of Atkinson, NH renters spend 35% or more of their income on housing costs.

**Figure 8: Percent of Residents Whose Housing Costs are 35% or More of Household Income by Massachusetts and Service Area, 2007-2011**




DATA SOURCE: U.S. Department of Commerce, Bureau of the Census, American Community Survey 5-Year Estimates, 2007-2011

**Transportation**

Quantitative data indicate that residents of the LGH service area are generally more likely to have access to a vehicle than those statewide (Table 7). However, percentages of individuals with access to a vehicle for commuting to work (alone) varies from 64.1% in Lawrence to 93.3% in Plaistow, compared to 72.3% across the state. Transportation was not an issue that was discussed much in the focus group and interview discussions except as a challenge to accessing health care and other services among low income populations.

**Table 7: Means of Transportation to Work for Workers Aged 16+ by Massachusetts and Service Area, 2007-2011**

| Geographic Location | Car, truck, or van (alone) | Car, truck, or van (carpool) | Public Transit (excluding Taxis) | Walk |
|---|---|---|---|---|
| Massachusetts | 72.3% | 8.2% | 9.1% | 4.6% |
| Primary Markets | | | | |
| Andover, MA | 80.2% | 6.6% | 4.1% | 3.0% |
| Haverhill, MA | 80.2% | 9.5% | 3.7% | 2.4% |
| Lawrence, MA | 64.1% | 23.6% | 3.2% | 4.1% |
| Methuen, MA | 84.3% | 9.7% | 1.1% | 1.2% |
| North Andover, MA | 80.3% | 6.7% | 3.4% | 2.9% |
| Secondary Markets | | | | |
| Atkinson, NH | 88.4% | 3.7% | 1.1% | 0.0% |
| Boxford, MA | 78.4% | 5.5% | 3.2% | 0.8% |
| Georgetown, MA | 88.7% | 2.7% | 1.4% | 1.2% |
| Middleton, MA | 85.6% | 4.0% | 3.5% | 0.4% |
| Plaistow, NH | 93.3% | 9.7% | 1.2% | 0.3% |
| Salem, NH | 88.4% | 6.8% | 0.5% | 0.5% |
| Tewksbury, MA | 86.9% | 6.5% | 2.1% | 0.7% |

DATA SOURCE: U.S. Department of Commerce, Bureau of the Census, American Community Survey 5-Year Estimates, 2007-2011

**Crime and Safety**

> *"Public safety is an issue. [It is a] perception and real."* —Stakeholder/service provider participant
>
> *"Over the past couple of years people have been shot and stabbed… [People] don't want to live here or approach the issue because there are a lot of criminal activities and it attracts criminals."* —Community resident participant
>
> *"People know [crime] is there but no one does anything about it! … I mean put some lights and stuff. There are so many dark spots."* —Stakeholder/service provider participant

Several key informants and focus group participants cited crime in the region as a major concern and stressor for residents and an issue that contributes to negative perceptions of communities in the region. Other participants noted the prevalence of drug use in the region, which could be seen in public spaces: *"You can go down Broadway you can see them doing drugs!"* Some residents cited the need for city services such as lighting to deter criminal activities and drug use in the area.

Quantitative data show substantial variation in crime rates across the LGH service area (Table 8). The rates of violent crime are lowest in North Andover (31.6 per 100,000 population) and Andover (41.9 per 100,000 population). The violent crime rate is highest in Lawrence at 994.2 per 100,000 population, over two times higher than the state rate (428.4 per 100,000). Property crime rates are lowest in Boxford (349.4 per 100,000 population) and highest in Lawrence (3,228.7 per 100,000 population) as compared to the state (2,258.7 per 100,000 population).

**Table 8: Offenses Known to Law Enforcement per 100,000 Population by Massachusetts and Service Area, 2011**

| Geographic Location | Violent Crime Rate* | Property Crime Rate** |
|---|---|---|
| Massachusetts | 428.4 | 2,258.7 |
| Primary Markets | | |
| Andover, MA | 41.9 | 925.1 |
| Haverhill, MA | 591.0 | 2,385.3 |
| Lawrence, MA | 994.2 | 3,228.7 |
| Methuen, MA | 183.0 | 2,082.3 |
| North Andover, MA | 31.6 | 1,184.9 |
| Secondary Markets | | |
| Atkinson, NH‡ | - | - |
| Boxford, MA | 12.5 | 349.4 |
| Georgetown, MA | 97.2 | 728.8 |
| Middleton, MA | 110.6 | 1,106.0 |
| Plaistow, NH | 39.4 | 2,152.5 |
| Salem, NH | 118.0 | 3,043.7 |
| Tewksbury, MA | 274.6 | 1,987.1 |

‡ Crime data were not available for Atkinson, NH
* Violent crime includes: murder and non-negligent manslaughter; forcible rape; robbery; and aggravated assault
**Property crime includes: burglary; larceny-theft; motor vehicle theft; and arson
DATA SOURCE: Federal Bureau of Investigation (2011), Uniform Crime Reports, Offenses Known to Law Enforcement, by State, by City, 2011

**COMMUNITY STRENGTHS AND ASSETS**

> *"Partnerships are incredible. People are willing to work hard to work together."* —Stakeholder/service provider participant
>
> *"[There is] a lot of energy, a lot of connection."* —Stakeholder/service provider participant
>
> *"We are collaborative, just being in the room together is a great example; we are all in the same service area and all these organizations working together to collaborate is a positive strength that I can see forming and continuing."* —Community resident participant
>
> *"The [Merrimack] valley is a close knit group; everyone knows one another, a lot of people network. I don't want to say it's one big happy family but a lot of people know each other because we all grew up here."* —Community resident participant

Focus group and interview participants cited a number of strengths and assets in the region, which are discussed throughout this report. Most notably were the spirit of collaboration amongst organizations in the region and a sense of community among residents. One key informant explained, *"The City is resilient. [There is a] unique sense of community and camaraderie that you don't get everywhere."* Another key informant cited the 80 organizations working together on the Mayor's health task force as an important indicator of partnership among leaders in the community. Another key informant cited a lack of resources as a major factor that contributes to the need to work collaboratively, *"There is no money, we do things out of collaboration."* Other assets that participants named were related to the

quality of health care services in the region (discussed in more depth later in the report) as well as diversity of the region.

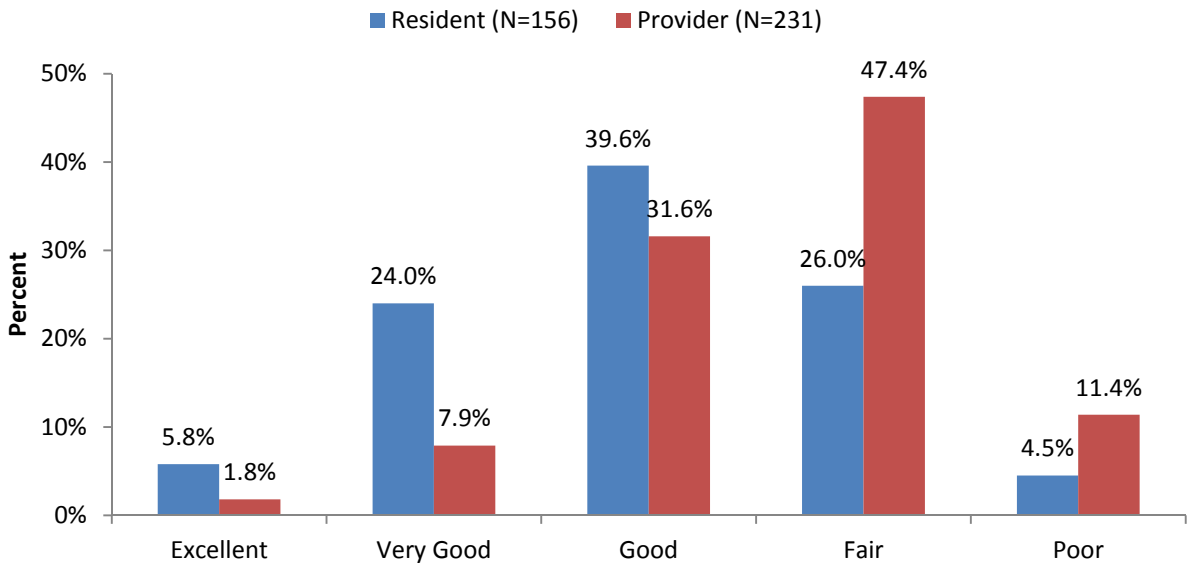
## HEALTH BEHAVIORS AND OUTCOMES

This section of the report provides an overview of leading health conditions in the LGH primary service area by examining self-reported behaviors, incidence, hospitalization, and mortality data in addition to discussing the pressing concerns that residents and leaders identified during focus groups, interviews, and the Lawrence General Hospital CHNA survey.

### Perceived Community and Individual Health Status

In the CHNA survey, resident respondents were asked to describe the health of their community, while provider respondents were asked to comment on health of their patient's/client's overall community. Among resident respondents across the twelve communities, 69.4% described their community's health as good (39.6%), very good (24.0%), or excellent (5.8%). By contrast, 30.5% said their community's health was fair (26.0%) or poor (4.5%) (Figure 9). However, among provider respondents, 41.3% described their patient's/client's community's health as good (31.6%), very good (7.9%), or excellent (1.8%), while 58.8% said their patient's/client's community's health was fair (47.4%) or poor (11.4%).

**Figure 9: Perceived Community Health Status by Survey Respondent Role, 2013**




DATA SOURCE: Lawrence General Hospital Community Health Needs Assessment Survey, 2013

Resident respondents to the survey were asked about the primary issues that have the largest impact on their community and themselves/their family (Figure 10), while providers were asked about the top issues of their patients/the community (Figure 11). There were some differences between respondents' personal health issues and perceived community health issues. While some topics such as obesity/overweight, and drugs/alcohol abuse were key concerns at the community level, other health issues—such as aging and heart disease—were more likely to be personal concerns. Overall, top community health concerns across the region for survey respondents were:

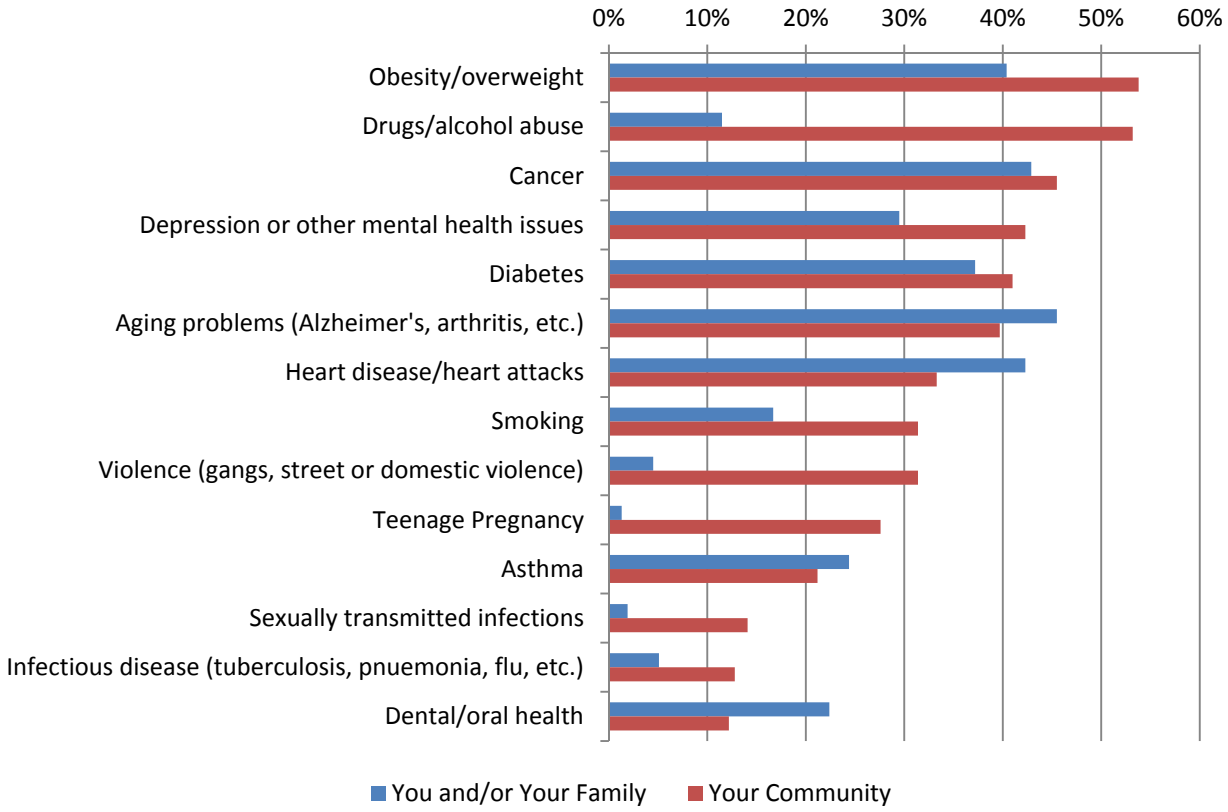
<u>Resident Community Concerns</u>

1. Obesity
2. Drugs and alcohol abuse
3. Cancer
4. Depression/mental health issues

<u>Provider Community Concerns</u>

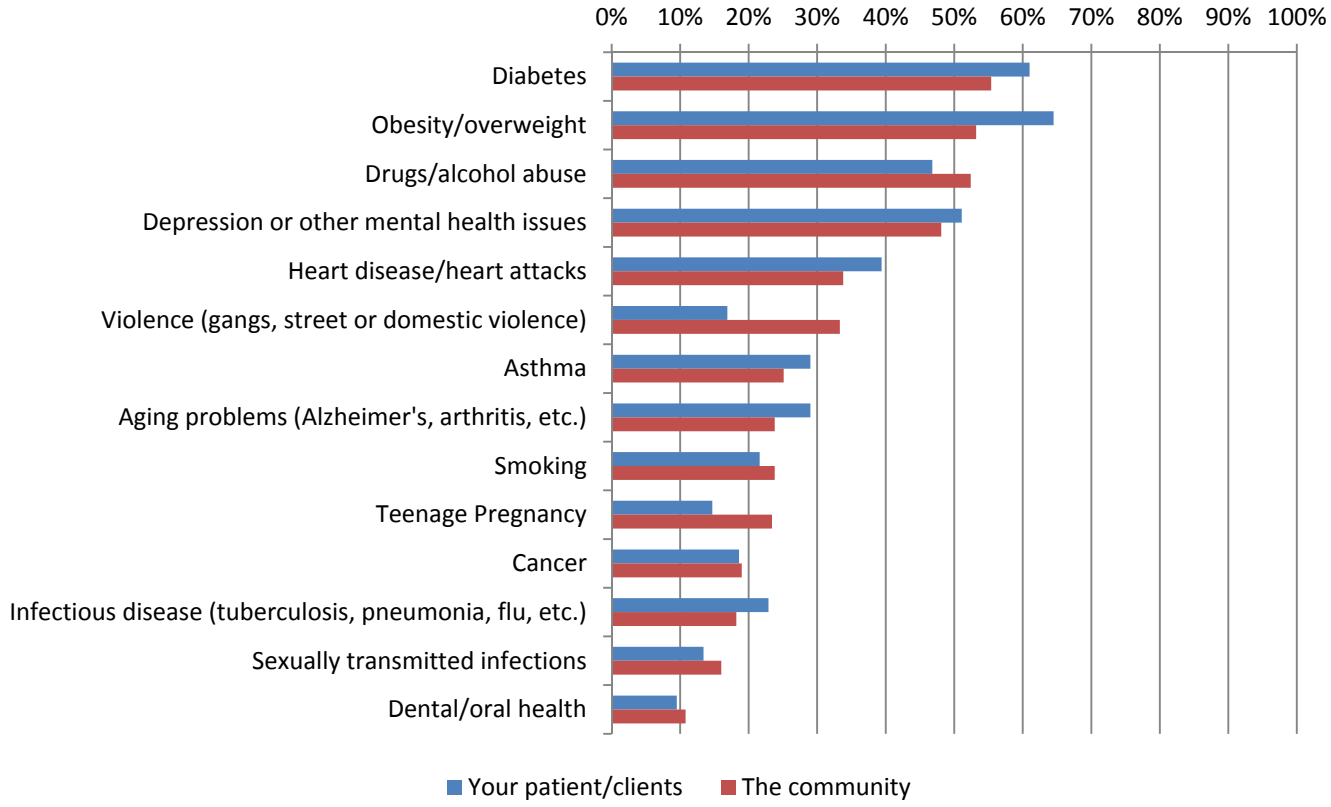
1. Diabetes
2. Obesity
3. Drugs and alcohol abuse
4. Depression/mental health issues

**Figure 10: Top Health Issues with the Largest Impact on the Community and for the Respondent/Family by Resident Respondents, 2013**




NOTE: Arranged in descending order
DATA SOURCE: Lawrence General Hospital Community Health Needs Assessment Survey, 2013

**Figure 11: Top Health Issues with the Largest Impact on the Community and for the Respondent/Family by Provider Respondents, 2013**

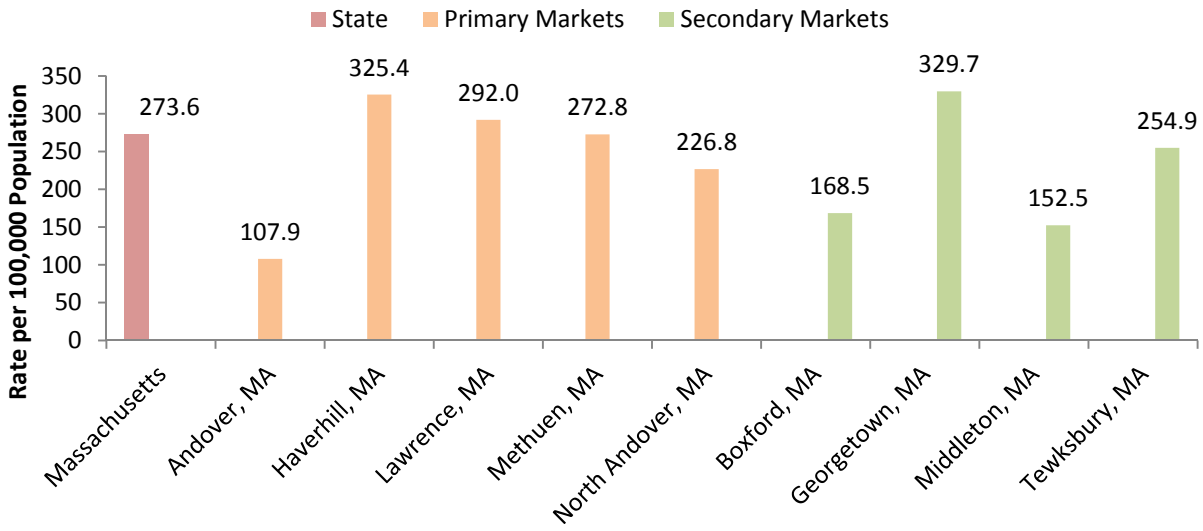



NOTE: Arranged in descending order
DATA SOURCE: Lawrence General Hospital Community Health Needs Assessment Survey, 2013

**Premature Death**

Premature mortality is defined as deaths that occur before the age of 75 years per 100,000 population, age-adjusted to the 2000 US standard population under 75 years of age. It is an indicator that communities are concerned about because of the untimely nature of death. Quantitative data for premature death show variability across the LGH primary service area (Figure 12). Georgetown (329.7 per 100,000 population), Haverhill (325.4 per 100,000 population), and Lawrence (292.0 per 100,000 population) reported higher rates of premature mortality than the 273.6 premature deaths per 100,000 population reported statewide. By contrast, Andover and Middleton had the lowest rates of premature mortality (107.9 per 100,000 population and 152.5 per 100,000 population, respectively).

**Figure 12: Premature Mortality Rate per 100,000 Population by Massachusetts and Primary Service Area, 2010**




NOTE: Premature Mortality Rate is defined as deaths that occur before the age of 75 years per 100,000, age-adjusted to the 2000 US standard population under 75 years of age
DATA SOURCE: Massachusetts Department of Public Health, Bureau of Health Information, Statistics, Research, and Evaluations, Massachusetts Deaths, 2010

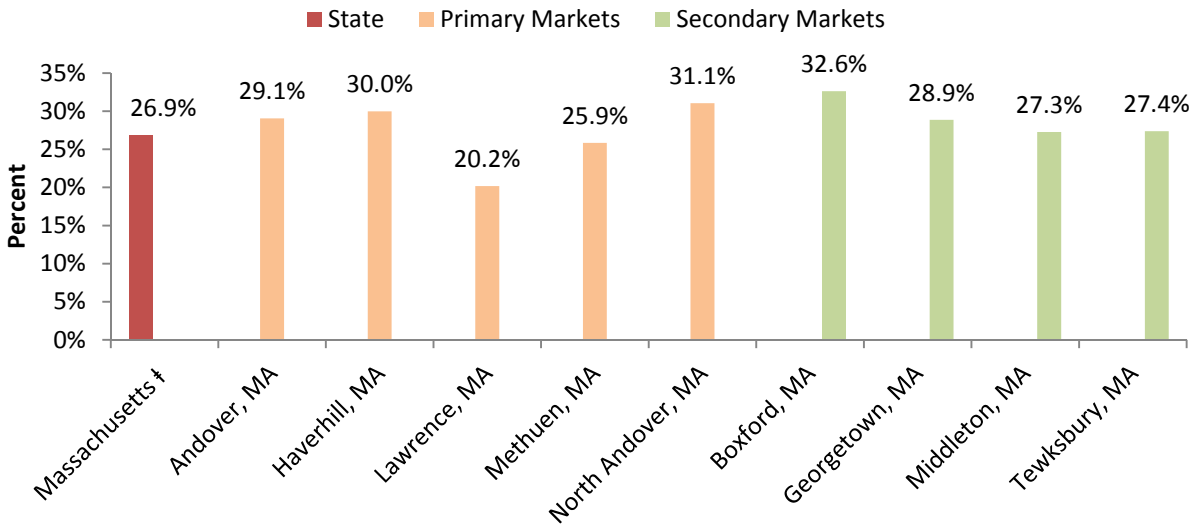
**Healthy Eating, Physical Activity, and Overweight/Obesity**

> *"I saw a bunch of people running on the streets and I'm like what is this? And they said there is a [running] club and we have a lot of places like gyms and [recreational activities] and those boot camps. It was great to hear."*—Community resident participant
>
> *"Financially, [residents] can't afford a healthy diet."* —Community resident participant

Several focus group participants and key informants cited obesity as a major health concern for children and adults in the region. These concerns were raised in almost every focus group and key informant interview. Many residents explained that there are community resources such as green spaces and recreational facilities for physical activity and organized activities such as running groups in the region. However, these activities were considered fragmented, as one organizational staff participant noted: *"For obesity and overweight, there are isolated programs."* Residents described access to healthy and affordable food as a major issue in the region that contributes to overweight and obesity.

Quantitative data from the Behavioral Risk Factor Surveillance System Survey show that like at the state level (26.9%), less than half of adults in the LGH primary service area were getting the recommended intake of fruits and vegetables in 2011 (Figure 13). Adequate fruit and vegetable consumption was highest in Boxford (32.6%) and North Andover (31.1%), and lowest in Lawrence (20.2%).

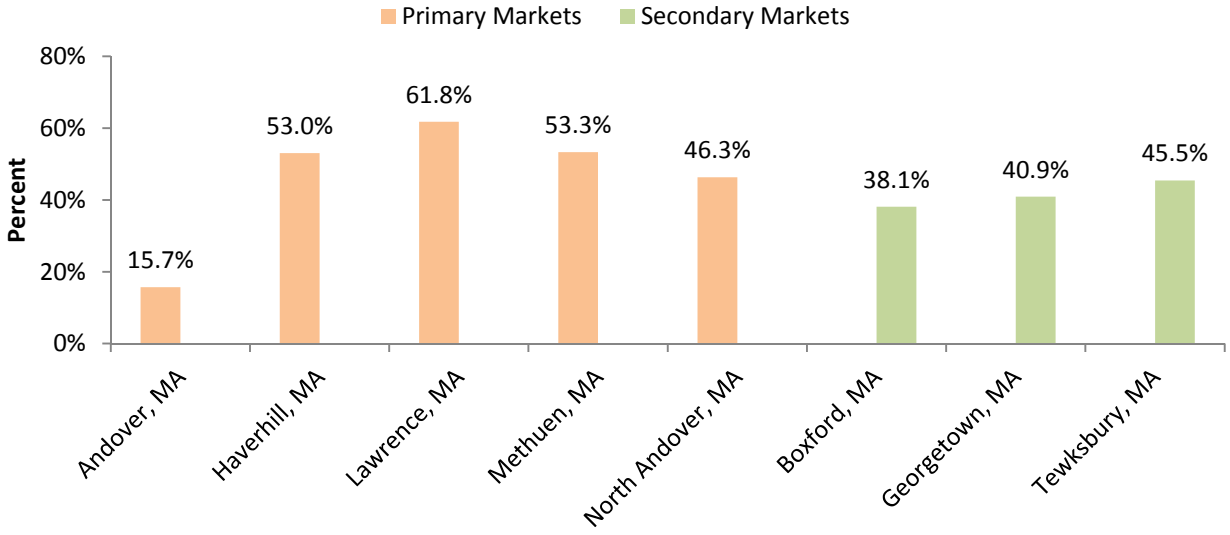
**Figure 13: Percent of Adults Eating 5 Servings of Fruits and Vegetables by Massachusetts and Primary Service Area, 2011**




ǂ DATA SOURCE: Massachusetts Department of Public Health, Division of Research and Epidemiology, A Summary of Health Risks and Preventive Behaviors in CHNAs: BRFSS derived data, 2007-2009
DATA SOURCE: Massachusetts Department of Public Health, as cited in Our Health Massachusetts, Metropolitan Area Planning Council, Mass in Motion, 2011

Quantitative data illustrate substantial variability in the daily physical activity among adults in the area. Figure 14 illustrates the percent of adults lacking daily exercise for cities across the LGH primary service area for which data were available. Adults were least likely to engage in daily physical activity in Lawrence (61.8%), Methuen (53.3%), and Haverhill (53.0%). By contrast, only 15.7% of Andover adults were lacking in daily exercise. Comparable state data were not available.

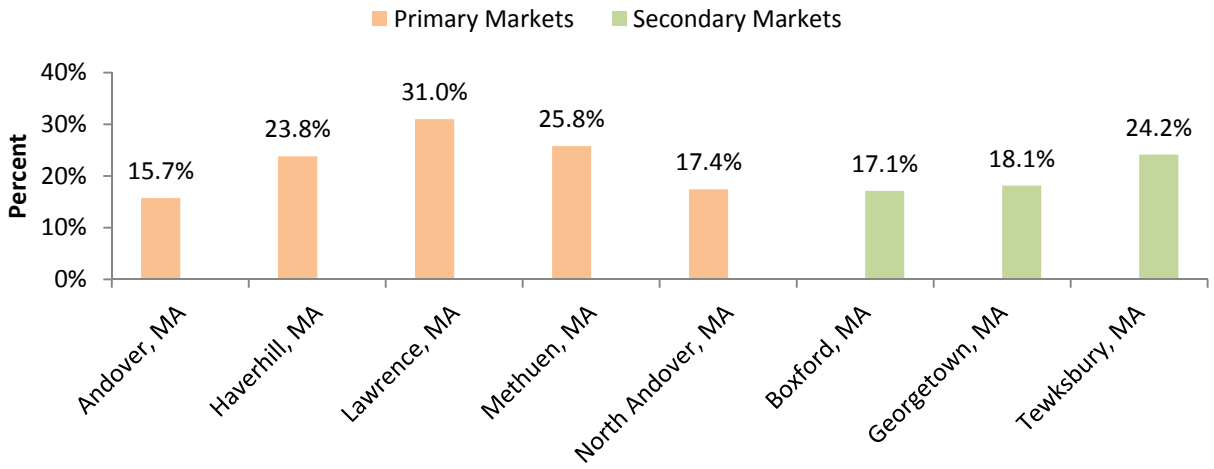
**Figure 14: Percent of Adults Lacking Daily Exercise by Primary Service Area, 2011**




DATA SOURCE: Massachusetts Department of Public Health, as cited in Our Health Massachusetts, Metropolitan Area Planning Council, Mass in Motion, 2011

According to quantitative data, there is also notable variability in the percent of obese adults across the LGH primary service area. Figure 15 illustrates that Lawrence (31.0%), Methuen (25.8%), and Tewksbury (24.2%) had the highest percent of obese adults. By contrast, only 15.7% of Andover adults reported being obese. For the entire state of Massachusetts, 22.7% of adult residents are considered obese.

**Figure 15: Percent of Obese Adults by Primary Service Area, 2011**




DATA SOURCE: Massachusetts Department of Public Health, as cited in Our Health Massachusetts, Metropolitan Area Planning Council, Mass in Motion, 2011

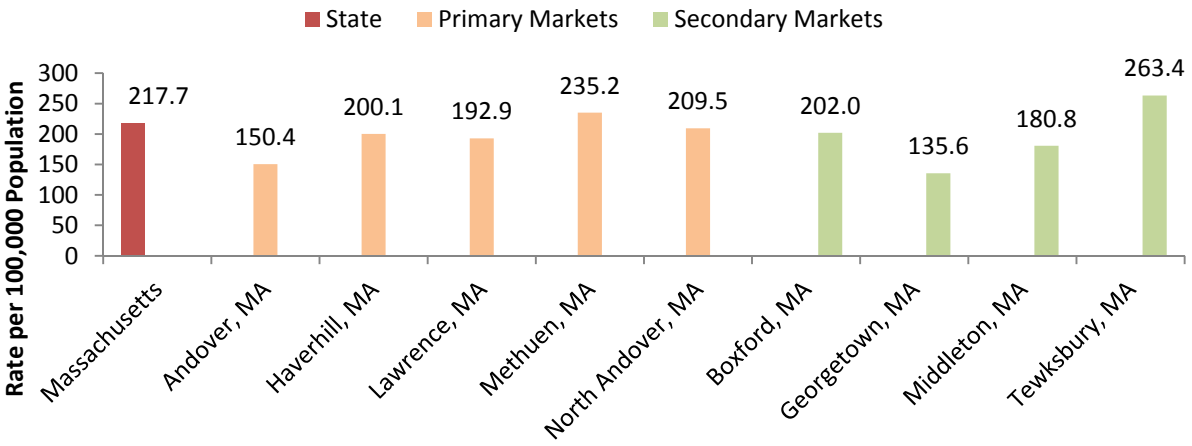
**Chronic Disease**

> *"[We're at the] top of the list of what you don't want and bottom of what you do want."* — Stakeholder/service provider participant
>
> *"The hospital admittance rate [for asthma] is really high [because of] poor housing stock quality, lead and insects."* —Stakeholder/service provider participant

When asked about health concerns in their community, asthma emerged as a major health issue cited by key informants and focus group participants, many of whom attributed the high rates of asthma in the area to the housing stock. One key informant noted that Hispanics in the region were disproportionately burdened by asthma. An organizational staff participant cited chronic obstructive pulmonary disease as another respiratory health concern in the region. Several residents cited diabetes as *"a huge issue"* in the area, and a key informant noted that cardiovascular disease is also a concern.

Quantitative data show rates for heart attacks are somewhat higher in certain areas of the region. In 2010, the LGH service area heart attack hospitalization rate ranged from 135.6 per 100,000 population in Georgetown to 263.4 per 100,000 population in Tewksbury (Figure 16). Tewksbury and Methuen were the only two communities in the primary service area to have heart attack hospitalization rates greater than that reported statewide (217.7 per 100,000 population).

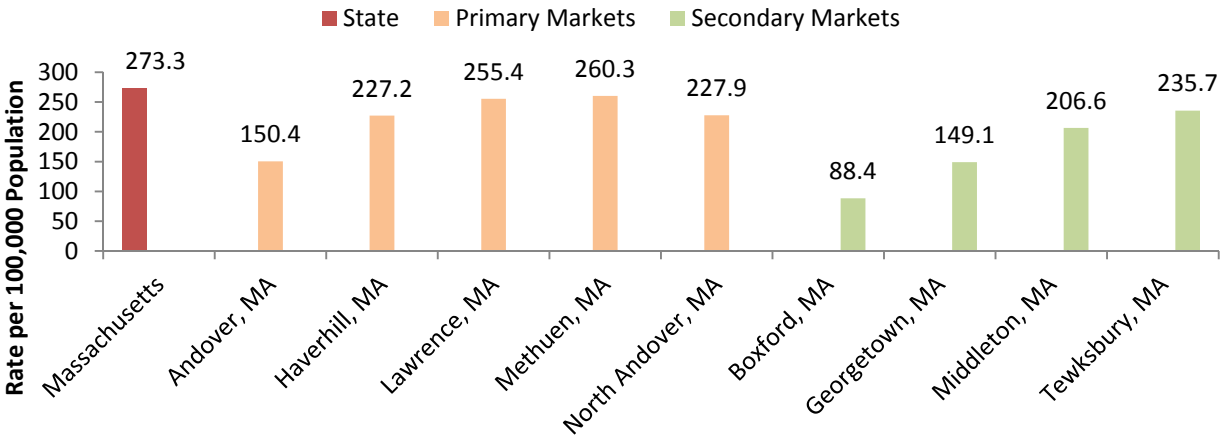
**Figure 16: Rate of Heart Attack Hospitalization per 100,000 Population by Massachusetts and Service Area, 2010**




DATA SOURCE: Massachusetts Department of Public Health, as cited in Our Health Massachusetts, Metropolitan Area Planning Council, Mass in Motion, 2011

Quantitative data show that in 2010, the LGH service area stroke hospitalization rate ranged from 88.4 per 100,000 population in Boxford to 260.3 per 100,000 population in Methuen (Figure 17). This range across the LGH primary service area was below the rate reported statewide (273.3 per 100,000 population).

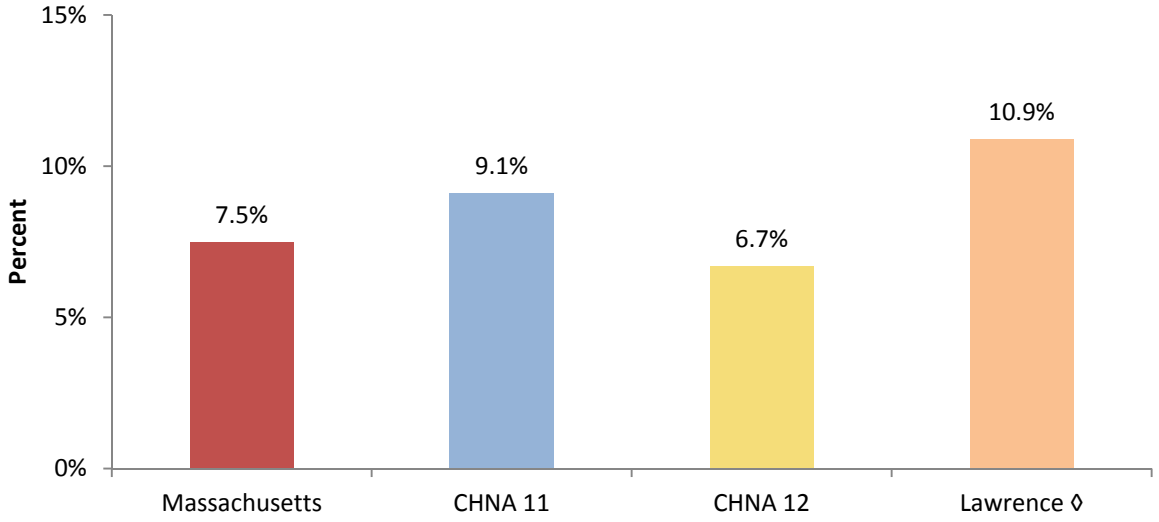
**Figure 17: Rate of Stroke Hospitalization per 100,000 Population by Massachusetts and Service Area, 2010**




DATA SOURCE: Massachusetts Department of Public Health, as cited in Our Health Massachusetts, Metropolitan Area Planning Council, Mass in Motion, 2011

As illustrated in Figure 18, the percentage of adults statewide who reported having been diagnosed with diabetes was 7.5%. CHNA 12 had a slightly lower proportion of adults diagnosed with diabetes (6.7%), while CHNA 11 had a slightly higher rate (9.1%) than the state. Adults in Lawrence reported the highest percentage of diabetes diagnoses at 10.9%. Data were not available by all individual cities and towns.

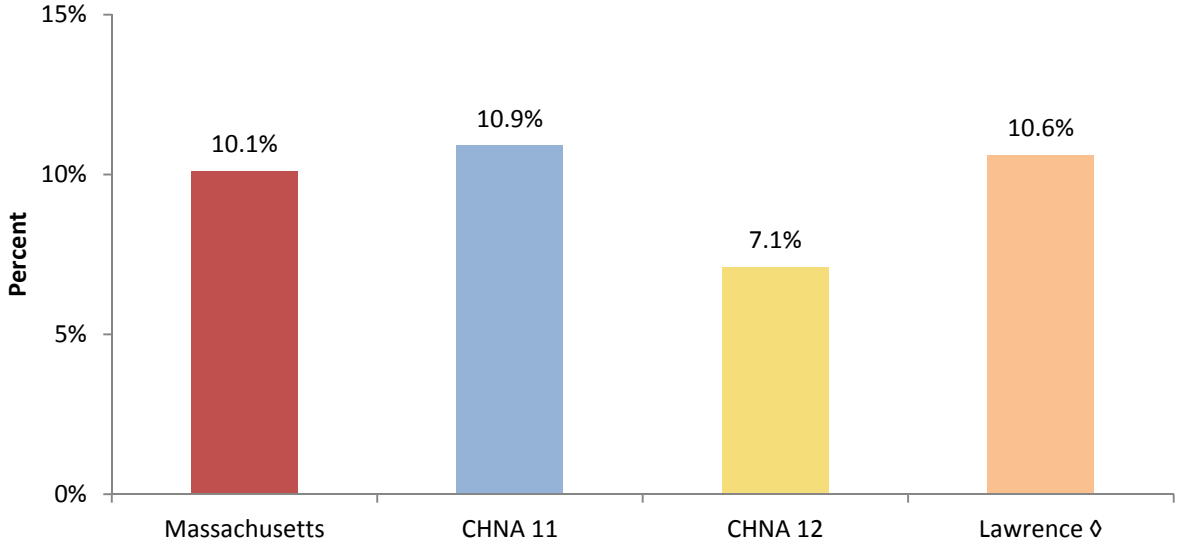
**Figure 18: Percentage of Adults Who Reported Having Been Diagnosed with Diabetes by Massachusetts, CHNA, and Lawrence, 2007-2009**




◊ DATA SOURCE: Massachusetts Department of Public Health, Division of Research and Epidemiology, A Profile of Health Among Massachusetts Adults in Selected Cities, 2008
DATA SOURCE: Massachusetts Department of Public Health, Division of Research and Epidemiology, A Summary of Health Risks and Preventive Behaviors in CHNAs: BRFSS derived data, 2007-2009

As shown in Figure 19 the percentage of adults statewide who reported current asthma was 10.1%. CHNA 12 had a lower proportion of adults with asthma (7.1%), while CHNA 11 had a slightly higher proportion (10.9%) than the state. In Lawrence, 10.6% of adults reported currently having asthma. Data were not available by all individual cities and towns.

**Figure 19: Percentage of Adults Who Reported Current Asthma by Massachusetts, CHNA, and Lawrence, 2007-2009**

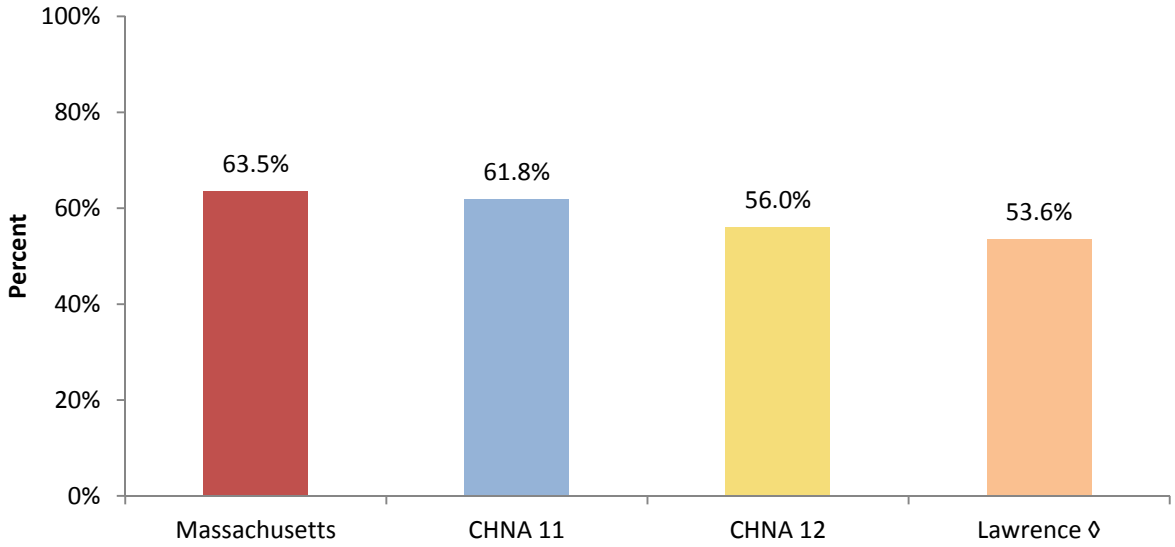



◊ DATA SOURCE: Massachusetts Department of Public Health, Division of Research and Epidemiology, A Profile of Health Among Massachusetts Adults in Selected Cities, 2008
DATA SOURCE: Massachusetts Department of Public Health, Division of Research and Epidemiology, A Summary of Health Risks and Preventive Behaviors in CHNAs: BRFSS derived data, 2007-2009

**Cancer**

Data on cancer screenings indicate that a similar proportion of adults in CHNA 11 and across the state receive regular screenings, while adults in CHNA 12 are less likely to receive regular screenings (Figure 20 and Figure 21). Approximately 62% of adults over the age of 50 in CHNA 11 have received a colonoscopy or sigmoidoscopy in the past five years, as compared to 63.5% statewide, and 56.0% in CHNA 12. In Lawrence, 53.6% of adults reported having had a colorectal cancer screening. Data were not available by all individual cities and towns.

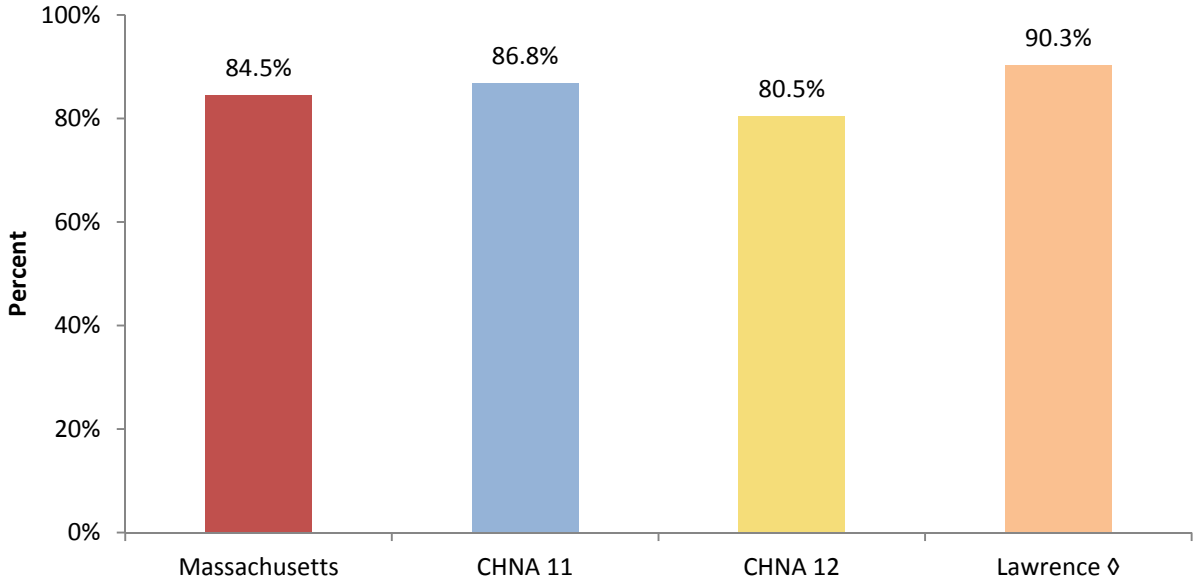
**Figure 20: Percentage of Adults Ages 50+ who Reported Having had a Colonoscopy or Sigmoidoscopy in the Past 5 Years by Massachusetts, CHNA, and Lawrence, 2007-2009**




◊ DATA SOURCE: Massachusetts Department of Public Health, Division of Research and Epidemiology, A Profile of Health Among Massachusetts Adults in Selected Cities, 2008
DATA SOURCE: Massachusetts Department of Public Health, Division of Research and Epidemiology, A Summary of Health Risks and Preventive Behaviors in CHNAs: BRFSS derived data, 2007-2009

According to quantitative data, approximately 86.8% of women over the age of 40 in CHNA 11 have received a mammogram in the past two years, as compared to 84.5% statewide, and 80.5% in CHNA 12 (Figure 21). In Lawrence, 90.3% of women reported having a mammogram. Data were not available by all individual cities and towns.

**Figure 21: Percentage of Women Ages 40+ Who Reported Having Had a Mammogram in the Past 2 Years by Massachusetts, CHNA, and Lawrence, 2007-2009**




◊ DATA SOURCE: Massachusetts Department of Public Health, Division of Research and Epidemiology, A Profile of Health Among Massachusetts Adults in Selected Cities, 2008
DATA SOURCE: Massachusetts Department of Public Health, Division of Research and Epidemiology, A Summary of Health Risks and Preventive Behaviors in CHNAs: BRFSS derived data, 2007-2009

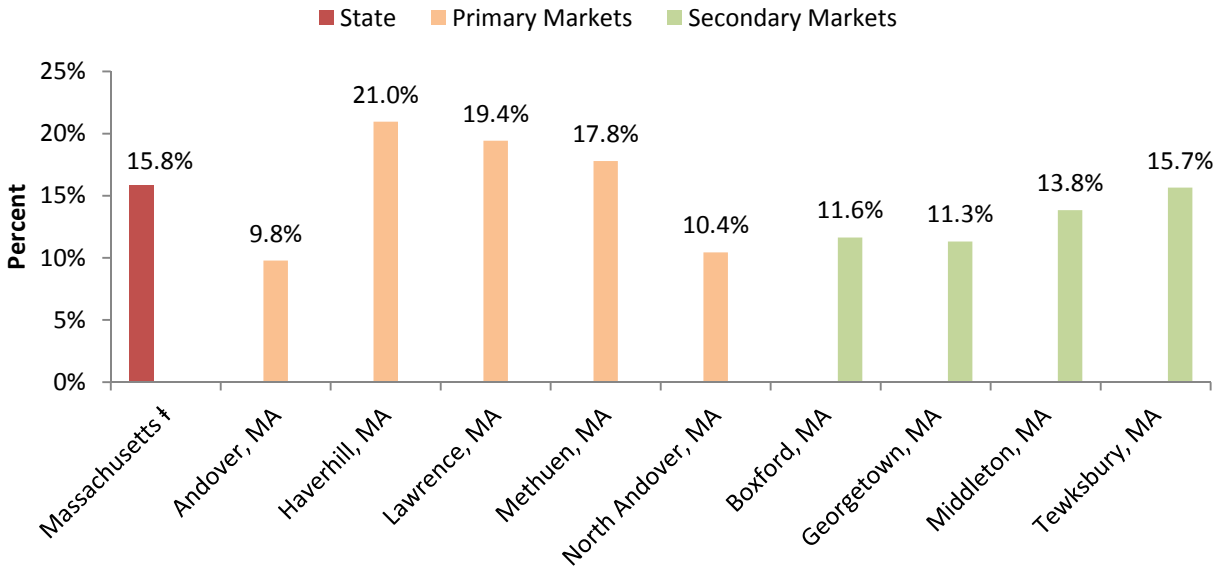
**Substance Use and Abuse (Alcohol, Tobacco, and Illegal Drugs)**

> *"The largest growing problem we have right now is prescription drug use. It's worse than ever."* —Community resident participant
>
> *"A lot of people are self-medicating; a big number of people are doing that."* —Community resident participant
>
> *"I mean with drugs, drugs here are rampant. There is a lot of heroin use; I mean drugs here are ridiculous."* —Community resident participant

Substance use and abuse was a major concern described by residents in the CHNA focus groups. Prescription and illicit drugs (e.g., methamphetamine, cocaine, and heroin) were the most common drugs discussed as being used or abused. Several focus group participants described illicit drugs as easily accessible and explained that they have seen people using drugs in public. As one focus group participant stated, *"Anything you want here you can get. I mean meth you can definitely get it. The more popular drugs are coke, cocaine, heroin; you see people shooting in the streets."*

Tobacco use was not discussed frequently in the focus group or interview discussions; however, according to the Behavioral Risk Factor Surveillance System survey, three communities within the LGH primary service area reported smoking rates higher than that of the state (15.8%) (Figure 22). Haverhill (21.0%) had the highest percentage of adult smokers, followed by Lawrence (19.4%) and Methuen (17.8%).

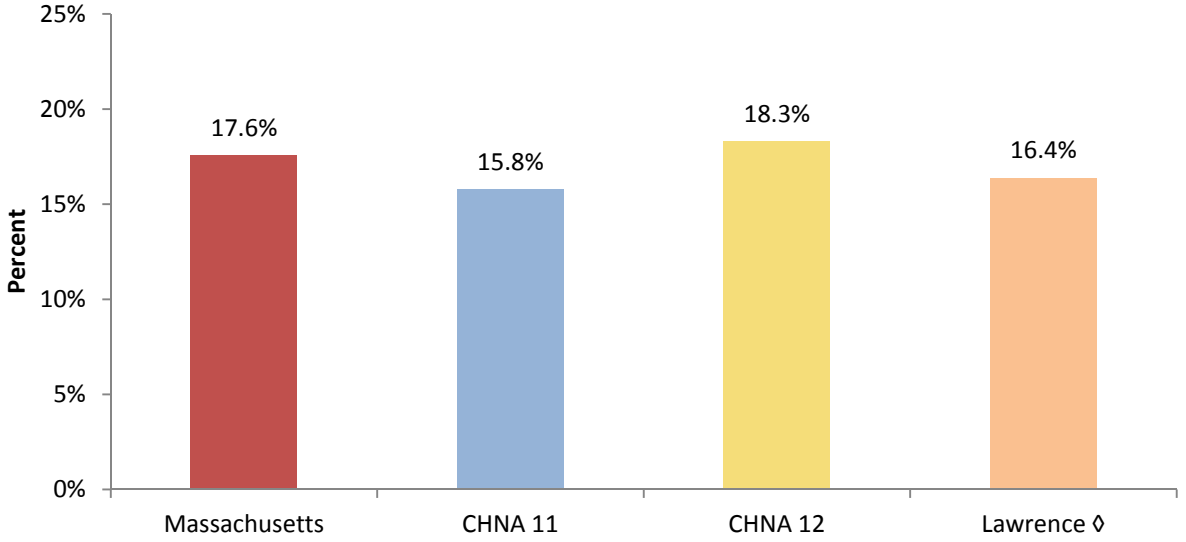
**Figure 22: Percent of Adult Smokers by Massachusetts and Primary Service Area, 2007-2009**




ǂ DATA SOURCE: Massachusetts Department of Public Health, Division of Research and Epidemiology, A Summary of Health Risks and Preventive Behaviors in CHNAs: BRFSS derived data, 2007-2009
DATA SOURCE: Massachusetts Department of Public Health, as cited in Our Health Massachusetts, Metropolitan Area Planning Council, Mass in Motion, 2011

As illustrated in Figure 23, the percentage of adult binge drinking across the state was 17.6%. CHNA 12 had a slightly higher percent of adult binge drinkers (18.3%), while CHNA 11 had a slightly lower rate (15.8%) than the state. Similarly, 16.4% of Lawrence adults reported binge drinking. Data were not available by all individual cities and towns.

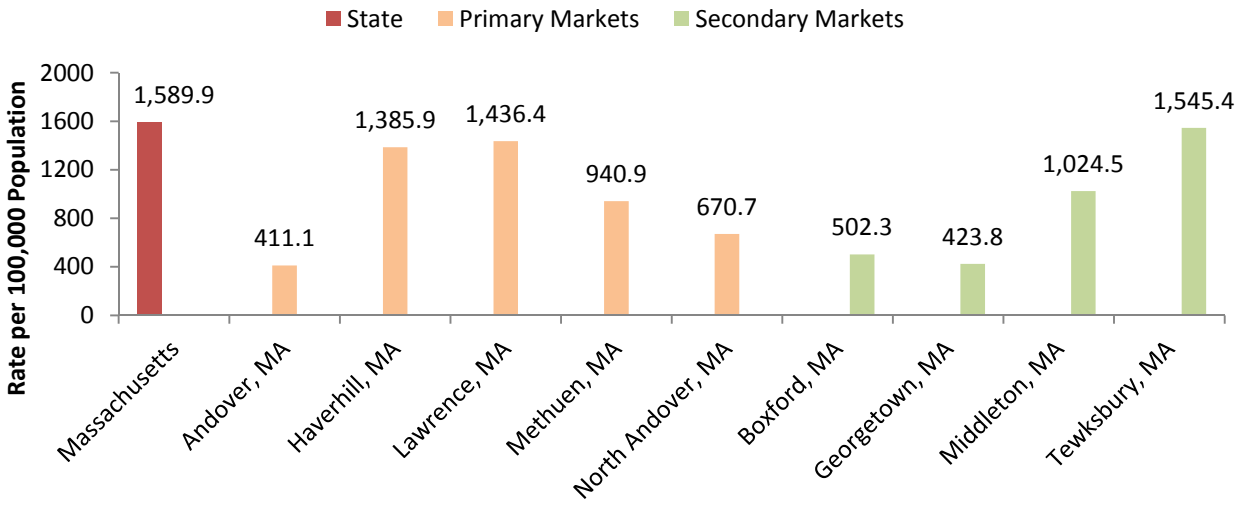
**Figure 23: Percentage of Adults Who Reported Binge Drinking by Massachusetts, CHNA, and Lawrence, 2007-2009**




◊ DATA SOURCE: Massachusetts Department of Public Health, Division of Research and Epidemiology, A Profile of Health Among Massachusetts Adults in Selected Cities, 2008
DATA SOURCE: Massachusetts Department of Public Health, Division of Research and Epidemiology, A Summary of Health Risks and Preventive Behaviors in CHNAs: BRFSS derived data, 2007-2009

As shown in Figure 24, substance abuse hospitalizations varied widely across the LGH primary service area, though all rates remained below the statewide rate (1,589.9 per 100,000 population). The hospitalization rate was highest in Tewksbury (1,545.4 per 100,000), which was slightly lower than that of the state. Lawrence (1,436.4 per 100,000 population) and Haverhill (1,385.9 per 100,000 population) also had relatively higher rates of substance abuse hospitalization. By contrast, Andover and Georgetown had the lowest rates of substance abuse hospitalization (411.1 per 100,000 population and 423.8 per 100,000 population, respectively).

**Figure 24: Rate of Substance Abuse Hospitalization per 100,000 Population by Massachusetts and Primary Service Area, 2007-2009**



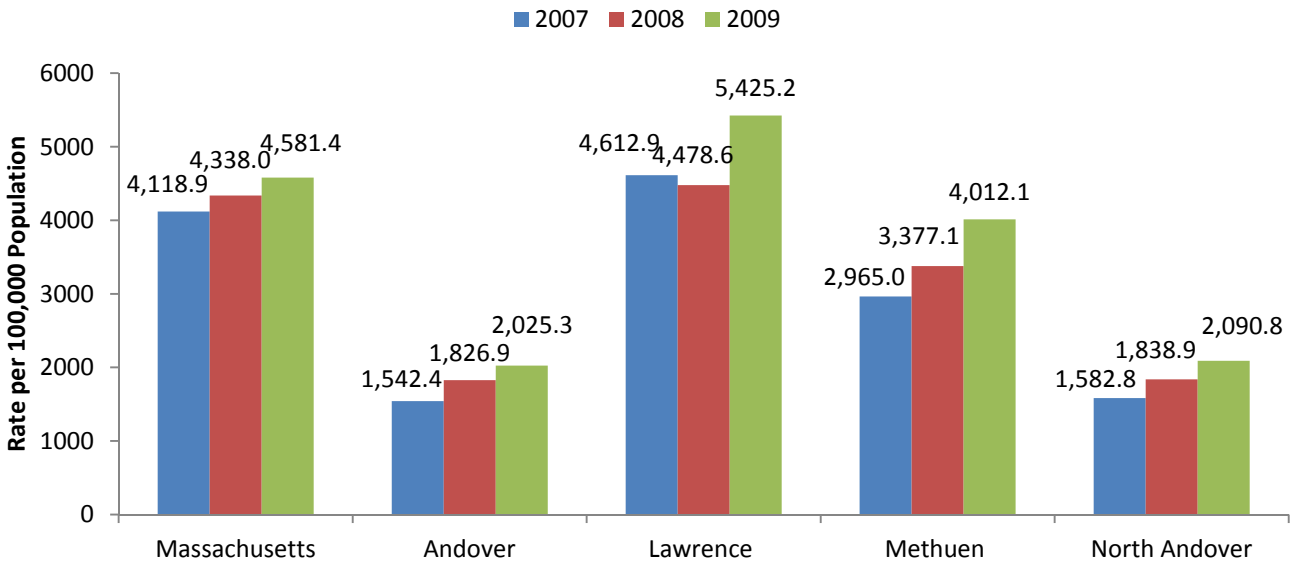

ǂ DATA SOURCE: Massachusetts Department of Public Health, Division of Research and Epidemiology, A Summary of Health Risks and Preventive Behaviors in CHNAs: BRFSS derived data, 2007-2009
DATA SOURCE: Massachusetts Department of Public Health, as cited in Our Health Massachusetts, Metropolitan Area Planning Council, Mass in Motion, 2011

**Mental Health**

Mental health emerged as a major health concern among residents and key informants in the region. Key informants noted a gap in the availability of behavioral health providers. A few residents explained that the co-existence of mental health issues and chronic health conditions is an issue that affects residents. For example, a focus group participant shared, *"Patients can't manage a medical condition with mental health issue and the waiting list is ridiculous."* Another resident stated that you *"can't address one without addressing the other,"* citing the need for more holistic care.

Figure 25 illustrates the age-adjusted mental disorder-related Emergency Department (ED) visit rate per 100,000 population in Massachusetts and cities in the primary market area for which data were available. In 2009, Lawrence had the highest rate of mental disorder-related ED visits (5,425.2 per 100,000 population) which was above the statewide rate (4,581.4 per 100,000 population). Each of the three other communities had rates below that at the state level in 2009. Both statewide and across the primary market area, the mental disorder-related ED visit rate increased from 2007 to 2009.

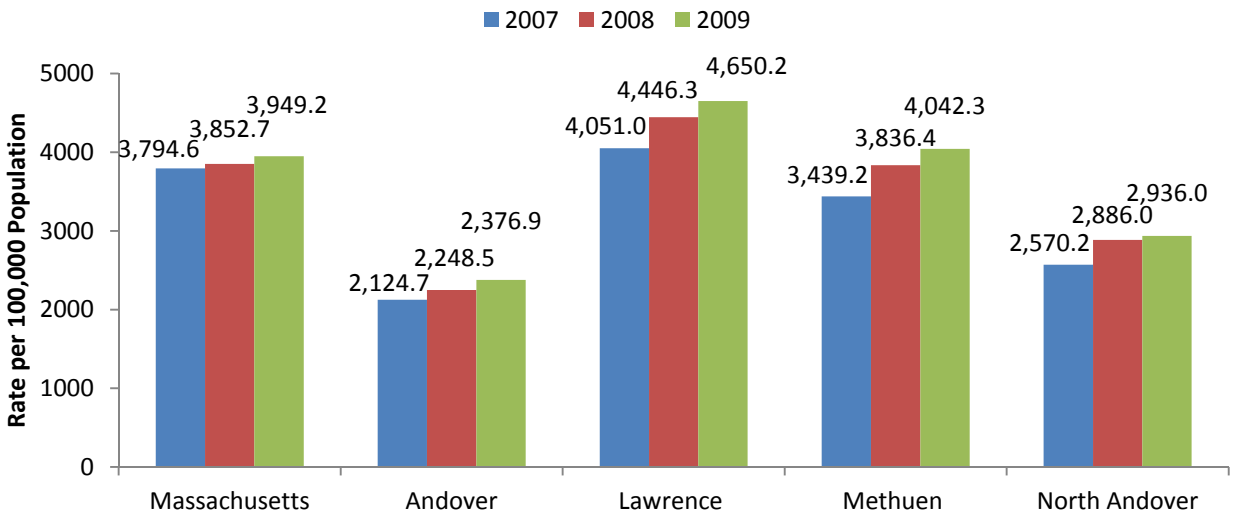
**Figure 25: Age-Adjusted Mental Disorder-Related Emergency Department Visits Rate per 100,000 Population by Massachusetts and Primary Market Area, 2007-2009**




DATA SOURCE: MA Department of Public Health, MassCHIP

Figure 26 shows the age-adjusted mental disorder-related hospitalization rate per 100,000 population in Massachusetts and cities in the primary market area for which data were available. In 2009, Lawrence and Methuen (4,650.2 per 100,000 population and 4,042.3 per 100,000 population, respectively) had rates above the statewide rate (4,581.4 per 100,000 population). Both statewide and across the primary market area, the mental disorder-related hospitalization rate increased from 2007 to 2009.

**Figure 26: Age-Adjusted Mental Disorder-Related Hospitalizations Rate per 100,000 Population by Massachusetts and Primary Market Area, 2007-2009**

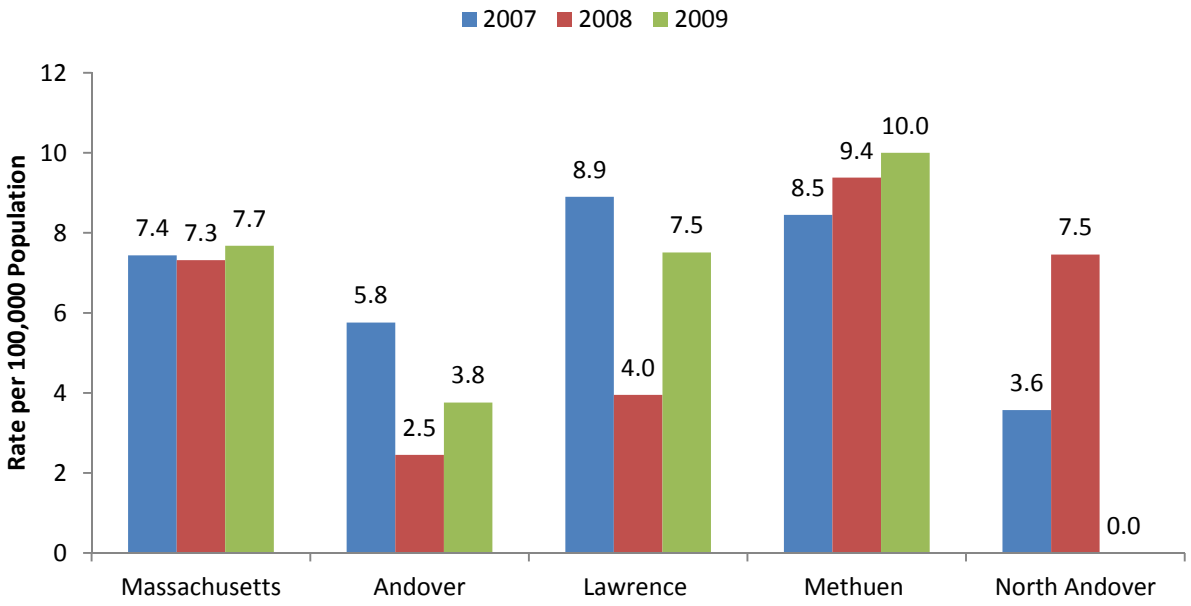



DATA SOURCE: MA Department of Public Health, MassCHIP

Figure 27 illustrates the age-adjusted suicide death rate per 100,000 population in Massachusetts and cities in the primary market area for which data were available. In 2009, Methuen had the highest rate of suicide deaths among the primary market area (10.0 per 100,000 population) which was above that of the state (7.7 per 100,000 population). Further, since 2007, the suicide rate in Methuen has been

steadily increasing. The other communities in the market area have recorded an overall decrease in their suicide rate from 2007 to 2009.

**Figure 27: Age-Adjusted Suicide Death Rate per 100,000 Population by Massachusetts and Primary Market Area, 2007-2009**

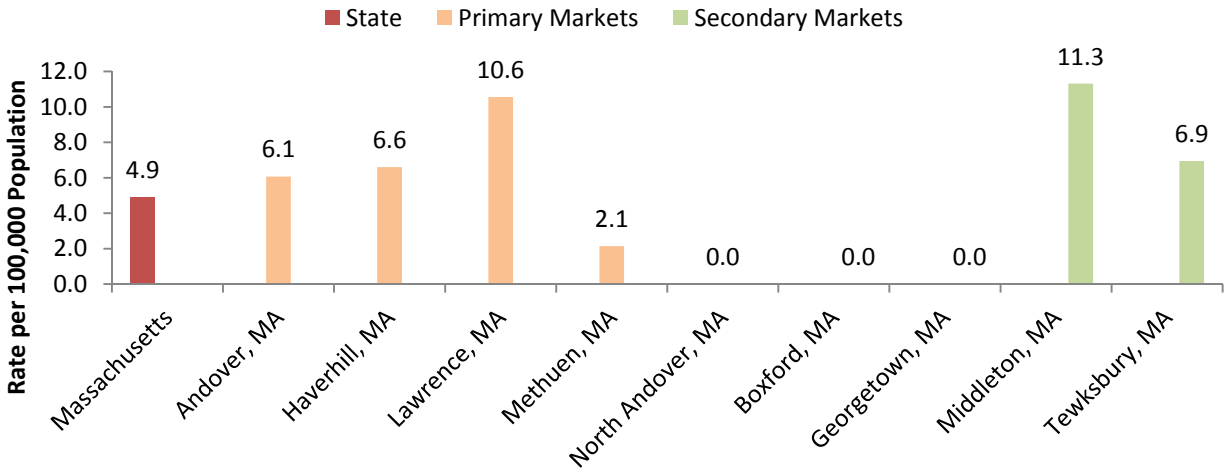



DATA SOURCE: MA Department of Public Health, MassCHIP

**Maternal and Child Health**

Maternal and child health did not emerge in the CHNA discussions as a major health concern, but some rates of negative birth outcomes are higher in communities in the region than statewide. Quantitative data indicate that birth outcomes vary across the region. Among the communities in the LGH primary service area for which data were available, five had infant mortality rates that were higher than that recorded statewide (4.9 per 100,000 population) (Figure 28). The infant mortality rate was highest in Middleton and Lawrence (11.3 per 100,000 population and 10.6 per 100,000 population, respectively).

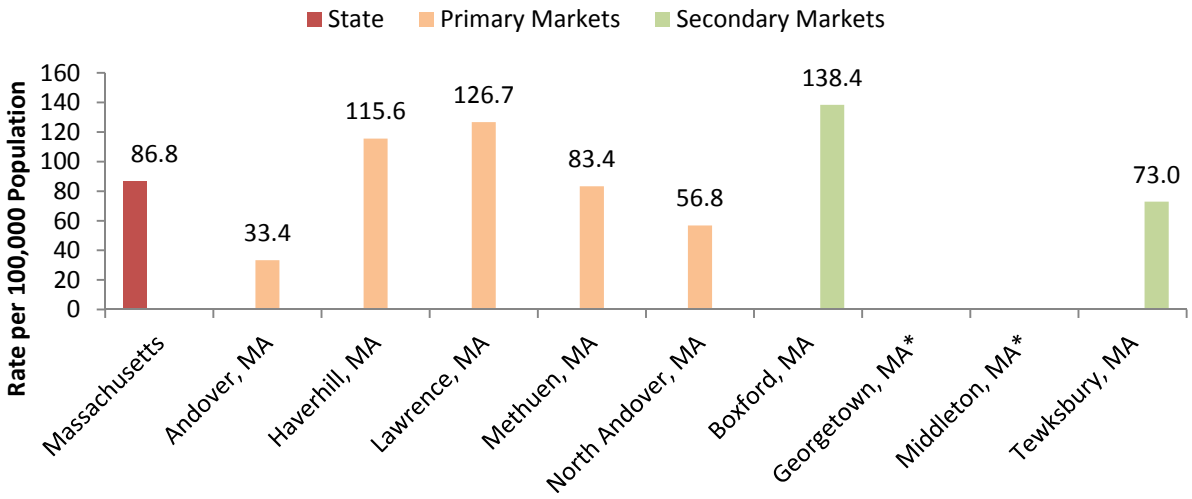
**Figure 28: Infant Deaths per 100,000 Population by Massachusetts and Primary Service Area, 2010**




NOTE: These data have been standardized to the population data from the U.S. Department of Commerce, Bureau of the Census, American Community Survey 5-Year Estimates, 2007-2011
DATA SOURCE: Massachusetts Department of Public Health, Bureau of Health Information, Statistics, Research, and Evaluations, Massachusetts Births, 2010

Low birth weight (less than 2,500 grams) varies across the area as well (Figure 29). A higher rate of low birth weight babies were born in Boxford (138.4 per 100,000 population), Lawrence (126.7 per 100,000 population), and Haverhill (115.6 per 100,000 population) than in other communities or the state as a whole (86.8 per 100,000 population). However, it should be noted that the total number of births for some cities/towns may be small, so it is important to interpret these data with caution.

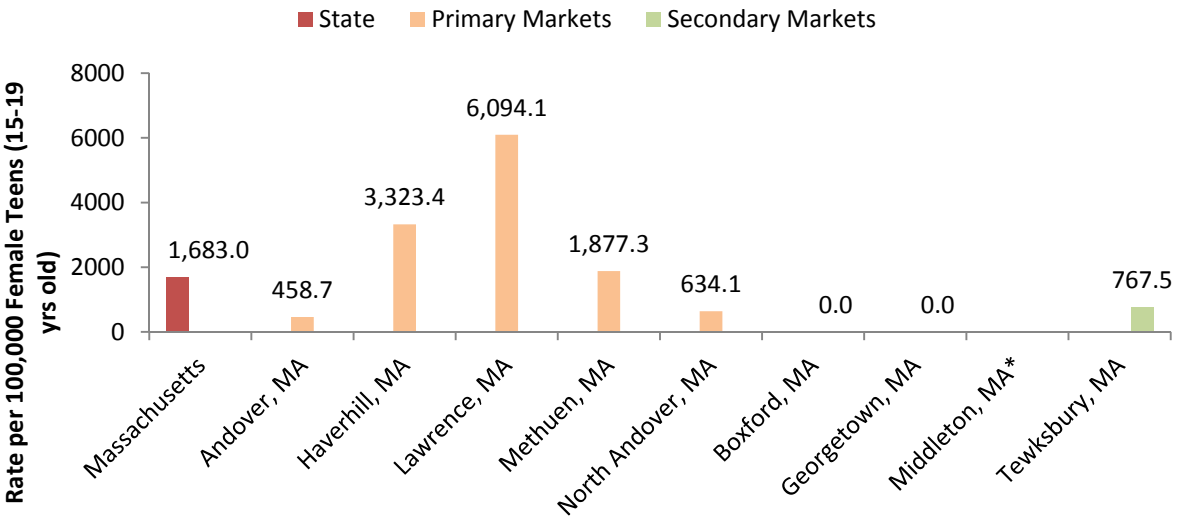
**Figure 29: Low Birth Weight Rate per 100,000 Population by Massachusetts and Primary Service Area, 2010**




NOTE: These data have been standardized to the population data from the U.S. Department of Commerce, Bureau of the Census, American Community Survey 5-Year Estimates, 2007-2011
* Due to small numbers (N=1-4), exact count not provided therefore rate could not be tabulated
DATA SOURCE: Massachusetts Department of Public Health, Bureau of Health Information, Statistics, Research, and Evaluations, Massachusetts Births, 2010

Births among teenagers (mothers aged 15 to 19 years old) in Lawrence was 6,094.1 births per 100,000 female teens in 2010; nearly four times higher than the statewide rate (1,683.0 births per 100,000 teens) (Figure 30). Among the LGH primary service area, Haverhill had the second highest rate of teenage births (3,323.4 births per 100,000 teens) followed by Methuen at 1,877.3 births per 100,000 teens.

**Figure 30: Birth Rate to Teenage Mothers (15-19 years) per 100,000 by Massachusetts and Primary Service Area, 2010**

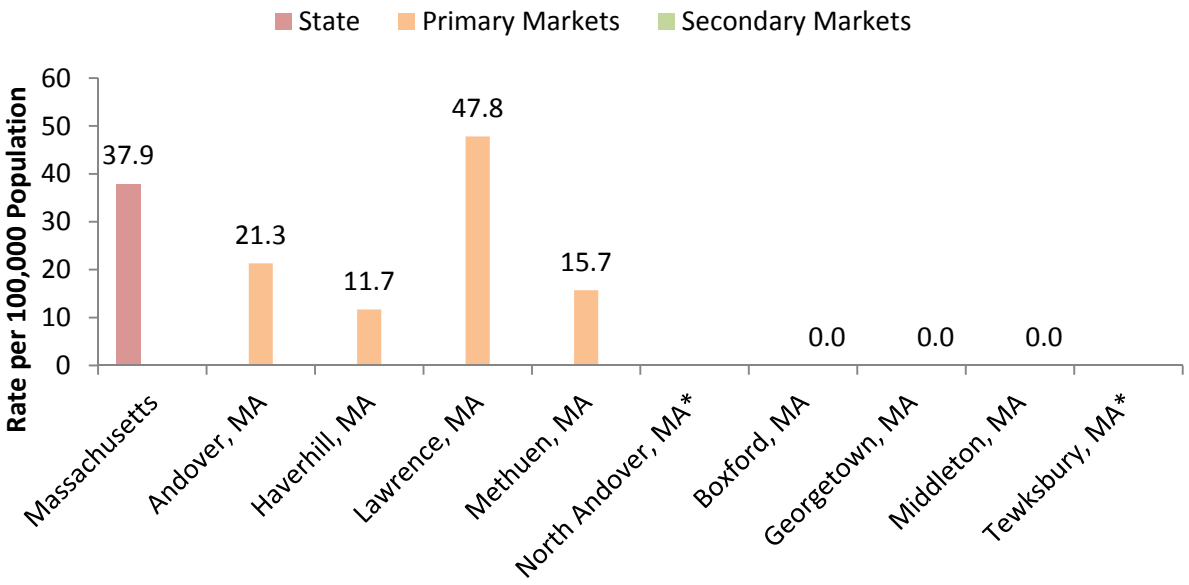



NOTE: These data have been standardized to the population data from the U.S. Department of Commerce, Bureau of the Census, American Community Survey 5-Year Estimates, 2007-2011
* Due to small numbers (N=1-4), exact count not provided therefore rate could not be tabulated
DATA SOURCE: Massachusetts Department of Public Health, Bureau of Health Information, Statistics, Research, and Evaluations, Massachusetts Births, 2010

**Infectious Diseases**

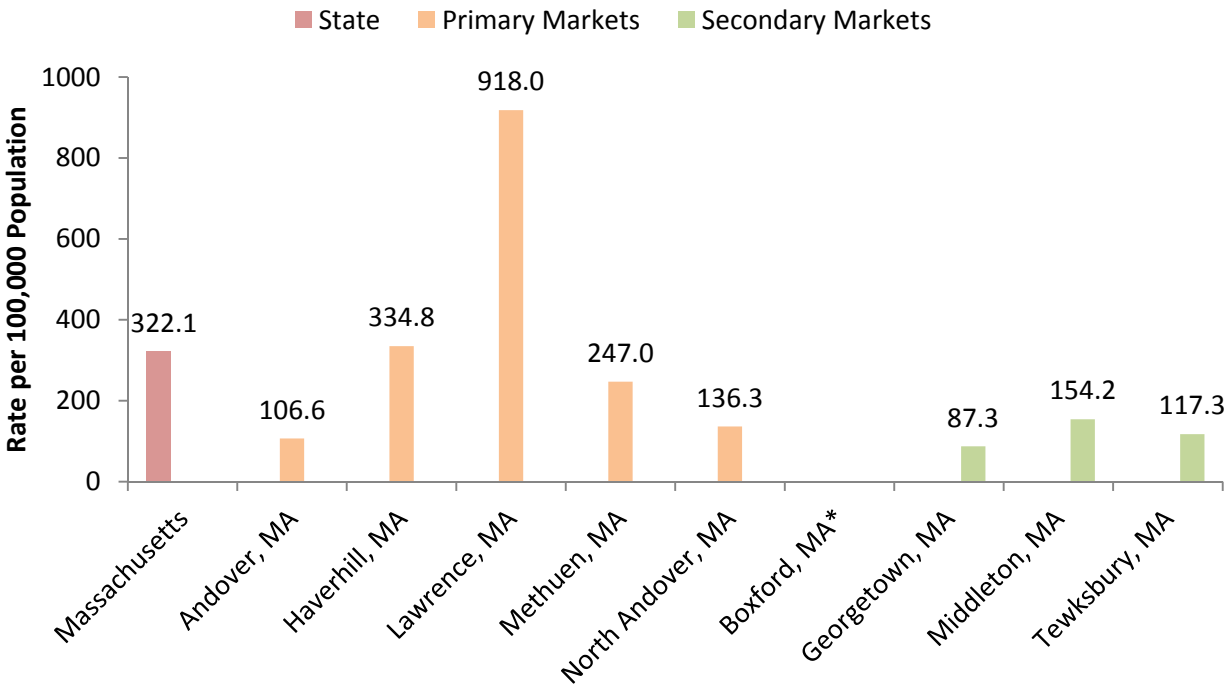
Infectious and communicable diseases were not brought up in the CHNA focus groups and interviews; however, rates of sexually transmitted infections (STIs) are higher in some areas in the region than statewide. Figure 31 and Figure 32 show the rates of select STIs for the state and LGH primary service areas, where data were available. Lawrence's rate of Gonorrhea (47.8 per 100,000 population) was higher than that reported statewide (37.9 per 100,000 population), and over two times higher than that of Andover (21.3 per 100,000 population). Similarly, Lawrence had the highest rate of Chlamydia, exceeding the statewide rate of 322.1 per 100,000 population by nearly three times. Haverhill's Chlamydia rate (334.8 per 100,000 population) was slightly higher than the statewide rate as well. All other cities and towns in the service area for which data were provided had rates below that of the state.

**Figure 31: Rate of Gonorrhea per 100,000 Population by Massachusetts and Primary Service Area, 2010**




* Due to small numbers (N=1-4), exact count not provided therefore rate could not be tabulated
DATA SOURCE: MassCHIP, Massachusetts Department of Public Health, Division of Sexually Transmitted Disease Prevention, 2010

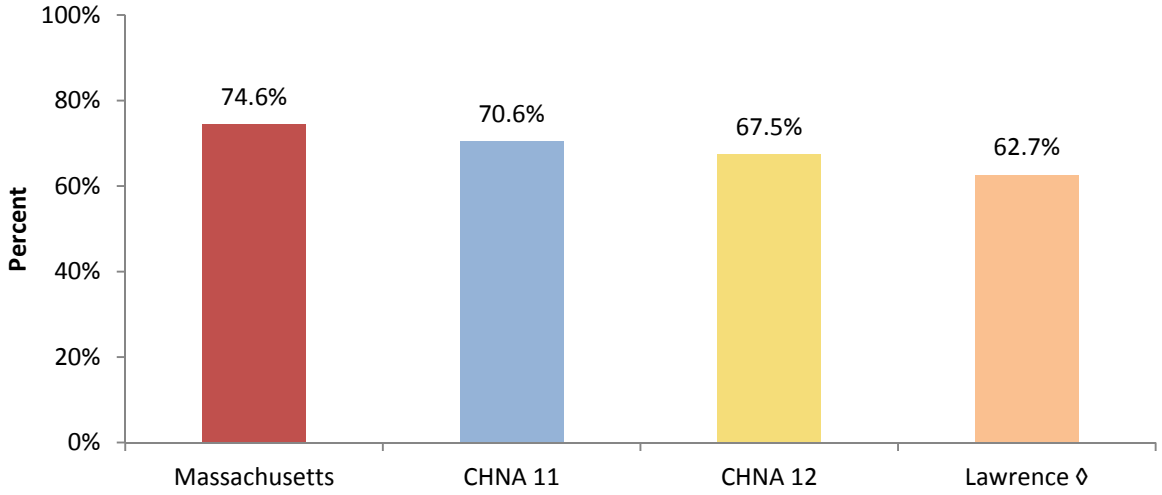
**Figure 32: Rate of Chlamydia per 100,000 Population by Massachusetts and Primary Service Area, 2010**




* Due to small numbers (N=1-4), exact count not provided therefore rate could not be tabulated
DATA SOURCE: MassCHIP, Massachusetts Department of Public Health, Division of Sexually Transmitted Disease Prevention, 2010

The proportion of adults aged 65 years and older statewide who reported receiving the influenza and vaccine was 74.6% (Figure 33). Both CHNA 11 and CHNA 12 had slightly lower proportions of immunized seniors (70.6% and 67.5%, respectively) than the state. Meanwhile, 62.7% of Lawrence seniors reported receiving an influenza vaccine over the past 12 months. Data were not available by all individual cities and towns.

**Figure 33: Percentage of Adults Ages 65+ Who Reported Having Had a Flu Vaccine in the Past 12 Months by Massachusetts, CHNA, and Lawrence, 2007-2009**




◊ DATA SOURCE: Massachusetts Department of Public Health, Division of Research and Epidemiology, A Profile of Health Among Massachusetts Adults in Selected Cities, 2008
DATA SOURCE: Massachusetts Department of Public Health, Division of Research and Epidemiology, A Summary of Health Risks and Preventive Behaviors in CHNAs: BRFSS derived data, 2007-2009

## HEALTHCARE ACCESS AND UTILIZATION

### Resources and Use of Health Care Services

When asked about health resources in the region, residents in focus groups cited Lawrence General Hospital as the main hospital in the Merrimack Valley. In addition, some key informants and focus group participants mentioned local health clinics and health fairs as important sources of health care. A few residents noted that emergency rooms were used to access care for preventable conditions. According to one resident, *"People use the ER like it is a doctor's office."*

Residents described the hospital facilities in the region favorably, citing the mammography center, new emergency rooms, and other infrastructural improvements at the hospital as major assets. In addition, one key informant spoke highly of the rape crisis center at one of the local hospitals.

Among CHNA survey respondents, 93.5% of resident respondents indicated that they have at least one person or facility they consider as their personal health care provider, while 85.0% of provider respondents indicated that they perceived their patients/clients have at least one person or facility that they consider as their personal health care provider. Furthermore, a vast majority of resident respondents (94.7%) indicated that they went to a private doctor's office for their primary source of care (Table 9). However, the majority of provider respondents (70.0%) reported that their patient's/client's main medical provider is a community health center or clinic. As illustrated in Table 10, when survey respondents were asked about health care coverage, 90.8% of resident respondents reported

enrollment through private coverage, while 73.4% of providers reported that their patients/clients were covered by government plans such as Medicaid or MassHealth.

**Table 9: Providers of Survey Respondents' Personal (by Resident) or Patient's/Client's (by Provider) Provider of Main Medical Care, 2013**

| | Resident (N=156) | Provider (N=231) |
|---|---|---|
| Private doctor's office/primary care physician | 94.7% | 12.5% |
| Community health center/clinic | 4.7% | 70.0% |
| Urgent Care Center | 0.7% | 1.5% |
| Hospital-based Emergency Room | 0.0% | 16.0% |
| Veteran's Affairs (VA) | 0.0% | 0.0% |

NOTE: Arranged in descending order by "Resident" responses
DATA SOURCE: Lawrence General Hospital Community Health Needs Assessment Survey, 2013

**Table 10: Providers of Survey Respondents' Personal (by Resident) or Patient's/Client's (by Provider) Health Care Coverage, 2013**

| | Resident (N=156) | Provider (N=231) |
|---|---|---|
| Yes, private insurance (through employer/spouse's employer/parents) | 90.8% | 13.0% |
| Yes, Medicare | 7.8% | 9.9% |
| Yes, other government plan (Medicaid/MassHealth or other) | 1.3% | 73.4% |
| No health insurance | 0.0% | 3.6% |

NOTE: Arranged in descending order by "Resident" responses
DATA SOURCE: Lawrence General Hospital Community Health Needs Assessment Survey, 2013

Those survey respondents who indicated that they or their patients/clients did not have one person as a health care provider were then asked what barriers were inhibiting the establishment of this kind of consistent provider-patient relationship (Table 11). The majority of providers stated that insurance problems/lack of coverage and a lack of knowledge around what types of services are available were the two main reasons their patients/clients did not have a regular provider. For resident respondents, discrimination/unfriendliness of provider or office staff was the reason most cited.

**Table 11: Survey Respondents' Personal (by Resident) or Patient's/Client's) Reasoning for Not Having One Consistent Health Care Provider, 2013**

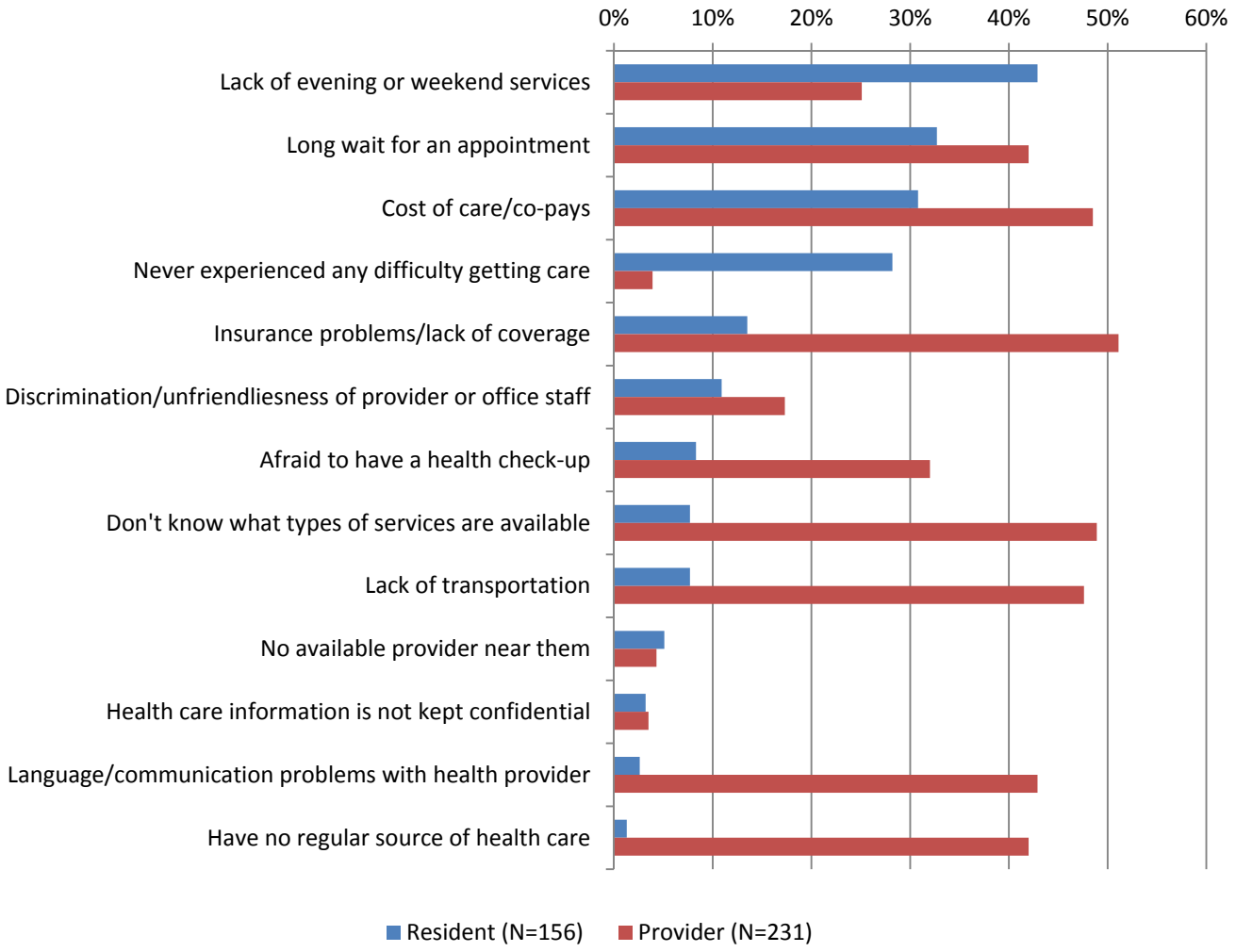
| | Resident (N=10) | Provider (N=30) |
|---|---|---|
| Insurance problems/lack of coverage | 10.0% | 53.3% |
| Don't know what types of services are available | 0.0% | 53.3% |
| Cost of care/co-pays | 20.0% | 46.7% |
| Lack of transportation | 0.0% | 43.3% |
| Language/communication problems with health provider | 0.0% | 36.7% |
| Afraid to have a health check-up | 10.0% | 36.7% |
| Long wait for an appointment | 20.0% | 33.3% |
| Lack of evening or weekend services | 20.0% | 20.0% |
| No available provider near them | 0.0% | 10.0% |
| Discrimination/unfriendliness of provider or office staff | 30.0% | 10.0% |
| Health care information is not kept confidential | 10.0% | 3.3% |

NOTE: Arranged in descending order by "Provider" responses
DATA SOURCE: Lawrence General Hospital Community Health Needs Assessment Survey, 2013

**Challenges to Accessing Health Care Services**

Lawrence General Hospital 2013 CHNA survey respondents were specifically asked about their or their patient's/client's challenges to accessing care (Figure 34). There were some differences between resident and provider responses. The following figure is ordered according to resident responses. Among residents, the most often cited barriers to accessing care were the lack of evening or weekend services, long wait times for appointments, and the cost of care/co-pays. For providers, they perceived their patient's/client's major challenges to accessing care to be insurance problems/lack of coverage, lack of knowledge around what services are available, and the cost of care/co-pays. Further elaboration on the health care access themes that emerged during the qualitative discussions follow.

**Figure 34: Survey Respondents' Personal (by Resident) or Patient/Client (by Provider) Challenges to Accessing Care by Role, 2013**




NOTE: Arranged in descending order by "Resident" responses
DATA SOURCE: Lawrence General Hospital Community Health Needs Assessment Survey, 2013

Supply of Providers

> *"[There are] not enough services even for those folks who are accessing it."*—Stakeholder/service provider participant

> *"Patients with mental health issues come in crises but it's first come, first serve and there aren't enough inpatient beds for mental health around the whole state to fill them! … Patients sit in the ER for days waiting, and it's even worse if they have a co-morbidity problem and if they need a psych thing they are definitely never going to get it."* —Stakeholder/service provider participant

Finding primary care providers is another challenge to health care access that key informants and focus group respondents cited. Residents reported difficulty finding primary care physicians and long wait lists. One key informant explained, *"Family Health Center has a back-log to get a primary care physician."* Another resident noted, *"Primary Care Physician's aren't accepting new patients."*

According to residents, finding a mental health provider is a major challenge experienced by patients with public or private health insurance. One focus group participant described the severity of the paucity of mental health providers, *"[We need] more mental [health] providers in the community. They all have waiting lists. It exacerbate other issues … [residents] self-medicate."* Several residents explained that there are not enough mental health facilities to treat patients who need to be admitted. According to several residents, the co-morbidities of having a mental health condition and another health condition further complicate treatment plans and health care access.

Lawrence General CHNA survey respondents were also asked to comment on either their level of satisfaction or their perceptions of their patient's /client's level of satisfaction with the availability of services (Table 12). Respondents were least satisfied with the availability of mental health services and alcohol/drug treatment services in the area. However, generally, residents and providers alike were satisfied with the overall availability of health or medical services in the area. Residents also reported high levels of satisfaction with dental services in the area, the number of medical providers who accept their insurance, and the number of medical specialists in the area. Providers perceived their patients/clients had high satisfaction levels with the number of medical providers who accept their insurance, the number of medical specialists in the area, and the interpreter services during medical visits/when receiving health information. Additionally, many resident respondents did not know about the availability of specific services in their community, such as alcohol/drug treatment services, mental health services, smoking cessation services, interpreter services, and sexual health services.

**Table 12: Survey Respondents' Personal (by Resident) and Perceived Client (by Provider) Satisfaction with the Availability of Services by Role, 2013**

| | Resident (N=156) | Provider (N=231) |
|---|---|---|
| Overall health or medical services in the area | | |
| Not at all satisfied | 2.6% | 2.9% |
| Somewhat satisfied | 38.1% | 41.6% |
| Very satisfied | 54.2% | 53.6% |
| Not sure/Don't know | 5.2% | 1.9% |
| Alcohol or drug treatment services | | |
| Not at all satisfied | 13.0% | 42.7% |
| Somewhat satisfied | 14.3% | 31.3% |
| Very satisfied | 10.4% | 6.6% |
| Not sure/Don't know | 62.3% | 19.4% |
| Counseling or mental health services | | |
| Not at all satisfied | 13.0% | 40.0% |
| Somewhat satisfied | 26.6% | 33.3% |
| Very satisfied | 18.8% | 11.0% |
| Not sure/Don't know | 41.6% | 15.7% |
| Public transportation to area health services | | |
| Not at all satisfied | 13.7% | 15.2% |
| Somewhat satisfied | 19.6% | 37.9% |
| Very satisfied | 16.3% | 26.1% |
| Not sure/Don't know | 50.3% | 20.9% |
| Birth control/sexual health services for youth | | |
| Not at all satisfied | 9.2% | 10.0% |
| Somewhat satisfied | 23.0% | 37.1% |

| | Resident | Provider |
|---|---|---|
| Very satisfied | 9.2% | 18.1% |
| Not sure/Don't know | 58.6% | 34.8% |
| Dental services in the area | | |
| Not at all satisfied | 4.5% | 13.3% |
| Somewhat satisfied | 28.6% | 31.8% |
| Very satisfied | 55.8% | 26.1% |
| Not sure/Don't know | 11.0% | 28.9% |
| Programs or services to help people quit smoking | | |
| Not at all satisfied | 5.3% | 15.9% |
| Somewhat satisfied | 26.5% | 42.8% |
| Very satisfied | 14.6% | 17.8% |
| Not sure/Don't know | 53.6% | 23.6% |
| Health or medical providers who take your insurance | | |
| Not at all satisfied | 2.6% | 9.7% |
| Somewhat satisfied | 27.7% | 37.7% |
| Very satisfied | 60.6% | 42.5% |
| Not sure/Don't know | 9.0% | 10.0% |
| Medical specialists in the area (e.g., cancer care, orthopedics) | | |
| Not at all satisfied | 8.4% | 7.6% |
| Somewhat satisfied | 29.2% | 40.5% |
| Very satisfied | 47.4% | 48.1% |
| Not sure/Don't know | 14.9% | 3.8% |
| Interpreter services during medical visits/with health info | | |
| Not at all satisfied | 5.8% | 11.2% |
| Somewhat satisfied | 16.2% | 33.2% |
| Very satisfied | 18.8% | 46.3% |
| Not sure/Don't know | 59.1% | 9.3% |

DATA SOURCE: Lawrence General Hospital Community Health Needs Assessment Survey, 2013

As illustrated in Table 13 survey respondents were asked more targeted true/false questions on barriers to accessing care in the community. Resident and provider respondents were most likely to answer true to the statements, “If I (my patient's/client's) needed medical services, I (my patient's/client's) would know where to go for them” and “the health care institutions in my (my patient's/client's) community should focus more on prevention of disease or health conditions.” Resident and provider respondents were most likely to find the statement “When trying to get medical care, I (my patient/client) have felt discriminated against because of my (my patient's/client's) race, ethnicity, or language “to be false.

**Table 13: Percent of Respondents who Perceived the Following Statements to be True about their (their Patient/Client's) Community by Role, 2013**

| % answering TRUE | Resident (N=156) | Provider (N=231) |
|---|---|---|
| The health care institutions in my (my patient's/client's) community should focus more on prevention of diseases or health conditions | 82.1% | 93.1% |
| It is hard to use public transportation to get to medical/dental services in my (my patient's/client's) community | 42.0% | 37.4% |
| When trying to get medical care, I (my patient/client) have had a negative experience with the staff in the office. | 29.1% | 27.0% |
| I or someone in my household has not received the medical care needed because the costs were too high | 36.0% | 42.1% |
| When trying to get medical care, I (my patient/client) have felt discriminated against because of my (my patient's/client's) race, ethnicity, or language | 6.1% | 16.9% |
| When trying to get medical care, I (my patient/client) have felt discriminated against because of my (my patient's/client's) income | 14.6% | 25.0% |
| If I (my patient/client) needed medical services, I (my patient/client) would know where to go for them. | 86.8% | 54.6% |

DATA SOURCE: Lawrence General Hospital Community Health Needs Assessment Survey, 2013

Additional themes from the qualitative discussions related to barriers to health care included the following:

Health Care Costs

> *"The co-pay is ridiculous. We need to figure out a way to address it."* —Stakeholder/service provider participant

> *"Coverage is not enough. Health insurance is not affordable."* —Stakeholder/service provider participant

While one key informant explained that *"health insurance does not ensure health,"* several key informants cited expensive co-payments as important barriers and stressors when accessing health care for residents who have public or private health insurance. One key informant explained that the prohibitive costs of co-pays are not limited to low-income residents, noting that *"People can't afford the co-pay. [Even] people who are insured through work."*

Health Care Access and Cultural Competency for Immigrant Populations

> *"Undocumented [residents] fear accessing health care."* —Stakeholder/service provider participant

> *"I mean I didn't realize how much of a problem people without documentation was. I mean how do you get those people health care services? I know the health safety is nice, but what if you have a serious problem, the hospitals don't treat them."* —Community resident participant

> *"I feel that the treaters or providers do not represent the majority of the population. They might not get the help they want because they can't convey their message because of linguistic and cultural differences they don't get their need. It creates a barrier and it interferes in treatment."* —Community resident participant

Several residents noted that immigrants who lack documentation may not trust health care organizations and providers due to fear of having to disclose their documentation status and concerns regarding the consequences of such disclosure. One provider focus group participant explained that while immigrants who may not have documentation can still be seen at some health centers, immigrants may not be aware of these resources. This participant explained, *"We have people who come without an ID and we deal with them. We have offices here and tell people we can still help you but people don't know that. We have a place where you can request some form of ID from your country and it helps you take one step further."* Another focus group participant expressed concern that while safety net programs may help with treatment for preventable or chronic conditions, accessing emergency services remains a barrier for immigrants who may not have documentation.

Additionally, provider cultural competency was noted as a concern for serving immigrant populations. Several key informants and some focus group participants noted that English is not a primary language for some residents in the region, which can pose a barrier when accessing and utilizing health services. Several key informants cited the need for providers that speak Spanish and have similar backgrounds as the patients with whom they work. One key informant explained, *"[We] need more medical staff that speak Spanish and come from the same culture."*

According to several residents, other factors besides language need to be considered when providers interact with a diverse population, especially having an understanding of cultural differences. One key informant noted that health professionals *"need to be culturally competent, not just [use the] right language"* when working with patients from different cultural and linguistic backgrounds.

**Quality of Care**

> *"I was impressed with the care that I got at the emergency room and thereafter for elderly relatives."* —Stakeholder/service provider participant

Several resident focus group participants praised the quality of care that they have received in the region. However, residents did note a need for better coordination of care and follow-up. According to one focus group participant with the hospital *"there are definite areas that people fall through the cracks."* Another hospital focus group participant explained, *"We see a lot of people with substance abuse co-morbidities. We can't manage them on the continuity when we discharge them but we are lacking to do the follow up to ensure that they are staying well in the community."*

The theme of siloed health care was brought up in several of the discussions. Focus group and interview participants remarked that mental, physical, and oral health should be considered holistically and comprehensively, and efforts to bring providers across health care sectors together are important issues in the community. One focus group participant explained that mental health needs to be integrated into health care, *"We don't work enough in a mental health perspective; it is so evident how siloed off that community is from this community. The people working in mental health are not clicking or connecting with us. There is the DMR and DMH that we aren't connecting with; we don't have a good way to communicate with each other."*

Considering the health care services in their own region, resident and provider survey respondents were asked in the Lawrence General CHNA survey about their personal likelihood of seeking health/medical services in the Merrimack Valley. A majority of resident and provider respondents indicated that they would be very likely to seek primary care, emergency care, obstetric/gynecology services, and minor surgeries in the Merrimack Valley (Table 14). They were least likely to say they would seek neurosurgery/brain care locally, with 69.9% of providers and 48.6% of resident survey respondents indicating such.

**Table 14: Survey Respondents' Likelihood of Personally Seeking Health/Medical Services in the Merrimack Valley by Role, 2013**

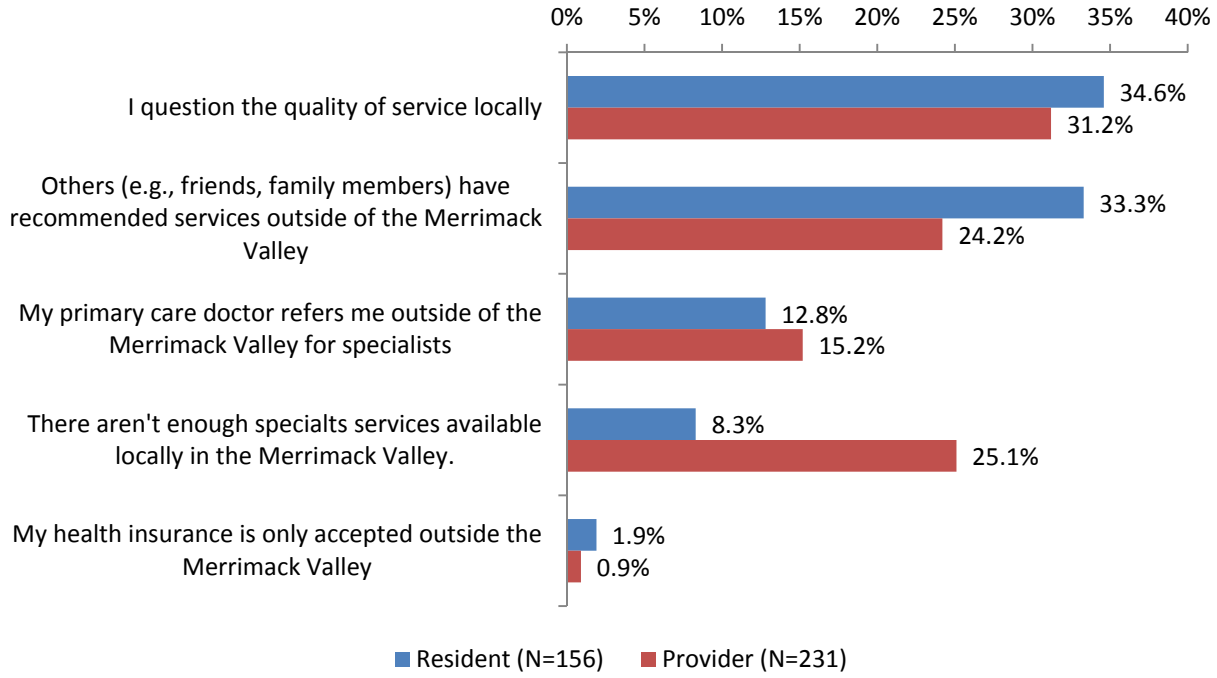
| | Resident (N=156) | Provider (N=231) |
|---|---|---|
| Primary care | | |
| Not likely at all | 11.6% | 7.8% |
| Somewhat likely | 11.0% | 14.5% |
| Very likely | 77.4% | 77.7% |
| Emergency care | | |
| Not likely at all | 7.5% | 5.8% |
| Somewhat likely | 15.0% | 17.9% |
| Very likely | 77.6% | 76.3% |
| Pediatric/Child care and surgeries | | |
| Not likely at all | 22.4% | 23.9% |
| Somewhat likely | 29.9% | 32.2% |
| Very likely | 47.8% | 43.9% |
| Ob/Gyn Services (Including child birth) | | |
| Not likely at all | 17.8% | 10.1% |
| Somewhat likely | 16.3% | 26.1% |
| Very likely | 65.9% | 63.8% |
| Orthopedic care and surgeries | | |
| Not likely at all | 14.8% | 18.5% |
| Somewhat likely | 28.2% | 33.7% |
| Very likely | 57.0% | 47.8% |
| Cancer care | | |
| Not likely at all | 32.2% | 42.5% |
| Somewhat likely | 29.5% | 35.5% |
| Very likely | 38.4% | 22.0% |
| Cardiac/Heart care and surgeries | | |
| Not likely at all | 31.7% | 39.9% |
| Somewhat likely | 30.3% | 31.4% |
| Very likely | 37.9% | 28.7% |
| Other minor surgeries | | |
| Not likely at all | 8.4% | 12.4% |
| Somewhat likely | 23.8% | 25.8% |
| Very likely | 67.8% | 61.8% |

| | Resident (N=156) | Provider (N=231) |
|---|---|---|
| Neurosurgery/brain care | | |
| Not likely at all | 48.6% | 69.9% |
| Somewhat likely | 27.9% | 19.1% |
| Very likely | 23.6% | 10.9% |

DATA SOURCE: Lawrence General Hospital Community Health Needs Assessment Survey, 2013

When survey respondents were asked why they would not seek services locally in the Merrimack Valley, responses differed slightly by role (i.e., resident versus provider) (Figure 35). Both residents and providers indicated they or their patients/clients, respectively, were most likely to seek services outside the Merrimack Valley due to questioning the quality of the local services. Residents also indicated most often recommendations to services outside the Merrimack Valley, and being referred by their primary care doctor to a specialist outside the Merrimack Valley as other reasons. Providers indicated the dearth of specialist services available locally, as well as recommendations to services outside the Merrimack Valley as reasons their patients/clients would seek services elsewhere.

**Figure 35: Survey Respondents' Personal (by Resident) or Perceived Patient's/Client's (by Provider) Reasoning for Not Seeking Services in the Merrimack Valley, 2013**




NOTE: Arranged in descending order by "Resident" responses
DATA SOURCE: Lawrence General Hospital Community Health Needs Assessment Survey, 2013

Other issues that were discussed in focus group and key informant discussions related to quality of care included elder services and health information technology.

Elder Services and End of Life Care and Plans

> *"We need to do more end of life preparatory work, not in the hospitals--by the time a person is in the hospital or nursing home it is too late, there needs to be a huge community wide initiative."*
> —Stakeholder/service provider participant

According to community organizational staff participants, elder services and end of life care are also important areas of need in the region. One participant cited a need for more collaboration regarding elder services, *"You've got elder services who does services for [those] over 60 and there are things that we aren't aware of that we probably aren't tapping into that we should be. We are very siloed and not working in a collaborative way…I mean we can do so much more."*

Regarding the need to enhance end of life care and planning, one focus group participant explained, *"[It's] hard to educate people on end of life. It is hard to educate physicians on end of life. They are taught to heal and they are not taught how to have those end of life discussions and goals of care discussions with families."* In addition, several focus group participants cited cultural differences in discussing and planning for end of life. One participant explained, *"I mean those words are dirty words. The way you present it is the quality of their death versus the quality of the rest of their life."*

Health Information Technology

> *"LGH, Lowell, and Holy Family Hospital all have different systems. They can't talk to each other."* —Community resident participant
>
> *"We're in the infancy of EMRs and free flow of information."* —Stakeholder/service provider participant

Several participants noted that while many health systems including Lawrence General Hospital, Lowell, and Holy Family Hospital have adopted electronic health systems, communication between such systems is lacking and efforts to use these systems to communicate with patients warrant attention. According to one focus group participant, *"Medicine is moving so fast that communication can't keep up. [There is a] data overload."* Another focus group participant articulated the need to think through the best ways to communicate with patients from different socioeconomic backgrounds, *"diverse socioeconomic status requires different types of communication."*

**Health Information Sources**

Residents look to a variety of sources for their information on health. When resident CHNA survey respondents were asked the sources from which they receive the majority of their health information, they were most likely to say doctor/nurse, Internet, and TV/radio/newspapers (Table 15). Among provider respondents, it was perceived that their patients/clients received their health information from a doctor/nurse, family members, and friends.

**Table 15: Survey Respondents' Personal (by Resident) or Perceived Patient's/Client's (by Provider) Sources of Health Information, 2013**

| | Resident (N=156) | Provider (N=231) |
|---|---|---|
| Doctor, nurse, or other health provider | 77.6% | 55.4% |
| Internet | 49.4% | 27.3% |
| Television, radio, newspaper, or magazine | 30.1% | 28.6% |
| Family members | 29.5% | 55.0% |
| Friends | 19.2% | 51.1% |
| Hospital | 18.6% | 21.2% |
| Insurance company | 18.6% | 2.2% |
| Employer | 17.3% | 3.5% |
| Pharmacy | 16.0% | 6.9% |
| Government | 4.5% | 2.6% |
| Library | 3.2% | 0.4% |
| Neighbors | 1.9% | 26.8% |
| Church/spiritual advisor | 0.0% | 10.4% |

NOTE: Arranged in descending order by "Resident" responses
DATA SOURCE: Lawrence General Hospital Community Health Needs Assessment Survey, 2013

**VISION FOR THE FUTURE**

When thinking about the future, survey respondents saw key areas for action. As shown in Table 16, survey respondents were asked to identify the areas they considered to be priorities for addressing in the future. The following table is ordered by resident responses.

Resident respondents were most likely to identify offering more programs or services focusing on obesity/weight control and offering more programs or services focusing on prevention of chronic diseases (e.g., heart disease or diabetes) as the top areas of focus. While provider respondents also perceived their patient's/client's top priority areas for the future as offering programs or services focusing on prevention of chronic diseases, they also selected providing more counseling or mental health services as a top priority.

**Table 16: Survey Respondents' Personal (by Resident) or Perceived Patient's/Client's Top Priority Areas for the Future, 2013**

| | Resident (N=156) | Provider (N=231) |
|---|---|---|
| Offering more programs or services focusing on obesity/weight control | 59.0% | 49.8% |
| Offering more programs or services focusing on prevention of chronic diseases like heart disease or diabetes | 52.6% | 55.0% |
| Increasing the number of services to help the elderly stay in their homes | 42.9% | 35.1% |
| Offering more programs or services focusing on physical activity | 42.9% | 26.8% |
| Expanding the health/medical services focused on seniors (65+) | 33.3% | 26.0% |
| Offering more programs or services to help people quit smoking | 31.4% | 26.4% |
| Providing more counseling or mental health services | 30.8% | 50.2% |
| Increasing the health/medical services that are close by and easy to get to | 26.3% | 18.2% |
| Providing more alcohol or drug prevention and treatment services | 22.4% | 45.9% |
| Expanding the health/medical services available to low income individuals | 21.2% | 24.2% |
| Providing more public transportation to area health/medical services | 20.5% | 22.9% |
| Increasing the number of staff at area health/medical services who speak another language | 10.9% | 23.4% |
| Providing more reproductive or sexual health services for area youth | 9.0% | 19.0% |
| Increasing the number of dental providers in the community | 8.3% | 10.8% |
| Providing more testing services for HIV and other STIs | 4.5% | 10.4% |

NOTE: Arranged in descending order by "Resident" responses
DATA SOURCE: Lawrence General Hospital Community Health Needs Assessment Survey, 2013

Other areas that were noted as focus group and interview participants' vision for the future were:

Healthy Living

In general, residents envisioned an environment that looks and feels healthy. One focus group participant shared their vision for a healthy environment, *"I want it to look like the better parts of Lawrence – nice beautiful houses, clean green yards, garbage always taken out. People know what's going on. Speed limits are enforced. I mean I know it takes more than 5 years."* Several participants praised the recreational spaces in the area and expressed a vision for greater use of these spaces among residents in the future. One key informant explained their vision, saying *"People being healthy, taking advantage of open spaces",* and another pined, *"People feel comfortable using the 40+ parks we have."* Several participants expressed hope for declines in chronic disease and obesity in the region. One key informant cited a need to *"move the needle on unemployment and chronic disease."*

Workplace Health

A few key informants saw employers as important actors in efforts to improve the health of residents, citing the need for employers to offer wellness programs. One key informant explained, *"Wellness by major employers would increase wellness for all."*

Improved Employment and Poverty

Many residents expressed a hope that the socioeconomic position of residents and the community would improve in the coming years. One key informant explained, *"I would love to see more people gainfully employed."* Another cited their hope for a *"higher graduation rate, lower unemployment rate."*

Reduction in Crime

According to several residents, crime was a major concern and one that they hoped the community could address in the coming years. *"I'd like to see a community that addresses violence"* was a theme commonly heard.

Working Together to Address Public Health Needs

Several key informants expressed an interest in having community members and leaders work together to address public health needs in the region, desiring *"community representation in health care"* and *"having all of us working on it together, talking about public health."* Another key informant suggested that the region *"[get] business to invest in the communities."*

# CONCLUSIONS

Integrating secondary data in the region, community and provider survey data, and discussions with community residents and leaders, this report provides an overview of the social and economic environment of the Merrimack Valley region, the health conditions and behaviors that affect its residents, and perceptions of strengths and challenges in the current environment.

Key health issues emerged as areas of potential concern in the assessment, both from an epidemiological perspective and resident/provider areas of interest. These may also be the areas where there is the most groundswell of support for action:

- Obesity
- Chronic disease: specifically cancer, diabetes, and asthma
- Substance abuse
- Mental health
- Health care access

Overarching conclusions that cut across multiple topic areas include the following:

- **There is wide variation in the region in population composition and socioeconomic levels, with Lawrence residents in particular facing unique socioeconomic and health concerns.** While several communities in the region such as Andover and North Andover are highly affluent, communities such as Lawrence and to a lesser extent Methuen experience lower median incomes, higher rates of poverty and unemployment, and lower levels of education. These factors all have a significant impact on people's health priorities, their ability to seek services, access to resources, reliance on support networks, stress level, and opportunities to engage in healthful lives. The cultural, language, and economic diversity across the region presents significant challenges when delivering services and care that aim to meet the multitude of needs across the region. Additionally, the violence and crime in Lawrence far exceeds the rest of the region and further inhibits health of residents by affecting their ability to be safe being physically active outside, exacerbating stress and anxiety levels, and contributing to intentional injuries.

- **Substance use and mental health were considered growing, pressing concerns by focus group and interview respondents, and one in which the current services were not seen as necessarily addressing community needs.** Substance use, particularly related to alcohol and prescription drugs, was an issue raised among several participants. The limited number of substance abuse providers and complexity of addiction were identified as reasons for contributing to this problem. Additionally, in conversations with interview and focus group participants, many noted that the issues of substance abuse and mental health are intricately intertwined. This situation makes addressing these issues even more challenging. Current treatment programs do exist, but the demand was seen as exceeding the number of providers available.

- **Chronic diseases and their related risk factors disproportionately affect residents of some of Lawrence General's service area.** Obesity, healthy eating, and physical activity continue to be a concern among residents, organizational leaders, and health care providers. Of particular concern was affordability of healthy foods and the fragmentation/lack of coordination of area programs on the topic. Diabetes and heart disease were described as conditions directly affected by obesity and issues of particular concern among residents.

- **Despite improvements in health care coverage, residents still experience barriers to accessing care.** While health care coverage in Massachusetts has expanded, assessment participants cited several challenges to accessing care including financial barriers, lack of coordinated care, lack of weekend/evening hours, long wait times, and the need for culturally competent care. Participants also indicated that there are insufficient resources to address the growing need for mental health services in the community. Overall, the integration and coordination of care was an important theme discussed by participants.

- **Opportunities exist to build on community assets and coordinate efforts to address the needs of the community.** Participants cited multiple assets of the region including the strength of diversity, quality of health care services, collaborative organizational partnerships, and an abundance of organizations already working together. Participants wanted to see more of these strengths utilized and had a vision of a community with a greater emphasis on wellness and healthy environments/workplaces, reduction in poverty and crime, and improved collaboration across multiple entities and organizations.

# APPENDIX A: Survey Results by Town for Top Personal and Community Health Concerns

| Issue: | Lawrence (N=38) | Methuen and Haverhill (N=40) | N. Andover and Andover (N=21) | LGH Secondary Market* (N=17) |
|---|---|---|---|---|
| Obesity/overweight | | | | |
| You | 34.2% | 45.0% | 42.9% | 41.2% |
| Your community | 57.9% | 57.5% | 57.1% | 47.1% |
| Drugs/alcohol abuse | | | | |
| You | 13.2% | 7.5% | 9.5% | 11.8% |
| Your community | 60.5% | 67.5% | 42.9% | 52.9% |
| Cancer | | | | |
| You | 34.2% | 40.0% | 33.3% | 35.3% |
| Your community | 31.6% | 50.0% | 57.1% | 52.9% |
| Depression or other mental health issues | | | | |
| You | 26.3% | 35.0% | 33.3% | 17.6% |
| Your community | 52.6% | 45.0% | 47.6% | 29.4% |
| Diabetes | | | | |
| You | 44.7% | 30.0% | 19.0% | 23.5% |
| Your community | 52.6% | 45.0% | 33.3% | 35.3% |
| Aging problems (Alzheimer's, arthritis, dementia, etc.) | | | | |
| You | 42.1% | 47.5% | 52.4% | 47.1% |
| Your community | 21.1% | 42.5% | 52.4% | 64.7% |
| Heart disease/heart attacks | | | | |
| You | 39.5% | 50.0% | 33.3% | 41.2% |
| Your community | 18.4% | 35.0% | 38.1% | 41.2% |
| Smoking | | | | |
| You | 5.3% | 20.0% | 14.3% | 17.6% |
| Your community | 23.7% | 42.5% | 19.0% | 29.4% |
| Violence (gangs, street or domestic violence) | | | | |
| You | 13.2% | 0.0% | 4.8% | 0.0% |
| Your community | 52.6% | 45.0% | 14.3% | 11.8% |
| Teenage Pregnancy | | | | |
| You | 0.0% | 0.0% | 4.8% | 0.0% |
| Your community | 55.3% | 30.0% | 28.6% | 5.9% |
| Asthma | | | | |
| You | 21.1% | 25.0% | 19.0% | 29.4% |
| Your community | 28.9% | 25.0% | 9.5% | 17.6% |
| Sexually transmitted infections (HIV/AIDS, Chlamydia, etc.) | | | | |
| You | 5.3% | 0.0% | 0.0% | 0.0% |
| Your community | 26.3% | 15.0% | 9.5% | 5.9% |

| Issue: | Lawrence (N=38) | Methuen and Haverhill (N=40) | N. Andover and Andover (N=21) | LGH Secondary Market* (N=17) |
|---|---|---|---|---|
| Infectious disease (tuberculosis, pneumonia, flu, etc.) | | | | |
| You | 0.0% | 10.0% | 4.8% | 5.9% |
| Your community | 18.4% | 15.0% | 9.5% | 11.8% |
| Dental/oral health | | | | |
| You | 23.7% | 20.0% | 23.8% | 11.8% |
| Your community | 31.6% | 12.5% | 0.0% | 5.9% |

Note: Arranged in descending order by "your community" and by overall sample
*LGH Secondary Market is comprised of Atkinson NH, Boxford MA, Georgetown MA, Middleton MA, Plaistow MA, Salem NH, and Tewksbury MA
DATA SOURCE: Lawrence General Hospital Community Health Needs Assessment Survey, 2013

## APPENDIX B: Survey Results by Town for Top Priority Areas

| | Lawrence (N=38) | Methuen and Haverhill (N=40) | N. Andover and Andover (N=21) | LGH Secondary Market* (N=17) |
|---|---|---|---|---|
| Offering more programs or services focusing on obesity/weight control | 63.2% | 67.5% | 57.1% | 41.2% |
| Offering more programs or services focusing on prevention of chronic diseases like heart disease or diabetes | 60.5% | 57.5% | 47.6% | 47.1% |
| Increasing the number of services to help the elderly stay in their homes | 42.1% | 57.5% | 33.3% | 47.1% |
| Offering more program or services focusing on physical activity | 36.8% | 52.5% | 57.1% | 47.1% |
| Expanding the health/medical services focused on seniors (65+) | 28.9% | 47.5% | 38.1% | 35.3% |
| Offering more programs or services to help people quit smoking | 23.7% | 37.5% | 28.6% | 17.6% |
| Providing more counseling or mental health services | 26.3% | 35.0% | 42.9% | 23.5% |
| Increasing the health/medical services that are close by and easy to get to | 34.2% | 22.5% | 4.8% | 29.4% |
| Providing more alcohol or drug prevention and treatment services | 15.8% | 30.0% | 23.8% | 11.8% |
| Expanding the health/medical services available to low income individuals | 28.9% | 22.5% | 19.0% | 11.8% |
| Providing more public transportation to area health/medical services | 18.4% | 20.0% | 4.8% | 35.3% |
| Expanding the health/medical services focused on youth | 7.9% | 20.0% | 14.3% | 11.8% |
| Increasing the number of staff at area health/medical services who speak another language | 18.4% | 17.5% | 4.8% | 5.9% |
| Providing more reproductive or sexual health services for area youth | 13.2% | 7.5% | 14.3% | 5.9% |
| Increasing the number of dental providers in the community | 7.9% | 7.5% | 4.8% | 11.8% |
| Providing more testing services for HIV and other STIs | 5.3% | 5.0% | 0.0% | 0.0% |

Note: Arranged in descending order by "your community" and by overall sample
*LGH Secondary Market is comprised of Atkinson NH, Boxford MA, Georgetown MA, Middleton MA, Plaistow MA, Salem NH, and Tewksbury MA
DATA SOURCE: Lawrence General Hospital Community Health Needs Assessment Survey, 2013

## APPENDIX C: Lawrence General Hospital CHNA Advisory Group

| Name | Title | Organization |
|---|---|---|
| Amy Weatherbee | Grants Administrator | Gr Lawrence Family Health Center |
| Andrea Eobstel | Marketing & Communications Specialist | Lawrence General Hospital |
| Arlene Tarantino | Director, Human Resources | Lawrence General Hospital |
| Brian Kozik | Chief Compliance Officer | Lawrence General Hospital |
| Brian LaGrasse | Methuen DPH, District Incentive Grant | Methuen DPH |
| Dean Cleghorn | Physician | Gr Lawrence Family Health Center |
| Debbie Ralls | Director, Radiology | Lawrence General Hospital |
| Deborah Perry | Trauma Nurse Coordinator, ED | Lawrence General Hospital |
| Dr. Nelson Matos | Primary Care Physician | Community Medical Associates |
| Felix Mercado | Fiscal Services | Lawrence General Hospital |
| Fran Moss | IPA/PHO Member Services Coordinator | Lawrence General Hospital |
| Greg Parsons | Assistant Controller, Fiscal Services | Lawrence General Hospital |
| Janet Sheehan | Director, Occupational Health | Lawrence General Hospital |
| Jessica Hatch | Clinical Nurse Leader/Waiver Specialist | Lawrence General Hospital |
| John Raser | Physician | Gr Lawrence Family Health Center |
| Kim Downer | Emergency Department | Lawrence General Hospital |
| Liisa Haapanen-Janelle | Director, Service Excellence Program | Lawrence General Hospital |
| Nancy Masys | Diabetes Program Director | Lawrence General Hospital |
| Naomi Gardner | LGH Board of Director | Lawrence General Hospital |
| Nick Zaharias | Vice President, Advancement | Lawrence General Hospital |
| Nieves Moya | PFAC Member | Patient Family Advisory Council, Marston Medical Center |
| Robin Hynds | Director, Integrated Care | Lawrence General Hospital |
| Vanessa Kortze | Manager, Marketing & Communications | Lawrence General Hospital |
| Vilma Lora | Mayor's Health Task Force Coordinator | City of Lawrence |

## APPENDIX D: List of Key Informant Interview and Focus Group Participants

| Name | Role/Organization | How Engaged |
|---|---|---|
| Agnes Leonard | HHVNA, HC Inc, Merrimack Valley Hospice | Focus Group |
| Albert Casillas | Community resident | Focus Group |
| Alicia Gomez | Lawrence General Hospital | Focus Group |
| Ambar Garcia | Community resident | Focus Group |
| Andrea Eobstel | LGH Marketing and Communications Specialist | Focus Group |
| Angeline Garcia | Community resident | Focus Group |
| Barbara Somers | LGH Patient Family Advisory Council | Focus Group |
| Beth Hale | LGH Chief Nursing Officer | Focus Group |
| Brenda LeBlanc | Lawrence General Hospital | Focus Group |
| Carmen Quintana | LGH Patient Family Advisory Council | Focus Group |
| Cynthia Ward | LGH Patient Family Advisory Council | Focus Group |
| David Edwards | LGH Patient Family Advisory Council | Focus Group |
| Debbi Daigle, RN | HHVNA, HC Inc, Merrimack Valley Hospice | Focus Group |
| Denise Palumbo | LGH Chief Operating Officer | Focus Group |
| Diane Gatchell | Greater Lawrence Family Health Center | Focus Group |
| Dianne J Anderson | LGH President and CEO | Focus Group |
| Dick Miller | LGH Patient Family Advisory Council | Focus Group |
| Effie Brickman | LGH Patient Family Advisory Council | Focus Group |
| Eileen Doane | Northeast Rehab | Focus Group |
| Ellen Jordan | Elder Services | Focus Group |
| Emelissa Sacchetti | Greater Lawrence Family Health Center | Focus Group |
| Ernie Greenslade | Northern Essex Community College | Interview |
| Evelin Viera | LGH Patient Family Advisory Council | Focus Group |
| Flol Garcia | Community resident | Focus Group |
| Gabriela Perez Fiato | LGH Patient Family Advisory Council | Focus Group |
| Grace Chahraban | LGH Patient Family Advisory Council and LGH Auxiliary | Focus Group |
| Heather McMann | Groundwork Lawrence | Interview |
| Jessica Hatch | Lawrence General Hospital | Focus Group |
| Jim Barnes | City of Lawrence, Community Development | Interview |
| Jonathon Martinez | Community resident | Focus Group |
| Jonathon Perez | Community resident | Focus Group |
| Jourdon Gonzalez | Community resident | Focus Group |
| Joyce Shannon | Nevins Family of Services | Focus Group |
| Kathleen Wilson | LGH Patient Family Advisory Council | Focus Group |
| Kirk Foley | LGH Patient Family Advisory Council | Focus Group |
| Liisa Haapanen-Janelle | Lawrence General Hospital | Focus Group |
| Lisa DeMichele, RN | Home Health VNA | Focus Group |
| Luis Cunha | Genesis Healthcare | Focus Group |
| Martha Cruz | Greater Lawrence Family Health Center | Interview |

| Name | Role/Organization | How Engaged |
|---|---|---|
| Maureen Palla, LPN | Merrimack Valley Hospice | Focus Group |
| Naomi Gardner | LGH Patient Family Advisory Council | Focus Group |
| Natalie Snell | Genesis Healthcare | Focus Group |
| Neil Meehan | LGH Chief Medical Officer | Focus Group |
| Nicole Ignachuck | Elder Services | Focus Group |
| Nieves Rios-Moya | LGH Patient Family Advisory Council | Focus Group |
| P. Bulocchi | Northeast Rehab | Focus Group |
| Pablo Leon | Community resident | Focus Group |
| Peter Middlemass | Genesis Healthcare | Focus Group |
| Richard Cook | LGH Patient Family Advisory Council | Focus Group |
| Robert Nastasia | LGH Patient Family Advisory Council | Focus Group |
| Robin Hynds | Lawrence General Hospital | Focus Group |
| Ron Pollina | LGH Patient Family Advisory Council | Focus Group |
| Sarah Belisle, CNL | Lawrence General Hospital | Focus Group |
| Sarah Planto, CNL | Lawrence General Hospital | Focus Group |
| Scott Raeburn | LGH Patient Family Advisory Council | Focus Group |
| Tammy Sinvil | Northeast Rehab | Focus Group |
| Terry Sievers | LGH Vice President, Quality and Patient Safety | Focus Group |
| Traina Sanchez | Community resident | Focus Group |
| Vilma Lora | Women's Health Advocacy | Interview |
| Westley Cruz Santa | Community resident | Focus Group |