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The Public Health Institute of Western Massachusetts’ (PHIWM) mission is to build measurably healthier communities with equitable opportunities and resources for all through civic leadership, collaborative partnerships, and policy advocacy. Our core services are research, assessment, evaluation and convening. Our range of expertise enables us to work in partnership with residents and regional stakeholders to identify opportunities and put into action interventions and policy changes to build on community assets while simultaneously increasing community capacity. PHIWM was formerly known as Partners for a Healthier Community.

Consultants

Community Health Solutions, a department of the Collaborative for Educational Services, provides technical assistance to organizations including schools, coalitions, health agencies, human services, and government agencies. We offer expertise and guidance in addressing public health issues using evidence-based strategies and a commitment to primary prevention. We believe local and regional health challenges can be met through primary prevention, health promotion, policy and system changes, and social justice practices. We cultivate skills and bring resources to assist with assessment, data collection, evaluation, strategic planning and training.

Franklin Regional Council of Governments is a voluntary membership organization of the 26 towns of Franklin County, Massachusetts. The FRCOG serves the 725 square mile region with regional and local planning for land use, transportation, emergency response, economic development, and health improvement. FRCOG serves as the host for a number of public health projects including a community health improvement plan network, emergency preparedness and homeland security coalitions, two local substance use prevention coalitions, and a regional health district serving 12 towns. The FRCOG also provides shared local municipal government services on a regional basis, including inspections, accounting, and purchasing. To ensure the future health and wellbeing of our region, FRCOG staff are also active in state and federal advocacy.

Pioneer Valley Planning Commission (PVPC) is the regional planning agency for the Pioneer Valley region (Hampden and Hampshire Counties), responsible for increasing communication, cooperation, and coordination among all levels of government as well as the private business and civic sectors to benefit the region and to improve quality of life. Evaluating our region – from the condition of our roads to the health of our children – clarifies the strengths and needs of our community and where we can best focus planning and implementation efforts. PVPC conducts data analysis and writing to assist municipalities and other community leaders develop shared strategy to achieve their goals for the region.
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I. Executive Summary

Introduction and Methods

With a strong focus on excellence of care, Health New England is a not-for-profit health plan that serves employers and individuals in the commercial, Medicaid, and Medicare markets. HNE provides health care coverage for approximately 161,000 members across Berkshire, Franklin, Hampden, Hampshire, and Worcester Counties in Massachusetts. Based in Springfield, Massachusetts, we have been meeting the health care needs of our members for more than 30 years, and continue to be the most trusted and valued health plan in our community.

Mission: At Health New England, our mission is to improve the health and lives of the people in our communities, and we are deeply committed to the individuals we serve every day. Our passion is taking extraordinary care of our members. Everything we do is built around this simple, deeply held belief. We are committed to providing caring service, helping to simplify things in a confusing health care system, being mindful of health care costs, and keeping the members at the center of all that we do.

Health New England is a member of the Coalition of Western MA Hospitals and Health Plan ("the Coalition"), a partnership between eight non-profit hospitals and insurers in the region. The Coalition formed in 2012 to bring hospitals in Western Massachusetts together to share resources and work in partnership to conduct their community health needs assessments (CHNA) and address regional needs. Health New England worked in collaboration with the Coalition to conduct this assessment. The assessment was conducted to update the findings of the 2016 CHNA so that Health New England can better understand the health needs of the communities it serves and to meet its fiduciary requirement as a tax-exempt HMO. The Coalition engaged almost 1,200 residents across the counties of Western Massachusetts in data collection and outreach about the CHNA.

The assessment focused on the Health New England service area of Hampden, Hampshire, Franklin, Berkshire, and Worcester counties.

The 2019 CHNA was conducted with equity as a guiding value, understanding that everyone has the right to a fair and just opportunity to be healthy and that this requires removing the obstacles to health. Obstacles include poverty, discrimination, and systemic racism and oppression, and their consequences, such as unequal access to jobs, education, housing, safe environments, and health care.

When identifying the areas that can be addressed to improve the health of the population, the assessment used the Massachusetts Department of Public Health (MDPH) social and economic determinants of health framework, recognizing that these factors contribute substantially to population health. The MDPH framework also offers guidance for community engagement for CHNAs.
The prioritized health needs identified in the 2019 CHNA include community-level social and economic determinants that impact health, access, and barriers to quality health care; health conditions; and behaviors. The assessment included analysis and synthesis of 1) a variety of social, economic, and health data; 2) findings from recent county and regional assessment reports; 3) information from 14 focus groups and interviews with 60 key informants, including public health leaders across the region, conducted for the 2019 CHNA; and 4) community input from five Community Conversations (four in English and one in Spanish) and 46 Community Chats.

Priority populations were identified using a health equity framework based on available data. Though health inequities exist for many communities of color in the service area, we focus on inequities among those who are Latino and Black because 1) they are the largest communities of color in the service area, and 2) available data was limited for other racial and ethnic groups, such as Asian, Native American, and others. We use the terms White, Black, and Latino, recognizing that these terms do not always capture how every individual identifies themselves. For more information on the terminology of race and ethnicity as well as other definitions, please see the Glossary in Appendix II.

Information from this CHNA will be used to inform the updating of Health New England’s community health improvement plan (CHIP) and to inform the Coalition’s regional efforts to improve health.

Findings

Below is a summary of the prioritized community health needs identified in the 2019 CHNA.

Community level social and economic determinants that impact health

A number of social, economic, and community level factors were identified as prioritized community health needs in the 2016 Health New England CHNA and continue to impact the health of the population in Health New England’s service area. Social, economic, and community level needs identified in the 2019 CHNA include:

- **Social environment** – Social environment is a key factor in the challenges that many in the Health New England service area face. In general, Hampden and Worcester counties are younger, more racially and ethnically diverse, and have higher levels of disability than the state. Franklin and Berkshire counties have a higher proportion of a rural population. For all counties, different populations have high risks of social isolation and experiences of interpersonal and structural racism that create barriers to the ability to access services and social determinants of good health. People spoke of the negative effect that social isolation has on health and the health value of being part of a community.

- **Housing needs** – Over one-third of residents experience housing insecurity, spending more than 30% of their income on housing. In a typical household, people spend
more than half of their income on housing plus transportation. Hampden County has the highest level of homelessness of the five Health New England counties, with the city of Worcester not far behind. Poor housing conditions also impact the health of residents. Older housing, combined with limited resources to maintain the housing, leads to conditions that can affect asthma, other respiratory conditions, and safety. Difficulty finding housing appropriate for those with disabilities is also an identified need.

“Emotionally it can take a toll on [people with disabilities] – wondering if they have a roof over their head, especially if they have children, and especially if the kids have disabilities.”

Key Informant Interview, Vice President, mental health treatment and case management agency, Hampden County

- **Access to healthy food, transportation, and places to exercise** – Decisions about how the infrastructure is developed impact transportation choices and access to healthy food, among other determinants. Hampden County has the highest rate of living without access to a vehicle, where nearly 14% of residents do not have personal transportation or rely on public transportation. Over 23% of Springfield andHolyoke residents do not have access to a vehicle. Private sector and economic development investments have led to parts of the Health New England service area being considered food deserts, which are areas where low-income people have limited access to grocery stores. Food insecurity impacts many residents’ access to food. Large parts of Springfield, Amherst, and Worcester have high rates of food insecurity, with over 20% of some areas in these communities experiencing food insecurity.

- **Lack of resources to meet basic needs** – Many Health New England service area residents struggle with insufficient financial means; 17% of Hampden and 14% of Hampshire County residents have incomes at poverty levels and the median household income is lower than the state median in all Health New England counties. Hampden and Berkshire counties have the lowest median household income, approximately one-third less than the state average. Unemployment rates are higher than the state rate, with Hampden County having the highest rate of 8%.

- **Educational attainment** – Lower levels of education contribute to unemployment, the ability to earn a livable wage, health literacy, and many health outcomes. Between 6% and 15% of residents in Health New England service area counties do not have a high school diploma (in Massachusetts, 10% do not). In 4 of 5 HNE counties, the rate of residents who have a bachelor’s degree or higher is lower than the state rate.

- **Violence and trauma** – Similar to the 2016 CHNA, personal and community safety were elevated as a concern in the Health New England service area. About 13% of all sexual assaults in the state were in Western Massachusetts. Violent crime rates in Hampden and Worcester County are 60% and 14% higher respectively than that of the state. Youth bullying was also identified as a concern in this assessment, particularly of children with disabilities and LGBTQ+ students.
• Environmental exposures – Air pollution impacts the health of Hampden County residents in particular. Springfield experiences poor ambient air quality due to multiple mobile and point sources, with risk of cancer from breathing air toxins higher than 80% of the state. Air pollution impacts morbidity of several chronic diseases that have a high prevalence in Hampden County, including asthma and cardiovascular disease, with recent studies also suggesting an association with diabetes. Exposure to lead is also heightened in Springfield, Worcester, and Holyoke.

**Barriers to Accessing Quality Health Care**

The lack of affordable and accessible medical care was identified as a need in the 2016 CHNA and continues to be a need today. The following barriers were identified.

- **Insurance and health care** – The ability to navigate medical care systems and the coverage provided by health plans was raised as a challenge by multiple community stakeholders and interviewees. High costs of co-payments and deductibles, the difficulty of knowing whether a service is covered, constant changes in coverage, and barriers of bureaucracy were cited as examples.

- **Limited availability of providers** – Health New England service area residents experience challenges accessing care due to the shortage of providers. Focus group participants reported using “Minute Clinic” because they experience a number of barriers, including not being able to get an appointment with their provider and providers not accepting new patients. Psychiatrists who can prescribe medication and dental providers were identified as shortages. Focus group participants and key informant interviewees overwhelmingly reported a need for increased access for both mental health and addiction services for acute, maintenance, and long-term care.

- **Need for culturally sensitive care** – Public health leaders, focus group participants, and other interviewees called for increased training, experience, and sensitivity to a variety of different cultures for health care and social service providers. Cultures of race and ethnicity as well as the cultures of people with mental health and substance use disorders, older adults, transgender patients, ex-offenders, people experiencing homelessness, and adults and children with disabilities were mentioned.

- **Lack of transportation** – Transportation was identified as a barrier to care among interviewees in the 2016 CHNA, and in key informant interviews and focus groups for the 2019 CHNA, it was again one of the most frequently cited barriers to care. Poor access to transportation is a barrier to medical care and other appointments, picking up medication, work, and non-work activities.

“Transportation is a big issue. A lot of our patients financially aren’t doing that great ... and struggle to get to appointments so transportation is a big support service need.”

Key Informant Interviewee, Oncology Program Coordinator, Coalition Hospital, Hampden County
• **Lack of care coordination** – Increased care coordination continues to be a need in the community. Areas identified in focus group and interviews include the need for coordinated care between providers in general; a particular need for increased coordination to manage co-morbid substance use and mental health disorders; a need to provide “warm handoffs” and better communications when a person is released from an institution such as jail, foster care, or substance use treatment programs; and the need for hospitals to coordinate with community health centers should hospitalization take place.

• **Health literacy, language barriers** – The need for health information to be understandable and accessible was identified in this assessment. Data from focus groups indicate the need for increased health literacy, including understanding health information, knowing the types of services available and how to access them, and advocating for oneself in the healthcare system. The need for provider education about how to communicate with patients about medical information also arose. Focus group participants and key informant interviewees noted the need for more bilingual providers, translators, and health materials translated in a wider range of languages.

**Health Behaviors and Outcomes**

• **Mental health and substance use disorders** – Substance use and mental health were identified as urgent health needs/problems impacting the area in virtually every type of stakeholder engagement in the 2019 CHNA. All Health New England counties except Worcester have higher rates of mental health hospitalization than the state, with Berkshire County having almost triple the rate. The suicide rate in all Health New England service area counties is higher than in Massachusetts, particularly in Berkshire and Franklin counties. Substance use admissions to treatment programs rose in every county from 2012 to 2017, from the smallest increase of 20% in Worcester County to the largest of 132% in Franklin County. Alcohol and heroin are the drivers of admissions. Opioid use disorder continues to be a public health crisis, with the number of opioid-related deaths increasing annually from 32 in 2000 to 113 in 2017 in Hampden County and from 60 to 266 in Worcester County. There was overwhelming consensus among focus group participants and health care providers and administrators about the need for increased education across all sectors to reduce the stigma associated with mental health and substance abuse, the need for more treatment options, and in particular, the need for treatment for people with co-morbidities.

“There are not many dual programs. Many addicts have mental health issues as well, but programs usually do not treat both – just addiction – so they recover but it doesn’t last and they go back in and out of rehab.”

Focus Group Participant, Substance Use Disorder Focus Group, Hampden County
• **Chronic health conditions** – High rates of obesity, cancer, diabetes, cardiovascular disease, asthma, and associated morbidity previously identified as prioritized health needs in the 2016 CHNA continue to impact Health New England service area residents. Heart disease and cancer are the first and second leading cause of death in every Health New England county. One out of four adults are obese in the service area, and four out of five adults over 65 have hypertension, a risk factor for cardiovascular disease. Between 8% and 11% of service area residents have diabetes. In Hampden and Hampshire counties, 14% and 15% of children have asthma, respectively.

• **Physical activity and nutrition** – The need for increased physical activity and consumption of fresh fruits and vegetables was identified among Health New England service area residents. Low rates of physical activity and healthy eating contribute to high rates of chronic disease and also impact mental health.

• **Infant and perinatal health** – Infant and perinatal health factors, identified as health needs in the 2016 CHNA, continue to impact Health New England service area residents. Need for increased utilization of prenatal care and a decrease in smoking during pregnancy were identified. Almost one of every five pregnant mothers did not receive adequate prenatal care in Berkshire, Hampden, and Worcester counties. Hampden County is particularly affected; 10% of Hampden County babies are born preterm and/or 8% are born with low birth weight.

• **Sexual health** – While great strides have been made to reduce teen birth rates, four of the five Health New England counties still have rates higher than that of the state, with Hampden County’s rate nearly double that of the state (17 per 1,000 females age 15 to 19 compared to 9 at the state level). Rates of unsafe sexual behavior remain high. Sexually transmitted infection (STI) rates continue to be high, with Hampden County chlamydia, gonorrhea, syphilis and HIV rates higher than that of the state. Young adults are at particular risk for sexually transmitted infections, with higher rates of chlamydia, gonorrhea and syphilis than any other age group.

• **Alzheimer’s disease** – Select communities have higher rates of Alzheimer’s disease than the state (14%). Between 16% and 19% of the population over age 65 have Alzheimer’s disease or related disorders in Holyoke, Montague, Springfield, Greenfield, and Worcester. Between 2010 and 2035, the percentage of people over age 60 is expected to increase dramatically.

**Priority Populations**

Available data indicate that children and youth, older adults, and Latinos and Blacks experience disproportionately high rates of some health conditions or associated morbidities when compared to that of the general population in the Health New England service area. Children and youth experienced high rates of asthma and are particularly impacted by obesity; young
adults experienced higher rates of STIs. Older adults had higher rates of chronic disease and hypertension. Latinos and Blacks experienced higher rates of hospitalizations due to some chronic and infectious diseases, mental health, and substance use disorders.

Data also indicated increased risk for mental health and substance use disorder among youth and particularly girls, LGBTQ+ (lesbian, gay, bi-sexual, transgender, queer) youth, older adults, Latinos, women, people reentering society after incarceration, people experiencing homelessness, and those with dual diagnoses (mental health and substance use disorder).

When considering those with disproportionate and inequitable access to the social determinants of health, data identified people who are Latino and Black, youth, older adults, people with lower incomes, women, people who have been involved in the criminal legal system, those with mental health and substance use disorders, and people with disabilities.

“Structures of power get in the way. It’s not a lack of resources, it’s isolation of systems... you have to be intentional to understand this, the way structures interact with each other.”
Key Informant Interview, Public Health Official, Hampden County

Summary

The Health New England service area continues to experience many of the same prioritized health needs identified in the 2016 CHNA. Social and economic challenges experienced by the population in the service area contribute to the high rates of chronic conditions and other health conditions identified in this needs assessment. These social and economic factors also contribute to the health inequities observed among priority populations, which include children, older adults, Latinos, Blacks, LGBTQ+ youth, people with low incomes, women, people with mental health and substance use disorders, people involved in the criminal legal system and those experiencing homelessness, and people living with disabilities. Additional data is needed to better understand the needs of these populations in order to reduce inequities. The Health New England service area population continues to experience a number of barriers that make it difficult to access affordable, quality care, some of which are related to the social and economic conditions in the community, and others which relate to the health care system or insurance-related barriers. Mental health and substance use disorders were consistently identified as top health conditions impacting the community, and the inadequacy of the current systems of care to meet the needs of individuals impacted by these disorders arose as an important issue that needs to be addressed. Chronic health conditions such as obesity, cancer, diabetes, cardiovascular disease, and asthma were also prioritized.
II. Introduction

1. About Health New England

Health New England is a nonprofit health plan that serves employers and individuals in the commercial, Medicaid, and Medicare markets. Health New England provides health care coverage for approximately 161,000 members across Berkshire, Franklin, Hampden, Hampshire, and Worcester Counties in Massachusetts. Based in Springfield, Massachusetts, we have been meeting the health care needs of our members for more than 30 years, and continue to be the most trusted and valued health plan in our community.

At Health New England, our mission is to improve the health and lives of the people in our communities, and we are deeply committed to the individuals we serve every day. Our passion is taking extraordinary care of our members. Everything we do is built around this simple, deeply held belief. We are committed to providing caring service, helping to simply things in a confusing health care system, being mindful of health care costs, and keeping the members at the center of all that we do.

2. The Coalition of Western Massachusetts Hospitals and Insurer

Health New England is a member of the Coalition of Western Massachusetts Hospitals and Insurer (Coalition). The Coalition is a partnership between eight non-profit hospitals/health plan in Western Massachusetts: Baystate Medical Center, Baystate Franklin Medical Center, Baystate Noble Hospital, Baystate Wing Hospital, Cooley Dickinson Hospital, Mercy Medical Center, Shriners Hospitals for Children – Springfield, and Health New England, the local health plan whose service areas covers the five counties of Western and Central Massachusetts. The Coalition formed in 2012 to bring hospitals and the plan within Western Massachusetts together to share resources and work in partnership to conduct their community health needs assessments (CHNA) and address regional needs.

3. Community Health Needs Assessment (CHNA)

Improving health and equitable distribution of health outcomes across Western Massachusetts is a shared mission across the Coalition. To gain a better understanding of these needs, and as required by the 2010 Patient Protection and Affordable Care Act (PPACA), Coalition members conducted community health needs assessments (CHNA) in 2018-2019 to update their 2016 CHNAs. PPACA requires tax-exempt hospitals and health plans to “conduct a Community Health Needs Assessment [CHNA] every three years and adopt an implementation strategy to
meet the community health needs identified through such assessment.” Integral to this needs assessment was the participation and support of community leaders and representatives who provided input through Regional Advisory Council participation, stakeholder interviews and focus groups, Community Conversations and Chats. Based on the findings of the CHNA and as required by PPACA, the Health New England will develop a health improvement plan to specifically address select prioritized needs. The CHNA data also informs County Health Improvement Plans (CHIPs) in all Coalition counties.
III. Methodology for 2019 CHNA

1. Equity as a Guiding Value

The CHNA process was conducted with a focus on equity. Health equity means that everyone has a fair and just opportunity to be healthier. This requires removing obstacles to health – such as poverty, discrimination, and systemic racism and oppression – and their consequences, including lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care.¹

The Coalition and the Western MA CHNA Regional Advisory Council created a proposition that the CHNA reflect values of health equity, cultural humility, and social justice within a framework of social determinants of health. As part of this, the CHNA process was conducted with an inclusive, community-engaged process that strove for 1) a transparent account of the conditions that affect health of all people in Western Massachusetts, and 2) an actionable CHNA for communities in Western Massachusetts at the local level.

The Coalition, guided by the Regional Advisory Council or RAC (see below for description of the RAC), conducted this CHNA with a guiding belief in the need to consider health equity. The Coalition was focused on:

- having a more diverse collection of community representatives as part of the RAC than in previous years;
- engaging substantially more residents from diverse organizations in the community in data collection and outreach activities than in prior years;
- disaggregating outcomes and health determinants by race whenever possible; and
- including discussion of the impact that systemic and institutional policies and practices have on social determinants of health.

Opportunities to lead a long and healthy life vary dramatically by neighborhood. Life expectancy in Massachusetts overall is 81 years (80.7), the sixth highest in the nation; however, there are large differences depending on where you live. Low life expectancy areas have lower incomes, higher unemployment, lower educational attainment, lack health insurance, and have more nonwhite residents, among other measures.² Inequity impacts health. There is over a 20 year difference between areas in the Health New England service area with the lowest life expectancy (the Metro Center neighborhood of Springfield in Hampden County – 70.3) and the highest (a census tract that encompasses towns in the farthest western edge of Hampshire County – 91.4 years [parts of Plainfield, Cummington, Worthington, and Middlefield]) (Figure 1).
2. Social and Economic Determinant of Health Framework

Similar to the 2016 CHNA, this CHNA was conducted using a determinant of health framework recognizing that social and economic environment contributes substantially to population health. Research shows that that less than a third of our health is influenced by our genetics or biology.³ Our health is largely determined by the social, economic, cultural, and physical environments that we live in and healthcare we receive (Figure 2).

Among modifiable factors that affect health, research shows that social and
economic environments have the greatest impact. The County Health Rankings model (Figure 3), developed by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, estimates the proportion of health that modifiable factors contribute to, based on reviews of the scientific literature. It is estimated that social and economic factors account for 40% of our health, followed by health behaviors (30%), clinical care (20%), and the physical environment (10%). Many health disparities occur as a result of inequities in these determinants of health.

Figure 3. County Health Rankings Model - Health Factors

Since the 2016 CHNA, the Massachusetts Department of Public Health has prioritized six broad categories of determinants, which they refer to as health priorities: housing, employment, education, violence and trauma, the built environment, and the social environment (Figure 4). MDPH also has focus health issues: substance use, mental illness and health, and chronic disease. This CHNA is organized according to the MDPH categories and focus issues.

Figure 4. MA Department of Public Health Priorities
3. Assessment Methods

The 2019 CHNA updates the prioritized community health needs identified in the 2016 CHNA. The prioritized health needs identified in the 2019 CHNA include community level **social and economic determinants that impact health**, **barriers to accessing care**, and **health behaviors and outcomes**. We also provide context for the role that social policies and the practices of systems have on health outcomes.

Assessment methods included: 1) analysis of social, economic, and health **quantitative data** from the Massachusetts Department of Public Health, the U.S. Census Bureau, the County Health Ranking Reports, the Massachusetts Healthy Aging Collaborative, Social Explorer, and a variety of other data sources; 2) analysis of findings from **14 focus groups, 60 interviews with key informants** (including with local and regional public health officials), **5 Community Conversations** and **46 Community Chats** conducted by the consultant team and the Regional Advisory Council (RAC) as part of this CHNA; and 3) review of existing assessment reports published since 2016 that were completed by community and regional agencies serving the Health New England service area. The assessment focused on county-level data (Berkshire, Franklin, Hampden, Hampshire, and Worcester counties) and when possible assessed 20 select communities, which were identified by Coalition members as the largest communities in their service areas or those representing the most need. The select communities include: North Adams and Pittsfield in Berkshire County; Greenfield, Montague, and Orange in Franklin County; Chicopee, Holyoke, Ludlow, Palmer, Springfield, West Springfield, and Westfield in Hampden County; Amherst, Belchertown, Easthampton, Northampton, and Ware in Hampshire County; and Athol, Shrewsbury, and Worcester in Worcester County. When examining priority health needs by communities, only those communities that were most highly impacted are listed, due to space limitations. Health Equity Workgroup members of the Regional Advisory Council identified that there are health needs specific to rural areas; however, due to small numbers and lack of existing data, there is limited discussion of rural health issues.

Community Health Needs Assessments are required to identify “vulnerable populations.” We use the term “priority populations”. To the extent possible given data and resource constraints, priority populations were identified using qualitative and quantitative information. Qualitative data included focus group findings, interviews, input from our Regional Advisory Committee and Community Benefits Advisory Committees, and community outreach. We used quantitative data to identify priority populations by disaggregating by race/ethnicity, age with a focus on children/youth and older adults, and LGBTQ+ (lesbian/gay/bi-sexual/transgender/queer) populations.
4. Prioritization Process

The 2019 process used the 2016 CHNA priorities as a baseline with a goal of reprioritizing if quantitative and qualitative data, including community feedback, indicated changes. For the 2016 CHNA prioritization, health conditions were identified based on consideration of magnitude and severity of impacts, populations impacted, and rates compared to a referent (generally the state rate). In the 2016 CHNA, prioritized health needs were those that had the greatest combined magnitude and severity or that disproportionately impacted priority populations in the community. Quantitative, qualitative, and expanded community engagement data confirms that priorities from 2016 continue in 2019. Prioritized items may be referred to using different categories or terminology in this CHNA because the social and economic community level factors that impact health were reorganized to align with the MDPH framework.

5. Community and Stakeholder Engagement

The input of the community and other important regional stakeholders was prioritized by the Coalition as an important part of the CHNA process. Below are the primary mechanisms for community and stakeholder engagement (see Appendix 1 for list of public health, community representatives and other stakeholders included in process).

- **The CHNA Regional Advisory Committee (RAC)** included representatives from each Coalition member as well as public health and community stakeholders from each hospital service area. Stakeholders on the RAC included (1) local and regional public health and health department representatives, (2) representatives from local and regional organizations serving or representing medically underserved, low-income or populations of color, and (3) individuals from organizations that represented the broad interests of the community. The Coalition conducted a stakeholder analysis to ensure geographic, sector (e.g., schools, community service organizations, healthcare providers, public health, and housing), and racial/ethnic diversity of the RAC. The RAC met in workgroups (Data and Reports, Engagement and Dissemination, and Health Equity) to guide the consultants in the process of conducting the CHNA and to prioritize community health needs, CHNA findings, and dissemination of information. Assessment methods and findings were modified based on the Steering Committee feedback. The RAC consisted of 31 people, including Coalition members and consultants. The RAC met monthly from September 2018 to July 2019.

- **Key informant interviews** and **focus groups** were conducted to gather information used to identify priority health needs and engage the community. Key informant interviews were conducted with health care providers, health care administrators, local and regional public health officials, and local leaders that represent the interests of the community or that serve medically underserved, low-income, or populations of color in the service area. Interviews with local and regional public health officials identified priority health
areas and community factors that contribute to health needs. Focus group participants included community organizational representatives, community members (low-income, people of color, and others), and other community stakeholders. Topics and populations included: substance use, transgender health, older adults, youth, mental health, cancer care, gun violence, and rural food access. Key informant interviews and focus groups were conducted from February 2019 to March 2019. Focus groups and key informant interviews engaged about 222 people across the region.

- Baystate Health held five **Community Conversations** and approximately 46 **Community Chats** that were pertinent to Health New England’s CHNA. Community Conversations were larger bi-directional information-sharing meetings conducted for each Baystate Hospital service area, including one conducted in Spanish in Springfield. For Community Chats, RAC members brought information about the CHNA and gathered priorities in regular meetings of service providers, community-based organizations, and groups of staff and administration at hospitals. While these outreach efforts were spearheaded by Baystate Health, the engagement and findings benefitted all Coalition members. Conversations and Chats were held from January 2019 to April 2019 and engaged approximately 1,184 people in Hampden County.

- A **Community Forum** was held upon completion of the report to share its findings. The Community Forum included individuals representing the broad interests of the community, participants in the focus groups, interviews, Conversations, Chats, and community stakeholders representing medically underserved, low-income, and populations of color.

> “We are too often talking about people, not with people. Community needs to be at the table, have their voices valued. They don’t feel heard.”

---

**Key Informant Interviewee, Public Health Official, Hampden County**

### 6. Limitations and Information Gaps

Given the limitations of time, resources, and available data, our analysis was not able to examine every health and community issue. Data for this assessment were drawn from many sources. Each source has its own way of reporting data, so it was not possible to maintain consistency in presenting data on every point in this assessment. For example, sources differed by:

- geographic level of data available (town, county, state, region)
- racial and ethnic breakdown available
- time period of reporting (month, quarter, year, multiple years)
- definitions of diseases (medical codes that are included in counts)

Though not generally a problem when reporting data for larger cities such as Springfield, Worcester, Greenfield, and Pittsfield, a problem encountered with smaller towns is that of small
numbers. When the number of cases of a particular characteristic or condition is small it is usually withheld from public reports to protect confidentiality and to guard against the large level of variability in estimates based on small numbers (i.e. the confidence intervals or margin of errors are large). It can be deceptive to report a statistic when numbers are small because that statistic may change substantially from year to year without indicating that something meaningful has happened to make the numbers different. For example, the Massachusetts Department of Health will report on suspected opioid overdoses by town if there are five or more in the given time period. If fewer, the report indicates <5. This is referred to as suppressing data and is a common practice in reporting public health data. Cut-points for suppressing data vary depending on the data source. It should be noted that even when data is provided, if the number is low, there can still be quite a bit of variability.

The availability of data and the problem of small numbers affects the reporting of data by race and ethnicity in this assessment. Statistics for people of color in Hampden County do not begin to reveal the level of detail we would like to know. Ideally, we would disaggregate categories for a better understanding of people who identify with different races and ethnicities. We recognize that there are differences between those who identify as Puerto Rican, Mexican, or Cuban that aren’t captured by the term “Latino,” and differences among those who identify as Chinese, Japanese, or Korean that aren’t captured by “Asian.” It is also important to consider intersectionality, the overlapping identities of residents. What impact does being young, Black and gay in Hampden County have on health? Or being transgender and living on an income below the poverty line? We were unable to explore these differences with the quantitative data available. We were able to gather valuable information through focus groups with specific priority populations, while recognizing that a handful of focus groups cannot begin to cover the full range of identities present in our community.

7. Service Area

The service area for Health New England includes all communities in the five counties of Western and Central Massachusetts (Table 1 and Figure 5). The area’s population exceeds 1.6 million people, with almost 80% living in the more densely populated Hampden and Worcester counties. The service area includes the second and third largest cities in Massachusetts – Worcester (population over 185,000) and Springfield (population over 150,000). There are dense urban areas (Hampden County is classified as 91% urban) and rural areas, such as Franklin County which is classified as 55% rural. Regional Transit Authorities serve the Pioneer Valley, Franklin County, and the Worcester and Berkshire regions.
The service area has geographies with and without racial and ethnic diversity. Franklin and Berkshire Counties are 94% and 91% White, respectively; Hampshire and Worcester Counties have more diversity, with 88% and 84% White respectively. In Hampden County, 64% of the population is White, 24% is Latino, 8% is Black, and 2% is Asian (U.S. Census, ACS, 2013-2017), though this diversity is not equally spread throughout the region and tends to be concentrated in the urban core. A substantial proportion of the service area’s population is from other countries. In Worcester County, 23% in Shrewsbury and 21% in Worcester are foreign-born. Amherst (16%), West Springfield (15%), and Ludlow (13%) also have a high proportion of foreign-born population (U.S. Census, ACS, 2013-2017). Several of the population centers have higher proportions of people who speak a language other than English at home, with 47% of Holyoke, 38% of Springfield, and 34% of Worcester doing so.

Economically, the Health New England service area is home to many large employers as well as numerous colleges and universities and provides a strong economic engine for the broader region. The largest industries and employers include health care and service. Berkshire County in particular has a strong tourism industry that revolves around its natural beauty and creative communities. At the same time, portions of the service area struggle with higher rates of unemployment and poverty, lower household incomes, and lower rates of educational attainment (Tables 2 and 3). Specifically, Hampden County faces these challenges. The median
household income in all counties in the service area is lower than that of the state, with Hampden County at about $52,000, about two-thirds the state average. More than one out of every four children in Hampden County is living in poverty (U.S. Census, ACS, 2013-2017). Despite being at the core of the Knowledge Corridor region, only 27% of the population age 25 and over in Hampden County have a bachelor’s degree, compared to 43% statewide. Unemployment in all of the counties is similar to the statewide level of 6%, except in Hampden County where it is 8% (U.S. Census, ACS, 2013-2017).

The median age for the service area varies, with Hampshire County having a generally younger median age (36), the cities of Springfield and Worcester having a younger than median age (approximately 33 and 34, respectively), and Franklin and Berkshire counties having an older median age (47 and 46, respectively) (Table 2). The older adult population is expected to grow in the near future, which may impact the services needed in these areas. Between 2010 and 2035, the proportion of people age 60 and over in the five counties is projected to grow between 8 percentage points (Hampden and Franklin counties) and 13 percentage points (Hampshire county). By 2035, 41% of Franklin County residents will be over age 60 (almost 29,000 people), and in Hampden County the number of older adults is estimated to rise from approximately 92,000 to 140,000.

Between 11% and 16% of the county populations have disabilities, with Hampden County at the highest level. In Springfield, Orange, and North Adams, disability rates are close to 20%. The proportion of people of color with disabilities varies per county. In Berkshire County, Latinos have a much lower rate (8.5% compared to 15% in the county as a whole). In Worcester County, only 8.3% of Blacks have disabilities compared to 12.1% across the county. But in Hampden and Franklin counties, Blacks and Latinos have higher rates of disabilities than the county averages (U.S. Census, ACS, 2013-2017). People with disabilities tend to have higher rates of poverty and lower levels of education. For example, in Hampden County, poverty rates among those with a disability (27%) were more than double those among people without a disability (12%). Similarly, 30% of the disabled population did not have a high school diploma compared to 11% among those without a disability (U.S. Census, ACS, 2013-2017).

Table 1. Communities in Health New England Service Area

<table>
<thead>
<tr>
<th></th>
<th>2017 Population Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berkshire County</td>
<td>127,751</td>
</tr>
<tr>
<td>Franklin County</td>
<td>70,926</td>
</tr>
<tr>
<td>Hampden County</td>
<td>469,188</td>
</tr>
<tr>
<td>Hampshire County</td>
<td>161,197</td>
</tr>
<tr>
<td>Worcester County</td>
<td>818,249</td>
</tr>
<tr>
<td>Total Service Area</td>
<td>1,647,311</td>
</tr>
</tbody>
</table>

Table 2. Sociodemographic Characteristics of Health New England Service Area

<table>
<thead>
<tr>
<th>Sociodemographic Characteristic</th>
<th>Hampden County</th>
<th>Hampshire County</th>
<th>Berkshire County</th>
<th>Franklin County</th>
<th>Worcester County</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median age (years)</td>
<td>39</td>
<td>36</td>
<td>47</td>
<td>46</td>
<td>40</td>
</tr>
<tr>
<td>&gt;18 years</td>
<td>22%</td>
<td>15%</td>
<td>18%</td>
<td>18%</td>
<td>22%</td>
</tr>
<tr>
<td>18 to 64</td>
<td>62%</td>
<td>69%</td>
<td>61%</td>
<td>63%</td>
<td>64%</td>
</tr>
<tr>
<td>65 and over</td>
<td>16%</td>
<td>16%</td>
<td>21%</td>
<td>19%</td>
<td>14%</td>
</tr>
<tr>
<td><strong>Race and Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latino or Hispanic</td>
<td>24%</td>
<td>5%</td>
<td>4%</td>
<td>4%</td>
<td>11%</td>
</tr>
<tr>
<td>Non-Latino or Hispanic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>64%</td>
<td>84%</td>
<td>89%</td>
<td>91%</td>
<td>78%</td>
</tr>
<tr>
<td>Black</td>
<td>8%</td>
<td>3%</td>
<td>3%</td>
<td>1%</td>
<td>4%</td>
</tr>
<tr>
<td>American Indian</td>
<td>0.1%</td>
<td>0.2%</td>
<td>0.2%</td>
<td>0.2%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Asian</td>
<td>2%</td>
<td>5%</td>
<td>2%</td>
<td>2%</td>
<td>5%</td>
</tr>
<tr>
<td>Native Hawaiian and Other Pacific Islander</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Some other race</td>
<td>0.2%</td>
<td>0.1%</td>
<td>0.3%</td>
<td>0.1%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Two or more races</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Language Spoken at Home (population over 5)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaks language other than English at home</td>
<td>25%</td>
<td>12%</td>
<td>8%</td>
<td>7%</td>
<td>19%</td>
</tr>
<tr>
<td><strong>Educational Attainment (population 25 years and over)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less high school graduate</td>
<td>15%</td>
<td>6%</td>
<td>9%</td>
<td>7%</td>
<td>10%</td>
</tr>
<tr>
<td>High school graduate (includes equivalency)</td>
<td>30%</td>
<td>25%</td>
<td>30%</td>
<td>28%</td>
<td>29%</td>
</tr>
<tr>
<td>Some college or associate's degree</td>
<td>29%</td>
<td>24%</td>
<td>28%</td>
<td>27%</td>
<td>26%</td>
</tr>
<tr>
<td>Bachelor's degree or higher</td>
<td>27%</td>
<td>46%</td>
<td>33%</td>
<td>37%</td>
<td>35%</td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median household income</td>
<td>$52,205</td>
<td>$64,974</td>
<td>$55,190</td>
<td>$57,307</td>
<td>$69,313</td>
</tr>
</tbody>
</table>
IV. Prioritized Health Needs of the Community

The following are the prioritized health needs identified for the Health New England service area. The prioritized health needs of the community served by Health New England are grouped into three categories: (1) social and economic determinants that impact health, (2) barriers to accessing quality health care, and (3) health conditions and behaviors.

1. Social and Economic Determinants that Impact Health

Based on our analysis, the prioritized community level social and economic determinants of health that impact Health New England’s service area are:

- **Social Environment** – social isolation; connection to community; and interpersonal, institutional, structural, and historical racism
- **Housing Needs** – affordability, quality, stability, and tenure
- **Access to transportation, healthy food, and places to be active**
- **Employment and Income** – poverty, living wages, unemployment, and workplace policies
- **Educational Needs** – educational attainment and systemic barriers to quality education
- **Violence and Trauma** – interpersonal and community violence and violence-related trauma
- **Environmental Exposures** – air quality and lead exposures

The organization of the 2019 CHNA differs slightly from the 2016 CHNA. By aligning with the Massachusetts Department of Public Health’s determinants of health framework, we include all of the MDPH prioritized determinants. This shift created more data points than in 2016; however, determinants that were prioritized as community health needs in the 2016 CHNA continue to contribute to the health challenges experienced in the service area.

a. **Social Environment**

The social environment consists of: 1) the demographics of a region, including distribution of age, race, ethnicity, immigration status, and ability; 2) community-level factors such as language isolation, participation in democracy, social isolation or support, experiences of interpersonal discrimination; and 3) the policies and practices of systems of government, cultural norms, and institutional racism, all of which impact people’s health every day.
Community-level factors – A variety of community level factors contribute to a social environment that impacts health, with some positively impacting health such as social support and participation in society, and some negatively impacting health such as experiences of racism and oppression.

Social isolation and participation in communities arose during focus groups and interviews for the CHNA as a priority health need. Factors mentioned that can lead to social isolation are:

- emotional implications of having a disability
- poor and unreliable transportation options
- decreased day services for people with mental health problems
- limited availability of Meals on Wheels for older adults and people with disabilities; limited Senior Centers hours and activities; and hearing, vision, and dental problems in older adults
- linguistic isolation, with over 25% in Hampden County and 19% in Worcester County speaking a language other than English at home (U.S. Census, ACS, 2013-2017)

“Social connections and networks for social activities and support are as important as medical and mental health care. Older adults want to feel valued and involved in the community.”

Community Forum participant, Older Adults Community Forum, Hampshire County

Being a connected part of a community is health-protective – Participants of focus groups and interviews gave many examples:

- rural food pantry users stated that one always has something to eat if you get together with your neighbors
- older adults who get support by frequenting Senior Centers
- parents of children with disabilities, cancer support group participants, and transgender individuals find that connections with others helped them find resources

Public health leaders strongly advised health practitioners to become culturally sensitive and knowledgeable about different communities in order to be better health care practitioners.

Experiences of interpersonal racism, discrimination and other forms of exclusion can serve to socially isolate people, and have consequences for mental and physical health. Participants in focus groups and key informant interviews shared their experiences:

- lack of sensitivity of transgender issues socially isolates transgender people who do not pass as the gender they identify with
- people with substance abuse and mental health disorders face discrimination in the medical system
- rural populations feel that their priorities get “kicked down the road”
- youth of color report being stereotyped by peers, teachers, and mention that “doctors shame and threaten parents that they should take better care of their kids.” One young woman said, “A guy told me I was unattractive because I was black. It took a toll on me.”
- children with disabilities face a high rate of bullying in schools
Policies and practices of systems of government, cultural norms, and institutional racism impact people’s health every day. The 2016 CHNA identified institutional racism as a driver of health inequities. In the 2019 CHNA, institutional and systemic racism continue as major sources of health inequities. Institutional racism is racial inequities, created by policies and practices of an institution, in access to goods, services, and opportunities such as quality education, housing, employment opportunities, medical care and facilities, and a healthy physical environment. Systemic or structural racism extends beyond one institution. Policies and practices of systems and institutions that result in racial inequities become the norm, are often codified by law or policy, and can manifest as inherited disadvantage. These practices do not necessarily transpire at the individual level, but are embedded in our systems, regulations, and laws. Institutional racism is perpetuated by bureaucratic barriers and inaction in the face of need. Structural racism is mutually reinforcing systems (e.g., criminal justice, poorly funded public schools, and housing policies) that perpetuate discrimination in all areas of daily life and results in unequal distribution of social resources. The policies and practices of systems and institutions are directly influenced by those who have power and how they use it. Racially-motivated discrimination, whether conscious or built into the practices of systems, can lead to adverse health outcomes such as poor mental health, chronic stress, hypertension, and cardiovascular disease.

Focus group participants and interviewees provided examples of institutional racism and other forms of institutionalized oppression:

- In schools, black children are routinely more likely to be disciplined and experience unequal treatment in dress code and other violations.
- The home care industry does not pay Personal Care Attendants well, does not always thoroughly train them, and does not guarantee reliable hours. The devaluing of this position leads to inconsistent care for older adults, those with disabilities, and people recovering from illnesses.
- Marginalized youth do not often see teachers, counselors, community staff who look like them or have had the same kinds of experiences they have. Without a concerted focus on recruiting, hiring, and training staff of color or from local neighborhoods, the ability of youth to trust and accept adults as mentees is hampered.
- In focus groups and interviews about gun violence in Springfield, participants spoke of instances in which police came late to the scene of a fight or shooting, questioned or even blamed witnesses instead of quickly pursuing people with guns, and are seen mostly in the community to arrest and incarcerate people instead of having a helpful, partnering presence.
- Emergency rooms practices that deny victims of gun violence visits by their loved ones or restrict the number of visitors, and perceived lengthy response time by ambulances to gun violence victims.
• Administrative level of health care does not feel friendly to transgender people. Forms and protocol disregard preferred names and gender identity, and ask patients to fill out forms with inscrutable questions about transgender status.

“Living in Holyoke or Springfield, you cannot ignore the racial difference. If you are a Hispanic parent, particularly if your English isn’t what they think it should be, there is a huge gap and a much different response [to complaints of bullying of a disabled child].
Focus Group Participant, Parent of Children with Disabilities Focus Group, Hampden County

This CHNA includes examples of how systemic policies and practices impact the social determinants of health.

Racial residential segregation is a form of institutional racism that is considered to have detrimental impacts on health by creating limited opportunity environments and embedding communities with structural barriers that directly impact access to quality education, jobs, quality housing, healthy food, and a number of other social determinants of health. The University of Michigan’s Center for Population Studies in 2013 ranked the Springfield Metropolitan Statistical Area (MSA) (Hampden, Hampshire and Franklin counties) as the most segregated in the U.S. for Latinos in MSAs with over 500,000 people, and 22nd in the country for Blacks.

Mass incarceration and criminalization are examples of institutional racism that result in racial inequities at every stage of the criminal legal system, with health implications. In 2015, admissions to the Hampden County Jail were more than double the Massachusetts rate (458/1000 in Hampden County compared to 216/100,000 in Massachusetts), and in Franklin County about 1.5 times the rate. The average daily populations in 2015 were 1,428 in the Hampden County jail and 1,087 in the Worcester County jail. Blacks and Latinos are jailed at disproportionately higher rates in all five counties, with Hampden County the most disproportionate: 60% of their jail population is Black or Latino compared to an estimated 32% in the county as a whole. The incarceration of women in jails is on the rise, with Hampden County jail incarcerating 84% more women between 2011 and 2015 and Worcester County incarcerating 27% more.

b. Housing Needs

Affordable, accessible, and supportive housing is a key contributor to health. Focus group participants, interviewees from varied sectors, and prioritization in Community Chats identified housing as one of the top three health-related concerns in outreach for the 2019 CHNA.

Housing insecurity continues to impact Health New England service area residents. Over a third of the population in all five counties are housing-cost burdened, with over 40% of the population housing-cost burdened in select communities (Figure 6). Housing-cost burden is defined as more than 30% of income going towards housing. Typically, renters are more affected by
housing costs. Across the country in 2017, 47% of renters were cost-burdened compared to 23% of home-owners.¹⁸ Lack of affordable housing can contribute to homelessness and housing instability, which leads to increased stress and can often force families to prioritize housing costs over factors that can influence health, such as purchasing healthy foods and medications.

**Figure 6. Housing Cost-Burdened, Health New England Service Area**

![Chart showing the percentage of housing cost burdened across the Health New England Service Area, with percentages ranging from 32% to 43% across different counties.](chart.png)


A more complete picture of affordability adds the cost of transportation. In the Health New England Service area counties, housing and transportation costs combined range from 50% (Worcester County) to 59% (Hampshire County) of the typical income.¹⁹ In focus groups, people living with disabilities mentioned housing as the highest need, citing the difficulty of finding suitable housing for their needs. Older adults also felt that finding housing could be challenging due to affordability – adult living communities are plentiful but very expensive.

The lack of affordable or subsidized housing that is handicapped accessible was elevated among staff that work with people who have disabilities. They noted long waiting lists and that the priority seems to go to people with fewer needs.

> “Emotionally it can take a toll on [people with disabilities] – wondering if they have a roof over their head, especially if they have children, and especially if the kids have disabilities.”

Key Informant Interview, Vice President, mental health treatment and case management agency, Hampden County

**Homelessness** impacts approximately 2,320 people in Hampden County. A “Point-in-Time” count done by the Western Massachusetts Network to Eliminate Homelessness found that there were almost 2,900 people homeless on one night in January 2018 in Western Massachusetts, of which 80% were in Hampden County. An estimated 20% were chronically
homeless. When someone is chronically homeless, providing housing combined with social and health services is necessary. Many people experiencing homelessness have a high need for social and health services, and for an expedited pathway to these services. Approximately 55% of the homeless population in Western Massachusetts are children under the age of 18. Of youth aged 18 to 24 who are unstably housed, more than half have been involved in the juvenile, foster, or jail systems. In addition, more than 80% of mothers who are homeless are survivors of domestic violence. In Springfield in 2017, almost 600 youth aged 18 to 24 stayed in emergency shelters in Hampden County. In Worcester in 2017, there were almost 1,507 in the Point-in-Time count, a decrease of about 4% from 2016. However, 61% of those homeless are families with children.

Key recommendations from focus groups and interviews to prevent homelessness are to:

- provide resources including more housing combined with supportive services, more rapid rehousing, and simply more affordable housing
- include people in target audiences who are leaving institutional settings (e.g., foster care, jail, hospital stays), those at risk of losing housing, people living with physical or psychological disabilities, and survivors of domestic violence

The overlapping need for affordable housing and mental and health/substance use disorder treatment is clear. In a focus group with people experiencing homelessness, participants talked about the need for treatment services for mental illness and substance use disorders. In a focus group with Recovery Coaches for people with substance use disorders, the first need mentioned was housing, particularly for women and people with CORI issues.

When discussing what would be helpful for people who are living unsheltered, people recommended supportive services, such as having warm places during the day when shelters are closed, having something meaningful to do, and using the time and skills of people who are homeless to rehab old buildings. Interviews with staff helping people reenter after incarceration indicated that the issue of finding housing was critical. This population faces many barriers to finding housing, such as limitations placed on them due to their conviction, and the need for dual diagnosis or sober housing, which are in short supply.

**Poor housing conditions** also impact the health of residents. Older housing combined with limited resources for maintenance can lead to problems (e.g., mold, pest/rodent exposure, exposure to lead paint, asbestos, and lead pipes) that affect asthma, other respiratory illnesses, and child development. Housing conditions are important for the safety and accessibility of children, elderly, or disabled populations. Areas in the Health New England service area with older housing stock ranges from 28% of housing built before 1940 in Hampshire County to 39% in Berkshire County. Certain cities have particularly high proportions of older housing stock: in Greenfield almost 45% of the housing stock was built before 1940, in Holyoke 48%, and in Northampton 46% (U.S. Census, ACS, 2014-2017). According to data from the Be Healthy Partnership (BHP), an Accountable Care Organization (ACO) that includes five health centers serving Springfield Medicaid patients, 4% of respondents said their homes had bug infestation,
5% had mold or water leaks, 2% had inadequate heat, and 1% had inoperable oven or stove (BHP, ACO, 2019).

**Housing tenure**, or whether someone owns or rents, is also a health issue. Home ownership can be a path to wealth and has the potential to be more stable than renting. In Hampden County, 61% of people own their homes and 39% rent. Historically, redlining lending practices, racial discrimination related to mortgage acquisition in the GI bill, and higher incidence of predatory lending in communities of color have denied Black and Latino communities the ability to create stability and generational wealth via home ownership. Reflecting inequitable policies and practices, between 23% and 34% of Latinos and between 27% and 39% of Blacks own homes in Health New England service area counties, compared to 66% to 71% of Whites (U.S. Census, ACS, 2013-2017).

c. **Access to Healthy Food, Transportation, and Places to be Active**

There is a vast research base demonstrating that decisions about how the world around us is constructed can impact health behaviors. Transportation systems and choices, environmental exposures from industry, access to food, community spaces, retail, and institutions all serve to help or harm.

**Transportation** arose as a barrier to care in the 2016 CHNA, and continues to be a major obstacle to good health (see Barriers to Accessing Quality Health Care section for more detail on transportation as a barrier). Reliable transportation is a critical part of daily life, allowing individuals to go to work, travel to the grocery store, and get to medical appointments. However, between 8% (Hampshire County) to nearly 14% (Hampden County) of the Health New England counties’ residents report not having any access to a vehicle, with particular communities much higher (Figure 7).
Unequal access to appropriate transportation options exacerbates racial and ethnic health disparities. Communities of color and those with lower incomes have less access to transportation options compared to majority white and higher income communities. Public transportation plays a significant role in filling transportation needs for many of these households. The Pioneer Valley Transit Authority (PVTA), which operates buses across Pioneer Valley, reports that the majority of PVTA customers – over 62% – are people of color. A 2017 equity analysis for PVTA examined proposed bus line service cuts and fare hikes and concluded that the changes would have a negative impact on communities of color.

People with disabilities are often dependent on transportation that is provided by MassHealth to get to their medical providers. Participants in a focus group for people with disabilities gave many examples of problems with MassHealth-provided transportation – including unreliability, lateness, and drivers who were rude, disrespectful, and apathetic toward patients. Key informant interviewees agreed that the transportation systems that currently exist require much time and patience on the part of people who already face many challenges. One advocate for people with disabilities noted that difficulty with transportation impedes people from getting to medical appointments and leads to Emergency Room visits.

“I’ve watched [name redacted] stand out there for two hours waiting for a driver, and then the driver comes up with only attitude.”
Focus Group Participant, Focus Group about Health Needs for People with Disabilities

Food Access/Food insecurity, or being without reliable access to sufficient food, continues to impact many Health New England service area residents. As can be seen in a map of food insecure census tracts in the service area counties, large portions of Springfield, Amherst, and
Worcester, and small parts of Chicopee, Holyoke, Pittsfield, North Adams, Northampton, and Fitchburg have rates of food insecurity greater than 20% (Figure 8).

**Figure 8. Percent Food Insecure in Health New England Service Area**

“If you’re going in to apply [for SNAP], it’s because you need it. So if I’m telling you I’m coming here and I’m degrading myself, giving you all my business, and then you want to tell me, ‘okay, we can only give you $15 a month,’ I’m like, ‘uh, what is $15 gonna do?’ You’d be lucky if you can get some eggs, milk, some bread and that it.”

Focus Group Participant, Focus Group about Health Needs for People with Disabilities

Historical planning decisions created highways that split cities and separated white areas from black areas. One of many legacies has been that communities of color have worse access to grocery stores, more access to unhealthy fast foods, and more liquor retailers in their communities.\(^{30}\) Additionally, marketing of fast food, junk food, sugary drinks, tobacco, and alcohol more often targets communities of color.\(^{31}\) Eating nutritious food promotes overall health and helps manage many chronic health conditions. Not all individuals and communities in the Health New England service area have equal access to healthy food. The Health New England service area has several **food deserts**, or census tracts that are low-income and where grocery stores and other options to purchase foods are more than one mile away in urban areas.

or more than 10 miles away in rural areas. Not having access to a vehicle also contributes to lower access to food. People with lower incomes are more likely to live in food deserts. Figure 9 identifies communities that the USDA has identified as food deserts.

**Figure 9. USDA Food Atlas Food Desert Areas in Health New England Service Area**

Access to opportunities for physical activity. Having safe and accessible places to be physically active is a key resource for people’s health. As one indicator, about 12% of middle school youth in Springfield report felt they could not easily access opportunities to be physically active.32

**d. Employment and Income**

In Health New England’s service area, many residents struggle with a lack of resources to meet basic needs, such as high rates of poverty and low levels of income. The connections between poor health and poverty, low levels of income, and access to fewer resources are well established. People who have lower incomes are more likely to be negatively impacted by
chronic stress associated with challenges in securing basic necessities that impact health, such as housing, food, and access to physical activity.

Median household incomes in the Health New England service area range from $52,205 in Hampden County – one-third less than that of the state – to $69,313 in Worcester County, which is closer although still under the Massachusetts average (Table 3). In every county in the Health New England service area, Whites make substantially more than Blacks and Latinos. In Berkshire County, Black households make less than $18,000 per year while White households make over three times that income. In both Hampden and Worcester counties, Latino households earn less than half the incomes of White households (Figure 10).

Table 3. Socioeconomic Status Indicators

|                        | Berkshire County | Franklin County | Hampden County | Hampshire County | Worcester County | MA |
|------------------------|------------------|-----------------|----------------|------------------|------------------|    |
| Median Household Income| $55,190          | $57,307         | $52,205        | $64,974          | $69,313          | $77,385 |
| Unemployment           | 7%               | 6%              | 8%             | 7%               | 6%               | 6%  |
| Poverty                | 11%              | 11%             | 8%             | 7%               | 6%               | 6%  |
| Child Poverty          | 15%              | 15%             | 17%            | 14%              | 11%              | 11% |
| No High School Diploma | 9%               | 7%              | 15%            | 6%               | 10%              | 11% |

Sources: U.S. Census, ACS, 2013-2017; poverty is 100% below federal poverty level; no high school diploma among adults age 25 and older; U.S. Census, Fact Finder, MA Profile.

Figure 10. Median Household Income in 5 Counties by Race

Sources: U.S. Census, ACS, 2013-2017
Hampden County residents in particular have challenging socioeconomic circumstances. About 17% of county residents have poverty-level incomes, and 29% of Springfield and Holyoke households have poverty-level incomes (U.S. Census, ACS, 2013-2017). The Springfield Be Healthy Partnership ACO found that 13% of their patient population had a utility shut off in the past 12 months, 26% had often or sometimes had food run out by the end of the month, and 11% said they had trouble affording their children’s basic needs (BHP, ACO, 2019). Other Health New England service areas have lower median household incomes than the state. Most of the Health New England counties besides Hampden County have socioeconomic indicators that are similar to or lower than the state (Table 3).

The Massachusetts Institute of Technology (MIT) estimates a Living Wage for different regions, based on typical expenses. In the Health New England service area for a family with one adult and one child, a Living Wage would range from an hourly wage of $26.62 (Berkshire County) to $27.56 (Worcester County). Current minimum wage in Massachusetts is $12/hour.

Across all CHNA focus groups, Key Informant Interviews, Community Conversations, and Chats, poverty was identified as a factor that impacts overall health, access to health care, and access to programs and services that promote health. In particular in Springfield, poverty was a factor called out by key informants and focus group participants as a major factor affecting involvement in gun violence. Across the region there are areas where 17% or more of families have incomes below the federal poverty line, such as in Springfield, Amherst, Worcester, Pittsfield, parts of Gardener, and North Adams (Figure 11).

**Figure 11. Health New England Service Area Poverty Rates**

![Map showing poverty rates across Health New England service area.](source: Social Explorer 2019, U.S. Census Bureau, 2013-2017; poverty is 100% below federal poverty level)
Hiring and workplace discrimination affect people of color more frequently than white people. Historically, laws passed during the 1990s “Tough on Crime” era decreased the ability of people who have been arrested, convicted, or incarcerated to find jobs. The National Inventory of Collateral Consequences documents tens of thousands of limitations placed on people who have been convicted. Due to discriminatory policies and practices, people of color are inequitably arrested, convicted, and incarcerated, which then results in disproportionate workplace discrimination.

“Health issues unique to people of color? It’s harder to get hired.”
Focus Group Participant, Youth of Color focus group, Franklin County

Workplace policies and practices can help or hinder well-being and health. Access to work-subsidized health care benefits, affordable childcare, sick and personal leave, a living wage, wellness programs, reasonable advance knowledge of scheduling, and workplace discrimination can impact direct health or illness as well as cause chronic stress. Number of hours worked and predictability of scheduling are other employer practices that have a large health effect.

Women, children, and populations of color are disproportionately affected by poor socioeconomic status. Women in Western Massachusetts counties earn about 83 cents compared to every $1 earned by men, and women of color earn even less. Berkshire County has the most dramatic findings: Latinas in Berkshire County earn 46 cents and Black women earn 41 cents to a man’s $1. Women also participate in the workforce at lower rates than men. Over three-quarters (77%) of children living in Holyoke and Springfield qualify for free or reduced lunch and communities. More than one in every four children in Springfield, North Adams, and Worcester are in families with incomes below the poverty level (U.S. Census, ACS, 2013-2017). With regard to race and ethnicity, median income levels are lower and unemployment and poverty rates are higher among Latinos and Blacks (U.S. Census, ACS, 2013-2017). Hiring and workplace discrimination affects people of color more frequently than Whites.

e. Educational Needs

Educational attainment is a community health need as it contributes to longevity, availability of resources to meet basic needs, higher health literacy, and access to less physically dangerous jobs. Levels of education are strongly correlated with employment status, the ability to earn a livable wage, and many health outcomes. Between 6% (Hampshire County) and 15% (Hampden and Worcester counties) of Health New England service area residents age 25 and older do not have a high school diploma; the Massachusetts rate is 10%. In the communities of Springfield and Holyoke over 20% of eligible individuals do not have a high school diploma. And while 42% of the population of Massachusetts has a bachelor’s degree or higher, four of the five counties of the Health New England service area have lower rates of having a bachelor’s degree or higher, with the lowest of Hampden County with 27% (U.S. Census, ACS, 2013-2017).
Communities of color face systemic barriers to education. Historically, slaves were not allowed to learn how to read or write, and Jim Crow laws required schools to be racially segregated. Segregation of lower income students of color into underfunded schools continues today. Additionally, differentially applied school discipline policies negatively affect students of color and disabled students, resulting in higher dropout rates and more involvement in the criminal justice system.

In focus groups and key informant interviews, schools were called out in many ways as being a key social determinant of health. Comments included the importance of the school environment as well as how school systems could be a powerful partner to improve health. Participants raised elements of the school environment such as bullying. Youth of color talked about the stress of school requirements on top of work or other tasks, experiencing racism in schools, and the need for teachers and staff to recognize trauma in students’ behaviors, particularly when students have experienced violence. In the Greater Worcester Middle School Survey, stress was rated as the top issue among youth.

“In school, they don’t teach you how to deal with emotional stress. You can end up being depressed about it.”
Focus Group Participant, Youth of Color focus group, Franklin County

Suggestions from focus groups and key informant interviews for how schools could help included:

- training teachers and staff to be trauma-informed and have cultural humility
- including Social Emotional Learning in the curriculum
- distributing information about developmental milestones to parents so they can detect disabilities early
- incorporating restorative justice circles to deal with school discipline issues
- hiring staff and teachers who have experience with the same types of neighborhood issues students face, such as gun violence
- considering policy suggestions such as passing statewide public school budget bills and incorporating restorative circles at all schools

Violence and Trauma

Interpersonal and collective violence affects health directly, via death and injury, as well as indirectly through the trauma that impacts mental health and healthy relationships. Interpersonal violence includes sexual and intimate partner violence, childhood physical and sexual abuse and neglect, and elder abuse and neglect. The four counties of Western Massachusetts (Berkshire, Franklin, Hampden, and Hampshire counties) do not have any surveillance systems that measure incidence, prevalence, risk and protective factors, and related negative health outcomes associated with interpersonal violence (including intimate partner, dating, and sexual violence, violence against children, child exploitation). Data was
gathered from subject matter experts across Western Massachusetts and the state (Department of Public Health and Executive Office of Public Safety and Security), in addition to publicly available statewide-level datasets and reports.

- **Sexual violence** – Of the over 2,900 Provider Sexual Crime Reports (PSCRs) submitted in 2017 and 2018, 13% were from assaults that reportedly occurred in Western Massachusetts, and only 57% were reported to the police. Of Western Massachusetts PSCRs, 55% (or 218) were in Hampden County. Females comprised 94% of victims/survivors, and one-third were youth under age 18.  

- **Intimate partner violence** – A 2014 criminal justice survey conducted by the city of Springfield found that of all assault arrests, 67% were for domestic violence offenses. In 2018, nearly 6,900 restraining orders were filed in all of Western Massachusetts. Different organizations in each county serve people experiencing intimate partner violence. In 2018, in Hampden County there were 5,116 calls to an Intimate Partner Violence (IPV) hotline, in Berkshire County, there were 506 calls, and in Hampshire County there were 936 calls. This data represents calls to specific agencies and may not represent the totality of IPV in each county. Data was unavailable for Franklin and Worcester counties.

- **Dating violence** – The Springfield 2017 Youth Health Survey found that 43% of students had experienced “aggressive behavior from their significant other,” and 29% had experienced physical abuse from their significant other.

- **Child abuse and neglect** – In the Springfield Public Schools’ 2017 Youth Health Survey, 8% of students reported that they had experienced physical abuse by someone in their family. The Massachusetts Department of Children and Families (DCF) reports that in the last quarter of 2018 in Western Massachusetts, over 3,000 reports of child abuse or neglect were filed and screened in for investigation, and 42% of them were deemed true and in need of services.

- **Elder abuse and neglect** – Nationally, 1 in 10 older adults reports some type of financial, emotional, physical, or sexual mistreatment or potential neglect in the prior year. The Massachusetts Executive Office of Elder Affairs reported 9,800 confirmed abuse and neglect cases in 2017, nearly 40% more than in 2015. In the Springfield Area Service Access Point, where reports would be filed, there were 2,438 intakes completed in 2018, up from 1,401 in 2014. In that same time period Franklin County’s intakes increased from 1,148 to 1,379, Florence intakes increased from 526 to 770, and Worcester intakes increased from 1,991 to 2,339.

- **Witnessing or experiencing any form of violence** contributes to many negative outcomes including mental illness, post-traumatic stress disorder (PTSD), substance use disorder, aggressive behavior, poor school outcomes, and an elevated risk of criminal legal system involvement. In the Springfield Public School 2017 Youth Health Survey, 12% of students reported that they had witnessed physical abuse. In focus
groups and interviews on gun violence, young men and women who witnessed violence discussed the anxiety, stress, grief, and sometimes numbness they have experienced.

Collective violence and trauma. Lack of community safety was a prioritized health need in the 2016 CHNA and continues to impact Hampden County residents. A safe community is one that is free from violence and danger. It is a place where people do not have to consider whether they will be safe or not when deciding where and when they will go outside of their homes.

- Crime rates – Crime rates are high, with violent crime rates in Hampden County much higher than that of the state. The rate of violent crime in Hampden County was 60% higher than the state at 616 per 100,000 people compared to 384 in Massachusetts. Hampshire County was lower with 271 violent crimes per 100,000, with Franklin at 407 and Worcester at 436. Property crime was similarly higher in the Springfield Metropolitan District (Hampden, Hampshire, and Franklin Counties) than the state, at 2,171 vs. 1,437 per 100,000 people.

- Gun violence – An analysis of gun violence done by the City of Springfield Police Department found that over a 5 year period (2013-2017), total incidents involving guns have decreased by 17%, with robbery with a gun decreasing the most (26%). However, murder with a gun increased by 20%. In all, total incidents with a gun decreased from 469 in 2013 to 345 in 2017. In recognition of cities where gun violence is highest, Springfield and Worcester recently were awarded funding from the Massachusetts Department of Public Health for gun violence interventions. In Worcester, 19% of middle schoolers had carried a weapon. Young men and women speaking in 2019 CHNA focus groups about gun violence in Springfield perceived that gun violence was omnipresent, guns are easy to get, and felt that change in the culture of gun use for people their age (18 to 25) was unlikely. Focus group participants and interviewees suggested starting at middle school age with interventions designed to prevent or reduce gun violence. Ideas included the importance of mentors, youth programs (including sports) that kids want to participate in and are affordable, and improved school systems and law enforcement.

- Bullying – More than one out of every five students nationally reports being bullied, with girls, children with disabilities, and LGBTQ+ students at increased risk. Considering data from Berkshire, Hampden, and Hampshire counties and Springfield, more than one-quarter of female students report being bullied, which is 1.4 to 1.7 times higher than male students. Findings from the Springfield Youth Health Survey (2017) indicate that 32% of Springfield and 36% of Worcester middle school students were bullied in the past year. In Worcester, middle schoolers rated bullying as the second most important issue youth their age face.

g. Environmental Exposures

Air pollution is associated with asthma, cardiovascular disease, and other illnesses. Hampden County, and Springfield in particular, experiences poor ambient air quality due to development,
zoning, and land use decisions which have located multiple mobile and point sources – including a large interstate highway, several state highways, and railroad lines – running through the city and directly through its neighborhoods. Additionally, many cities in Hampden, Hampshire, and Franklin Counties are located in a valley that air pollution travels into from other sources. Exposure to nearby roadway air pollution has a particularly detrimental impact on health, with the highway and heavily trafficked roadways running through or adjacent to neighborhoods. In Springfield, the risk of cancer from breathing air toxins is higher than at least 80% of the rest of Massachusetts.  

**Exposure to lead** is a well-known health risk connected to outcomes as varied as decreased academic achievement, IQ, and reduced growth in children, and decreased kidney function, increased blood pressure, and hypertension in adults. Springfield had the highest risk score for blood lead poisoning in the state based on 2013-2017 elevated blood level incidence rates, poverty, and percentage of households built before 1978. Springfield, Worcester, and Holyoke have the highest incidence of lead poisoning in the Health New England service area in 2017. Springfield reported 26 children with blood lead levels that indicated lead poisoning (>10mcg/dL); Worcester reported 21 children with high lead levels; and Holyoke reported 10 children with high lead levels.
2. Barriers to Accessing Quality Health Care

The following prioritized barriers to accessing health care were identified as needs in the 2016 CHNA and continue to be needs today based on the data that follows:

- insurance and health care related challenges
- limited availability of providers
- need for increased culturally sensitive care
- need for transportation and financial assistance
- lack of care coordination
- health literacy and language barriers

a. Insurance and health care related challenges

The need for help navigating health insurance and the medical system and the high cost of health care arose in every focus group for the 2019 CHNA. While 97% of Health New England service area residents are covered by a health plan (U.S. Census, ACS, 2013-2017), the ability to navigate both what a health plan will cover and the medical care systems continue to be barriers to accessing quality health care. People in focus groups talked about the difficulty of navigating without having an advocate. Nearly every population assessed through CHNA focus groups or represented through interviews mentioned navigation of these systems as challenging: people with substance use disorder or mental health issues, transgender patients, people with disabilities, parents of children with disabilities, and older adults.

"Without a coordinator, people may get lost in the system and not get what they need. Health insurers and the medical community don’t seem to understand the need for advocates/health coordinators."

Key Informant Interview, director of an agency serving older adults, Hampden County

Some examples of health plan challenges that people in focus groups and interviews identified having to traverse include:

- MassHealth reducing the number of hours it would provide for Personal Care Attendants
- needing multiple different diagnoses so a health plan would cover medical services and school-related resources for disabled children
- providers not taking MassHealth
- health plans constantly changing their products

A summary of statements from a focus group with patients who have disabilities found that the healthcare system comes across to many of the participants as hasty, uncoordinated, and emotionally apathetic. There were accounts of pharmacists, doctors, and homecare providers all lacking the time and information required to help patients understand and receive the care they need.
Financial assistance was identified as a need. Despite high rates of coverage by a health plan, the high cost of health care copayments, deductibles, tests, and medication is a barrier for many to having optimal health. In a 2018 national survey, 35% of adults aged 19-64 said they had chosen not to visit a doctor when they were sick, did not fill a prescription, or did not receive recommended follow-up care because of out-of-pocket costs. ⁶⁹

Beyond the costs of portions of health care that health plans do not cover, additional costs include programs, equipment, physical activities, and alternative therapies such as acupuncture that are typically not covered by health plans but are suggested by medical providers and help patients. For example, a public health leader noted an increase in demand for free immunizations because people cannot afford copayments. The high cost of home care for people with disabilities impacts the quality and quantity of those services. Older adults can fall into a gap where they are too young or have too much money to qualify for services they need, yet cannot afford expensive services. Financial counseling that hospitals offer is helpful, but there are not enough counselors to serve the need.

b. Limited Availability of Providers

Hampden County residents continue to experience challenges accessing care due to the shortage of providers. Lack of primary care providers (PCPs) and specialty care providers poses a significant challenge to individuals needing health care services. Community location (rural or urban) and health plan restrictions can impact accessibility to an already limited number of providers. Low-income individuals are more negatively impacted by plan-related issues of access.

Challenges reported by focus group participants included: long wait times, use of “Minute Clinics” because they cannot get in to see their own doctor, providers not accepting new patients, a wait time of four to six months between initial scan of lung cancer and surgery, a wait of a month to get replacement dentures, and other constraints that impact quality of life and health outcomes.

Population to provider ratios are one indicator of how many healthcare professionals there are in an area. Hampshire and Berkshire counties have more Primary Care Physicians (PCP) per person than the state overall, while Hampden County is worse off with only one PCP for every 1,400 people. All five counties fare worse than the state for dental providers, but all counties except for Worcester have more mental health providers than the state average (Table 4). However, focus group participants and key informant interviewees overwhelmingly reported a need for:

- increased access to mental health and addiction services, with specific mentions of need for Medication Assisted Treatment (MAT)
- psychiatrists who can prescribe medications
- neuropsychologists for children with disabilities
• specialists for adults and children with disabilities
• a variety of other specialists including ear, nose, and throat providers, rheumatologists, and oral surgeons

“We have a lot of therapists, but not enough psych[iatric medication] prescribers.”
Focus Group Participant, Parent of Children with Disabilities Focus Group, Hampden County

“There are not enough behavioral health providers – would be good if there was more awareness in society, and in the system that this is a need.”
Key Informant Interviewee, director of an agency serving older adults, Hampden County

Table 4. Ratio of Health Care Providers to Population

<table>
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<th>Primary Care Physicians</th>
<th>Dentists</th>
<th>Mental Health Providers</th>
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<tr>
<td>Massachusetts</td>
<td>960:1</td>
<td>990:1</td>
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Source: County Health Rankings, 2019

c. Need for Increased Culturally Sensitive Care

The need for culturally sensitive care remains a prioritized health need, as it was in the 2016 CHNA, with increased training in cultural humility needed as a means to deliver more culturally sensitive care. Cultural sensitivity refers to a commitment among health care and social service providers to self-reflection and evaluation in order to reduce the power imbalance between patients and providers, and to the development of care partnerships that are based on mutual respect and equality.70

Results from 2019 CHNA interviews with public health leaders and focus groups identified cultural differences between the community and providers and implicit bias as a barrier to health. Public health leaders called for:

• an assessment of where and when this happens
• increased training, experience, and sensitivity for health care providers to a variety of different cultures
• accountability for cultural insensitivity and bias

Focus group participants noted that cultural sensitivity is not limited to a racial or ethnic culture, but also includes care for stigmatized groups, such as ex-offenders, homeless individuals, people with mental health or substance use issues, the aging population, transgender, non-binary, and gender non-conforming individuals, and adults and children with disabilities. The need for providers competent in racial and cultural issues was also raised.
"[The ability of healthcare providers to] understand people with disabilities as people and not as diagnoses is not great. For example, if a person is a paraplegic, providers start out talking about what they can’t do, rather than what they can do and connecting them to communities of people with disabilities to help them navigate their new lives. There needs to be more done on part of providers in helping people understand living with a disability can be okay, not terrible."

Key Informant Interviewee, Systems Advocate, Stavros Center for Independent Living

**d. Need for Transportation**

Lack of transportation arose in every focus group, interview with key informants and public health officials, and Community Chat and Conversation as a major and chronic barrier to health care (see also Transportation section above in the Social and Economic Determinants of Health section).

Transportation is a particularly difficult issue for children and adults living with disabilities, older adults, low income populations, people living in rural areas, and cancer patients. People in focus groups mentioned challenges due to lack of transportation in getting to medical appointments, food pantries, places for disabled children to exercise, grocery stores, and pharmacies. In the BHP ACO data from Springfield Medicaid recipients, 17% said that lack of transportation had kept them from getting to medical appointments or getting medication. Survey respondents had gotten to their medical appointment the day of the survey by vehicle (55%), public transportation (9%), and walking or bicycling (5%), with the rest not answering (BHP, ACO, 2019). Focus group participants had many creative ideas, particularly those from more rural areas. Ideas included:

- expanding existing PVTA bus service
- increasing eligibility for vans that are Americans with Disabilities Act (ADA) compliant
- telehealth
- more transportation vouchers (Uber, taxis, bus passes)
- mobile health vans that go to people to do lab draws and fill prescriptions
- pharmacies that deliver
- EMS doing wellness checks

People with disabilities gave many reasons for dissatisfaction with transportation services that have been provided through health care providers, noting the need to make repeated calls to schedule, cabs simply not showing up or leaving quickly when the person is not waiting outside, and rude or disrespectful drivers.

“If walking or taking the bus is an option - that is preferable to provider-scheduled transportation.”

Focus Group Participant, Focus Group with People with Disabilities, Hampden County
e. **Lack of Care Coordination**

Lack of care coordination is a prioritized community health need in the Health New England service area, as it was in the 2016 CHNA. Care coordination involves deliberately organizing patient care activities and sharing information among all of the participants concerned with a patient’s care to achieve safer and more effective care. In the 2019 CHNA, informants went beyond simply identifying that providers need to coordinate individuals’ care. Several called for “one-stop shopping,” “consolidation of services that already exist,” and reducing the duplication of services, suggestions that were also made in the 2016 CHNA.

Focus group participants and interviewees identified important areas where care provided by multiple providers continues to be uncoordinated and results in challenges. Examples include:

- lack of follow up when a person is discharged from a mental health treatment program, substance use disorder program, or jail
- lack of coordination among agencies that provide support services for transgender clients
- lack of coordination between the Emergency Room and primary care
- need for survivor planning for people after cancer as they separate from the health care industry
- need to integrate mental health and substance use disorder services with primary care
- need for transitions, communication, and “warm handoffs” from jail to the community for a population that has a high rate of trauma and more needs

“Lack of care coordination is a life or death situation. It is so difficult for patients to be seen as whole people and not just their individual ailments; people have to be strong advocates for themselves when they are the most vulnerable.”

Regional Advisory Committee member

f. **Health Literacy and Language Barriers**

Public health leaders as well as focus group participants and interviewees continued to identify the need for health information to be accessible, understandable, and more widely distributed.

**Health literacy** is the capacity for an individual to find, “communicate, process, and understand basic health information and services to make appropriate health decisions.” Data from focus groups illustrate the need for increased access to information about providers, services, resources; information on how to advocate for themselves and their families; and health education. The Be Healthy Partnership ACO found that 13% of patients identified their ability to
read at all as poor and 48% of patients said they need help with reading medical materials always, often, or sometimes. (BHP, ACO, 2019).

Several focus groups pointed to the need to have all information in one place. In focus groups for transgender, non-binary, and gender non-conforming people as well as parents of children with disabilities, participants mentioned needing a hub of information for their specific needs that their communities know is the place to go for information, even if just an on-line resource. One person noted that they had three separately compiled documents with resources for transgendered people, and how helpful it would be if everything were in one spot. While a support group is not a replacement for an institution or organization providing needed information, participants in both the Cancer Support Group and parents of children with disabilities identified how vital their network was in teaching members self-advocacy, providing information about various resources, and providing health education.

Providers also spoke of health education needs, including increasing parents’ knowledge of typical developmental milestones so they can identify if their child is delayed, and increasing knowledge of resources available to children with disabilities.

**Language barriers** can create multiple challenges for both patients and health care providers and was previously identified as a need. Increasing availability of interpreters as well as translation of health material are specific actions that health care institutions can take to address this barrier. Baystate Medical Center, a Hampden County-based medical center, had almost 217,000 interpreter service requests in 2018 out of almost 1.3 million inpatient and outpatient encounters, meaning that about 17% of encounters required interpreter services. Smaller hospitals that are either more suburban or rural in the region only use interpretation services in about 2% of their encounters. UMass Memorial Medical Center in Worcester had almost 122,000 requests for interpretation services in 2011, about half of the amount at Baystate Medical Center.

Baystate Medical Center held a Community Conversation in Spanish in Springfield. Turnout was high, and Latino participants were appreciative of the opportunity to share their needs. Regional Advisory Committee members identified a need to integrate the perspective of people who speak other languages as well. There is a need for bilingual providers, translators, and health materials translated into a wider range of languages, particularly with the diverse refugee and immigrant populations in the Health New England service area. In Hampden County, a quarter of the population and almost one in five households in Worcester County speak a language other than English at home (U.S. Census, ACS, 2013-2017). Select communities with the largest proportion of linguistically isolated households in the Health New England service area are Holyoke (47% speaking a language other than English at home), Springfield (38%), Worcester (34%), Shrewsbury (28%), and West Springfield (24%) (U.S. Census, ACS, 2013-2017).
3. Health Conditions and Behaviors

This section focuses on the health conditions and behaviors that have the largest impact on the communities served by Health New England. Based on our analysis, the priority health conditions and behaviors are the following:

- **Mental health and substance use**
- **Chronic health conditions** – obesity, cardiovascular disease, diabetes, asthma, COPD, cancer, and the need for increased physical activity and healthy diet
- **Infant and perinatal health** – low birth weight, preterm birth, teen birth, utilization of prenatal care, and smoking during pregnancy
- **Sexual Health** – teen birth and sexually transmitted infections
- **Alzheimer's disease and dementia**

### a. Mental Health and Substance Use

Substance use and mental health were among the top urgent health needs and problems impacting the area-based on focus groups, interviews with public health officials, content experts and service providers, and Community Chats. Substance use disorders and opioid use specifically were identified as top issues. There was overwhelming consensus about the need for:

- more treatment options, including Medication Assisted Treatment (MAT), long term care options, treatment beds external to those dedicated to the criminal justice system, and treatment for people with dual diagnoses
- increased education across all sectors to reduce the stigma associated with mental health and substance abuse
- more sober and transitional housing for people recovering from addiction, those with dual diagnoses (i.e. addiction and mental health issues), and those leaving institutions (e.g., incarceration, foster care)
- increased integration between the treatment of mental health and substance use disorders
- recognition of the impact of mental health conditions and substance abuse on families

### Mental Health

Though mental health is commonly thought of as the absence of mental illness, mental well-being extends beyond the presence or absence of mental disorders. The World Health Organization defines mental health as the “state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community”. Only an estimated 17% of U.S adults are “in a state of optimal mental health.” More than one out of four adults nationally live with a mental health disorder in any given year, and 46% will have a mental health disorder over the course of
Mental health is an indicator of health itself, but also contributes to physical health and inequities.

Except for Worcester County, all of the Western Massachusetts counties report higher rates of hospitalization for mental health disorders than the state, with Berkshire County nearly triple and Hampden County double the state rate (Figure 12). Some communities have higher rates than their county rates, including Pittsfield (4,048 vs. 2,487 in Berkshire), Greenfield (2,372 vs. 1,202 in Franklin), Ludlow (2,385 vs. 1,550 in Hampden), Northampton (1,940 vs. 1,063 in Hampshire), and Worcester (1,318 vs. 789 in Worcester) (MDPH, 2014).

**Figure 12. Mental Health Disorder Hospitalization Rates by County**

![Figure 12](image)

Source: MDPH, 2012-2015. Age-adjusted per 100,000

Mental health hospitalization rates were higher among Latinos and Blacks in some of the Health New England service area counties. In both Hampden and Franklin counties, rates were almost 70% higher among Latinos than Whites. Blacks were hospitalized at higher rates when compared to Whites in all counties in the Health New England service area except for Hampden County, where rates were similar (Figure 13).
Depression is the most common type of mental illness, which affects about 27% of adults.\textsuperscript{78} Depression is the leading cause of disability worldwide.\textsuperscript{79} Suicide has risen 27% from 2005 to 2015 in Massachusetts, from about 7 per 100,000 to over 9 per 100,000.\textsuperscript{80} Suicide rates in all Health New England service area counties are higher than in Massachusetts, particularly in Berkshire and Franklin counties (12 and 13 per 100,000, respectively) (MDPH, 2013-2015). Substance use disorders often co-occur with mental illness and impact physical health as well.

"Anxiety and depression have increased. It seems like everyone has some psychiatric diagnosis that needs managing."

Key Informant Interviewee, Community Health Center staff, Franklin County

**Priority Populations**

- **Youth** are disproportionately impacted by mental health issues. In 2017, 31% of Springfield 8\textsuperscript{th} graders and 28% of Greater Worcester high schoolers “felt so sad or hopeless that they stopped doing their usual activities”.\textsuperscript{81} Stress was listed as the top health issue for over half of Worcester high schoolers.\textsuperscript{82}

- In Springfield, 14% of 8\textsuperscript{th} graders had considered suicide, and 8% had attempted it in the previous year. Rates were higher among girls; 10% of girls and 6% of boys had attempted suicide in the year prior to the survey, and 26% of girls and 20% of boys engaged in self-harm.\textsuperscript{83} Similarly in Worcester, 16% of middle schoolers had seriously considered suicide and 6% had attempted it in the past year.\textsuperscript{84} Franklin County has the highest rate of death from suicide among teens in the state, at 10 deaths per 100,000.\textsuperscript{85}

- **LGBTQ+** youth are also disproportionately affected, with 61% of LGBTQ+ 10\textsuperscript{th} and 12\textsuperscript{th} grade students responding to the 2017 Springfield Youth Risk Behavior Survey reporting
feeling sad or hopeless for two weeks or more, an increase of 5% since the 2015 survey. One in five reported that they tried to commit suicide in the past year and 38% had engaged in self-harm.\textsuperscript{86}

- Out of all Massachusetts communities statewide, nine of the ten communities with the highest rates of mental health-related hospital admissions among women were in Western Massachusetts. About 56% of girls in Springfield schools are at high risk for depression compared to 32% of boys.\textsuperscript{87}
- About 1 out of 3 older adults experience depression in communities across Western and Central Massachusetts. Several communities report higher rates of depression than the state rate of 32%, including Worcester-Central City (46%), Greenfield (38%), Montague (37%) and Holyoke (36%).\textsuperscript{88}
- Latinos and Blacks experienced high hospitalization rates for mental disorders in some Health New England counties with rates greater than Whites and greater than the county rates overall (Figure 13).
- The Substance Abuse and Mental Health Services Agency (SAMHSA) estimates that 26% of people who experience homelessness have a severe mental illness and 35% have chronic substance use issues.\textsuperscript{89}

“There is too much of a separation in treatment between physical and mental health.”
Focus Group Participant, Patients Living with Disabilities, Hampden County

Substance Use

High rates of substance use continue to be a prioritized health need for the community. Tobacco use also remains high, with rates higher across all Health New England service area counties except Hampshire County when compared to the state rate (14%). An estimated 18% of the population smoke tobacco in Hampden County.\textsuperscript{90} In Springfield, 24% of residents smoke tobacco.\textsuperscript{91}

“Some high schoolers with learning disabilities can have lots of trouble with anxiety, take drugs to help with the anxiety. We’re not picking up on this fast enough to stop the drug use.”
Focus Group Participant, Substance Use Disorder Focus Group, Hampden County

Substance use disorders (SUD) are the recurrent use of drugs or alcohol that result in health and social problems, disability, and inability to meet responsibilities at work, home, and/or school. Risk factors for SUD include genetics, age at first exposure, and a history of trauma. Emergency room (ER) visit rates for substance use were higher in Hampden, Franklin, and Worcester counties when compared to the state as a whole. Worcester County had the highest rate, which was 22% higher than that of the state (Figure 15). Some select communities have disproportionately higher ER visit rates for substance use disorders when compared to their respective counties, including: Orange (591), Athol (564), Worcester (456), Holyoke (402), and Ware (401) (MDPH, 2014). ER rates for substance use have increased
most dramatically in Worcester and Franklin counties, where rates were almost 2.5 times higher in 2015 than in 2012 (MDPH, 2012-2015). Data disaggregated by race/ethnicity were unavailable.

“The newspaper put a person’s photo on the front page for possession charge – not dealing or anything serious. We don’t treat people with diabetes or other diseases that way.”
Focus Group Participant, Substance Use Disorder Focus Group, Hampden County

Figure 15. Substance Use Disorder Emergency Room Visits by County

Substance use admissions to state-funded treatment programs in the Health New England service area have increased over time with the exception of Berkshire County. Between 2012 and 2017, total admissions have risen 20% in Worcester County, 30% in Hampshire, 42% in Hampden County, and 132% in Franklin County. In terms of raw numbers, Franklin County had the lowest number of admissions in 2017 with 1,400, and Worcester County had the highest with 12,000. Note that admissions may count people more than once as one individual might be admitted to several different programs, and multiple times, over the course of a year. Admissions for heroin and alcohol drive admissions, with the proportion of people admitted for a primary use of heroin increasing over time. Crack/cocaine, marijuana, and other opioids account for under 10% of admissions each.92
Opioid use disorder continues to be a public health crisis in Massachusetts and across the country. In Massachusetts, the number of opioid-related deaths in 2014 represents a 65% increase from 2012.93 Between 2016 and 2017 there was a 4% decrease in the number of opioid-related deaths in Massachusetts; however, in the prior year there had been a 28% increase. In 89% of deaths from opioids, fentanyl was present.94

All five counties have seen the number of opioid-related deaths increase dramatically. Hampden County had 32 deaths in 2000 and 113 in 2017. Worcester County went from 60 to 266 in the same time.95 The greatest number of overdoses in the four counties of Western Massachusetts occurred in Springfield, Chicopee, and Holyoke during July through September, 2018, based on data from an overdose incident analysis conducted by the Pioneer Valley Opioid Data Collaborative (PVODC). Pockets of high incident density were also found in Greenfield, Northampton, Pittsfield, North Adams, and Athol (Figure 17).
According to provisional data from the PVODC, more than one-third of overdoses in the four-county Western Massachusetts region went to Baystate Medical Center in Springfield. About 14% went to Mercy Medical Center, about 14% to Holyoke Medical Center, 10% to Baystate-Berkshires, 7% to Cooley Dickinson, and 5% or less to Baystate Noble, Baystate Franklin, Baystate Wing, and Baystate N. Adams (PVODC, 2019).

Increased use of harm reduction approaches, such as Narcan, reduces morbidity and mortality of opioid overdose. Additionally, stakeholders called for increased access to long-term treatment programs, more provider and patient education to reduce stigma and to get people the care they need, and more support for youth, particularly those with histories of trauma.

Priority Populations

- **Youth** substance use and abuse can affect the social, emotional, and physical well-being of youth and lead to lifelong substance dependence problems. An estimated 16% of 8th
graders drink alcohol and 12% use marijuana in Springfield. In Worcester, 16% of middle schoolers have tried alcohol and 8% have tried marijuana.

  - In key informant interviews, health care providers noted vaping and marijuana use among youth as a rising concern since the legalization of marijuana in Massachusetts. A national study found that vaping rates among high school youth almost doubled between 2017 and 2018, from 11% to 21%. In Springfield, 19% of students reported trying vaping, and 4% stated they had vaped in the last month. In Worcester, 35% of middle schoolers said they had heard of e-cigarettes through the media and 8% had tried a flavored cigarette.

  - In some communities in the Health New England service area, older adults have higher proportions of some form of substance use disorder than in the state overall. In Massachusetts, 7% of adults over age 65 report substance use. Proportions in some Health New England service area communities are higher, with Montague reporting 11%, Holyoke 10%, and Springfield, Ware, Worcester, and Greenfield reporting 9%.

  - People reentering society after incarceration, particularly if their incarceration was related to drugs in any way, are at higher risk. Studies consistently show high risk of overdose in the first two weeks after reentry.

  - People who have dual diagnoses. People who have both mental health and substance use disorders face greater challenges accessing services, according to focus group participants and interviewees.

  “There are not many dual programs. Many addicts have mental health issues as well, but programs usually do not treat both – just addiction – so they recover but it doesn’t last and they go back in and out of rehab.”

  Focus Group Participant, Substance Use Disorder Focus Group, Hampden County

b. Chronic Health Conditions

Chronic health conditions continue to remain an area of prioritized health need for Health New England service area residents. Residents continue to experience high rates of chronic health conditions and associated morbidity, particularly for obesity, diabetes, cardiovascular disease, cancer, and asthma. A chronic health condition is one that persists over time and typically can be controlled but not cured. According to the CDC, chronic disease is the leading cause of death and disability in the U.S. By 2020 it is estimated that 81 million Americans will have multiple chronic conditions. A healthy diet and physical activity play an important role in preventing and managing chronic diseases.

Obesity

Obesity continues to be a prioritized health need. Approximately one in four people are obese in the counties served by Health New England, with rates highest in Hampden (29%), Franklin
(27%), and Worcester counties (27%). Though the prevalence in Hampshire County (24%) is the lowest in the service area and lower than that of the state as a whole, it remains a substantial public health issue, impacting one in five adults. In Springfield, 37% of the population is obese. Obesity is a national epidemic and contributes to chronic illnesses such as cancer, heart disease, and diabetes. Obesity can impact overall feelings of wellness and mental health status. A healthy diet and physical activity play an important role in achieving and maintaining a healthy weight.

Though childhood obesity rates have been falling nationally and within some communities in the region over the last few years, it remains concerning. In the 2014-2015 school year, obesity rates were over 20% in the Northampton Smith-Vocational, Springfield, Palmer, Worcester, West Springfield, Holyoke, Athol, and Greenfield schools. County-level childhood obesity data is not available.

In the Springfield Public Schools in 2017, 17% of students were overweight with 26% having a Body Mass Index signifying obesity. This proportion is similar for White, Black, and Latino students.

Cardiovascular Disease (CVD)

Cardiovascular disease (CVD) continues to be a prioritized health need due to high rates of CVD hospitalizations in some Health New England service area communities, the high prevalence of hypertension among older adults, and the racial and ethnic inequities observed in CVD hospitalizations. CVD includes diseases that affect the heart and blood vessels, such as coronary heart disease, angina (chest pain), hypertension, heart attack (myocardial infarction), and stroke. Heart disease is the leading cause of death in Hampden and Hampshire counties, and the second leading cause of death in Berkshire, Franklin, and Worcester counties. Holyoke, Springfield, and Palmer have the highest rates of cardiovascular disease hospitalization among the large communities in the Health New England service area (Figure 18).
Priority Populations

- **Older adults** experience higher rates of CVD. For example, about four-fifths of people over age 65 have hypertension, which is reflective of the high rates in the state overall. Ischemic heart disease affects about 40% of older adults, with slightly higher proportions in Worcester, Holyoke, Ware, and Shrewsbury (between 44% and 48%).

- CVD hospitalization rates for **Blacks** are much higher in all five Health New England service area counties than in the state. For four of the five counties, CVD hospitalizations for **Latinos** are lower than the state rate. In Hampden County, rates for the Latino population are almost double that of Whites (Figure 19).
Diabetes

Diabetes continues to be a prioritized health need. The vast majority of diabetics suffer from Type 2 diabetes, which is one of the leading causes of death and disability in the U.S. and a strong risk factor for cardiovascular disease. The CDC estimates that 9% of people in the U.S. have diabetes, of which 24% are undiagnosed. Pre-diabetes is when a person has high blood sugar levels that are not high enough for a diagnosis of diabetes. An estimated 15 to 30% of people with pre-diabetes will develop Type 2 diabetes within 5 years. In the Health New England service area, 8 to 11% of county residents have diabetes (Hampshire at 8%, Berkshire at 10%, and Hampden, Franklin, and Worcester at 11%), which are comparable to the rate of the state as a whole (9%). Diabetes prevalence is high among older adults over age 65, with prevalence rates as high as 38% in Worcester and Holyoke, and 41% in Springfield, compared to 32% in the state of Massachusetts.

Diabetes hospitalization rates are a measure of severe morbidity due to diabetes. Rates of diabetes hospitalizations are 36% higher in Hampden County than that of the state. Rates in other Health New England service area counties are generally comparable to or less than that of the state. Some communities in the Health New England service area are disproportionately affected, with North Adams, Athol, Springfield, Holyoke, and Chicopee having diabetes hospitalization rates that are double or more the statewide rate (Figure 20).

Source: MDPH, 2012-2015. Age-adjusted per 100,000

Figure 19. Cardiovascular Disease Hospitalization Rates by Race

![Graph showing hospitalization rates by race and county in the Health New England service area.](image-url)
Priority Populations

- **Older adults** in select communities in Hampden County experienced higher rates of diabetes than the state. Between 20% and 41% of older adults in communities in the Health New England service area have diabetes, with most communities having a prevalence of about a third.\(^{115}\)

- **Latinos** and **Blacks** experienced higher rates of diabetes hospitalizations compared to Whites in almost all counties. In Hampden, Hampshire, and Worcester counties there are inequities for Blacks and Latinos, ranging from double to over triple the diabetes hospitalization rate of Whites. In Berkshire and Franklin counties, diabetes hospitalization for Blacks were higher than for Whites; however, numbers for Latinos were suppressed due to small numbers (MDPH, 2012-2015).

Asthma and COPD

**Asthma** impacts many Health New England service area residents. Asthma is a common chronic respiratory disease that affects the health and quality of life of children and adults. Asthma can be caused by different factors in the environment, including cigarette smoke, second hand smoke, air pollution, pollen levels, mold, dust, and other household contaminants or exposures. The Springfield Metropolitan Statistical Area (Hampden, Hampshire, and Franklin counties) was identified as the most challenging place to live in the U.S. with asthma, according to the Asthma and Allergy Foundation's 2018 Asthma Capital rankings. The rankings are based on rates of asthma, emergency room visits, and mortality, and the presence of risk factors.\(^{116}\)
Emergency room visit rates for asthma for all Health New England counties except Hampshire are higher than the statewide rate, with Hampden’s rate as the highest at almost double that of the state (975 vs 554 per 100,000 statewide). Racial inequities are stark. For example, asthma ER visit rates among Latinos are over five times that of White residents in Hampden County (2,600 vs. 445 per 100,000). Similarly, Blacks are disproportionately affected in Franklin County, with rates more than double that of White county residents (2,500 vs. 521 per 100,000) (Figure 21).

**Figure 21. Emergency Room Visit Rates by Race for Asthma, Hampden County**

Prevalence of childhood asthma in the Health New England service area select communities is high, with almost one in five children experiencing asthma (Springfield - 17%, Northampton and Chicopee - 18%, and Holyoke -19%). Across counties in the service area, rates are highest in Hampden and Hampshire Counties, where 15% and 14% of children have asthma, respectively (Figure 22).

Between 13% and 20% of adults over age 65 have asthma in the Health New England service area. Similar to children, older adults in Easthampton and Orange (17%), Chicopee (18%), Springfield (19%), and Holyoke (20%) have higher rates.\(^\text{117}\)
Chronic Obstructive Pulmonary Disease (COPD) is chronic obstruction of lung airflow that interferes with normal breathing and is not fully reversible. More familiar terms such as chronic bronchitis and emphysema are no longer used, but are included within COPD. COPD impacts many Health New England service area residents. Long-term exposure to lung irritants that damage the lungs and airways is usually the cause of COPD. These irritants can be the result of tobacco use or secondhand exposure, air pollution, chemical fumes, or dust from the environment or workplace.

The only Health New England service area county that had a higher rate of hospitalization for COPD than the state was Hampden County, with a rate of 389 per 100,000 compared to 318 at the state level. However, most counties had inequitable outcomes, with the most drastic in Hampden County, where Latinos had over double the rate of hospitalizations as Whites and Blacks (Figure 23).
Priority Populations

- **Children** are priority populations for asthma. Figure 22 shows that rates for children are highest in Holyoke out of the select communities examined. As in the 2016 CHNA, children in Hampden County were hospitalized at lower rates than the state (140 in Hampden County vs. 186 per 100,000 in MA), but they went to the emergency room at much higher rate than the state (1,548 vs. 857) (MDPH, 2014).
- A higher proportion of **older adults** in Hampden County also have asthma. Compared to the state, where 15% of adults over age 65 have asthma, more residents of Holyoke (20%), Springfield (19%) and Chicopee (18%) have asthma.118
- **Latinos** in Hampden County experience large asthma- and COPD-related disparities, with emergency room visit rates 6 times that of Whites in Hampden County and more than 4 times that of the state hospitalization rate overall for asthma. Latinos also have nearly 3 times the rate of COPD hospitalization in Hampden County (Figure 23). Blacks also had higher rates of asthma hospitalization than Whites in all five counties (Figure 23) and higher COPD hospitalizations in Hampden, Hampshire, and Worcester counties (MDPH, 2012-2015).

Cancer

Cancer is the leading cause of death in Berkshire, Franklin, and Worcester counties and the second leading cause of death in Hampden and Hampshire Counties.119 All of the Health New England counties have lower rates of hospitalization than the state (MDPH, 2014), but the age-adjusted rate of death from cancer is higher than the state in Hampden, Hampshire, and Worcester counties (Massachusetts rate: 160 per 100,000, Hampshire: 164, Worcester: 168, and...
Pittsfield, West Springfield, and Holyoke have slightly higher rates of cancer hospitalization compared to the statewide rate (MDPH, 2014). Cancer hospitalization rates are higher among Blacks than Whites in all counties, and among Latinos in Hampden and Hampshire counties (MDPH, 2012-2015).

While the incidence of cancer in the state has decreased, it is important to note that due to the aging population there are likely to be higher rates of cancer in the near future. Statewide, the most prevalent forms of cancer among men are prostate (23%), bronchus/lung (14%), colon/rectum (8%), and urinary/bladder (8%). Among women, the most prevalent forms are breast (30%), bronchus/lung (14%), colon/rectum (8%), and uterine (7%). Cancer of the bronchus/lung accounted for approximately 27% of all cancer deaths from 2011 to 2015 statewide.

**Need for Increased Physical Activity and Healthy Diet**

Increasing physical activity and consuming more fresh fruits and vegetables are other identified needs in the Health New England service area. Healthy eating and physical exercise are important to preventing poor health outcomes such as cardiovascular disease, diabetes, dementia, depression, and others. Community-level access to affordable healthy food and safe places to be active, as well as individual knowledge and behaviors, affect these rates.

Among Massachusetts residents who took part in the CDC’s Behavioral Risk Factor Surveillance System (BRFSS) 2013 survey, only 11% of respondents met the vegetable consumption recommendation and 14% met the fruit consumption recommendation. In general, women, Latinos, and people with higher incomes are more likely to meet recommended intake levels. Students in Springfield report low levels of vegetable consumption, with about two-thirds of Black and Latino students and more than half of White students responding that they had eaten either one or no vegetables in the day prior to the survey (Figure 24). Rates of eating fruit or drinking fruit juice were higher, with a majority of Black (59%) and Latino (64%) students having two or more servings of fruit juice or eating fruit in the prior day. While the question reflected the Massachusetts state youth health survey, having the question include fruit juice is problematic as fruit juice does not have the same nutritional value as whole fruit and is generally high in sugar content.
In general, a similar or higher percentage of individuals over the age of 20 in Western Massachusetts report getting no leisure-time physical activity in the past month than in the state overall. Compared to 22% of individuals over age 20 in the state, 25% of individuals in Hampden County and 21% of individuals in Berkshire and Worcester counties reported getting no leisure-time physical activity in the past month. In Springfield, 35% of adults aged 18 and over reported getting no physical activity. Approximately 1 out of 3 middle schoolers in Springfield, and 1 out of 4 Worcester middle schoolers reported getting 60 minutes of exercise during 2 or fewer days in the previous week (Figure 25).
The need for increased youth programming and access to places that encourage physical activity was cited by individuals across several focus groups and interviews conducted for this CHNA, particularly sports and after school programming that are affordable to those with low incomes. When discussing factors that prevent or reduce gun violence, young people, parents, staff from community organizations, and individuals in law enforcement discussed the importance of sports as one form of activity that is attractive to youth and helps keep them from gun violence. Parents of children with disabilities spoke about the importance of being able to access places where their children can exercise, such as a pool or the BFit Power-based Exercise program at Springfield Shriners Hospital.

c. Infant and Perinatal Health

Infant and perinatal health risk factors continue to impact residents in the Health New England service area, causing poor maternal and infant outcomes. Preterm birth (<37 weeks gestation) and low birth weight (about 5.5 pounds) are among the leading causes of infant mortality and morbidity in the U.S. and can lead to health complications throughout life. Early entry to prenatal care and adequate prenatal care are crucial components of health care for pregnant women that directly impact birth outcomes, including preterm birth, low birth weight, and infant mortality (infant death before age 1). Smoking during pregnancy is a risk factor that increases the risk for pregnancy complications and affects fetal development.\textsuperscript{128}

Rates for preterm birth and low birth weight were highest in Hampden County among the five counties of the Health New England service area. In Hampden County, approximately 10% of births were preterm and over 8% of babies were born with low birth weight. The highest rates of
preterm birth and low birth weight in the Health New England service area were found in Springfield, Ludlow, and Worcester.

Hampden County’s birth outcomes vary by race. Black women in Hampden County experience a rate of low birth weight double that of White women. Rates of preterm birth were also higher among Black and Latina women compared to White women (Figure 26). Rates are also high among teens, with an estimated 13% giving birth to low birth weight babies and 12% having preterm births (MDPH, 2016).

**Figure 26. Birth Outcomes by Race/Ethnicity, Hampden County**

![Birth Outcomes by Race/Ethnicity, Hampden County](source: MDPH, 2016)

Adequacy of prenatal care can impact birth outcomes. National guidelines suggest that women receive routine checkups once a month for weeks 4 through 28 of pregnancy, twice a month during weeks 28 through 36, and weekly from weeks 36 to birth. The Adequacy of Prenatal Care Utilization Index (APNCU) measures utilization of prenatal care based on the time when care is initiated and frequency of care received.

An estimated 19% of women did not receive adequate prenatal care in Berkshire, Hampden, and Worcester counties (Figure 27). Black women in Berkshire, Hampden, and Worcester counties experience higher rates of inadequate prenatal care compared to White women, and Latinas experience higher rates of inadequate prenatal care in all counties except for Worcester County (MDPH, 2016). Studies suggest that racial and ethnic disparities in receiving adequate prenatal care are linked to systemic injustices facing many individuals of color, including practitioners stereotyping women of color when providing care, and unequal education opportunities. Teens also had high rates of less than adequate prenatal care in Hampden County (27%) (MDPH, 2016).
Smoking during pregnancy ranges from 7% in Hampden and Hampshire counties up to 19% in Berkshire County. Rates were highest among White women (between 8 and 20%), as compared to Black and Latina women (Figure 28).

**Figure 28. Smoking during Pregnancy by County and Select Communities**
Priority populations

- Outcomes by race/ethnicity illustrate drastic disparities. For counties where there is enough data, rates of low birth weight among Blacks are almost double that of Whites (12% and 6.2% in Hampden County, respectively). Differences in rates between Latinas and White women are smaller, but Latinas also have higher rates than Whites. Black and Latina preterm births are also higher than that of Whites (MDPH, 2016).
- Blacks and Latinas have lower rates of smoking during pregnancy than Whites, but higher rates of receiving less than adequate prenatal care (MDPH, 2016).
- Being a pregnant teenager impacts birth outcomes, with teen moms having much lower rates of adequate prenatal care (MDPH, 2016).
- Income also makes a difference. With the proxy being type of health coverage, across the state only 11% of those with private coverage were without adequate prenatal care, compared to 25% of those with public coverage (MDPH, 2016).

d. Sexual Health

Though collaborative community efforts have made great strides in lowering teen pregnancy rates, they remain high. Four of the five counties in the Health New England service area have teen birth rates higher than the state rate (Figure 29). Hampden County rates are almost double that of the state (17 vs. 9 per 1,000), with high rates in Springfield (25 per 1,000) and Holyoke (32 per 1,000) (MDPH, 2016). The teen birth rate among Latinas is about 8 times that of Whites in Hampden County, and nearly 6 times that of Whites in Worcester County. The teen birth rate among Black women is double that of White women in Hampden and Worcester counties (Figure 30).

Figure 29. Teen Birth Rates

Source: MDPH, 2016. Rates are per 1,000 females age 15 – 19
Sexually Transmitted Infections

High rates of STIs and teen pregnancy were identified as prioritized needs in the 2013 and 2016 CHNAs of hospitals serving Hampden County, and these rates continue to be elevated. Unsafe sexual behavior contributes to these high rates.

Chlamydia rates are elevated in Hampden County with rates of newly diagnosed chlamydia cases 22% higher than the state (481 in Hampden County compared to 395 per 100,000 in the state). Springfield had the fifth highest chlamydia incidence rate in Massachusetts in 2016 (827 per 100,000 compared to a statewide rate of 388) and the fourth highest gonorrhea incidence rate in Massachusetts (174 per 100,000 compared to a statewide rate of 69).

The Massachusetts Department of Public Health Infectious Disease Surveillance Unit collects data on sexually transmitted infections by community. For the 20 select communities identified for the Health New England service area, Figures 31, 32, and 33 identify communities with higher rates of chlamydia, syphilis, and HIV than the state rate.
Figure 31. Chlamydia Rates in Select Communities

Source: MDPH, 2015, Rates per 100,000

Figure 32. Syphilis Rates in Select Communities

Source: MDPH, 2015, Rates per 100,000
Priority Populations

- **Young adults** are at higher risk for sexually transmitted infections (STIs). Statewide, young adults aged 15 to 29 have the highest rates of chlamydia, syphilis, and gonorrhea compared to other ages.¹³²
- **Men and women** have higher rates of different STIs. Statewide, gonorrhea rates among men have doubled in the last decade and men experience higher rates of gonorrhea than women. Men also experience higher rates of syphilis, reflecting an ongoing epidemic among men who have sex with men. Women, however, have nearly double the rate of chlamydia as men.¹³³
- **Blacks and Latinos** have higher rates of HIV infection statewide.¹³⁴
- Teen pregnancy rates are particularly high among **Latinas** with a rate of 40 per 1,000 young Latina women aged 15-19 in Hampden County compared to a rate of 5 among White women (Figure 31).

e. Alzheimer’s Disease and Dementia

Approximately 14% of Massachusetts residents over age 65 have Alzheimer’s disease or a related form of dementia. Holyoke (19%), Montague (17%), Springfield (17%), Athol (17%), Greenfield (16%), and Worcester (16%) have some of the highest prevalence rates of Alzheimer’s disease or related dementias in the Health New England service area.¹³⁵ Between 2010 and 2035, the proportion of people age 60 and over in the five counties is projected to grow between 8% (Hampden and Franklin counties) and 13% (Hampshire County).¹³⁶
4. Priority Populations of Concern

Available data indicate that children and youth, older adults, Latinos, and Blacks experience disproportionately high rates of some health conditions when compared to that of the general population in the Health New England service area. Children experience high rates of asthma. Teens experience higher rates of STIs and poor birth outcomes. Older adults have higher rates of hypertension, asthma, diabetes, and Alzheimer’s disease. Latinos and Blacks have higher rates of hospitalizations due to asthma, cardiovascular disease, and diabetes, and experience poor birth outcomes, lower rates of prenatal care, and higher rates of teen pregnancy.

With regard to mental health and substance use disorder, data indicate increased risk for youth for depression, substance use, and suicide. In particular, girls have higher rates of some types of substance use and LGBTQ+ youth have particularly high rates of depression and suicide. Older adults are at risk for substance use disorder and depression. Latinos have much higher rates of mental health hospitalizations and substance use emergency room visits. Others at risk include people reentering society after incarceration and people with dual diagnoses, who are at high risk for overdose. People experiencing homelessness have high rates of severe mental illness and substance use disorder.

When considering the social determinants of health, the Latino and Black populations experience a host of inequities, including that of poverty, unemployment, income, educational attainment, interpersonal and institutional racism, affordable and safe housing, and access to transportation and healthy food. Youth and young adults were identified as at risk for childhood poverty and gun violence, and older adults experience needs in affordable housing, income, and social isolation. People with lower incomes experience poverty, unemployment, income concerns, poor housing conditions, lack of access to affordable and safe housing, and lack of access to adequate transportation and healthy food. People with disabilities tend to have higher rates of poverty, lower access to and achievement of education, and challenges with accessing transportation. Children with disabilities have increased risk for bullying, and have decreased access to physical activity and transportation. Women earn less than men, and have high rates of experiencing interpersonal violence and trauma. People who have been involved in the criminal legal system have barriers to housing and employment, and experience stigma and trauma. People with mental health and substance use disorders experience homelessness at higher rates and stigma.
5. Geographic Areas of Concern

Of the five counties in the Health New England service area, Hampden and Worcester counties had consistently higher rates for the majority of health conditions identified as prioritized health needs. Individuals in these counties also disproportionately experience numerous social and economic challenges which contribute to the discussed health inequities. These counties include the largest proportions of residents of color, so health inequities observed in these counties contribute to the many racial and ethnic disparities observed in the service area.
V. Community & Hospital Resources to Address Identified Needs

See Appendix VII.
VI. Input and Actions Taken on Previous CHNA

1. Community Input on Previous CHNA and CHIP

In May of 2016, Health New England held a community forum for community members, public health officials, and local community organizations with the following goals in mind:

- share findings of community health needs based on analysis of available data as part of the CHNA process that included the following counties: Berkshire, Franklin, Hampden, Hampshire, and Worcester
- get feedback to confirm that CHNA findings ring true with participants’ understanding of the health needs in their community
- ensure that Health New England has not overlooked important health needs impacting its community
- prioritize the health needs in small group discussions to help plan Health New England’s Community Health Improvement Plan (CHIP)

In 2018, HNE consulted with the Public Health Institute of Western Massachusetts to help develop and implement the Where Health Matters grant program. The Where Health Matters grant program is a fundamental component of Health New England’s CHIP and community benefits strategy. During the grant review process, Health New England engaged public health experts from the community as part of the review process. Community members played a critical role in the review, discussion, and recommendation process of awarding four $50,000 grants.

2. Impact of Actions Taken by Hospital Since Last Community Health Needs Assessment

The mission of Health New England, as part of Baystate Health (an integrated health care system), is to improve the overall quality of life and health status of the people living in the communities we serve and to contribute to the economic success of our region. Health New England is committed to meeting the identified health and wellness needs of our communities served through our combined efforts with Baystate Health, community organizations, affiliated providers, and community partners. In addition Health New England, along with Baystate Health, extends the traditional definition of health to include the social and economic determinants of health, including economic opportunity, affordable housing, quality education, safe neighborhoods, food security, reducing youth violence, arts/culture, and racism-free and
discrimination-free living for all communities. These are important elements needed for individuals, families and communities to thrive.

Using Health New England’s 2016 Community Health Needs Assessment, Health New England identified community health priorities and priority populations as part of its Community Benefits Program. From 2016 to 2018, Health New England has continued to 1) focus on prevention and increase access to health and wellness care; 2) be a resource to the community for health information and wellness programs; 3) sponsor/underwrite the cost of health improvement programs focused on at-risk families and children that demonstrate improvements in community health status; 4) focus on amelioration of root causes of health disparities, including economic development, job training, and education; and 5) measure improvements in community health status that result from our efforts.

**Identified Priority Populations**

- Children and youth
- Communities of color, particularly Latinos and Blacks
- Individuals living in poverty or with low income levels
- Individuals or families who are homeless
- LGBTQ individuals
- Older adults
- Refugees
- Veterans

**Identified Health Priorities**

- Food security, nutrition, and access to healthy food options
- Behavioral health/mental health, substance use disorder
- Infant, child, and maternal preventive health
- Early education, literacy, and higher education for at-risk youth
- Resources to meet basic needs
- Institutional racism
- Chronic health conditions
- Housing conditions

Health New England’s Community Benefits program awards funding to community nonprofit organizations in three ways: 1) Where Health Matters grant program of awards up to $50,000; 2) mini grants up to $5,000; and 3) community sponsorships up to $2,500.

In 2018, Health New England started the “Where Health Matters” grant program, awarding $50,000 grants that target four priority areas: chronic diseases, food and housing insecurities, infant and perinatal/maternal health, and mental health and substance use disorder, as identified by the 2016 CHNA. In December 2018, four $50,000 grants were awarded to four community nonprofit organizations, one in each priority area. These larger dollar grants provide a greater opportunity to positively influence the health and well-being of the community and
report on program outcomes at the conclusion of the grant periods. The grant program complements and mirrors Health New England’s community benefits mission by 1) encouraging programs to address health priorities as well as social determinants of health to improve health equity across our priority populations; 2) bringing value to community organizations by providing grant recipients with education and technical assistance in the planning and implementation of their grant programs; 3) incorporating a population health perspective; 4) driving health improvements using evidence-based methodologies; and 5) facilitating collaboration with community partners to leverage existing relationships to develop new programs, extend the reach of an organization, and integrate programs to ultimately expand services and have a greater impact on priority populations. The following four organizations were awarded $50,000 for the Where Health Matters grant program in 2018.

**Chronic Condition Focus Area:** Revitalize Community Development Corporation received funding to support “Doorway to Accessible Safe and Healthy Homes” to decrease in-home asthma exacerbation incidents among seniors on Medicare in Hampden County. The grant will address in-home asthma triggers, remediate homes and provide health self-management education for seniors over 65 who have experienced one hospitalization or two emergency room visits due to asthma in the past 12 months.

**Food Insecurities Focus Area:** Just Roots received funding to support “Mainstreaming Food Access into Health and Housing Programs” to increase access to health services and healthy food for low-income individuals and families residing in two low-income housing complexes in Franklin County, working in coordination with the Community Health Center of Franklin County. The grant will address the disproportionately isolated low-income housing communities isolated from the larger community that surrounds them and improve access to fresh local food and health services.

**Infant and Perinatal/Maternal Health Focus Area:** March of Dimes received funding to support “Supportive Pregnancy Care” to reduce preterm birth and low birthweight infants of Latina mothers and those diagnosed with gestational diabetes in Worcester County. The grant will address premature birth and low birth weight infants of Latina mothers with gestational diabetes in Worcester County who lack social supports, self-efficacy, and health literacy.

**Mental Health and Substance Use Disorder Focus Area:** Behavioral Health Network (BHN) received funding to support the “Empowerment Project” to develop and implement support programs for LGBTQ youth and expand community training of BHN and Springfield Public School staff to address the unique health needs of LGBTQ youth living in greater Springfield. The grant will address the specific behavioral health needs of LGBTQ youth in greater Springfield who disproportionately experience elevated depression and suicide and lack of access to tailored services and supports.
VII. Summary

The Health New England service area of Berkshire, Franklin, Hampden, Hampshire, and Worcester counties in Massachusetts continues to experience many of the same prioritized health needs identified in Health New England’s 2016 CHNA. Social and economic challenges experienced by the population in the service area contribute to the high rates of chronic conditions and other health conditions identified in this needs assessment. These social and economic factors also contribute to the health inequities observed among priority populations, including children, older adults, Latinos, Blacks, LGBTQ+ youth, people with low incomes, women, people with mental health and substance use disorders, people involved in the criminal legal system, people experiencing homelessness, and people living with disabilities. Additional data is needed to better understand the needs of these populations in order to reduce inequities.

The Health New England population continues to experience a number of barriers that make it difficult to access affordable, quality care, some of which are related to the social and economic conditions in the community, and others which relate to the health care system. Mental health and substance use disorders, including opioid addiction, were consistently identified as top health conditions impacting the community, and the inadequacy of the current systems of care to meet the needs of individuals impacted by these disorders arose as an important issue that needs to be addressed. Also prioritized are chronic health outcomes, such as cardiovascular disease, asthma, cancer, and diabetes, among others. Progress has been made to address some of the prioritized health needs previously identified, such as teen pregnancy and childhood obesity; however, rates remain high and work needs to be continued.
VIII. References

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