1. What are the main health care-related factors that influence patient outcomes in rural and/or urban underserved areas? Are there additional, systems or factors outside of the health care industry that influence health outcomes within these communities?

Health care related factors that influence people’s quality and length of life in central/western counties include:

- The lack of affordable and accessible medical care was identified.
- Insurance and health care related challenges. The ability to navigate both what health insurance will cover and medical care systems was raised by multiple community stakeholders and interviewees. High costs of co-pays and deductibles, the difficulty of knowing what is covered or not, constant changes in coverage, and barriers of bureaucracy were cited as examples.
- Limited availability of providers – central/western 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 for health care and social service providers to a variety of different cultures. 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 continues to be a major barrier to accessing care as one of the most frequently cited barriers in key informant interviews and focus groups for the 2019 CHNA. Poor access to transportation is a barrier to medical care, 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 indicates the need for increased health literacy, including understanding health information, types of services and how to access them, and how to advocate 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.

In the unique region of central and western MA, which has rural, urban and suburban mix, the latest Community Health Needs Assessment highlighted these social determinants as priority areas that are having detrimental impact on people’s health and their ability to access health care services.

- Housing needs – over one-third of residents experience housing insecurity, paying more than 30% of their income on housing. For a typical household people pay more than half of their income on housing plus transportation. Hampden County has the highest amount of homelessness of the five central/western 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

- Built environment (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. The highest rate of living without access to a vehicle is in Hampden County, where nearly 14% of residents do not have personal transportation or rely on public transportation. Over 23% of Springfield and Holyoke 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 continues to impact the ability of many residents to have 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 central/western 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 for all Health New England counties than that of the state, with Hampden and Berkshire counties the lowest at 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 central/western area counties do not have a high school diploma (in Massachusetts, 10% do not). In 4 of 5 central/western counties, fewer residents have a bachelor’s degree or higher than the state rate.
• Violence and trauma – similar to the 2016 CHNA, personal and community safety were elevated as a concern. 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 than that of the state respectively. Youth bullying was also identified as a concern in this assessment, particularly of children with disabilities and LGBTQ+ students.
• The social environment is a key area where many face challenges. In general, Hampden and Worcester counties are younger, more racially and ethnically diverse, with higher levels of disability than that of 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 creates barriers to being able 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.
• 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, cardiovascular disease, and recent studies also suggesting an association with diabetes. Exposure to lead is also heightened in Springfield, Worcester, and Holyoke.

2. **What successful models show a demonstrable, positive impact on health outcomes within rural or underserved communities, for example initiatives that address: a) social determinants of health (particularly transportation, housing instability, food insecurity); b) multiple chronic conditions; c) broadband access; or d) the use of telehealth/telemedicine/telemonitoring?**

There have been and are several demonstration projects taking place in western Massachusetts and the current projects will have results to share with in the next twelve to twenty-four months. Each of the examples below took or are taking place in rural and underserved areas of Hampden County.

In 2016-2018, the Health Policy Commission (HPC) funded several Community Hospital Acceleration, Revitalization, and Transformation (CHART) grants throughout the state and two were in western Massachusetts at Baystate Wing Hospital and Baystate Franklin Medical Center (BFMC). The CHART program was focused on comprehensive care for the whole person—a major change in the current paradigm of medical care. Hospital care tends to focus on solving immediate medical needs without acknowledging how those needs fit into the larger picture of a patient’s basic needs (social determinants of health). A critical element of success was connecting with the patient as soon as possible, in a face-to-face encounter when they are
still in the hospital. This increases the likelihood that the patient will be willing to engage with the team going forward and allows for an initial needs assessment, which expedites follow up care coordination. CHART staff were proactive in helping the person to identify and articulate their true needs and goals, and then establish an appropriate individualized care plan. CHART results should be reviewed through the HPC. Some specific examples from BFMC include:

- A patient with Chronic Obstructive Pulmonary Disease (COPD) came to the emergency department five times in six days with exacerbations from the heat while living without air conditioning in a second floor apartment. CHART program staff supported the patient in obtaining an air conditioning unit and assisting with installation. The hospital visits stopped.
- Another patient with a history of behavioral health needs regularly called an ambulance to access a late night sandwich and socialization. CHART staff notified the community organization working with the patient. The community organization had no idea this behavior was happening. With concerted effort from the community staff and CHART, they were able to redirect the patient to appropriate supports.

CHART grants were seen as the “test” for the next wave of healthcare innovation in Massachusetts called Accountable Care Organizations.

In western Massachusetts, there are six Medicaid Accountable Care Organizations being funded by MassHealth. Many of the patients our teams are working with may have a range of complexity and the Return on Investment (ROI) will take some time to tease out. ROI is sometimes able to be measured as a traditional cost/benefit of the investment and other times better speaks to a humanizing approach to healthcare and addressing the social needs, even in the presence of advanced healthcare needs.

Some of the people served have challenges that are unsolvable by our healthcare teams. For example, one member with idiopathic pulmonary hemosiderosis, hemoptysis, depressive disorder, and asthma is homeless and does not have a high enough income to rent the single unit apartment that he needs. Unfortunately, the waiting list of single unit apartments is years.

One of the ACO Transition of Care teams has demonstrated significant reductions in 90-day Pre and Post Utilization for members it has engaged from September 2018-January 2019 (147 members).

- Total IP Admissions went from 223 Pre-TOC to 86 Post-TOC
- Total 30-day Readmissions went from 91 Pre-TOC to 33 Post-TOC
- Total ED Visits went from 657 Pre-TOC to 291 Post-TOC

Also, under the MassHealth Medicaid ACO funding is a new program starting in January 2020 called Flexible Services. The results of these efforts to bridge Medicaid patients to social service agencies should be on the radar of policy makers. MassHealth will be reporting on outcomes.

This past year, Baystate Health initiated a new effort with DispatchHealth, a health service model that visits people in their home who can’t otherwise get to a primary care provider or urgent care facility, to either provide urgent care or refer to emergency rooms. This has shown to be successful since go-live November 2018 the Dispatch Health program has performed around 4,000 visits. It is estimated that the program avoids:

- Approximately 100 emergency visits per month
• Approximately 3 hospital admissions per month
• Approximately 20 observation admissions per month

With regard to Social Determinants of Health there are three projects that we think will show demonstrable and successful outcomes and should be incorporated into your thinking.

Springfield Healthy Homes, funded by the Health Policy Commission, is bridging Baystate Health Pulmonary Rehabilitation services for patients with asthma with a community development corporation (Revitalize CDC) to provide asthma education and home remediation to remove asthma triggers. Emergency room use, as well as hospitalizations, is being tracked for families that have received these services.

RideCare is a pilot project funded by the Federal Department of Transportation and being led by the Pioneer Valley Transit Authority. Two transportation specialists will be hired to work with the health center care teams to ensure that people have transportation to appointments. No show rates will be tracked as well as patient satisfaction.

The Food Screening and Referral project funded by the Community Foundation of Western Massachusetts, is being led by the Food Bank of Western Massachusetts with Holyoke Health Center, to screen for food insecurity in the pediatric setting and then refer families to nutritional navigation services by an expert at the Food Bank of Western Massachusetts. Food insecurity rates as well as the number of referrals and food services provided are being tracked.

3. **What should the Committee consider with respect to patient volume adequacy in rural areas?**

4. **What lessons can we glean from service line reduction or elimination in hospitals that serve underserved communities where:**
   a. Patients have the option to transition to alternative care sites, including community health centers and federally qualified health centers?
   b. There is broader investment in primary care or public health?
   c. The cause is related to a lack of flexibility in health care delivery or payment?

5. **If states or health systems have formed regional networks of care, leveraging for example systems of transport or the use of telehealth/telemedicine, what states or entities are these, what approaches did they use to form these networks, what challenges did they overcome, and what challenges persist?**

6. **What successful models show a demonstrable, positive impact on addressing workforce shortages in rural and underserved areas? What makes these models successful?**

Connecting healthcare to strategies that involve wealth building such as worker owned cooperatives and workforce development is key. Incentives for workforce to come to rural/underserved areas should be enhanced such as loan forgiveness programs for Physician Assistants, Nurses and Specialists. Models such as the Baystate Health Springfield Educational Partnership and Baystate Health/UMASS Medical School are key to growing local capacity and
keeping people in the region that have local and historical context and understanding of communities, want to stay and work where they are from and have family.

7. Access to providers that address oral, behavioral, and substance use needs in rural and underserved communities can be particularly limited. What approaches have communities or states taken to address such gaps in care delivery?

The Commonwealth of Massachusetts funded a demonstration project in 2007-2009 called the BEST Oral Health Project which connected mobile oral health services to children in preschool and K-2 settings. It was deemed a best practice by the Association of State and Territorial Dental Directors. The local coalition was also able to change reimbursement structures through MassHealth as well change policy for tooth brushing (prevention) through the Department of Early Education and Care. Western Massachusetts is also a service shortage area for pediatric ophthalmologists. We piloted a mobile unit to come to preschools through a statewide partnership. Many children received appropriate services (glasses) however the funding dried up. The attempt to get students from the New England School of Optometry located in service shortage areas was not able to get off the ground; this needs to be addressed.

8. The availability of post-acute care and long-term services and supports is limited across the nation, but can be particularly challenging in rural and underserved areas facing disproportionately large burdens of chronic and disabling conditions. What approaches have communities taken to address these gaps in care delivery and the associated challenges of social isolation?

9. There are known, longstanding issues with the availability and integrity of data related to rural and urban community health. What data definitions or data elements are needed to help researchers better identify the causes of health disparities in rural and underserved areas, but are unavailable or lack uniformity?

The Massachusetts Department of Public Health has created several portals to enhance the ability for communities across the Commonwealth to access population health data and have the ability to disaggregate by population, particularly race and ethnicity. This is very important so that programs and policies can be designed appropriately with community and historical context in mind. Massachusetts Department of Public Health (MDPH) tools include MDPH Healthnet as well as the Population Health Information Tool (PHIT) portal. Hospitals and healthcare institutions should also be collecting data and disaggregating data based on race and ethnicity, as we already know that health inequities exist in significant amounts when broken down in this way. The ability for healthcare institutions to send data to the state in this capacity would help with the availability of data.

10. Are there two or three institutional, policy, or programmatic efforts needed to further strengthen patient safety and care quality in health systems that provide care to rural and underserved populations?

1. In western Massachusetts, particularly Hampden County, Greater Springfield area, there has been a focus on health equity for many years. Recently, one of the ACOs in the Springfield area adopted these four goals as a way of grounding the overall work and long term sustainability of
healthcare transformation through a health equity lens. We offer them here for you to consider as a way of strengthening patient safety and care quality:

- **Demographic Data** – establish protocols and procedures for collecting, using and monitoring demographic data in order to address health disparities and population health outcomes, particularly in rural and underserved areas.
- **Training and Development** – establish a required training and development for all staff to meet a baseline standard for Cultural Humility.
- **Governance and Leadership** – seek balance of power in staffing, governance and leadership through intentionally including people who have lived experience and reflect/represent the population being served by healthcare to improve the likelihood that their voice will be included in care management and institutional protocols and policies.
- **Community Collaborations** – recognize where there are productive community partnerships bridging healthcare and social services and deepen and expand as opportunities arise.

2. Users of IRS Schedule H (Form 990) must look beyond the numbers reported in order to capture the hospital's entire community benefit contribution. Typically, a “social impact and community investment practice” which addresses the social, economic, and environmental conditions that contributes to poor health outcomes, reduced life expectancy, and higher costs are not eligible as a community benefit credit.

For instance, hospital investments in housing solutions that increase local affordable housing options is not likely to be counted as a community benefit credit, even though the Community Health Needs Assessment has set housing as a priority need. According to the American Hospital Association and Blue Cross Blue Shield of Massachusetts Foundation, a substantial body of research demonstrates that providing a clean, safe place to live, regular nutritious meals or more job opportunities has a profound and positive effect on health. Providing housing support for low-income, high-need individuals can result in net savings due to reduced health care costs. For instance, The Housing First model, a harm-reduction approach in Seattle and Boston for homeless adults with behavioral health conditions, saw net medical savings ranging from $9,000 per person annually to almost $30,000 per person, per year.

Changes in IRS rules Schedule H (Form 990) to allow community benefit credit for social impact and community investment practices (e.g., loan guarantees, direct loans, etc.) for building up local affordable housing and food systems and tackling food insecurity issues would go a long way toward directly tackling root causes of poor health.