CREATING COMMUNITY
HEALTH AND WELLBEING IN
LYNN

A Community Health Needs Assessment and Plan

NextShift Collaborative, 2016
Commissioned by 1199SEIU-Massachusetts
© 2016 by NextShift Collaborative, LLC.

The views expressed in this report are those of the authors and do not necessarily reflect the views of 1199 SEIU, the Massachusetts Institute of Technology or any other organization.

This project was made possible by financial support from 1199 SEIU.

This report was prepared for 1199SEIU by a team at NextShift Collaborative, LLC, a research and planning organization that works with low-income communities to develop and implement strategies that promote solutions on a range of issues from health to economic development to housing. It was founded by current and former MIT faculty and students.

This project was led by:

Prof. J. Phillip Thompson, Principal Investigator
Andrew Binet, MCP, Project Manager
Alina Schnake-Mahl, MPH, Project Manager
Wilnelia Rivera, Senior Advisor

Additional research, data analysis and mapping support was provided by Maya Abood, Kelly Blynn, Leigh Carroll, Rockli Kim and Fay Strongin.

We are very grateful to Elisabeth Daley, Tyrek Lee, Patrick McCabe and Nick Smith of 1199SEIU for their insight, feedback, support and generosity, and to members of the Lynn Health Task Force for invaluable assistance over the course of this project.
Table of Contents

Executive Summary 4

1. Introduction 13

2. Synthesis of Previous Studies 14
   2.1 Common Findings 14
   2.2 Our Contribution 15

3. Community Health Needs Assessment 17
   3.1 Area and Data Description 17
   3.2 The Societal Determinants of Health Inequities 18
   3.3 The State of Community Health in Lynn 23
   3.4 Lynn Community Health Center 61
   3.5 Transportation Access to Healthcare 63

   4.1 State-level Reform in Massachusetts 73
   4.2 National-level Reform: The Affordable Care Act 74
   4.3 Hospital Closure Trends 76

5. Healthcare in Lynn 78
   5.1 Consolidation of North Shore Medical Center 78
   5.2 Union Hospital's Relationship with Lynn 80
   5.3 A System That Isn't Theirs 83
   5.4 Evaluating North Shore Medical Center's Community Benefits Activities 86
   5.5 The Broader Landscape of Healthcare in Lynn 90
   5.6 Putting Healthcare Back in the Community's Hands 92

6. Recommendations 94
   6.1 North Shore Medical Center 94
   6.2 Building the Local Landscape of Care 100
   6.3 Addressing the Societal Determinants of Health 107

7. Collaboration Towards a Healthy Lynn for All 113
   7.1 Collaboration and Collective Impact 114
   7.2 Healthy Lynn for All: A Roadmap 115

Appendix 1: Glossary 120
Appendix 2: Community Benefits Evaluation Rubric 123
Appendix 3: Data Sources 135
Appendix 4: References 137
Executive Summary

Union Hospital has served as the only acute care hospital in Lynn, MA since 1983, and has been owned by Partners Healthcare since 1997. Today, the hospital serves as one of two campuses that comprise the North Shore Medical Center (NSMC) along with Salem hospital in neighboring Salem, MA. In 2013, Partners announced plans for the consolidation of all services at North Shore Medical Center at Salem Hospital, citing the potential for improved care and better service coordination. The consolidation process is expected to be complete by 2018, although the timeline remains unclear.

Lynn suffers from poor health, and the local healthcare system is straining to meet the rising and evolving demands of a complex community. The loss of Union Hospital presents an opportunity to restructure the community’s healthcare system to better serve the community’s needs, reduce the significant access barriers faced by low-income and socially marginalized groups and improve overall population health. Additionally, the Affordable Care Act – and specifically new Community Benefits requirements for non-profit hospitals – opens up opportunities to adopt innovative approaches to community health that directly address social determinants of health including housing, employment and economic development.

The NextShift Collaborative has been commissioned by 1199SEIU to conduct a community health needs assessment based on thorough quantitative analysis of publically available health data, interviews with key stakeholders in Lynn, and focus groups with residents and 1199 members employed at Union Hospital. Based on our analysis, we offer a range of recommendations that engage a wide range of stakeholders across the public, private and civic sectors to come together to build a healthier Lynn from the ground up. It offers a framework and a course of action for collective impact to guide near-term implementation and long-term investment in community development.

Community Health Needs Assessment

We find that Lynn experiences disproportionately high rates of adverse social and economic conditions and disadvantage, which exacerbate health risks. Almost 20% of Lynn residents live below the poverty level. The city also has substantial income inequality: almost one quarter of households in Lynn live on less than a $20,000 annual income, while a large portion of households earn over $100,000 in annual income. In comparison to the other cities in the state and the NSMC catchment area, Lynn has higher rates of housing problems, and a disproportionately large segment of the population spends more than 30% of their income on rent. The majority of those who face housing cost burden are also living below the poverty line.

Lynn is home to a much more racially and ethnically diverse population than the other cities in the North Shore. Income and educational outcomes vary by race, with notably low rates of high-school attainment among Latino men and women in the city. Across multiple domains of socioeconomic status, people of color residing in Lynn experience more economic disadvantage than non-Hispanic whites. For instance, the Latino population in Lynn reports the lowest levels of employment and median income, and represents the largest percent of the population with only a high school diploma. Lynn residents of color live concentrated in neighborhoods near downtown, neighborhood that experience high rates of poverty and unemployment.

These economic and social conditions drive many of the health challenges facing the community of Lynn. Lynn residents suffer from a disproportionate burden of serious chronic diseases including childhood asthma, overweight/obesity, and diabetes. These high rates of chronic disease do not seem to be explained by elevated levels of poor health behaviors such as smoking and drinking, which are no higher in Lynn than in
surrounding cities. This suggests that factors beyond individual behaviors likely account for the disparities in health outcomes we see between Lynn and other communities.

Health challenges for Lynn residents are not limited to chronic conditions. In comparison to residents of North Shore cities, Lynn residents have higher rates of premature mortality, hospital and emergency department utilization, opioid related mortality and morbidity, adverse birth outcomes, and teen pregnancies. Overall, Lynn residents die at higher rates than people of the same age in the other cities, and are also more likely to die at a young age. The leading causes of death in the city are cardiovascular disease and cancer, while leading causes of illness include unintentional injuries and substance abuse; the most common hospital admissions are for heart disease, chronic obstructive pulmonary disease (COPD) and mental health-related issues. Lynn residents also experience higher rates of mental health and substance use challenges relative to residents of other cities in the state.

Recommendations

North Shore Medical Center

Retaining emergency medical services in Lynn

The need for lasting Emergency Room (ER) services in Lynn is clear. We recommend developing plans for a “Freestanding Emergency Department” (FSED) to open in Lynn following the expected closure of the Emergency Room at Union Hospital. Further, we strongly advise that: the Freestanding Emergency Departments is open 24 hours per day, seven days per week, and have all the capabilities, personnel, and equipment as a conventional emergency department at an inpatient hospital. We recommend that this FSED serve as a satellite facility of the NSMC in Salem; it would be a crucial link for Lynn residents to Partners’ system of surgeons and specialists. We recommend locating this facility in or near downtown Lynn to maximize accessibility for underserved populations, and to provide a clear link between the NSMC system and the Lynn community at large. The FSED should have a close relationship with the Lynn Community Health Center, as well as partnerships with other key service providers in the community, such as Eliot CHS, that work with populations who depend on Union Hospital’s ED, and often deliver direct support to clients who need emergency care.

Ensuring Affordable, Accessible Transportation to Care

For services that will not be provided in Lynn past 2018, NSMC should work to ensure adequate, affordable (or free) and reliable transportation for Lynn residents to the NSMC Salem campus and specialist providers. By doing so, NSMC can reduce costs from non-emergency ambulance rides and the impacts of delayed care. We recommend that NSMC prioritize the following actions:

• Continue, expand, and widely publicize in multiple languages its free transit pass program to ensure that transit-dependent patients, especially non-English speakers, know of the opportunity and can access public transportation.
• Increase appropriate usage of the PT-1 program under which physicians can prescribe transportation for follow-up appointments for MassHealth patients, and work with MassHealth to improve the flexibility and accessibility of this program.
• Expand and better publicize NSMC’s taxi voucher program for low income patients who require late-night or unforeseen trips.
• Lobby for improved MBTA access to NSMC’ Salem Hospital.
• Integrate transportation plans into care management to ensure patients can access their health and medical needs.

In addition to steps taken by NSMC, additional changes in transportation infrastructure and policy are necessary to ensure adequate access to care for Lynn residents. These include:
• **Additional ALS and BLS emergency vehicles** to ensure the reliability of emergency transport.
• **Advocating for policy change** that would give paramedics the permission to determine whether to take patients who do not require emergency treatment to other inpatient facilities.
• **Shared bus and emergency vehicle lanes on Route 107** in order to improve bus reliability while also providing a clear lane for emergency vehicles traveling to and from Lynn.

In addition to ambulance fleet size, EMT fatigue due to rising numbers of preventable calls, drug-related incidents, mental health issues and traffic-heavy trips to and from Salem is becoming a significant concern. This must be addressed through increasing affordable transportation options to discourage use of ambulances as a taxi service, better access to care among homeless and shelter populations, increased paramedicine capacity and supports for the mental and physical wellbeing of EMTs.

**Cultural Competency and Humility**
At Salem Hospital and through expanded community-oriented activities, we recommend that NSMC adopt a “cultural humility” paradigm in order to more adequately care for the diverse range of communities it serves. NSMC has an obligation to ensure that the culture of care that staff strive to maintain at Union Hospital remains intact in Lynn.

**Community Engagement and Representation**
In the very near term, it is imperative that NSMC clarify and publicize its plans for engaging the Lynn community in the process of consolidation. Resident voices must substantively contribute to the full range of decisions involved in the process of consolidation, including: the future of emergency services in Lynn, the future use of the Union Hospital site, significant spending on community health care infrastructure (i.e. Lynn Community Health Center), and addressing accessibility and transportation issues. Pathways for the community at large to have meaningful influence over the outcome of these determinations should be identified in collaboration with community leaders.

In the medium-term, and before the completion of the consolidation, NSMC should expand the presence of community members on its board to represent the community’s socio-economic diversity, and reconfigure membership of the Community Affairs and Health Access Committee to fully balance the voices of community residents, representatives of key health and social service institutions, and NSMC personnel.

NSMC should establish the means to evaluate the extent, adequacy and efficacy of their community engagement in a participatory manner; this is now required by the Affordable Care Act. One avenue for doing so is through expanding the scope of regular Community Health Needs Assessments. Furthermore, mechanisms must be in place to ensure that the results of such evaluations are continuously taken into account and addressed internally in a manner that ensures ongoing and meaningful accountability to Lynn and neighboring communities in the NSMC service area.

**Community Benefits Spending**
In FY2014, NSMC’s spending on community benefits programs and net charity care was $11,770,664, which amounts to 2.9% of total patient care expenses. Voluntary guidelines from the Massachusetts Attorney General set spending goals of 3-6% of total patient expenses. NSMC should seek to increase its Community Benefits spending to 5% of total patient expenses from 2017-2022. After the consolidation of NSMC, Lynn should continue to receive Community Benefits spending in proportion to its population’s size relative to other communities in the NSMC service area.

**Future of the Union Hospital Campus**
NSMC and Partners have not clarified plans or even intentions for the future of the Union Hospital site. A number of questions are therefore outstanding:

• Whether any health or related services will remain at that location, and if so, which and why.
• Whether NSMC/Partners will retain full or partial ownership of that location.
• Should any part of the site be sold, the distribution of profits from the sale given the extent of community investment in the hospital’s physical plant.

As soon as possible, NSMC should collaborate with community and labor leaders to answer these questions. If the Union Hospital site is sold, it is our belief that the revenue be re-invested in Lynn using a community benefits framework. This report indicates significant opportunities for such reinvestment.

Building a Robust Landscape of Care in Lynn
Improving Access to Care
Low-income residents of Lynn have insufficient access to primary, specialist and mental health care. Barriers can be geographic, financial, informational, cultural, and/or linguistic. In other cases—specifically mental health—the entire system is inadequately resourced and is insufficient to meet the needs of the population. NSMC should take leadership in expanding primary and specialist care access in a manner consistent with needs as voiced by the community through Community Health Needs Assessments. Furthermore, NSMC should take advantage of the opportunity to expand services through the Lynn Community Health Center, as well as through other organizations grounded in the community (such as My Brother’s Table) that are able to connect vulnerable populations to care. It would also be valuable to expand and reframe the role of EMTs towards a “community paramedic practitioner model” and explore innovative programming that extends EMT and first-responder training to youth and young adults from low-income communities.

Improving Core Capacities Across the Continuum of Care
Our research has identified opportunities to meaningfully strengthen certain core capacities across the continuum of care through coordinated action across healthcare and social service providers:

• Coordinated case management
• System navigation
• Appointment prep and follow-up
• Trauma-informed practice
• Innovative community engagement and public education

Substance Use, Treatment and Recovery
Lynn has a range of service providers dedicated to working with people with substance dependencies, but lacks the infrastructure to support and coordinate their tireless efforts. Healthcare leaders in Lynn should use the consolidation of NSMC as an opportunity to chart a radical new course for recovery in a community stricken by the region’s opioid epidemic: Partners can re-imagine the role of healthcare providers and 1199 can re-imagine the role of healthcare practitioners in collaboration with communities on the ground.

Lynn Community Health Center
Expanding LCHC is a critical opportunity to begin to meet unmet needs in the realms of primary, specialist and mental health care but it is imperative that this be done in conversation with communities experiencing inequities in access to ensure that their needs are adequately addressed by the influx of resources. In supporting LCHC, we recommend that NSMC treat Lynn Community Health Center as an anchor institution with the potential to benefit the community in numerous ways, using all of its resources – including employment, physical plant and procurement power – in addition to patient care programs.

Building New Institutions for Wellness
Community Wellness Center
Lynn would benefit enormously from a Wellness Center with resources and programming in four key areas: physical health, mental wellness, holistic healing, and health education. A Wellness Center should serve as a
hub for increasing coordination across the continuum of care and provide capacity to community-wide health organizing and initiatives addressing the social and economic determinants of health. The City’s Department of Public Health could also establish a satellite office at the Wellness Center; co-location of municipal and social services will facilitate coordination. NSMC should be a significant financial partner.

Medical Respite Facility
Local service providers working with homeless and housing-insecure people have begun advocating for a medical respite facility in Lynn, an effort we strongly urge NSMC, the City of Lynn, and other stakeholders to support both politically and financially. Adequate respite care would reduce the strain that increasing levels of homelessness put on the resources of the Lynn Community Health Center, Eliot CHS, and NSMC. It would also provide a key pillar of support for My Brothers Table, the Massachusetts Coalition for the Homeless, and other local service providers seeking to care for homeless people in other ways. Lastly, respite care could be an important part of a strategy to combat the opioid epidemic both by ensuring healthy pain management practices and by connecting residents to treatment and services to address substance dependencies.

Detoxification Facility
We recommend exploring the feasibility of opening a detoxification treatment center in Lynn, with the capacity to provide inpatient stays for up to 30 days. A feasibility study would need to be conducted in collaboration with key community stakeholders to determine specifics of treatment options and the size of the facility, as well as its siting and funding. We recommend that NSMC take a leadership role in exploring the options for a detox facility in Lynn, and that NSMC support potential implementation with financial and human resources.

Supervised Injection Facility
We recommend exploring the potential for a Supervised Injection Facility in Lynn to target high-risk, socially marginalized drug users with the aim of reducing the public health and public order issues associated with high rates of public drug use. Such facilities have a unique potential to reduce overdoses, public drug use, rates of infection and disease, and to increase access to and viability of treatment options. Along with prevention, treatment, law enforcement, community engagement and public education, a Supervised Injection Facility is a crucial piece of a community-wide strategy to combat the substance abuse epidemic.

Community-Wide Initiatives
We identify four potential community-wide organizing/advocacy initiatives with cross-cutting potential projects that offer opportunities for diverse stakeholders to come together toward a common objective.

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Potential projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Access</td>
<td>Community gardening, mobile fresh food markets, healthy school meals, healthy catering cooperatives</td>
</tr>
<tr>
<td>Physical Health</td>
<td>Summer camps, free fitness and recreation classes, walking clubs, bicycling trails</td>
</tr>
<tr>
<td>Mental Wellness</td>
<td>Public art, youth outreach, mentorship</td>
</tr>
<tr>
<td>Healthy Youth</td>
<td>Expansion of school clinics, community health training, peer support</td>
</tr>
<tr>
<td>Economic Security</td>
<td>Job-readiness and skills training; financial literacy; small-business development</td>
</tr>
</tbody>
</table>

In the near-term, we recommend that 1199SEIU take responsibility for initiating the first steps on one such community-wide initiative. This an opportunity for the union to set a precedent for the future of its involvement in the community after the consolidation of NSMC.
Addressing the Social Determinants of Health

Addressing the determinants of health is a significant undertaking that requires deep community engagement, capable organizing, participatory decision-making, collaboration between organizations and institutions, committed financing and a common vision.

Housing

Housing is an important determinant of health: affordability, safety, quality and neighborhoods all affect how and whether residents get sick, and how and whether they heal. Across the housing spectrum, there is opportunity for collective action and community building to improve population health.

- **A strategy to end homelessness** including support for strong shelter systems, transitional housing programs, access to physical and mental health care, compassionate outreach, and opportunities for education and employment.
- The City of Lynn should partner with healthcare stakeholders to **address substandard conditions within the city’s Section 8 units**, and take action against landlords maintaining substandard conditions, as well as landlords who are reported for abuse or misconduct. The city, with support from key stakeholders, should also **increase coordinated advocacy efforts to expand the availability of housing options for low-income residents eligible for housing vouchers** including Massachusetts Rental Voucher Program (MRVP) and Section 8.
- The City of Lynn and state elected officials should **develop a long-term strategy to promote and retain affordable housing** throughout the community.

Economic Development

Inequitable patterns of economic development are likely to exacerbate current disparities in health outcomes and access to health care, both directly and indirectly through other social determinants such as housing and employment. In addition to negative health consequences, inequality has been proven to negatively impact educational attainment, childhood and adolescent development, economic security, community stability and social cohesion, all of which influence health in due course.

We recommend that community leaders adopt an “economic democracy” framework to guide advocacy, policy-making and community organizing around economic development issues. Transitioning toward economic democracy means creating opportunities for collectively controlling resources, like community land trusts, worker cooperatives, credit unions and participatory budgeting, and creating institutions that support democratic decision-making over collectively-held assets.

Communities and their leaders require access to information and support in building sound analyses of economic issues in order to make strategic decisions and shape public discourse around economic development. We recommend that 1199 partner with leading community organizations to conduct an economic development study of the city, with a view to identifying key opportunities to build economic democracy and community wealth in Lynn, including: leveraging anchor institutions; import substitution; expanding community-owned businesses; job creation and skills development; and promoting overall community wellness and environmental resilience by moving toward a community based model of healthcare delivery.

Employment

Community health is a rapidly expanding field with numerous opportunities for members of the workforce with a wide range of experiences. 1199SEIU should work with local labor, community and elected leaders to ensure that new jobs have living wages, good benefits, and opportunities for union membership when appropriate. The priority should be for jobs to go to Lynn residents, and special attention should be paid to career pathways for stable employment for marginalized communities and youth. Even in fields without
union jobs, 1199 should consider itself a leader of the city’s working community, and support all workers through organizing, skill development and training, and political advocacy.

Working in a community health setting may require some skill-development and/or retraining. 1199SEIU should see Lynn as an opportunity to pilot innovative strategies to engage members in community organizing and leadership development. Union members at NSMC and LCHC should continue to bargain for use of the Training Fund benefit to support these endeavors.

In the long run, the move toward a more democratic economy will produce high-quality jobs for local residents, as well as opportunities for employee ownership and local wealth creation. Numerous fields connected to determinants of health represent significant opportunities for local job creation, including: community health workers, local green energy generation, healthy building construction, advanced manufacturing, food and nutrition, education and childcare. Special priority should be given to developing and publicizing career pathways to employment for young people, particularly through Lynn Vocational Technical Institute and Bunker Hill Community College. As an anchor institution, NSMC should set an example by further expanding the ways in which it works with other parties and prepares and connects young people for careers in health. 1199SEIU should take leadership in bringing workshops on small business development and employee ownership to the community, to strengthen the local economy and increase opportunities for wealth generated by the community to stay in (and create value for) the community.

Collaboration for Community Health Transformation

These recommendations require engaging stakeholders across the public, private and civic sectors to come together to build a healthier Lynn from the ground up. We outline a new model for community health transformation through collective impact, Healthy Lynn for All (HL4A).

The key strategies of the Healthy Lynn for All initiative should be:

- Addressing place-based inequities in access to care and the structural conditions of poor health
- Creating opportunities for health and wellbeing rooted in the lived experiences and needs of low-income communities in Lynn
- Building civic infrastructure and governance for democratically determined community health
- Creating and maintaining links between community health and economic justice
- Foster more productive collaboration among relevant stakeholders

In service of these strategies, the key objectives of Healthy Lynn for All should be:

- **Develop** a collective impact model for creating community health that:
  - Leverages local assets and knowledge of residents and community stakeholders
  - Supports community-driven creation and expansion of the landscape of care
  - Harnesses the financial power of anchor institutions
  - Puts democracy at the core of health equity work

- **Design** a participatory and inclusive community planning process that:
  - Leverages the closure of Union Hospital and NSMC’s community benefits activities
  - Enables community members to articulate goals for health and wellness, and shape the health planning process through regular meaningful Community Health Needs Assessments
  - Builds accountability through Community Benefit Agreements
  - Increases deliberative capacity of local residents, leaders and community-based organizations to influence and lead the future of community health in Lynn
  - Emphasizes cultural humility and community control

- **Organize, coordinate and institutionalize** a local, cross-sector democratic network that:
- Provides the technical and funding support infrastructure necessary to develop and sustain a robust community health infrastructure
- Ensures the resilience of individuals, healthcare providers, communities and institutions through: planning and policy; community engagement and organizing; education and training; finance; business and economic development; and research.

We identify several **key roles for local stakeholders** that we believe are necessary for the Healthy Lynn for All collaboration to have a meaningful impact on community health in Lynn.

- **Capacity Builder** (1199SEIU, Lynn Health Task Force, North Shore Community College, community organizers, urban planners, and technical experts): Build the ability of hospitals, community stakeholders, and social services to increase democratic ownership of community benefits activities and advance community wellness.
- **Convener** (North Shore Medical Center and 1199SEIU): Leverage relationships, coordinate responsibilities, facilitate investment and expand the roles of anchor institutions.
- **Advocate** (North Shore Labor Council, 1199SEIU, Lynn Community Health Center, Lynn Health Taskforce): Identify the relationship between health outcomes and social determinants, elevate the community’s voice, and push for policy change by leveraging assets and resources.
- **Legitimator** (Lynn Department of Community Development, Lynn Public Health Department, Lynn Public Schools, and Lynn Housing Authority): Plan, promote and protect public health by drawing the connections between economic development, program investments, policy changes, and health impacts. Establish links between investments in upstream interventions and improved health outcomes through Health Impact Assessments (HIAs).
- **Truth-Teller** (Lynn Public Health Department, North Shore Medical Center, Lynn Community Health Center): Collect, analyze and democratize data on health outcomes and disparities. Assist groups investigating pressing concerns and taking evidence-based action.
- **Watchdog** (Massachusetts Department of Public Health): Enforce regulations and policies to ensure that healthcare providers are accountable to the community benefits requirements at the state and federal level, as well as Community Benefits Agreements that may be developed to ensure community accountability.

We single out two key tools to be leveraged strategically in the service of collective impact. The first are **Community Health Needs Assessments**, which can build community capacity to understand and analyze health needs, identify assets useful for promoting community wellness, create arenas for deliberation, collaboration and innovation, all towards the goal of addressing social determinants of health at a local scale. The second is a **Community Benefits Agreement** to establish accountability in the relationship between NSMC and the Lynn community to ensure not only a high-quality local healthcare system aligned with local needs, but a broader commitment to collaboration with other stakeholders to create community health over the long term.

We present a **Healthy Lynn for All** roadmap with four key success factors necessary to maintain mutual agreement, impact, and transparency through a collective impact effort. The action plan and 24-month timeline below divides these factors of success across four stages: exploration, formation, operation, and evaluation. North Shore Medical Center’s next Community Health Needs Assessment in 2018 should embody this new collaborative approach to community health. Planning for the hospital consolidation and upcoming Community Health Needs Assessment simultaneously will require that NSMC and stakeholders complete the exploration, formation, and operation stages before the end of 2016. This will give the community the time needed to articulate priorities for a Community Benefits Agreement with North Shore Medical Center, and prepare for meaningful participation in the 2018 Community Health Needs Assessment.
<table>
<thead>
<tr>
<th>SUCCES FACTOR</th>
<th>Phase 1: Exploration</th>
<th>Phase 2: Formation</th>
<th>Phase 3: Operation</th>
<th>Phase 4: Sustainability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic Planning</strong></td>
<td>Create coordinated HL4A action plan and governance model to carry out a set of future recommendations.</td>
<td>Community asset mapping to align capacity and recommendations.</td>
<td>Agree on strategy, framework and goals.</td>
<td>Implement revised HL4A action plan. Evaluate and revise at regular intervals</td>
</tr>
<tr>
<td><strong>Governance &amp; Infrastructure</strong></td>
<td>Determine seed funding, overall budget, and project management.</td>
<td>Organize local stakeholders to create scope of work and roles and responsibilities.</td>
<td>Stakeholders activate launch initiative.</td>
<td>Determine need for backbone organization. Facilitate and modify governance and infrastructure.</td>
</tr>
<tr>
<td><strong>Community Organizing &amp; Engagement</strong></td>
<td>Engage stakeholders to design community engagement process for Union Hospital consolidation, Community Benefits Agreement, and CHNA.</td>
<td>Identify leaders and organizations for community outreach and engagement.</td>
<td>Launch community engagement efforts.</td>
<td>Participatory Community Health Needs Assessment and ongoing engagement and advocacy.</td>
</tr>
<tr>
<td><strong>Evaluation and Improvement</strong></td>
<td>Clarify data-gathering needs and identify legal support.</td>
<td>Review of key data to identify central issues and key gaps.</td>
<td>Establish shared metrics for community wellness and decision-making.</td>
<td>Collect, track, report, and communicate progress</td>
</tr>
<tr>
<td><strong>TIMELINE</strong></td>
<td><em>July 2016 – September 2016</em></td>
<td><em>October 2016 – December 2016</em></td>
<td><em>January 2017 – July 2018</em></td>
<td></td>
</tr>
</tbody>
</table>
1. Introduction

Union Hospital has served as the only acute care hospital in Lynn, MA since 1983, and has been owned by Partners Healthcare since 1997. Today, the hospital serves as one of two campuses that comprise the North Shore Medical Center along with Salem Hospital in neighboring Salem, MA. In 2013, Partners announced plans for the consolidation of all services at North Shore Medical Center at Salem Hospital, citing the potential for improved care and better service coordination. The consolidation process is expected to be complete by 2018, although the timeline remains unclear.

Lynn suffers from poor health, and the local healthcare system is straining to meet the rising and evolving demands of a complex community. The loss of Union Hospital presents an opportunity to restructure the community’s healthcare system to better serve the community’s needs, reduce the significant access barriers faced by low-income and socially marginalized groups and improve overall population health. Additionally, the Affordable Care Act – and specifically new Community Benefits requirements for non-profit hospitals – opens up opportunities to adopt innovative approaches to community health that directly address social determinants of health including housing, employment and economic development.

The NextShift Collaborative has been commissioned by 1199SEIU to conduct a Community Health Needs Assessment of Lynn based on thorough quantitative analysis of publically available health data, interviews with key stakeholders, and focus groups with residents and 1199 members employed at Union Hospital.

In Chapter 2, we synthesize recent Community Health Needs Assessments conducted by North Shore Medical Center, and identify the ways in which we build upon this prior work, including a “societal determinants of health” approach that allows us to elucidate connections between health outcomes and poverty, housing and unemployment. Chapter 3 contains a Community Health Needs Assessment of Lynn and nine nearby cities on the North Shore, and explores demographics, the social and economic environment, health challenges, hospitalization and care utilization trends and behavioral risk factors, as well as an overview of the Lynn Community Health Center and an analysis of the transportation accessibility of healthcare for Lynn residents. Chapter 4 provides an overview of healthcare reforms at the state and federal level — including changes to community benefits requirements and an emphasis on cost containment — which present both challenges and opportunities to improve the delivery of community health services in Lynn and across Massachusetts. In Chapter 5, we review plans for the consolidation of North Shore Medical Center, explore the relationship between Union Hospital and the Lynn community, evaluate the hospital’s Community Benefits activities, and provide an overview of other key components of the local healthcare landscape.

Based on our analysis, in Chapter 6 we provide recommendations for a local healthcare system that is more responsive and tailored to the needs of the Lynn community in the context of the closure of Union Hospital, as well as for healthier living environment in Lynn overall through addressing the upstream determinants of health outcomes. This task does not fall on the shoulders of any one actor; instead, it is imperative that stakeholders from the public, private and civic sector collaborate to build community health. Thus, in Chapter 7, we introduce a model for collective impact that identifies important objectives, strategies and roles for moving forward, and lays out a timeline for establishing the groundwork for near-term implementation of the recommendations made in this report and long-term investment in community wellness.
2. Synthesis of Previous Studies

To date, North Shore Medical Center (NSMC) has conducted and published two Community Health Needs Assessments (CHNA), one in 2012 and a second in 2015. Each was done in collaboration with Health Resources in Action and describes the health outcomes and characteristics of the community, key demographic and socioeconomic variables, and opportunities for expanded or altered services in the NSMC priority communities: Danvers, Lynn, Marblehead, Nahant, Peabody, Salem, and Swampscott. The 2012 CHNA included analysis of data from existing data sources, secondary sources from published literature, and primary data collection. The qualitative data was collected through 28 interviews – seventeen with external key informants and eleven with staff – and focus groups with 31 individuals between October and December 2011. The 2015 CHNA focused on behavioral health challenges, which were identified as major health priorities in the 2012 report. It relied primarily on primary data collection, through interviews with twelve stakeholders and a focus group with community residents who had experienced behavioral health challenges.

2.1 Common Findings

Demographic Characteristics and Health Outcomes

Both our health assessment and the previous studies find that communities in NSMC’s service area differ greatly along socioeconomic and demographic indicators. Lynn is the most racially diverse of the communities and faces the greatest economic challenges: high rates of unemployment and poverty, low educational attainment, low median income, and substantial housing affordability issues. Salem is also a diverse city with various economic challenges, but to a lesser extent than its neighbor Lynn. Both cities have experienced large increases in immigrant populations over the past two decades, particularly refugees, who often have substantial health challenges but lack access or strong ties to the local health care system.

Despite the substantial socioeconomic variation across the study communities, disparities in chronic disease were less evident than expected; indeed, rates for some outcomes were lower than expected in Lynn given the economic characteristics of the city. Both the 2012 and 2015 studies find that Lynn reported the highest rates of all communities in NSMC’s service area for most adverse health outcomes, such as obesity and nonfatal opioid cases. Across NSMC’s service area, primary health concerns included behavioral health (substance abuse and mental health), obesity and chronic conditions, and teen pregnancy. Other priority issues included heart disease and related conditions, asthma, respiratory illness, cancer and elder frailty.

The 2015 CHNA focused primarily on behavioral health challenges, particularly the high incidence of substance use, particularly opiate addiction, in the city of Lynn. Those interviewed described mental health and substance use as major challenges in their communities. Many residents experienced dual diagnosis of
both mental health and substance abuse, noting that self-medication was common among those with mental health issues.

**Access to Care**

Interview and focus group participants from the 2012 and 2015 CHNAs described a lack of health care access options for urgent care, substance abuse detoxification and treatment, outpatient mental health treatment, and preventive services. They also mentioned issues of access related to location and transportation, language and cultural barriers, limited understanding of the health care system, and cost or time constraints. Further issues were brought up around lack of integration between specialty and primary care, and lack of engagement between community and social services and the services provided in the hospital. Finally, despite many services operating in the NSMC area, respondents felt these services were often uncoordinated and fragmented, limiting their impact.

Stakeholders and community members interviewed in 2012 and 2015 discussed the role of poverty in exacerbating and causing mental health challenges and substance abuse. They also noted how ability to pay can constrain the options for behavioral health services. Additional barriers to behavioral health care that were mentioned included stigma, lack of insurance coverage, and transportation. These challenges were exacerbated for transient patients such as the homeless, very low income, or those recently released from prison. Interviewees noted the following gaps in services: general lack of behavioral health services and affordable options; long-term residential programs; opioid replacement therapy; Spanish language services; services for children, youth, seniors, and their caregivers; community outreach and case management; and coordination of behavioral health services. Those interviewed generally described a mismatch between rates of these behavioral health outcomes and availability of treatment, particularly a lack of psychiatrists, substance abuse clinicians and therapists.

**2.2 Our Contribution**

We build on the previous Community Health Needs Assessment in several ways. While the previous reports focused on all cities in NSMC’s service area, our analysis is focused on Lynn due to the closure of Union Hospital; we make comparisons between Lynn and the other cities throughout the report. We also include Saugus, Lynnfield and Beverly in our analysis; residents of these cities use other hospitals more than they use NSMC, but a significant proportion do still rely on NSMC for services.

We use data from the Behavioral Risk Factor Surveillance System (BRFSS) for 2014, which was not available when the previous CHNAs were conducted. We also add hospital and emergency room utilization data, where it was publically available. Although we intended to include an in-depth analysis of NSMC care utilization and differences in access between Union and Salem hospital, Partners was ultimately unable to make this data available to us within the timeline for the study due to unexpected complications. We therefore could not include this angle of analysis, despite its immense utility in understanding how Lynn residents interact with NSMC and how community patterns of health differ or are aligned with residents’ utilization patterns. Finally, we have examined patient characteristics and utilization patterns at Lynn Community Health Center due to its integral role in the local healthcare landscape.
We interviewed 36 key stakeholders who represent community-based organizations in the city and important players in the North Shore’s health care system, and nine members of 1199SEIU employed at Union Hospital. We also conducted two focus groups with a total of 16 Lynn residents. This range of methods and data sources allowed us to gain a greater understanding of the community and community health profile of Lynn, and the community’s perspectives on the role of NSMC, and Union Hospital specifically, in the city.

Though the previous CHNAs also employed a “social determinants of health” approach, we widen our perspective to understand the causes of these social determinants. In this manner we employ a “social determinants of health perspective,” which allows us to look at higher level factors affecting the distribution of both social determinants and health outcomes. The “social determinants of health” framework tends to focus only on individuals’ resources and social position; a “societal determinants” approach takes a more expansive theoretical orientation, incorporating structural determinants of individual’s resources and social position (Krieger, 2011). We employ this theoretical framing to help examine determinants of existing health inequities, or unfair and avoidable differences in health status seen within Lynn and between Lynn and other cities in the area. Our study thus further elucidates connections which lacked clarity in the previous studies between health outcomes and social determinants such as poverty, housing, crime, and unemployment. To achieve this, we draw on public health literature to explain the mechanisms connecting these determinants to health outcomes and care utilization. This allows us to draw hypotheses regarding the distribution of health outcomes across and between the NSMC service area cities, and provide possible explanations for discrepancies between hospital and emergency room care utilization and community prevalence estimates for various conditions and diseases.
3. Community Health Needs Assessment

3.1 Area and Data Description

We define our catchment area as the top ten cities and towns from which North Shore Medical Center discharges patients: Lynn, Salem, Peabody, Danvers, Marblehead, Nahant, Swampscott, Lynnfield, Beverly and Saugus. These cities cover 86 percent of total discharges from NSMC, and Lynn alone makes up 39 percent of total NSMC discharges. Lynnfield, Beverly and Saugus were not included in NSMC’s 2012 and 2015 Community Health Needs Assessments. The primary focus of our analysis will be the city of Lynn, and we make comparisons to other cities when appropriate.

We consider NSMC’s Salem and Union Hospitals together throughout the section, unless one of the two hospitals is specifically singled out. Our ability to analyze Union Hospital in isolation relied on access to NSMC’s submissions to the Center for Health Information Analysis’s (CHIA) Massachusetts Acute Hospital Case Mix Database via North Shore Medical Center. Due to unexpected complications, Partners was ultimately unable to give us access to these data within our study timeline. As a result, our capacity to focus specifically on the role of Union Hospital in the community’s health as separate from NSMC more broadly, to understand differences in utilization patterns between Union and Salem hospitals, and to conduct a deeper analysis of socio-economic and demographic factors influencing utilization patterns was unfortunately inhibited. Nevertheless, we have made an effort to do so when the data allows.

We rely on data from several sources for our health needs assessment. We use the 2012-2014 Behavioral Risk Factor Surveillance System (BRFSS) for prevalence estimates of health-related risk behaviors, chronic health conditions and use of preventive services at the city and state level. However, given that the BRFSS survey was not designed to be used at the city level, the city level estimates should be interpreted cautiously as a possible range of estimates rather than exact results. Nevertheless, the BRFSS represents the best, and only, estimates for the city level and we therefore include them in our analysis. In addition, we use other publicly available data from: the 2010 United States Census, American Community Survey (ACS), Comprehensive Housing Affordability Survey (CHAS), Massachusetts Geographic Information Services (MassGIS), hospitalization data provided by Massachusetts Department of Public Health, Massachusetts Community Health Information Profile (MassCHIP), AHRQ Primary Care Service Area project (PCSA), Uniform Data System (UDS), the Center for Disease Control (CDC), FBI Universal Crime Report (UCR) database, Massachusetts Environmental Public Health Tracking (EPHT), and aggregated hospital level data from the Massachusetts Acute Hospital Case Mix Database. For all data sources we use the most recent data available, which varies by data source. For all hospitalization data, any data fields with fewer than 11 data points are
suppressed for reasons of confidentiality. We use the racial/ethnic categories employed in the data source; for example, some data sources may use the category Black while others use African-American.

3.2 The Societal Determinants of Health Inequities

Defining Health
We see health as “the ability to adapt and to self-manage in the face of social, physical and emotional challenges the ability to adapt and to self-manage in the face of social, physical and emotional challenges” (Huber et al., 2011). This definition of health has six domains: physical functioning, mental well-being, social participation, daily functioning, meaningfulness and quality of life. We use this concept of health because it is more inclusive of multiple domains of health, and more apt given the rise of chronic disease, than the commonly used World Health Organization definition of health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.” We use a societal determinants of health inequities framework, rather than the commonly used social determinants of health, as social determinants research tends to focus only on individuals’ resources and social position; a societal determinants approach takes a more expansive theoretical orientation, incorporating structural determinants of individuals’ resources and social position into the analysis (N. Krieger, 2011). We employ this theoretical framing to help examine determinants of existing health inequities, or unfair and avoidable differences in health status seen within Lynn and between Lynn and other cities in the area.

Although this report focuses on NSMC and the health care system’s role in promoting health among study area residents, it is important to acknowledge that health does not begin or end in hospitals. Instead, the societal determinants of health, or the political, social, and economic circumstances in which people are born, grow up, work, live and age, greatly influence individual and population health. Contrary to popular wisdom about the centrality of health care in shaping health, health care explains only about 10 percent of the premature mortality in the United States, as shown in Figure 3.2.1 (McGinnis, Williams-Russo, & Knickman, 2002). In addition to medical care and genetics, impactful drivers of health include: behaviors, including those influenced by exposure to discrimination, inequality or trauma, as well as living conditions that influence behavioral choices; and economic, built, and social factors that impact health directly. In summary, while health care is essential for treating those who are sick and in preventing some diseases, improved living conditions can keep people healthy, decrease population-wide disease rates, and reduce health inequities. We introduce selected health risks associated with challenging economic and social conditions that are particularly salient to Lynn, in order to contextualize the conditions surrounding the city.
Poverty and Socioeconomic Position

Socioeconomic status is one of the strongest and most consistent predictors of morbidity and mortality. “Socioeconomic position” refers to an individual’s social position relative to others. A large and growing body of literature acknowledges what is often called a “social gradient in health,” which refers to a ubiquitous relationship whereby health improves with any increase in socioeconomic position — whether measured by education, social class, occupation status or income — and is worse for the socioeconomically deprived (Glymour, Avendano, & Kawachi, 2014; Marmot & Wilkinson, 2005). This relationship holds at the individual and population levels, and for outcomes including heart disease, mental health, respiratory problems, obesity, life-expectancy, and morality (Lynch & Kaplan, 2000).

Individual lifestyle factors partly explain the distribution of ill-health, but do not provide a full explanation. At the individual level, poverty and limited income restrict people’s ability to access the means to produce and maintain health, including health care and “healthy consumptions” such as quality housing, a balanced diet and transportation. Conversely, being unhealthy challenges people’s ability to work, limiting income and wealth accumulation (Galama & Van Kippersluis, 2013). Living below the poverty line puts people at higher risk of a variety of adverse physical and mental health problems, and for children it is associated with higher rates of adverse birth outcomes, worse physical health, developmental delay, lower school achievement, and greater emotional and behavioral challenges (Brooks-Gunn & Duncan, 1997).

At an area level, not only are low-income communities composed of individuals with limited financial wealth who themselves are at higher risk of being ill, but place itself also matters for health, as economically deprived neighborhoods put residents’ health at risk via exposure to high rates of crime, limited or low quality health-promoting assets (e.g., sidewalks, bike paths, parks), insufficient access to affordable healthy food (Van Lenthe & Mackenbach, 2002), and general exposure to high-stress circumstances. These conditions encourage unhealthy behaviors and make healthy choices more costly. Combined with the constant and additive effect of exposure to resource deprivation and social stressors, these conditions can ultimately increase susceptibility and vulnerability to poor health and disease. Living in a higher poverty census tract is associated with increased incidence of negative health outcomes including low birth weight, childhood lead poisoning, tuberculosis, sexually transmitted infections, and nonfatal gun injuries (N. Krieger, Chen, Waterman, Rehkopf, & Subramanian, 2005).

Lynn struggles with high rates of adverse social and economic conditions, including high poverty and low rates of educational attainment. Across multiple domains of socioeconomic status (percent of the population with public assistance income, median household income, percent of population living below the poverty line), Lynn is more deprived than other cities in the NSMC service area. As predicted by the literature, Lynn residents suffer from high rates of aforementioned health complications that are found to be associated with low socioeconomic position. Geographically, minority residents of Lynn are concentrated in block groups with high poverty and unemployment rates. Almost one quarter of households in Lynn live on less than $20,000 in annual income, while a large portion of households earn over $100,000 in annual income, indicating substantial income inequality.

Employment

Employment and working conditions powerfully influence the wellbeing and health of individuals. Work can help to promote good physical and mental health, and is a major pathway by which individuals gain meaning
in life, social support and interaction, and financial resources that are beneficial to health and well-being (Dooley, Fielding, & Levi, 1996; Marmot & Bell, 2010). Jobs that provide both economic and psychological resources (Grzywacz & Dooley, 2003) allow individuals to invest in healthy behaviors and relationships, and help protect themselves against sources of social and interpersonal stress.

In contrast, being unemployed is associated with unhealthy behaviors and outcomes, including smoking, substance use, suicide, heart disease, and all-cause mortality (Henkel, 2011; Kasl & Jones, 2000). Underemployment — work that is insufficient in terms of hours, income, skills or status — also seems to be associated with worse levels of self-reported health and well-being than adequate employment, though the effect varies by health outcome and underemployment type (Friedland & Price, 2003). Job insecurity or the constant threat of job loss can also have adverse health effects by increasing psychological disturbance, physiological changes, and increased needs for medical care (Ferrie et al., 2001). Conversely, being ill also makes it difficult to obtain, regain or retain employment (Dooley et al., 1996; Valkonen & Martikainen, 1995). Finally, employment in a stressful job environment is also a health risk factor: jobs with high demands and limited workers’ control are known to negatively affect mental and physical health, particularly cardiovascular outcomes (Theorell, 2000).

The implications of being or becoming unemployed in an area with robust employment opportunities differs substantially from being jobless in a place with high unemployment rates and fewer opportunities for reemployment (Turner, 1995). At a community level, high unemployment rates are associated with elevated population health risks, such as cardiovascular disease and all-cause mortality, even after controlling for individual characteristics (Sundquist et al., 2006). Employment and employment opportunities therefore play an important role in determining who remains healthy and who becomes ill. We will focus on this determinant throughout the report, as a lack of economic opportunity — via quality, well-paying and accessible jobs — is a major challenge facing Lynn residents.

**Housing**

Substandard housing is a major public health issue in America (Sharfstein & Sandel, 1998). Abandoned houses, lead paint, contaminated water supplies, overcrowded houses, and vandalism are among some housing factors that impact health. Crowding can increase the risk of transmitting infectious disease, and also adversely affect mental and physical health due to lack of privacy, loud noise, and stress (J. Krieger & Higgins, 2002). The material conditions of housing, such as lead paint, mold, indoor air pollution, and cold have direct negative effects on health (Shaw, 2004), particularly respiratory symptoms (Somerville, Mackenzie, Owen, & Miles, 2000) and injuries (J. Krieger & Higgins, 2002). Additionally, the affordable housing crisis has resulted in an increase in the number of families facing rent burden and eviction, and studies have shown that housing affordability, instability and foreclosure have drastic effects on families’ health (Arcaya et al., 2013; Burgard, Seefeldt, & Zelner, 2012; Cohen, 2007). Eviction has been found to be associated with reports of worse health and higher rates of depression for mothers and children (Desmond & Kimbro, 2015). When rent takes up a large portion of budgets, families are left with less money to spend on other necessities such as healthy food, school supplies, transportation or medical care (Newman & Holupka, 2014). In the worst case, people can become homeless, which is consistently associated with respiratory disease, alcohol and drug dependence, mental illness, trauma, suicide (Breakey et al., 1989), and an elevated risk of death (Morrison, 2009). The affordability crisis is of particular importance in Lynn, as residents — particularly renters — report an increasingly high housing cost burden.
In comparison to other cities in the state and the NSMC catchment area, Lynn has higher rates of housing problems, and larger percent of the population who are ‘housing burdened’, meaning they spend more than 30 percent of their income on rent. Importantly in Lynn, the majority of those who are housing burdened are also living below the poverty line, meaning that those with severely limited incomes are also putting more than a third of their budgets towards housing.

Race, Ethnicity and Discrimination
Interpersonal discrimination and structural racism act as serious assaults on health. Research shows strong associations between experiences of discrimination, bias, and chronic stress and long term health challenges (Pascoe & Smart Richman, 2009). Perceived discrimination has been linked to various health challenges such as hypertension, self-reported poor health, and breast cancer (Williams & Mohammed, 2009). Serious inequities in health exist across racial and ethnic groups, with worse health outcomes reported for Black/African-American and Hispanic people in comparison to non-Hispanic Whites (LaVeist, 2011; Williams, Neighbors, & Jackson, 2003). As to why health disparities exist along racial and ethnic lines is a subject of substantial debate, but many point to exposure to discrimination and racism as important determinants, since gaps in health remain even after adjusting for various health behaviors and individual socioeconomic characteristics (Williams & Mohammed, 2009).

The effects of discrimination on mental and physical health are theorized to occur via several pathways, including psychological and physiological stress responses and health behaviors (Pascoe & Smart Richman, 2009). A primary mechanism is chronic activation of stress responses that can break down the body’s protective resources and increase physical vulnerability (Williams, Yu, Jackson, & Anderson, 1997). Also, discrimination occurs across multiple domains such as gender, substance use, housing status, and physical and mental ability, and can affect access and quality of care, and generally negatively impact overall health (N. Krieger & Berkman, 2000). Given the higher proportion of minority residents in Lynn, in comparison to the other cities in the NSMC area and the state, racial disparities and experiences of discrimination are important health factors to consider.

Across multiple domains of socioeconomic status, minority residents of Lynn experience more disadvantage than whites. For instance, the Hispanic/Latino population in Lynn has the lowest levels of employment and median income, and represents the largest percent of the population with only a high school diploma. Unfortunately, we are unable to break down most of the health statistics by race/ethnicity, and therefore cannot determine how health outcomes correlate with race/ethnicity.

Immigration
Understanding health needs specific to immigrant communities is important for public health in the US since the proportion of the population that is foreign-born has been rapidly increasing in the last two decades, from 9.6 million people (<5 percent of the population) in 1970 to 35 million (12 percent) in 2004. It is further projected to reach 42 million in 2025, or nearly 15 percent of the total projected population (Martin & Midgley, 2006). Given that Lynn is a refugee settlement community and has a growing population of immigrants from diverse countries, it is critical to understand the particular challenges these communities face in terms of health care needs. Studies have shown that compared with the US-born population and despite their lower socioeconomic status, foreign-born individuals tend to have lower mortality rates, and are generally less likely to suffer from heart disease, overweight and obesity, mental disorders, cancers of the
breast, prostate, and colon, and are less likely to have low birth weight babies (Cunningham, Ruben, & Narayan, 2008). The large population of recent immigrants in Lynn may mean that the overall outcomes in the city are better than would be predicted by the economic status of residents. This may help to explain the observed rates of some disease incidence and adverse outcomes in Lynn that were lower than expected.

At the same time, immigrants are also known to have worse health outcomes in terms of higher rates of diabetes, some infections, and occupational injuries, and their overall health generally deteriorates with prolonged time in the US (Acevedo-Garcia, Bates, Osypuk, & McArdle, 2010). In particular, immigrant health is shown to be negatively affected by the stress of the migration process, deleterious work and living environments resulting from their low occupational status, predispositions to particular conditions, and poorer access to health care, lack of health insurance, receipt of lower quality health services, and lower likelihood of seeking medical assistance and preventive care (Cunningham et al., 2008). Lack of fluency in English and of other skills and knowledge about navigating the US health care markets may put immigrants at a higher risk of disease and ill health once living in the US. Refugees face extremely elevated risk of mental health disorders — depression, anxiety, and post-traumatic stress disorder — often as a result of the traumatic circumstances that caused them to seek refugee status (Kandula, Kersey, & Lurie, 2004). Resettled refugees also often face barriers to health care because of inadequate health insurance, language and communication challenges, and difficulty in navigating the complex American healthcare system (Mirza et al., 2014).
3.3 The State of Community Health in Lynn

Overview of Health Problems and Care Utilization Patterns

Lynn suffers from higher rates of several chronic diseases, and utilizes hospital and Emergency Department services more frequently in comparison to Massachusetts as a whole, as well as to the other cities in the study area. Lynn’s overall premature mortality rate is significantly higher than the state-wide rate, as well as the other large cities in the study area; however, cause-specific mortality rates are not uniformly higher in Lynn. The leading causes of death in Lynn are cardiovascular disease and cancer, while leading causes of morbidity rates include unintentional injuries and substance use disorders. Opioid-related mortality and morbidity are also alarming, and some of the highest in the state. Babies born to Lynn residents suffer from higher rates of adverse birth outcomes than other infants in the area, and a greater percent of women report smoking during pregnancy. One third of Lynn mothers have had inadequate prenatal care, which is an important determinant of healthy birth outcomes. Additionally, Lynn has a much higher rate of teen births than the state and other cities in the study area.

Lynn residents experience higher rates of mental health and substance use challenges relative to the rest of the study area and the state, and both care utilization and overdose mortality prevalence has increased in Lynn over the past ten years. Additionally, infectious disease rates are higher in Lynn than in other cities in the study area; rates of HIV/Aids prevalence and death, tuberculosis, syphilis, gonorrhea and chlamydia are up to 1.5 times higher than in neighboring communities.

Children in Lynn have the highest prevalence of asthma in the area, and age-adjusted rates of asthma hospitalization were highest in Lynn, though Emergency Department utilization was similar to rates in several of the other cities, and lower than in Salem. The most common hospital admissions were for heart disease, chronic obstructive pulmonary disease (COPD) and mental health-related issues. In 2014, there were 107,903 outpatient visits, 73,117 ED visits, and 18,474 inpatient hospital discharges from NSMC. 40 percent of all NSMC discharges were from Lynn, and 60 percent of all hospital utilization by Lynn residents was through NSMC. More than two thirds of all discharges from NSMC were of patients with public insurance (Medicaid, Medicare or CommCare). Lynn Community Health Center provides primary care to many of Lynn’s low-income residents, but is having difficulty keeping up with rising demand for their services.

Engagement in various behaviors such as cigarette smoking and binge drinking, and inadequate consumption of fruit and vegetable and low physical activity are known to increase many health risks. Yet, across these outcomes Lynn residents do not report substantially worse, or better, rates of such behaviors than residents of other cities. However, the rates across other health outcomes including overweight/obesity, diabetes and asthma, and prevalence and hospital utilization are higher in Lynn. This suggests that factors beyond individual behaviors likely account for the health disparities we see between Lynn and other communities.

Lynn is federally designated as a Medically Underserved Area and a Health Professional Shortage Area, an area with a shortage of primary medical, mental, or dental health providers. Additionally, several census tracts within Lynn are designated as Medically Underserved Populations or Medically Underserved Areas, a designation combining a ratio of primary medical care physicians per 1,000 people, infant mortality rate, percentage of the population with incomes below the poverty level, and percentage of the population age 65 or over.
Demographics

In 2014, Lynn was home to approximately 91,289 residents, an increase of 2.3 percent since 2000. A total of 329,876 people reside in the 10 NSMC catchment area cities. Lynn is the largest city in the area, making up 28 percent of the total population. Figure 3.3.1 below shows the basic demographic characteristics of the cities served by NSMC.

**Figure 3.3.1. Basic demographic characteristics by city**

<table>
<thead>
<tr>
<th>Race/Ethnicity (N, %)</th>
<th>Lynn</th>
<th>Salem</th>
<th>Peabody</th>
<th>Marblehead</th>
<th>Swampscott</th>
<th>Danvers</th>
<th>Saugus</th>
<th>Beverly</th>
<th>Lynnfield</th>
<th>Nahant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population</td>
<td>91,289</td>
<td>42,321</td>
<td>51,868</td>
<td>20,163</td>
<td>13,912</td>
<td>27,075</td>
<td>27,369</td>
<td>40,370</td>
<td>12,058</td>
<td>3,451</td>
</tr>
<tr>
<td>Sex (N, %)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>43,895 (48.1%)</td>
<td>19,674 (46.5%)</td>
<td>24,860 (47.9%)</td>
<td>9,566 (47.4%)</td>
<td>6,541 (47.0%)</td>
<td>13,254 (49.0%)</td>
<td>12,606 (46.1%)</td>
<td>18,867 (46.7%)</td>
<td>5,846 (48.5%)</td>
<td>1,498 (43.4%)</td>
</tr>
<tr>
<td>Female</td>
<td>47,394 (51.9%)</td>
<td>22,647 (53.5%)</td>
<td>27,008 (52.1%)</td>
<td>10,597 (52.6%)</td>
<td>7,371 (53.0%)</td>
<td>13,821 (51.1%)</td>
<td>14,763 (53.9%)</td>
<td>21,503 (53.3%)</td>
<td>6,212 (51.5%)</td>
<td>1,953 (56.6%)</td>
</tr>
<tr>
<td>Age (N, %)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 18 years</td>
<td>22,970 (25.2%)</td>
<td>7,598 (18.0%)</td>
<td>9,740 (18.8%)</td>
<td>5068 (25.1%)</td>
<td>3,094 (22.2%)</td>
<td>5,790 (21.3%)</td>
<td>5,030 (18.4%)</td>
<td>7,420 (18.4%)</td>
<td>2708 (22.5%)</td>
<td>528 (15.4%)</td>
</tr>
<tr>
<td>18 to 34 years</td>
<td>24,536 (26.9%)</td>
<td>12,152 (28.8%)</td>
<td>9637 (18.6%)</td>
<td>1,848 (9.20%)</td>
<td>2211 (15.9%)</td>
<td>4,705 (17.3%)</td>
<td>4,994 (18.3%)</td>
<td>10,158 (25.2%)</td>
<td>1,575 (13.0%)</td>
<td>572 (16.6%)</td>
</tr>
<tr>
<td>35 to 64 years</td>
<td>33,339 (36.6%)</td>
<td>17,039 (40.3%)</td>
<td>21,754 (41.9%)</td>
<td>9,345 (46.4%)</td>
<td>6,282 (45.1%)</td>
<td>11,615 (42.9%)</td>
<td>12,464 (45.5%)</td>
<td>16,561 (41.0%)</td>
<td>5,629 (46.7%)</td>
<td>1,574 (45.7%)</td>
</tr>
<tr>
<td>65 and over</td>
<td>10,444 (11.5%)</td>
<td>5532 (13.1%)</td>
<td>10,737 (20.6%)</td>
<td>3,902 (19.3%)</td>
<td>2325 (16.8%)</td>
<td>4,965 (18.3%)</td>
<td>4881 (17.9%)</td>
<td>6,231 (15.4%)</td>
<td>2,146 (17.8%)</td>
<td>777 (22.6%)</td>
</tr>
<tr>
<td>Race/Ethnicity (N, %)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>39,774 (43.6%)</td>
<td>31,497 (74.4%)</td>
<td>44,864 (66.5%)</td>
<td>19,204 (95.2%)</td>
<td>12,744 (91.6%)</td>
<td>24,991 (92.3%)</td>
<td>24,708 (90.3%)</td>
<td>36,850 (91.3%)</td>
<td>11,137 (92.4%)</td>
<td>3,223 (93.4%)</td>
</tr>
<tr>
<td>Non-Hispanic Black or African American</td>
<td>10,239 (11.2%)</td>
<td>2,093 (5.0%)</td>
<td>940 (1.8%)</td>
<td>127 (0.6%)</td>
<td>94 (0.7%)</td>
<td>339 (1.3%)</td>
<td>557 (2.0%)</td>
<td>691 (1.7%)</td>
<td>143 (1.2%)</td>
<td>92 (2.7%)</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>31,266 (34.3%)</td>
<td>6,754 (16.0%)</td>
<td>4,070 (7.9%)</td>
<td>519 (2.6%)</td>
<td>637 (4.6%)</td>
<td>720 (2.7%)</td>
<td>1,064 (3.9%)</td>
<td>1,405 (3.5%)</td>
<td>239 (2.0%)</td>
<td>129 (3.7%)</td>
</tr>
<tr>
<td>American Indian and Alaska Native</td>
<td>159 (0.2%)</td>
<td>64 (0.2%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>16 (&lt;0.1%)</td>
<td>0 (0.0%)</td>
<td>42 (0.1%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Asian</td>
<td>6,976 (7.6%)</td>
<td>920 (2.2%)</td>
<td>1,224 (2.4%)</td>
<td>153 (0.8%)</td>
<td>198 (1.4%)</td>
<td>757 (2.8%)</td>
<td>648 (2.4%)</td>
<td>858 (2.1%)</td>
<td>422 (3.5%)</td>
<td>7 (0.2%)</td>
</tr>
<tr>
<td>Native Hawaiian and Other Pacific Islander, Some other race, Two or more races</td>
<td>2,875 (3.1%)</td>
<td>993 (2.3%)</td>
<td>770 (1.5%)</td>
<td>160 (0.8%)</td>
<td>239 (1.8%)</td>
<td>252 (&lt;0.1%)</td>
<td>392 (1.4%)</td>
<td>524 (1.3%)</td>
<td>117 (1.1%)</td>
<td>0 (0.0%)</td>
</tr>
</tbody>
</table>

Lynn is by far the most racially and ethnically diverse city in NSMC’s service area. In Lynn, 43.6 percent of the city identifies as non-Hispanic White, 11.2 percent as non-Hispanic Black or African American, 34.3 percent as Hispanic/Latino, 7.6 percent as Asian, and 3.3 percent as other. The Hispanic/Latino population in Lynn is a much larger percentage of the population than the statewide average of 17.5 percent. The proportion of Non-White residents in Salem is also substantial, with 5.0 percent non-Hispanic Black, 16.0 percent Hispanic/Latino, and 4.7 percent other, while the demographic makeup of all other towns in the service area is substantially more homogeneous, with over 85 percent of residents identifying as Non-Hispanic White.

The cities in the study area do not vary substantially in their gender breakdown; all have more women than men. Across the study area, 35 percent of residents have never been married, 45.2 percent currently...
married, and 19.8 percent separated/widowed/divorced. In both Lynn and Salem, a higher proportion of residents have never been married than in the other cities, with 42 and 43.8 percent respectively. The average household size across the catchment area is 2.5 people, and only in Lynn and Lynnfield is this rate substantially higher, with an average of 2.8 people per household in both cities. Lynn and Salem also have relatively younger populations than the other cities. More than 50 percent of Lynn residents are younger than 34 years old and only 11.5 percent are over 65.

In 2014, over 30 percent of the Lynn population was foreign-born, well above the proportion in other study communities. The foreign born population in Lynn has increased substantially since 2000 when only 22.8 percent of the total population was foreign-born, and has consistently been higher and grown at a more rapid pace than in neighboring communities. Salem and Peabody also have substantial foreign-born populations, but they are less than half as large as the population in Lynn. In Lynn, 63.3 percent of the foreign-born population was from Latin America, 8.6% from Europe, 17.4% from Asia and 9.7% from Africa. The increasing proportion of foreign-born population in Lynn and diversity of countries of origin present additional challenges to the health care system since linguistic, social and cultural barriers may keep the foreign-born population from accessing care and may put members of these groups at higher risk of social and economic isolation and deprivation.

**Figure 3.3.2. Percentage of Foreign-born Population by City**

![Graph showing percentage of foreign-born population by city over years](image)

In 2014, 978 refugee families were resettled in Massachusetts. Thirteen percent of the refugees in the state were placed in Lynn—one of the highest percentages for any city or town. This placement rate has remained consistent over the past decade. Most of the refugees in Massachusetts come from Africa and the Middle East. Though we do not have specific data on the health of refugees residing in Lynn, the refugee population in the state suffers from several health challenges. Of those who arrived in Massachusetts in
2014, 21 percent had Tuberculosis, 22 percent had parasites, 18 percent were anemic, and 15 percent had hearing issues. In addition to suffering from these distinct health issues, the Massachusetts refugee population often has high rates of mental health challenges and trauma, and requires bilingual and bicultural services. In Lynn, the Community Health Center provides most of the care for these individuals and families.

Social and Economic Environment

Education

Lynn has the highest rate of residents aged 25 and older with less than a high school degree (19.9 percent) and the lowest rate of residents with a college degree (46 percent). The rate of residents without a high school degree is almost two times higher than the rate in Peabody, the city with the second highest number of residents without a high school degree. Additionally, compared to residents of wealthier communities like Marblehead, only half as many residents in Lynn have obtained some college or other higher education. As displayed in Figure 3.3.4, Lynn lags behind other towns in the study area when it comes to educational attainment. Moreover, there are substantial educational attainment gaps when we examine these statistics broken down both by gender and racial/ethnic background. Among Blacks in Lynn, 5.9 percent of men and 10.6 percent of women have less than a high school diploma, whereas among Whites the same is true for only 6.3 percent and 6.7 percent, respectively. The percentage of Hispanic/Latino residents with less than a high school diploma is high in Lynn: 22 percent among men and 17.4 percent among women.

Education has a strong effect on health: lower levels of education are associated with higher rates of disease of the heart, COPD, cancer, stroke, and unintentional injury among White and Black men and women (Meara, Richards, & Cutler, 2008.) Education operates as a health determinant in a variety of ways, including by enabling occupational opportunities and higher earnings, providing access to medical information for preventing disease, and helping the development of cognitive and emotional skills that support health-promoting decisions across the life-course (Glymour et al., 2014).

**Figure 3.3.4. Educational Attainment for Population 25 Years and Over by City**
Employment

As noted in the previous section on employment, quality of employment can strongly influence health. The simple employment rate tells us the rate of unemployed individuals in the labor force, or those unemployed people actively seeking work, and provides information on the prevalence of unemployed people in the population. As seen in Figure 3.3.5, the unemployment rates are similar across the NSMC catchment area, though they are slightly lower than the state average in Lynn. The percentage of people unemployed and not in the labor force was 40 percent in Lynn, which was the highest rate among all ten municipalities, as shown in Figure 3.3.6. Furthermore, the unemployment rate was 10.1 percent in Lynn (11.5 for African-Americans and 12.8 for Latino/Hispanic residents) and 9.5 percent in Salem, well above the unemployment rates in the other cities and towns and in the state overall.

**Figure 3.3.5 Unemployment rate for civilian population in labor force 16 years and over**

**Figure 3.3.6. Employment status for total population 16 years and over**
Together, employment statistics indicate that fewer people are employed and more are either unemployed or not actively seeking work in Lynn compared to other parts of the NSMC service area. We also see that there are substantial disparities in which groups bear the bulk of this unemployment burden. Unemployed people have a higher prevalence of illness and excess mortality than the employed (Marmot & Wilkinson, 2005), and that a higher local unemployment rate is associated with adverse health effects including increased risk of cardiovascular disease (Sundquist et al., 2006; Van Lenthe & Mackenbach, 2002).

**Income**

Figure 3.3.7 shows the distribution of annual household income in each of the areas in question. Almost a quarter of households in Lynn live on less than $20,000 annually, and another fifth of the population lives on only $20,000 to $39,999 each year. The percentage of the population living on less than $20,000 annually is notably larger in Lynn compared to the other cities and town, although Salem also has a substantial percentage of the population (20 percent) living on less than $20,000 a year. At the same time, there is also a sizable range in the incomes of Lynn residents, as a fifth of the population brings home more than $100,000 annually. The large percentage of Lynn residents with extremely low income, and Lynn’s wide income inequality, has implications for the health of the community. Residents with limited incomes are at substantially elevated risk for a multitude of adverse health outcomes.

**Figure 3.3.7. Distribution of Household Income by City**

<table>
<thead>
<tr>
<th>City</th>
<th>Less than $20,000</th>
<th>$20,000 to $39,999</th>
<th>$40,000 to $99,999</th>
<th>$100,000 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lynn</td>
<td>21%</td>
<td>23%</td>
<td>35%</td>
<td>21%</td>
</tr>
<tr>
<td>Salem</td>
<td>24%</td>
<td>20%</td>
<td>39%</td>
<td>17%</td>
</tr>
<tr>
<td>Peabody</td>
<td>28%</td>
<td>15%</td>
<td>40%</td>
<td>17%</td>
</tr>
<tr>
<td>Marblehead</td>
<td>50%</td>
<td>31%</td>
<td>9%</td>
<td>10%</td>
</tr>
<tr>
<td>Swampscott</td>
<td>47%</td>
<td>37%</td>
<td>31%</td>
<td>10%</td>
</tr>
<tr>
<td>Danvers</td>
<td>37%</td>
<td>15%</td>
<td>38%</td>
<td>10%</td>
</tr>
<tr>
<td>Lynnfield</td>
<td>57%</td>
<td>27%</td>
<td>6%</td>
<td>10%</td>
</tr>
</tbody>
</table>
In Lynn, over 20 percent of the population has an income at or below the poverty level. In Figure 3.3.8 the poverty level is 1.0 and a ratio below 1.0 represents a person living below the poverty level, and a ratio above 1.0 represents a person living above the poverty level. As a reference, the poverty level for a family of four in Massachusetts in 2014 was $24,300, and ratio of income two times the poverty level was equivalent to $48,600 for a family of four. In Lynn, 40 percent of residents had incomes less than twice the poverty level. In 2014, the average median income across the NSMC service area was $61,985, which was substantially lower than the state median household income of $67,846. Within the NSMC service area, Lynn had the lowest median income of $47,195, which is more than $20,000 below the state median, and almost half of those of wealthier communities like Marblehead and Swampscott. Moreover, median income for a White non-Hispanic householder was $51,250, compared to $43,452 for a Black householder and $36,833 for a Hispanic/Latino householder, showing large income gaps by race/ethnicity. Further, Lynn had the lowest...
annual per capita income of $23,457, followed by the city of Salem with annual per capita income of $31,965. This indicates that there is substantial variation in income across the NSMC catchment area, and that a large percentage of Lynn residents have substantially more limited incomes than residents of the rest of the cities and towns, and of the state as a whole.

**Figure 3.3.9 Median Household Income by City, 2014**

Poverty status, separate from income levels, often goes unreported: data exist for only 22,563 Lynn residents. Among those in this group under 18 years of age, 31.5 percent were classified as "living in poverty." The prevalence of childhood poverty in Lynn is much higher than for other cities and towns: for example, only 6.8 percent of young people in Peabody live in poverty, and 4.6 percent in Swampscott. The average percentage living in poverty for Essex County was 16.1 percent and for Massachusetts statewide was 15.1 percent. This disparity further indicates substantial economic deprivation among Lynn residents, and points to the need for greater economic development in the city to raise income and earnings.

**Public Assistance**

Income level alone does not explain the full extent of poverty, as public assistance can fill in resource gaps for those with limited incomes. Income levels can also obscure the degree of income deprivation experienced by individuals because of the statistical aggregation required to obtain these data. We therefore also examine the number of households with public assistance by geography. In 2012, the national average public assistance participation rate was 2.9 percent, and 3 percent in Massachusetts. Lynn’s rate was higher than the state average: of the 32,764 households in the city of Lynn, 5.5 percent, or approximately 1,800 households, depended on public assistance income.

---

1 Public assistance income provides cash payments to poor families or individuals and includes Temporary Assistance to Needy Families (TANF) and General Assistance (GA). Public assistance income does not include Supplemental Security Income (SSI), noncash benefits from programs such as the Supplemental Nutrition Assistance Program (SNAP)/Food Stamps, or separate payments received for hospital or other medical care. To qualify for public assistance benefits, the income and assets of an individual or family must fall below specified thresholds.
The maps in Figure 3.3.11 show the distributions of income, employment and racial/ethnic composition by block groups. The areas with high rates of unemployment and poverty tend to overlap, and are also home to a large proportion of Black and Hispanic residents. These census tracts appear to be areas of concentrated poverty, and racially segregated. The confluence of multiple socioeconomic challenges in a number of census tracts suggests that residents of these areas are likely at high risk of adverse health outcomes. Unfortunately, we are unable to test this hypothesis given the lack of prevalence data disaggregated to the census tract level.
**Figure 3.3.11 Poverty, Unemployment and Racial Demographics in Lynn**

[Map showing poverty and unemployment rates in Lynn with annotations for NSMC Union Hospital and Lynn Community Health Center.]
Housing Conditions
In 2014, owner-occupied homes made up 42.7 percent of the housing units in Lynn, while 51 percent were renter-occupied and 6.4 percent were vacant. 77 percent of housing in Lynn was built before 1959. The median value of owner occupied homes in the city from 2010-2014 was $251,000, well below the state-wide median of $329,900. Lynn’s population has the highest housing cost burden in the area, with nearly one quarter of the population spending over 50 percent of their income on housing, and nearly one half spending over 30 percent. When families spend more of their income on housing, there is less available for other necessities, including healthy food, medical copays, fitness activities, transportation and clothing (Lubell, Crain, & Cohen, 2007).

**FIGURE 3.3.12. HOUSING COST BURDEN 2008-2012**

**FIGURE 3.3.13. OVERVIEW OF HOUSING PROBLEMS, 2008-2012**

---

*Housing problems include: 1) incomplete kitchen facilities, 2) incomplete plumbing facilities, 3) more than 1 person per room, and 4) cost burden greater than 30%. **Severe housing problems include: 1) incomplete kitchen facilities, 2) incomplete plumbing facilities, 3) more than 1 person per room, and 4) cost burden greater than 50%.*
Across the study area, more than 35 percent of households experienced one or more of the following housing problems: incomplete kitchen facilities, incomplete plumbing facilities, more than one person per room, and a cost burden greater than 30 percent of income. In Lynn, half of the residents have experienced at least one of the housing problems. Figure 3.3.13 differentiates severe housing problems from general housing problems and shows half of Lynn residents reporting spending problems also spend more than 50 percent of their income on housing. Housing problems can impact health in numerous ways: for example, incomplete kitchen facilities may mean that residents cannot cook nutritional meals. Crowding is also associated with negative health consequences, particularly for children, including higher risk of transmitting illnesses, increased stress, and poor sleep patterns (Solari & Mare, 2012).

**Homelessness**

Most homelessness is temporary, a one-time event caused by an economic, health or family crisis. In rarer cases people experience episodic homelessness, which entails intermittent but generally short-term periods of homelessness. Finally, some people find themselves chronically homeless; these people are a highly visible community in Lynn, and are concentrated in the downtown area. According to a recent report by the US Department of Housing and Urban Development, there were a total of 21,135 homeless people in Massachusetts in 2015, of whom 17,444 were in emergency shelters, 3,098 in transitional housing, and 593 unsheltered. Of the total, 2,561 were chronically homeless, 2,630 had severe mental illness and 2,400 had chronic substance use disorders. In 2015, the Lynn Continuum of Care reported a total of 445 homeless persons, including 102 children (Associates, 2015). This is an increase since 2010, when a one-night homeless count identified 102 homeless families (238 household members), and 143 homeless individuals. Given the reported increases in the homeless population across the state (Gellerman, 2013) and increases in rent, it is likely that the homeless population in the city will continue to grow.

**Crime**

Overall, both the violent and property crime rates decreased in Lynn between 2003-2012, however the city still had the highest total crime rate across the NSMC service area in 2011. The violent crime rate in 2011 was 884.7 per 100,000 for Lynn. The second highest violent crime rate was in Saugus, with 313.5 violent crimes per 100,000 residents. The property crime rate in Lynn over the same period was 2,882.9 per 100,000 residents.

**Figure 3.3.14. Time Trends of Violent, Property and Total Crime Rates for Lynn, 2003-2012**
Health Challenges

Mortality
Overall, age-adjusted mortality or death rates have dropped in the state of Massachusetts since 2000. In Essex county, where North Shore Medical Center is located, the mortality rates have dropped at a very similar rate to those of the state overall.

Figure 3.3.16. Age-adjusted Mortality Rate for Massachusetts and Essex County, 2000-2014

The age-adjusted all-cause mortality rate in Lynn for 2008-2010 was 723.9 per 100,000 persons, for a total of 1,993 deaths over the three-year period, as shown in Figure 3.3.17, considerably higher than the state-wide rate. Additionally, there were substantial disparities in mortality rates across different racial/ethnic groups in Lynn: the rate was 768.1 per 100,000 for non-Hispanic Whites, 842 for Non-Hispanic Blacks, 454.6 for Hispanics, and 372.3 for Asian/Pacific Islanders.
Figure 3.3.17. Causes of Death Lynn, Salem, Peabody, Massachusetts, 2008-2010.

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>Lynn</th>
<th>Salem</th>
<th>Peabody</th>
<th>Massachusetts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Rate per 100,000</td>
<td>95%CI</td>
<td>Total</td>
</tr>
<tr>
<td>All-Cause Mortality</td>
<td>1,993</td>
<td>723.9 (692.5 - 755.3)</td>
<td>995</td>
<td>672.6 (631.5 - 713.7)</td>
</tr>
<tr>
<td>Premature Mortality, All Causes</td>
<td>1,993</td>
<td>385.3 (360.7 - 409.9)</td>
<td>995</td>
<td>264.9 (236.1 - 293.7)</td>
</tr>
<tr>
<td>Heart Disease</td>
<td>461</td>
<td>166 (150.9 - 181.2)</td>
<td>258</td>
<td>170.5 (149.7 - 191.4)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>32</td>
<td>12 (7.8 - 16.2)</td>
<td>8</td>
<td>5.9 (1.8 - 10.1)</td>
</tr>
<tr>
<td>Breast Cancer</td>
<td>31</td>
<td>21 (13.5 - 28.4)</td>
<td>19</td>
<td>22.9 (12.4 - 33.4)</td>
</tr>
<tr>
<td>Lung Cancer</td>
<td>142</td>
<td>54.3 (45.3 - 63.3)</td>
<td>56</td>
<td>39.7 (29.3 - 50.2)</td>
</tr>
<tr>
<td>Motor Vehicle</td>
<td>19</td>
<td>6.8 (3.7 - 9.8)</td>
<td>8</td>
<td>5.8 (1.7 - 9.9)</td>
</tr>
<tr>
<td>Suicide</td>
<td>20</td>
<td>7.1 (4.0 - 10.2)</td>
<td>12</td>
<td>9.2 (4.0 - 14.5)</td>
</tr>
</tbody>
</table>

This data is only available for communities with greater than 40,000 persons, which in the study area only includes Lynn, Salem and Peabody.

The age-adjusted all-cause mortality rate and premature mortality rate are higher in Lynn than in Salem and the state as a whole. This means that more people in Lynn die at an earlier age than those in other places. Most of the rates of death for various causes were not statistically significantly different across different places. The lack of statistical difference may in part be due to the small number of deaths for some outcomes in these communities, which results in imprecise estimates of the mortality rates, and decreases our confidence to detect true underlying differences. Cardiovascular disease and cancer were the leading causes of death among older adults (60+) in Lynn for the years 2006-2009 (the latest data available). Respiratory disease and injuries also accounted for a substantial portion of overall mortality among older adults in the city.

In 2010, there were 7 infant deaths in Lynn, for an infant mortality rate of 4.9 per 1,000 live births, which is slightly higher than the statewide rate of 4.4 deaths per 1,000 live births. There were an additional 4 neonatal deaths in Lynn, a rate of 2.8, which is less than the rate of 3.3 for the state. Across the state there are significant disparities in infant mortality rate by race/ethnicity, but no disparities were detectable in Lynn, given the very low number of infant deaths there.
Birth Outcomes

In 2014, 3,842 babies were born to mothers residing in the study area; most of those babies were born at NSMC Salem or the North Shore Birth Center in Beverly. Nearly 40 percent of those babies were born to mothers living in Lynn, who make up only 28 percent of the area population. Lynn’s crude birth rate in 2014 was 16.6 per 1,000 residents, which is substantially higher than the rate across the state. Of babies born to mothers living in Lynn, half were born to Hispanic/Latina mothers. Babies from Lynn suffered higher rates of complications and adverse risk factors than babies born to mothers of the overall NSMC area. For instance, nearly 70 percent of the region’s births to teens were from Lynn, and 38.29 percent of low birth weight babies in the region were also born to mothers in Lynn. In Lynn, 1.7 percent of infants were very low birth weight (i.e. less than 1,500 grams,) 8.1 percent were low birth weight (less than 2,500 grams,) 6.4 percent were preterm, and 5.1 percent of women suffered from gestational diabetes, rates that have all increased slightly since 2000 but do not deviate significantly from statewide levels.

In terms of access to care, 33.4 percent of teen mothers in Lynn reported inadequate prenatal care, substantially higher than the statewide rate of 20.4. Inadequate prenatal care indicates that prenatal care was begun after the fourth month of pregnancy, or that less than 50 percent of recommended healthcare visits were made. 71 percent of prenatal care for Lynn mothers was paid for by state funds, compared to the statewide average of 39.5 percent.

Figure 3.3.18 Trends in Teen Birth Rates for Lynn and Massachusetts, 2004-2014

The teen birth rate in Lynn has consistently been higher than the rate for the state, by about 20 or more percentage points. Though the rates have decreased overall in both the state and Lynn, with an increase in Lynn between 2005 and 2011, the number of teens having children remains quite high in Lynn: there were 94 births to teen mothers in 2014 for a teen birth rate of 29.2 per 1,000 females aged 15-19. Of those births, 69.7% were to Hispanic/Latina teens. Young births are associated with an increased chance in adverse birth outcomes (Chen et al., 2007). The teen birth rate in Lynn was substantially higher than the statewide rate of 10.6 births per 1,000 females aged 15-19.
According to the 2012-2014 Behavioral Risk Factor Surveillance System (BRFSS), nearly 15 percent of Lynn residents had been told at one point that they have diabetes, which is higher than the state level of 9.7%. Though Type 2 diabetes is related to both genetic and lifestyle factors, the two factors cannot fully explain the distribution of disease in the population (Maty, Everson-Rose, Haan, Raghunathan, & Kaplan, 2005). A strong body of evidence suggests that exposure to stressful life events, including low socioeconomic status, greatly increases the risk of development of Type 2 diabetes (Agardh, Allebeck, Hallqvist, Moradi, & Sidorchuk, 2011). This higher incidence is believed to occur through cumulative exposure to stress, negative social comparison, and perception of lack of control; these factors are all correlated with low socioeconomic status (Kelly & Ismail, 2015), which suggests the importance of social disparities in the distribution of diabetes, and the potential to reduce the burden of diabetes through changes in economic conditions.
Lynn residents were hospitalized for diabetes at much higher rates than residents of other cities and towns in the NSMC service area. Given that the community prevalence of diabetes in Lynn was similar to that of other cities and towns we would expect similar hospitalization rates. Instead Lynn residents were hospitalized for diabetes at higher rates, suggesting the potential for improvements in diabetes control.

**Obesity**

*Figure 3.3.21. Percentage of Adults that are Overweight or Obese by City, 2012-14*

Being overweight or obese is a major risk factor for cardiovascular disease. All the cities and towns in the NSMC catchment area have high rates of adults who are overweight or obese. The most recent data available, from 2011, show that 39.5 percent of Lynn students in grades 1, 4, 7 and 10 were overweight or obese, which was the highest rate among cities in the study area, and higher than the state average. Similar prevalence was observed in Salem and Peabody. This widespread high rate among children is of particular concern for not only their current health, but also for their projected health into adulthood. Children who are overweight or obese are at higher risk of a variety of acute health conditions such as respiratory challenges (Must & Strauss, 1999), high blood pressure (Falkner & Daniels, 2004), and Type 2 diabetes (Hannon, Rao, & Arslanian, 2005), as well as high risk for development of cardiovascular conditions and continued obesity into adulthood (Reilly & Kelly, 2011). Studies find that excess weight gain is associated with a multitude of factors in the physical, social and economic environments, as well as with individual behaviors and characteristics. Many studies focus on individual level factors, including parental weight, socioeconomic status, level of physical activity, and sedentary behavior (Haas et al., 2003). A multitude of contextual level factors such as poverty, violence, availability of healthy food, opportunities for physical activity, the built environment, and national food policies (Dunton, Kaplan, Wolch, Jerrett, & Reynolds, 2009; Franzini et al., 2009; Ludwig et al., 2011) are important correlates of obesity and should be considered when determining how to address high obesity and overweight prevalence.
Cardiovascular Health

Heart disease is the leading cause of death in the United States. Like diabetes, cardiovascular disease also shows a strong gradient with socioeconomic position; as socioeconomic position decreases, prevalence of cardiovascular disease increases substantially. Studies have found this inverse relationship at both the individual and community level. This suggests that both individual socioeconomic status and the socioeconomic characteristics of an individual’s community affect cardiovascular disease risk. We examine several risk factors for cardiovascular disease—blood pressure, obesity/BMI, physical activity and dietary patterns—and their relationship with the socioeconomic conditions in Lynn and the surrounding areas.

In Lynn, 37 percent of BRFSS respondents reported having high blood pressure. The prevalence was similar across the study area, and was not statistically significantly higher than the average percent across the state.
High blood pressure is a consistent and important risk factor for cardiovascular disease across age groups, for both men and women, and among racial/ethnic groups (Vasan et al., 2001). Reductions in blood pressure have been shown to be related to reductions in body weight, appropriate physical activity, consumption of healthy foods and reductions in consumption of foods high in salt and fat, limited alcohol consumption and sufficient potassium intake (Vasan et al., 2001). Though all of these are behavioral factors, the ability of individuals to engage in these activities can be highly limited by their individual resources and the resources available in the area where they live and work. For example, it is extremely difficult to meet the guidelines for physical activity in an area without locations for exercise, where people do not feel safe being outside, or when they work long hours that preclude them from spending time outside during daylight.

Lynn and Peabody had a high number of hospitalizations for myocardial infarction, more commonly known as heart attacks, between 2008-2010. The number of coronary heart disease hospitalizations was similarly high in the same time period in Lynn and Peabody, and the number of hospitalizations for Lynn was more than two times the number of hospitalizations in Salem (397) and other communities in the study area. Similarly, the total number of stroke hospitalizations was also much higher in Lynn compared to Salem and elsewhere, with 619 stroke hospitalizations between 2008 and 2010 in Lynn.

**Figure 3.3.24. Total acute myocardial infarction hospitalization, 2008-2010**

The rate of cardiovascular disease is lower in Lynn than in several other cities in the NSMC catchment area. Nationally, there are wide disparities in cardiovascular disease, of which there is higher incidence among people with lower socioeconomic status and among minority ethnic/racial groups (Karlamangla, Merkin, Crimmins, & Seeman, 2010).
ASTHMA

Asthma is the most common childhood chronic disease, and disproportionately affects low income and minority groups, particularly in urban environments. Explanations for this uneven distribution of morbidity and mortality include residence in city center, exposure to poverty, rates of low birth weight, environmental exposures, inadequate health care services, and parental history. Further, health care costs are also an estimated three times higher for children with asthma than those without (Bryant-Stephens, 2009). Ironically, the population with the highest burden of asthma, minority and low income children, are the least likely to receive appropriate treatment and preventive services for their asthma (Oster & Bindman, 2003).

Given the greater minority population and socioeconomic challenges, we would expect higher rates of asthma among residents in Lynn, but this does not appear to be the case. The rate of people who have ever had asthma in Lynn was 18.2 percent, and this rate was not meaningfully different from those across all the other cities. Additionally, 14.4 percent of the Lynn population had asthma at the time of the survey. We cannot compare this percent with other cities, as the data was not available. As shown in figure 3.3.27, pediatric asthma rates are 12.8 percent, higher for Lynn students than for students in many of the other school districts.
Figure 3.3.26. Percentage Ever Diagnosed with Asthma by City, 2012-2014

Insufficient data for Marblehead, Danvers, Swampscott, Lynnfield, and Nahant

Figure 3.2.27. Pediatric Asthma Prevalence, 2011-2012

Insufficient data for Beverly, Lynnfield and Saugus.
The 2011-2012 age-adjusted rates of Emergency Department use for asthma in Lynn were lower than in Salem, and similar to rates in Peabody, Danvers, Beverly, and the state as a whole. There was not a significant change in asthma rates between 2011 and 2012. On the other hand, the age-adjusted rate of hospital admissions (not shown) for asthma was higher for Lynn than the other cities in the study area. Additionally, pediatric asthma rates were slightly higher in Lynn than the rest of the study area. These findings may indicate that though adult asthma prevalence in Lynn is not higher, and Lynn residents are not seeking ED care for asthma at higher rates than other cities, the rate of cases severe enough to require hospitalization is higher in Lynn. Hospitalization for asthma among adults and children is an ambulatory care sensitive condition, meaning that evidence suggests that hospitalization can be avoided with early and appropriate outpatient care (Indicators, 2001).

### 3.3.29. Age-Adjusted Asthma Emergency Department Visits per 100,000 by City, 2011-2012

![Bar chart showing age-adjusted asthma emergency department visits per 100,000 by city.](chart)

**Chronic Obstructive Pulmonary Disease**

Chronic obstructive pulmonary disease (COPD) is similar to asthma, and is characterized by airway obstruction. In 2014, 6.5 percent of the people in Massachusetts reported being told that they had COPD. Medicare now penalizes hospitals for higher than statewide average rates of readmission within 30 days of discharge for five conditions, including COPD, making it a priority condition for hospitals to address. Both Lynn and Salem appear to have higher rates of COPD than the other cities.
Cancer

Cancer was the leading cause of death in Massachusetts in 2015, and the state average of lifetime prevalence for cancer was 7.6 percent in 2014. Figure 3.3.31 shows the percent of BRFSS respondents in study area communities that have ever been told they had cancer. The percent of respondents with cancer appears to be similar in all of the cities, in part because the confidence intervals are quite wide, likely due to low numbers of cases. The crude incidence rates of breast, ovarian, testicular and prostate cancers were similar across the cities. Given the younger age distribution in Lynn, the age-adjusted rate is likely higher than this crude percent reported above. Furthermore, more limited access to care may help to explain the lower incidence of cancer in Lynn, as screening is one the most important predictors of incidence. Screening depends on access to care and physicians, both of which occur at lower frequencies among low-income and minority populations (Freeman & Wingrove, 2005). Despite the relatively lower cancer prevalence in Lynn, cancer is a leading cause of death in the city. This may indicate that when cancer is diagnosed, it is at a more advanced stage for residents of Lynn. For instance, one study found that Blacks, compared to Whites, have longer intervals between prostate cancer screenings, which are associated with a greater odds of diagnosis with advanced disease (Carpenter et al., 2010). Further, studies find large racial and socioeconomic disparities in mortality for several types of cancer, with the largest disparities for those that are most amendable to early detection (Tehranifar et al., 2009). Though the explanation for these disparities is contested, some studies suggest that presentation at more advanced stages, less aggressive treatment, and lower quality of care play important roles in reduced survival for racial and ethnic minorities (Barocas & Penson, 2010).
Overall crude rates of cancer hospitalization in Lynn are similar to rates in the other cities in the NSMC catchment area. Peabody has the highest rates, about 1.5 times the rate in Lynn. Again, this rate is not age-adjusted and should therefore be interpreted with caution. Similarly, the challenges around disparities in access to care, treatment and presentation by population group should be considered.
Hospitalizations
Of the common conditions considered, the most common age-adjusted reason for hospitalization in Lynn was for CVD, followed by COPD and substance use disorders. From 2010-2012, there was an average of 1,461.4 age-adjusted hospital admissions for CVD per 100,000, which was about three times the rate for COPD. This is interesting given that the community survey did not identify COPD as a particularly common condition among residents. However, those with COPD may suffer from severe cases of COPD, resulting in high rates of hospitalization for the condition.

**FIGURE 3.3.3. AGE-ADJUSTED RATE OF COMMON INPATIENT HOSPITALIZATION CATEGORIES IN LYNN, 2010-2012**

![Graph showing age-adjusted rate of common hospitalization categories in Lynn, 2010-2012](image)

Infectious Disease
For all recorded infectious diseases, the crude and age-specific rates of diseases were higher in Lynn than the state average, and almost twice the rate in the state for several diseases. The rate of HIV/AIDS prevalence was almost 1.5 times higher than the state average, and the rate of Chlamydia among the general population and youth ages 15-19 was almost two times higher than the state average. Economic disadvantage is associated with high rates of various sexually transmitted diseases, including HIV, and incidence of these diseases are higher among racial and ethnic minorities than among whites (Control & Prevention, 2010 2029).
Figure 3.3.34. Incidence of Infectious Disease in Lynn and MA

<table>
<thead>
<tr>
<th>Infectious Disease</th>
<th>Lynn Count</th>
<th>Lynn Crude* Rate</th>
<th>State Crude Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV Incidence</td>
<td>NA</td>
<td>NA</td>
<td>8.6</td>
</tr>
<tr>
<td>HIV/AIDS Prevalence</td>
<td>367</td>
<td>398.1</td>
<td>261.0</td>
</tr>
<tr>
<td>AIDS and HIV-related Deaths</td>
<td>2</td>
<td>2.2</td>
<td>1.8</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>6</td>
<td>6.5</td>
<td>3.7</td>
</tr>
<tr>
<td>Pertussis</td>
<td>NA</td>
<td>NA</td>
<td>5.8</td>
</tr>
<tr>
<td>Hepatitis-B</td>
<td>12</td>
<td>13.0</td>
<td>11.3</td>
</tr>
<tr>
<td>Syphilis</td>
<td>17</td>
<td>18.4</td>
<td>9.4</td>
</tr>
<tr>
<td>Gonorrhea</td>
<td>73</td>
<td>79.2</td>
<td>37.9</td>
</tr>
<tr>
<td>Chlamydia</td>
<td>573</td>
<td>621.6</td>
<td>322.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area Count</th>
<th>Area Age-Specific** Rate</th>
<th>State Age-Specific Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syphilis, ages 15-19</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Gonorrhea, ages 15-19</td>
<td>11</td>
<td>171.0</td>
</tr>
<tr>
<td>Chlamydia, ages 15-19</td>
<td>175</td>
<td>2720.2</td>
</tr>
</tbody>
</table>

*Crude rates are expressed per 100,000 persons. **Age-specific rates are expressed per 100,000 persons in the specific age group.

Behavioral Health and Mental Health
The 2014 CHNA conducted by Health Resources in Action identified behavioral and mental health as a priority issue for Lynn and the NSMC area generally. We update their assessment with more recent data from the BRFSS. We additionally supplement their work with hospitalization and ED data to connect health needs to care utilization. Hospitalizations for mental health were highest in Lynn, followed by Salem.

Data from the BRFSS is not ideal, as the survey is unlikely to include any of the most vulnerable population who are likely have the highest rates of mental and behavioral health challenges. For example, individuals must have an address and phone line, and cannot live in institutions, group quarters or temporary residences to be included in the BRFSS. This excludes many of those who, according to our qualitative interviews, suffer most from behavioral and mental health challenges. This methodological challenge should be noted for all of the outcomes assessed using the BRFSS data as noted throughout the section.
Depression

21% of Lynn residents report having been diagnosed with depression; in Salem, the rate is 35%. This data only includes people diagnosed with depression, which likely does not represent the full population burden of the disease. Depression is one of the strongest predictors of poor health among those without a chronic condition, and a predictor of worse health among those suffering from a chronic illness. It is also a major risk factor for substance use disorders.

Figure 3.3.36. Percent Ever Diagnosed with Depression by City, 2012-14
Substance Use Disorders

Mental health issues and substance use disorders are often concomitant, as people seek to self-treat mental health issues alcohol and drugs. Rates of admission to funded treatment programs funded by the Massachusetts Department of Public Health, and admissions of injection drug users specifically, were almost two times higher in Lynn than the state on average. Hospital discharge rates related to alcohol and drugs were additionally about 1.5 times higher in Lynn than the state rate. Together, this data indicates a high prevalence of substance abuse disorders in Lynn.

**Figure 3.3.37. Substance Use Disorder Indicators, 2011**

<table>
<thead>
<tr>
<th>Area Count</th>
<th>Area Crude* Rate</th>
<th>State Crude Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions to DPH funded treatment programs</td>
<td>2,497</td>
<td>2708.7</td>
</tr>
<tr>
<td>Injection drug user admissions to DPH funded treatment program</td>
<td>1,191</td>
<td>1292.0</td>
</tr>
<tr>
<td>Alcohol and other drug related hospital discharges</td>
<td>481</td>
<td>521.8</td>
</tr>
</tbody>
</table>

*Crude rates are expressed per 100,000 persons.

**Figure 3.3.38. Total Admissions for Substance Use and Distribution by Primary Drug in Lynn, 2005-2014**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Admissions</th>
<th>Alcohol</th>
<th>All Other Opioids</th>
<th>Crack/ Cocaine</th>
<th>Heroin</th>
<th>Marijuana</th>
<th>Other *</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>2,141</td>
<td>31.2%</td>
<td>7.1%</td>
<td>7.1%</td>
<td>47.3%</td>
<td>6.3%</td>
<td>1.1%</td>
</tr>
<tr>
<td>2006</td>
<td>2,304</td>
<td>31.3%</td>
<td>6.4%</td>
<td>9.0%</td>
<td>44.3%</td>
<td>7.6%</td>
<td>1.1%</td>
</tr>
<tr>
<td>2007</td>
<td>2,493</td>
<td>29.4%</td>
<td>6.7%</td>
<td>8.7%</td>
<td>48.3%</td>
<td>6.1%</td>
<td>0.7%</td>
</tr>
<tr>
<td>2008</td>
<td>2,574</td>
<td>27.7%</td>
<td>5.6%</td>
<td>9.8%</td>
<td>48.1%</td>
<td>6.6%</td>
<td>1.7%</td>
</tr>
<tr>
<td>2009</td>
<td>2,599</td>
<td>27.9%</td>
<td>8.0%</td>
<td>5.7%</td>
<td>50.9%</td>
<td>5.4%</td>
<td>1.9%</td>
</tr>
<tr>
<td>2010</td>
<td>2,637</td>
<td>28.8%</td>
<td>7.0%</td>
<td>5.2%</td>
<td>51.5%</td>
<td>5.7%</td>
<td>1.7%</td>
</tr>
<tr>
<td>2011</td>
<td>2,412</td>
<td>28.3%</td>
<td>7.1%</td>
<td>5.9%</td>
<td>50.5%</td>
<td>5.5%</td>
<td>2.6%</td>
</tr>
<tr>
<td>2012</td>
<td>2,500</td>
<td>27.6%</td>
<td>6.6%</td>
<td>4.7%</td>
<td>53.4%</td>
<td>5.7%</td>
<td>2.0%</td>
</tr>
<tr>
<td>2013</td>
<td>2,306</td>
<td>25.1%</td>
<td>6.6%</td>
<td>3.4%</td>
<td>57.3%</td>
<td>5.2%</td>
<td>2.2%</td>
</tr>
<tr>
<td>2014</td>
<td>2,220</td>
<td>23.5%</td>
<td>5.5%</td>
<td>4.2%</td>
<td>61.2%</td>
<td>3.6%</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

*Other includes PCP, Other Hallucinogens, Methamphetamine, Other Amphetamines, Other Stimulants, Benzodiazepines, Other Tranquilizers, Barbiturates, Other Sedatives, Inhalants, OTC, Club Drugs, other

In 2014, a total of 2,220 Lynn residents were admitted to the hospital for substance use disorders, of whom 2,127 received care. This is a rate of 2,330 admissions per 100,000 persons, almost twice the statewide rate of 1,272. The vast majority of those admitted were White, males, never married, unemployed and had less than a high school degree, and the highest risk group was between the ages of 18-50, and most were not homeless. This breakdown suggests the presence of socioeconomic gradient in risk of substance use disorder.
Nearly half of those admitted had been treated for mental health challenges before, indicating the high prevalence of concomitance of substance use disorders and mental health challenges. These demographics are similar to those for admissions across the state. A total of 85,823 individuals received services in the commonwealth in 2014.

Breaking down admissions by primary drug type, it is evident that use of heroin has increased substantially over the past ten years, from 47.3 percent in 2005 to 61.2 percent in 2014. As shown in Figure 3.3.38, use of crack and alcohol has proportionally decreased, while the number of people admitted overall increased slightly from 2004-2010 and has decreased again since then.

Figure 3.3.39. Number of Confirmed Unintentional Opioid Overdose Deaths by City (01/2012-12/2014)

Over the past few years there have been a high number of overdose deaths in Lynn, among a significant increase in opioid deaths across the state. In 2014, there were 37 overdose deaths in the city, a rate of 42 per 10,000 persons, the third highest number of deaths for any city in the state. These overdose deaths were among 281 cases of overdose in the city in 2014, a dramatic increase from 64 cases in 2010. Across the country, rates of heroin-related deaths have risen dramatically, bringing newfound political and public attention to the issue. Recent studies have considered the “risk environment” or contextual factors that contribute to drug overdose, and suggest that feelings of hopelessness connected to limited opportunity for personal and economic advancement in the area drives drug use and abuse, and that investment in jobs and community may help to reduce fatalities (McLean, 2016).

According to the Lynn Community Health Center, as of March 2015, 330 patients were being seen for Suboxone, a drug used to treat narcotic addition, and there was increasing demand for Opiate Addiction treatment among patients.
Figure 3.3.39 shows that rates of binge drinking similar across cities in the study area. Alcohol consumption is a risk factor for cirrhosis and other alcohol-related liver diseases, memory loss, damage to the heart muscle, and cancers of the mouth, throat, esophagus, liver, colon, and breast. Alcohol consumption during pregnancy is especially detrimental in terms of increasing risk of having baby with Fetal Alcohol Spectrum Disorder, miscarriage, stillbirth and premature delivery (Centers for Disease, 2016).

**Behavioral Risk Factors**
Below we examine three important health behaviors: physical activity, fruit and vegetable consumption, and smoking. These behaviors significantly determine overall health. For example, for those with a sedentary lifestyle, increasing exercise by 30 minutes each day can reduce the risk of hypertension, stroke, cardiovascular disease, colon cancer, breast cancer, and Type 2 diabetes by over 30 percent (Lee et al., 2012).

**Nutrition**
Fruit and vegetable consumption is a major component of overall nutritional intake. Though a lack of affordable and accessible healthy food options is often a challenge in areas with large low-income populations, BRFSS data shows that rates of fruit and vegetable consumption in Lynn are similar to those in other cities in the area.

**Physical Activity**
Figure 3.3.42 shows that respondents from Lynn and Salem engage in physical activity at slightly lower rates than respondents in other cities. In Lynn, approximately 30 percent of residents failed to get physical activity on a monthly basis. Differences by city in opportunities to do exercise, including traffic conditions, and aspects of the built environment - such as bike paths, sidewalks, parks and recreation centers - play important roles in encouraging or discouraging residents to engage in physical activity.
Smoking, a major risk factor for various cancers, heart disease, stroke and lung disease, does not appear to be substantially higher in Lynn than other cities. About a fifth of respondents in the city are current smokers, and a quarter of them are former smokers. Salem has similar, though slightly lower, rates. Smoking is generally more common among adults living below the poverty line than those living above it (Jamal et al., 2015). Smoking during pregnancy puts both the mother and child at risk of adverse health outcomes. Three-year average smoking rates during pregnancy in Lynn are worryingly high among non-Hispanic White women (17.7 percent) compared to 7.9 percent in the state for this demographic population. Rates among other racial/ethnic groups are not substantially different than the statewide average rates.
Healthcare Access, Needs and Utilization patterns

Insurance
In Lynn, the proportion of people without health insurance, at 6 percent, was twice as high as the state average, and proportion of people with public health coverage was also much higher. Though we were unable to disaggregate demographics of the uninsured in Lynn, it is likely that many of these are recent immigrants who are generally uninsured at higher rates than the rest of the population.

**FIGURE 3.3.44. HEALTH INSURANCE RATES BY CITY, 2014**

<table>
<thead>
<tr>
<th>City</th>
<th>No Health Insurance Coverage</th>
<th>Public Health Coverage</th>
<th>Private Health Insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lynn</td>
<td>6.0%</td>
<td>47.3%</td>
<td>46.7%</td>
</tr>
<tr>
<td>Salem</td>
<td>4.0%</td>
<td>61.4%</td>
<td>34.6%</td>
</tr>
<tr>
<td>Peabody</td>
<td>3.0%</td>
<td>65.7%</td>
<td>31.3%</td>
</tr>
<tr>
<td>Marblehead</td>
<td>0.9%</td>
<td>76.5%</td>
<td>22.6%</td>
</tr>
<tr>
<td>Swampscott</td>
<td>2.1%</td>
<td>75.9%</td>
<td>22.0%</td>
</tr>
<tr>
<td>Danvers</td>
<td>2.1%</td>
<td>72.6%</td>
<td>25.3%</td>
</tr>
<tr>
<td>Saugus</td>
<td>3.6%</td>
<td>81.1%</td>
<td>30.6%</td>
</tr>
<tr>
<td>Beverly</td>
<td>3.7%</td>
<td>80.3%</td>
<td>29.3%</td>
</tr>
<tr>
<td>Lynnfield</td>
<td>0.9%</td>
<td>90.3%</td>
<td>21.8%</td>
</tr>
<tr>
<td>Nahant</td>
<td>1.8%</td>
<td>73.1%</td>
<td>25.1%</td>
</tr>
<tr>
<td>MA State</td>
<td>3.4%</td>
<td>66.9%</td>
<td>29.7%</td>
</tr>
</tbody>
</table>

Overall Health Care Access
Residents of Lynn and Salem have slightly lower rates of routine check-ups than residents of Peabody, Marblehead and Beverly. However, across the cities, the coverage is relatively good with over 73 percent of respondents to the survey reporting access to preventive care.

**FIGURE 3.3.45. PROPORTION OF RESPONDENTS WHO HAD A ROUTINE CHECK-UP IN THE PREVIOUS YEAR, 2012-2014**

*Insufficient data for Lynnfield and Nahant*
The maps below show the percent of residents in each census tract with emergency, ambulatory, and primary care visits and the percentage of women who used obstetric/gynecological care in Lynn in 2010.

**Figure 3.3.46. Access and Use of Health Care in Lynn**
North Shore Medical Center Utilization

As shown in Figure 3.3.47, over the past four years outpatient visits to North Shore Medical Center have decreased slightly, by approximately 20,000 visits, while outpatient and hospital visits have remained relatively steady. In 2014, there were 107,903 outpatient visits, 73,117 Emergency Department visits, and 18,474 inpatient hospital discharges from NSMC.

Figure 3.3.47. Utilization (ED, Outpatient, Inpatient Discharges) at NSMC-2010-2014

Figure 3.3.48 shows the percent of total discharges from NSMC from 2010-2012 to each of the communities in the study area, as well as the percent of all discharges, from all Massachusetts hospitals, from that community, that were from NSMC. Almost 40 percent of all NSMC discharges are from Lynn, and this figure represents 60 percent of the total discharges of Lynn residents. In addition to NSMC, 11 percent of Lynn residents are discharged from Massachusetts General Hospital, 12 percent from Northeast Hospital, 2 percent from Hallmark Health, and then the remaining 15 percent are broken up among various other hospitals across the state. NSMC is therefore the most common location where Lynn residents seek hospital care, and Lynn residents account for large percentage of total NSMC utilization.

Figure 3.3.48. Inpatient Discharges, 2010-2012
Figure 3.3.49 shows the number of discharges at North Shore Medical Center for the 15 most common conditions across the state. Among those conditions, neonatal births were the most common at NSMC. Heart failure and chronic obstructive pulmonary disease were also among the top five most common conditions at NSMC, and were among the most common admission conditions in Lynn. These discharges represent utilization that required inpatient admission to the hospital, and therefore show conditions for which intensive care and an overnight stay were required.

**Figure 3.3.49. Top 15 Most Common Inpatient Diagnosis Groups at NSMC, 2014**
25 percent of discharges at Union campus and 31 percent at Salem campus were to patients with private, commercial insurance. Medicaid was the primary payer at Salem (34 percent), whereas while Medicare was slightly more common at Union Campus (29 percent). Overall, more than two-thirds of discharges across NSMC were to publicly insured patients. This is appropriate given that NSMC is a Disproportionate Share Hospital (DSH). DSH status applies when a hospital has a minimum of 63 percent of gross patient charges attributed to Medicare, Medicaid, and other government payers.

**Figure 3.3.51. NORTH SHORE MEDICAL CENTER FREQUENT HOSPITAL USERS 2010-2013**

Figure 3.3.51. shows that though frequent users only made up 10 percent of all NSMC patients, they were responsible for 20 percent of total discharges and 60 percent of total readmissions. The readmission rate for this population was 30 percent, substantially higher than the overall readmission rate. Incredibly high utilization by a small segment of patients suggests that targeting this population for preventive care that keeps them out of the hospital may result in significant savings for NSMC, especially given penalties for greater-than-average readmissions.
3.4 Lynn Community Health Center

Basic Characteristics

Lynn Community Health Center (LCHC) provides primary medical care, behavioral health, dental, eye care, specialty, and pharmacy services, as well as educational and support programs to patients regardless of insurance status or ability to pay. LCHC additionally operates a school Based Health Care program in collaboration with the Lynn Public Schools. The program includes satellite clinics in twelve Lynn schools where students can receive both primary and behavior health services. The health center is a recognized leader in several categories of care provision including integration of behavioral health and primary care, HIV care, primary care based Hepatitis C and Tuberculosis services, and refugee health.

Located in downtown Lynn, Lynn Community Health Center served nearly 40,000 patients for a total of 281,741 visits in 2014. This accounts for nearly 40 percent of Lynn’s population. The LCHC serves an economically and socially vulnerable population. More than 90 percent of their patient population lives below 200 percent of the federal poverty level (FPL), and 65.7 percent live below 100 percent of the poverty line; the federal poverty line for a family of 4 is $23,850 a year. Additionally, while 6 percent of the city of Lynn was uninsured in 2014, 18 percent of Lynn Community Health Center’s patient population was uninsured. An additional 51.6 percent of patients were insured by Medicaid or CHIP, and 7.4 percent had Medicare coverage. Figure 3.4.1 to the right shows the racial/ethnic breakdown of the patient population. Approximately 82 percent of patients identified as a racial or ethnic minority, and almost 50 percent of patients identified as Hispanic. Citywide, 66.4% of the population is non-White, and 34.3 percent are Hispanic. Additionally, 53.3 percent of patients were best served in a language other than English. Thus, it is clear that racial/ethnic minorities disproportionately receive care at the Lynn Community Health Center.

Figure 3.4.2 Annual Patient Visits to Lynn Community Health Center, 2010-2014
The patient count at Lynn Community Health Center has increased by 11 percent over the past five years, from 34,701 in 2010 to 39,180 in 2014; this is an average of about 400 new patients each month. Since 2010, the number of patient visits has grown each year, with nearly 100,000 additional visits. Lynn Community Health Center is now the largest provider of primary health care in Lynn. Figure 3.4.3 below shows patient visits broken down by type in 2014. The breakdown by service type has remained relatively similar since 2010, though the proportion of patients using Behavioral Health services has increased slightly each year, while the proportion using medical services has decreased.

**Figure 3.4.3. Patient Visits to Lynn Community Health Center by Service Type, 2014**

While Lynn Community Health Center’s patient population has increased, the number of providers has also increased to meet the growing service demand. The number of full time family practitioners, nurse practitioners, and dentists at LCHC has increased from 2010 to 2014, and the behavioral health staff has has nearly tripled. Pediatrician availability is one area in which LCHC is struggling to keep up with demand.

Though Lynn Community Health Center has expanded services and providers over the past years, the Health Center reports that for many services they have reached their capacity to service patients, but face a continuing increase in demand for services. Requests for primary care from new patients are continuing to grow, and Lynn CHC treats behavioral health patients at a far greater frequency than other Community Health Centers across the state. Though the increase in number of new patients over the past ten years was approximately 400, this has increased to 443 per month since June 2015. Among those new patients, 52 percent have had at least one Urgent Care appointment. Additionally, 53.4 percent arrive with no prior identified Primary Care Provider.

Studies find that closure of hospitals may result in an increase in use of care at non-hospital facilities (Buchmueller, Jacobson, & Wold, 2006). Given the impending closure of Union Hospital, and the fact that many of Union Hospital’s patients use public insurance, demand for services at Lynn Community Health Center will likely continue to increase as patients shift from hospital-based care to non-hospital based care.
Patient Utilization of Lynn Community Health Center

Common Conditions among patients
Data were only available for a small number of conditions. In 2014, 19.5 percent of patients were seen for hypertension, 11.8 percent for diabetes, 5.1 percent for asthma, and 0.5 percent for HIV. In 2014, the LCHC ranked well in comparison to other Federally Qualified Health Care Centers across the country in terms of diabetes control, and moderately well on measures of blood pressure control, heart attack and stroke treatment, childhood immunizations and colorectal and cervical cancer screening. However, it was ranked in the 50th percentile or lower for access to prenatal care, low birth weight, adolescent and adult weight screening and follow-up, asthma treatment and cholesterol treatment. These are areas to focus resources for improved performance.

Expenditures
At the Lynn Community Health Center, both total costs for services and cost per patient have been rising each year. Per patient costs have risen by $20.61 year-on-year, and the total operating cost has increased by approximately $22,380,000. In 2013, the last year with available comparison data, the cost per medical visit was $185.96, higher than the average cost across other CHCs in the state ($170.54) and across other CHCs in the nation ($158.99). However, behavioral health visit costs were $99.10, well below the state average of $127.38 and national average of $144.45. The total Health Center Service Grant expenditures at Lynn Community Health Center have increased by almost 1 million dollars since 2012 to a total of $3,016,853. This is equivalent to a total cost of $1,991.34 per patient. Despite the increase in grant funding and service provisions, the health center staff reports that the funding and staffing levels cannot meet current care needs.

3.5 Transportation Access to Healthcare

A lack of access to affordable, reliable transportation can pose significant barriers to health, by both negatively impacting upstream factors of health such as employment, as well as more immediate health impacts such as delaying receiving care, missing follow-up appointments, or lacking access to pharmacies. Transportation access to healthcare is especially impacted by vehicle ownership, particularly in communities like Lynn where low-income residents are often dependent on public transit and walking, but poorly planned development and inadequate transit funding have placed important services out of convenient reach.

Transportation barriers to health tend to be particularly significant for low income, minority, and elderly residents, like many communities in Lynn. In one survey of low-income suburban residents of NYC, nearly one-quarter reported having transportation problems, including limited and unreliable local bus service and a tenuous connection to a car, that had caused them to miss or reschedule a clinic appointment in the past (Silver et al, 2012). In a 2001 survey of adults living at or below 125 percent of the federal poverty level in Cleveland, Ohio, one-third of respondents reported that it was “hard” or “very hard” to find transportation to their health care providers (Syed et al, 2001). Inadequate transportation to pediatric facilities in Boston was the largest barrier identified by Latinos when asked why they didn’t bring their children in for treatment or checkups (Flores et al, 1998). Finally, it has been shown that one quarter (24%) of missed medical appointments in one California county were due to transportation problems (Butrick, 1999).
Transportation barriers to health for Lynn residents

**Vehicle ownership**
In 2010, 22 percent of Lynn households lacked access to a vehicle, and an additional 32 percent had access to only one vehicle. Households with lower rates of vehicle ownership are primarily concentrated around downtown with several areas containing 50 percent or more households without access to a car. Comparatively, fewer than 7 percent of households living in more suburban areas of Lynn, including near Union Hospital, lack access to a vehicle.

**Mode of Travel**
In downtown Lynn, where low income communities of color are concentrated and car ownership rates are low, many rely on public transit to get to work while very few rely on cars. Approximately half of households in most downtown Lynn census block groups do not drive to work and instead rely primarily on public transit and walking. A substantial portion of low income Lynn residents are dependent upon walking, bicycling, and public transportation for their access to jobs and other needs.

*Figure 3.5.1 Map of Household Car Access in Lynn*
Job Accessibility by Transit

Lynn residents without cars have the ability to access far fewer jobs in the region than those who are able to drive, weakening their chances of finding employment. The following table shows how many jobs residents traveling from downtown Lynn on transit or in a car could reach within a given time period. Future economic development efforts should consider this disparity of access when prioritizing where to locate new jobs and services.

<table>
<thead>
<tr>
<th></th>
<th>Within 30 minutes</th>
<th>Within 45 minutes</th>
<th>Within 60 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transit</td>
<td>25,705</td>
<td>27,555</td>
<td>323,491</td>
</tr>
<tr>
<td>Car</td>
<td>404,442</td>
<td>965,653</td>
<td>1,581,999</td>
</tr>
</tbody>
</table>
**Transit service**

Despite being the largest city in the North Shore area and having a large number of households without private vehicles that rely upon public transportation, Lynn is not served by any high frequency bus routes (defined as being scheduled to arrive every 15 minutes). In addition to this low frequency, many of the bus services are often late and highly unreliable; a sampling of their “on-time performance” from MBTA data for the week of April 14th, 2016 found that bus lines serving Union and Salem hospital were on time just 50-77 percent of the time, which significantly impacts residents’ ability to rely on these services to reach healthcare appointments and other critical services.

**Figure 3.5.4 Transit Service in Lynn and Salem**

<table>
<thead>
<tr>
<th>Lynn route number</th>
<th>Weekday boardings (average daily riders on a weekday)</th>
<th>Headway (average time between scheduled buses)</th>
<th>Span of service (service hours)</th>
<th>On time performance (% of the time bus is on schedule, week of April 4th, 2016)</th>
</tr>
</thead>
<tbody>
<tr>
<td>435</td>
<td>912</td>
<td>65</td>
<td>8:05am-10:45pm (inbound), 6:05am-10:24pm (outbound)</td>
<td>62%</td>
</tr>
<tr>
<td>436</td>
<td>823</td>
<td>30</td>
<td>6:40am-11:20pm (inbound) 6:05am-10:24pm (outbound)</td>
<td>65%</td>
</tr>
<tr>
<td>Salem routes (total)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>455 (to downtown Salem)</td>
<td>2103</td>
<td>25</td>
<td>5:00am-1:08am (inbound), 5:21am-1:10am (outbound)</td>
<td>62%</td>
</tr>
<tr>
<td>459 (to downtown Salem)</td>
<td>1184</td>
<td>75</td>
<td>5:50am-6:58pm (inbound), 6:20am-8:27pm (outbound)</td>
<td>50%</td>
</tr>
<tr>
<td>456 (direct to NSMC Salem)</td>
<td>324</td>
<td>80</td>
<td>9:40am-4:52pm (inbound), 6:52am-4:11pm (inbound)</td>
<td>77%</td>
</tr>
<tr>
<td>450/450W (direct to NSMC)</td>
<td>1785</td>
<td>30 (peak)/ 80 (off-peak)</td>
<td>5:40am-1:30am (inbound), 4:42am-12:20am (outbound)</td>
<td>65%</td>
</tr>
</tbody>
</table>
Transportation Affordability
The HUD and USDOT Location Affordability Index estimates that the average transportation cost in Lynn overall is $11,643, ranging from $6,000 to $13,000, with the average Lynn family spending 15 percent of their income on transportation. Most of the variation is due to differences in car ownership and transit ridership, given current estimates of an annual cost of $8,698 per year to own and operate a private vehicle. Enabling more households to rely less on cars to be able to reach critical services, including jobs, healthcare, and food through investments in public transit and infrastructure can improve overall affordability for low and moderate income families.
Healthcare accessibility by transit

Massachusetts state access standards for Medicaid patients set the maximum distance that an enrollee should have to travel to see a provider at 30 minutes or 15 miles. The 2002 study “Roadblocks to Health” conducted for the Bay Area similarly used a 30-minute threshold for public transit and walking for communities highly dependent upon public transit. While both Union Hospital and NSMC Salem Hospital lie within a 30-minute driving distance from downtown Lynn, neither are within a 30-minute reach of public transit or walking.

**FIGURE 3.5.6 HEALTHCARE ACCESSIBILITY BY TRANSIT FROM DOWNTOWN LYNN**
Travel times were calculated from the centroid of the cluster of block groups in downtown Lynn containing greater than 50 percent of households without cars, which happens to be located one block from the MBTA commuter rail station in downtown Lynn. Transit travel times are average estimates during morning rush hour that incorporate walking and waiting times. Analysis using current MBTA bus route travel times and frequencies found that neither NSMC Salem Hospital nor NSMC Union Hospital are within an average estimated 30-minute transit ride or walking distance of downtown Lynn, and that more realistically, travel times for residents of downtown Lynn to NSMC Salem or NSMC Union Hospitals are likely to be 45-60 minutes. While it may be possible under the best case scenario to reach Union or Salem Hospitals in under 30 minutes if waiting times were minimized, buses were on schedule, and not caught in traffic, this analysis reflects the average distribution of transit travel times during morning rush hour given the current transit schedules and reliability. On the other hand, Lynn Community Health Center is within both a 30-minute transit travel time, as well as 30 minutes walking time for all Lynn block groups with greater than 50 percent of carless households.
Connections between Lynn and Salem: Route 107
The primary route connecting Lynn and Salem is Route 107, which also carries MBTA routes 450 and 456. The Massachusetts Department of Transportation is currently studying the performance of this critical link and working to recommend upgrades to improve access for drivers, transit riders, walkers, and cyclists alike. The Route 107 Corridor Study has identified several deficiencies with the current transit service and pedestrian access that connects Lynn with North Shore Medical Center in Salem, including lack of sidewalks to bus stops, lack of crosswalks, missing or faded signs, lack of ADA accessibility, and high traffic speeds (upwards of 40mph) and volumes. Relatedly, several of the intersections along the corridors have higher rates of crashes than the statewide average. These deficiencies pose significant dangers to transit riders, cyclists, and people walking to access healthcare, jobs, or other services.

The ongoing Route 107 Corridor Study has identified persistent traffic congestion experienced along Route 107, the primary connection between Lynn and NSMC Salem. Figure 3.5.9 shows the current Level of Service at the intersections between Lynn and NSMC Salem, indicating that many intersections experience high levels of traffic and delay during the AM, PM, and Saturday travel times. Level of service is a qualitative measure used by traffic engineers to indicate the performance, traffic levels, and capacity of an intersection or
corridor, ranging from A (traffic flows freely at or above the speed limit) to F where traffic overwhelms capacity and travelers experience major delays.

**Figure 3.5.9 Route 107 Level of Service**

The Route 107 Corridor Study has found that the Salem Hospital bus stop currently has the second-highest ridership stop along the corridor, but that the pedestrian access for passengers boarding or alighting at the stops is very poor. The study identified missing curb ramps for disability access, missing crosswalks, poor sidewalk condition, and the southbound stop to return to Lynn has no shelter currently.

Importantly, while the study has done community outreach, the survey conducted was online only and reached almost no transit riders (one percent), indicating that transit dependent communities who will rely upon 107 to access healthcare and other services have not yet been represented in this important planning process.

**Emergency care access**

During interviews and public hearings, many Lynn community members expressed concerns that the consolidation to NSMC Salem could degrade response times for emergency vehicles. While the added distance and travel time to NSMC Salem is unlikely to have a significant negative impact on health outcomes, additional resources or policy changes may be necessary to maintain current response times and emergency vehicle availability.

Emergency responders interviewed for this report did not believe that the increases in drive time and traffic to reach Salem Hospital with patients from downtown Lynn would have health impacts on patients, given the ability to stabilize patients within the ambulance. However, emergency responders are concerned that the increased travel time and traffic to and from Salem from many points within Lynn will contribute to delays for getting emergency vehicles back into service after a call, and may necessitate more emergency vehicles to provide the same levels of service. With increased round trip travel times to take patients to Salem, Lynn emergency responders interviewed for this report indicated a likely need for additional emergency vehicles, especially ALS, if the consolidation to Salem occurs.
Emergency responders also relayed concerns that they perceive to be a growing number of ambulance rides that are not for emergencies, especially during late night or off-peak hours. This could be in part due to a lack of transportation options for many residents, especially at night, and could present an opportunity to reduce ambulance rides and associated costs by providing more accessible non-emergency transportation services. Additionally, emergency responders are currently required to bring patients who call an ambulance to an emergency room even if the patient could be treated at an urgent care center. In the future, travel times and associated costs could be reduced if the policy were changed and emergency providers could take non-emergency patients to an urgent care center or other provider closer by, rather than having to go to Salem for every patient.

Summary
The current transportation infrastructure is not sufficient to allow all Lynn residents to travel to and from Salem hospital in a reasonable time. Much of the population depends on public transportation, but there are limited bus routes to Salem, the buses are regularly delayed, and they encounter traffic along the route from Lynn to Salem. Analysis found that for residents in downtown Lynn, the area with the highest concentration of households without cars, it would take an average 45-60 minutes for residents to reach NSMC or NSMC Union hospitals, longer than the standard set for Medicaid patients by the state of Massachusetts. Additionally, the current ambulance fleet likely will not be able to meet the needs of Lynn residents once services are consolidated in Salem.

Over the past decade, legislated healthcare reform in the Commonwealth of Massachusetts and at the federal level have changed the landscape of healthcare delivery. New performance-based payment models, changes to community benefits requirements, and an emphasis on cost containment present both challenges and opportunities to improve the delivery of community health services in Lynn and across Massachusetts.

4.1 State-level Reform in Massachusetts

In 2006, Massachusetts undertook ambitious comprehensive health insurance reform legislation on which the national Affordable Care Act was modeled. The legislation, “An Act Providing Access to Affordable, Quality, Accountable Health Care,” aimed to achieve nearly universal insurance coverage for Massachusetts residents by establishing an individual insurance mandate and by obligating employers to either make a contribution to their employees’ insurance coverage or pay an assessed per worker fee to the state (Sussman, 2007).

The 2006 legislation also included provisions to help people and small businesses afford the insurance mandate by establishing the Commonwealth Care Health Insurance Plan (CCHIP) and the Commonwealth Health Insurance Connector Agency, now called the Massachusetts Health Connector (Sussman, 2007). The Commonwealth Care Health Insurance Plan was established to provide subsidized health insurance to low-income individuals without employee-sponsored health insurance and who do not qualify for MassHealth Medicaid. The Massachusetts Health Connector is a state quasi-governmental agency and online health care exchange that provides affordable health insurance plan options to both individuals and small businesses that can be purchased with pre-tax dollars coverage (Holahan & Blumberg, 2006). In 2012, the Massachusetts legislature passed additional comprehensive healthcare reform legislation, Chapter 224.

Even before the 2006 legislation, Massachusetts had a low percentage of uninsured residents compared to other states and the national average because of the extensive MassHealth Medicaid program and effective employer coverage coverage (Holahan & Blumberg, 2006). After the 2006 reforms were enacted, Massachusetts succeeded in accomplishing high rates of new enrollment within the first year of implementation and has rates of uninsured residents well below the national average (4 percent, as compared to a national rate of 10 percent, in 2015). Massachusetts’ Children’s Health Insurance Plan (CHIP) program, which provides coverage to children under 19 years of age in families that do not qualify for Medicaid but who cannot afford to buy insurance in the private market, also has a high participation rate. As of 2011, 96.1 percent of eligible children in Massachusetts are enrolled in either Medicaid or MassHealth.
CHIP, as compared to a national rate of 87.2 percent (American Academy of Pediatrics, 2014). Affordability, however, remains a significant problem. As of 2012, per capita spending on health care in Massachusetts was 15 percent higher than the national average (The Henry J. Kaiser Family Foundation, 2012).

4.2 National-level Reform: The Affordable Care Act

The national Patient Protection and Affordable Care Act (ACA), enacted in 2010, expanded Medicaid coverage to millions of formerly ineligible low-income people as part of a broader goal of insuring nearly 50 million uninsured Americans. In 2012, however, the Supreme Court limited the law’s expansion of Medicaid by reserving for states the authority to determine whether to expand Medicaid eligibility within their jurisdiction (The Kaiser Commission on Medicaid and the Uninsured, 2014). As of March 2016, nineteen states had elected not to adopt the Medicaid expansion.

Expanding Coverage and Improving Care

The ACA expanded coverage to the uninsured primarily through an individual insurance mandate aimed at 32 of the 50 million uninsured Americans. The ACA also changed the landscape of healthcare provision in several additional ways relevant to the Lynn health care system. First, initiated a shift in Medicaid reimbursements to providers away from a fee-for-service model to a performance-based payment model, which incentivizes quality care over quantity. Second, the ACA further developed community benefits requirements for non-profit hospitals. Lastly, changes to Medicare and Medicaid encourage state-level initiatives to improve quality of care and encourage cost containment.

The passage of the ACA initiated a shift away from the long-held Fee-For-Service (FFS) reimbursement model, in which providers are paid for each service delivered to Medicaid patients, to a pay-for-performance model. This ongoing shift to value-based payment means that reimbursements are determined by the quality, outcomes, and efficiency of the delivered care; providers are incentivized to keep patients healthy rather than just treat them when they’re not (Powe, 2016). This is largely being executed through bundling services and cost sharing through the rise of Accountable Care Organizations (ACOs). ACOs are groups of doctors, hospitals, and other providers who work to coordinate high quality care for patients. ACOs share in the savings achieved through coordination and, thus, have an incentive to deliver care that is both high quality and cost efficient.

Community Health Centers (CHCs) and safety net hospitals are critical sources of primary healthcare for Medicaid patients throughout the US. Reforms including Medicaid expansion, the continuance of special payment rules for health centers which guarantee reimbursement for covered services, and innovation in delivery and payment systems focused on desired health outcomes are key to the ability of CHCs and safety net hospitals to meet the health needs of uninsured and Medicaid populations (Shin et al., 2015). The ACA also introduced several measures with potentially challenging, but yet unknown, effects on hospitals and health centers that serve primarily low-income populations. These include the Hospital Readmissions Reduction Program (HRRP) and cuts to Disproportionate Share Hospital (DSH) funding. The HRRP program penalizes hospitals with higher than expected readmissions rates, by reducing Medicare reimbursement levels. HRRP is risk-adjusted, intending to avoid penalizing hospitals that serve more complex or high-risk
patient populations. HRRP may continue to penalize safety-net hospitals, either by concealing poor quality and poor performance through risk adjustment, or by insufficient adjustment adjusting and penalizing the hospitals serving the highest risk populations such as the uninsured (Kahn et al., 2015).

Finally, the ACA legislation included significant cuts to the Medicaid Disproportionate Share Hospital (DSH) program funding, which aims to offset the costs of providing uncompensated care to uninsured patients at safety net hospitals (Neuhausen, Spivey, & Kellermann, 2013). The cuts to DSH assumed that Medicaid expansion would decrease the number of uninsured Americans and, therefore, decrease the burden of providing care to the uninsured. The 2012 Supreme Court ruling, which gave states the authority to voluntarily elect Medicaid expansion, has meant that six million Americans who would have gained coverage through nationwide Medicaid expansion are likely to remain uninsured. With cuts to DSH funding, which will be implemented in 2017, safety net hospitals in non-expansion states will face financial challenges in meeting the healthcare needs of the uninsured. The reduced DSH funds will be allocated to states based on a set of three criteria, including how well each state targets and disburses DSH funds with a focus on hospitals that serve comparatively high percentages of Medicaid and uninsured patients. While the proposed cuts to DSH payments pose a risk to the delivery of uncompensated care to insured patients, especially in non-expansion states, they regulations may also improve the efficiency of DSH funds by encouraging states to focus the funds on DSH hospitals serving the highest need populations (Neuhausen et al., 2013).

Community Benefits

National healthcare reform also has the potential to positively impact low-income communities through enhanced community benefits requirements for non-profit hospitals. Nonprofit hospitals benefit extensively from their tax-exempt status, with the total value of non-profit hospital tax exemptions estimated at $24.6 billion in 2011 (Rosenbaum et. al., 2015). The ACA now requires these hospitals to invest more strategic in community health and well-being.

Before the passage of the ACA, non-profit hospitals were required to provide vaguely-defined “community benefits,” or community health improvement activities, as a condition of their tax-exempt status. This requirement could be satisfied by spending as little as 1 percent of total expenditures, and many hospitals met the requirement by delivering free or highly discounted care to uninsured patients. There was little in the way of accountability or enforcement mechanisms. A study of community benefit expenditures in 2009 found that tax exempt hospitals spent a collective total of 7.5 percent of operating expenses on “community benefits,” however, 85 percent of this amount was spent on patient care with only 5 percent spent on direct community health improvement efforts implemented by hospitals (Young et. al., 2013).

Now, subsequent to the passage of the ACA, non-profit hospitals are required to track their community development expenditures and to conduct regular Community Health Needs Assessments that include implementation plans that respond to the identified health needs, as well as procedures for evaluating impact (Young et. al., 2013). The requirements stipulate community input into the Community Health Needs Assessment and, therefore, provides a mandated opportunity to engage with communities directly (James, 2016). Additionally, the regulation allows community-building activities to be counted as community benefit expenditures. As the number of uninsured continues to drop, especially in states with expanded Medicaid, hospitals’ ability to satisfy the community benefits requirement through uncompensated “charity” care spending will shrink, forcing hospitals to look for new strategies to fulfill their tax requirements and spend
millions of dollars. This provides hospitals with an opportunity to meet these regulatory changes by more meaningfully engage and invest in their communities.

Opportunities for Innovation

National Medicaid reform offers significant opportunity for state healthcare innovation in the form of waivers, demonstration projects, and innovation models. Waivers and demonstration projects, a long time fixture of the federal Medicaid and Medicare system, provide an opportunity to test innovative healthcare delivery and financing mechanisms. Massachusetts has taken advantage of these opportunities since before the 2006 passage of state comprehensive healthcare reform. The MassHealth Medicaid Section 1115 Demonstration Waiver (Demonstration) is an example of how Massachusetts has taken advantage of national support for Medicaid reform and innovation. Beginning in 1997, the Demonstration has been central to the state’s efforts to expand coverage and provided the foundation for the health care reforms passed in 2006.

Originally focused on extending enrollment in managed care plans, the ongoing goals of the MassHealth demonstration are to maintain near-universal coverage; redirect spending to insurance coverage; enact reforms focused on coordinated care, integrated services, and disease management; and to advance alternative payment methods that reward accountability and shared responsibility for quality and costs. As a subset of the 1115 Demonstration Waiver, MassHealth has also taken advantage of national support for healthcare innovation by initiating the Delivery System Transformation Initiatives (DSTI), approved in 2011. DSTI is a performance-based payment program that supports safety net hospitals as they transition to a payment model based on performance and quality measures and away from the traditional fee-for-service payment model.

Finally, in May 2012, Massachusetts was awarded a $44 million State Innovation Model Grant from the Centers for Medicaid and Medicare Services (CMS) Innovation Center to implement innovative cost containment initiatives focused around five goals: transitioning from a fee-for-service model to an integrated care system, enhancing data infrastructure, advancing statewide quality strategies, integrating primary care with public health initiatives, and evaluating and communicating best practices. Integrated and performance-based care models have the opportunity to improve care and reduce unnecessary and costly procedures in healthcare settings that serve low-income, majority Medicaid, patients.

The overall shifts in the national healthcare landscape toward coordinated, high-quality, population-focused and cost-efficient care present significant opportunities for providers and hospitals working to improve health and care provision in low-income communities. Not only are non-profit hospitals now required to provide more meaningful community benefits through direct engagement and investment in community health and community development, but also states are incentivized to find ways to deliver integrated, high-quality care at lower cost. The Commonwealth of Massachusetts has been particularly successful at taking advantage of the federal support and resources available for innovation.

4.3 Hospital Closure Trends

The proposed consolidation of the North Shore Medical Center and closure of Union Hospital is part of an ongoing trend of hospital closures and consolidations in the United States. Hospital closures began to be the subject of public concern in the late 1980s. According to the US Department of Health and Human Services,
Office of Inspector General, between 1990 and 2000, 7.8 percent of all rural hospitals closed. In the same time period, 10.6 percent of all urban hospitals closed. Both rural and urban hospital that closed tended to be smaller and to serve fewer patients than those that remained open (Department of Health and Human Services Office of Inspector General, 2003). A 2015 found that the number of rural acute-care hospital closures in 2013-2014 had more than doubled since 2011-2012 (Kaufman et al., 2016). Explanations for hospital closures include re-orientation away from inpatient care, low hospital occupancy rates, and competition (Department of Health and Human Services Office of Inspector General, 2003).

There is also evidence of a trend of hospital consolidations and narrowing of services. A 2013 study published in Health Affairs found that, between 1996 and 2009, the number of hospital-based emergency departments in the US declined 6 percent, while the total number of annual emergency room patient visits increased by 51 percent during the same time period. (Liu, Srebotnjak, & Hsia, 2014). More drastically, a 2011 study published in the Journal of the American Medical Association (JAMA) found that the number of hospital-based emergency departments in non-rural hospitals declined more by 27 percent from 1990-2009, including hospitals with emergency departments that closed altogether (Hsia, Kellermann, & Shen, 2011). The authors find that, among urban acute-care hospitals, between 1990-2007, safety-net hospitals, hospitals with a higher percentage of the patient population is in poverty, and hospitals located in comparatively competitive markets, had a higher risk of closing the associated emergency department (Hsia et al., 2011).

Hospital closures and consolidations cause disruptions of care and may increase distance to healthcare services or cause overcrowding in remaining hospitals. These changes have the potential to impact access to care and health outcomes, especially for vulnerable populations. A 2012 study of safety net hospital closures and conversions in selected states also found that disadvantaged subgroups within uninsured and Medicaid patient populations were disproportionately affected by disruptions to care (Bazzoli, Lee, Hsieh, & Mobley, 2012). Closures and consolidations may also provide opportunities for increases in cost efficiency and quality of care. A study of urban hospital closures in Los Angeles between 1997-2003 found that, while low-income residents and seniors reported greater impediments to accessing healthcare, increased distance to hospitals resulting from closures also had the effect of shifting care delivery from emergency rooms to more cost-effective outpatient care (Buchmueller, Jacobson, & Wold, 2004).
5. Healthcare in Lynn

Union Hospital has serves as the only acute-care hospital in Lynn since the closure of Lynn Hospital in 1983, and currently offers a range of services including primary and specialty care, surgery, adult emergency medicine, radiology, laboratory and diagnostic testing, outpatient clinics, and behavioral health services. In 1997, Union Hospital became a member of North Shore Medical Center, a large non-profit disproportionate share hospital and level-three trauma center with campuses in Lynn and Salem. Together, the NSMC facilities have 431 licensed beds, making it the eighth-largest acute-care hospital in the state of Massachusetts. North Shore Medical Center is owned by Partners Healthcare, a not-for-profit healthcare system founded in 1994 by Brigham and Women’s Hospital and Massachusetts General Hospital, and Massachusetts’ largest healthcare provider.

5.1 Consolidation of North Shore Medical Center

In 2013, Partners announced the consolidation of North Shore Medical Center services at the Salem campus, citing the potential for improved care and better service coordination. This plan included transitioning the Union Hospital site on Lynnfield St. to a behavioral and mental health facility, the potential presence of which caused strong community and political opposition. Partners subsequently removed this aspect of the plan, but remained committed to consolidating medical services in Salem. On June 30, 2015, Partners released an updated consolidation plan. Central to their plan were the following strategies:

• Move Union Hospital’s inpatient services to NSMC’s Salem Hospital over three years.
• Keep emergency services at Union Hospital during the three-year transition period, while building a new Emergency Department at Salem to eventually take over these services.
• Transition the closing Spaulding Hospital on Salem’s campus to a Center of Excellence in Behavioral Health.
• Expand NSMC’s North Shore Physicians Group practices in Lynn.
• Continue investment in community health, especially in services to address the needs of vulnerable populations and health. A specific focus would be given to obesity, addiction, and teen pregnancy.
• Move about 550 of the 650 Union Hospital staff to Salem; the remaining 100 jobs would be eliminated.

On September 14, 2015, Partners released further updates to their consolidation plan, and a timeline of three years beginning with approval from the state. Approval is pending as of June 2016; if approval is granted this year, NSMC expects the full consolidation process to be complete some time during 2019. The process and timeline of consolidation has been characterized by a lack of transparency for both Union Hospital employees and the Lynn community at large.

On January 7, 2016, The Massachusetts Department of Public Health held a public Essential Services hearing in Lynn in response to the proposed closure of services at Union Hospital. Essential Services hearings assess the necessity of healthcare facilities and services for preserving access and health status in a given area. This was followed on January 12, 2016 with a Determination of Need hearing at Salem Hospital. Determination of
Need hearings consider equitable access to healthcare services, standards of quality, and inefficiencies in expenditures at a system level. Healthcare facilities that are planning substantial capital expenditures or changes in service must apply for a Determination of Need.

At the Essential Services hearing, NSMC leadership outlined and gave justification for the consolidation plan from the perspective of the healthcare provider. They were supported by a minority of community members, including some with experience working at Union Hospital, who favored the potential for consolidated and coordinated service in one location. The majority of community members who spoke did so in opposition to the consolidation plan. The most common reasons for opposition included: the inaccessibility of Salem hospital due to traffic and inadequate transit options; the community’s strong relationship with Union Hospital; experiences of high quality service at Union Hospital and dissatisfaction with service received at Salem; and discomfort with the potential of needing to seek and receive care outside of one’s community.

As a result of the Essential Services hearing, along with a review of NSMC’s closure plan, the DPH issued a finding on January 22, 2016 stating that the services provided at Union Hospital are necessary for preserving access and health status within NSMC’s service area. As a result of this finding, the DPH required that NSMC prepare a new plan detailing how access to the essential services provided at Union Hospital, as well as continuity of care, would be maintained for residents of the service area following closure.

Building off of concerns raised at the Essential Services hearing, the DPH emphasized the importance of ensuring the availability of Emergency Department services to Lynn and the surrounding towns. Particular issues mentioned included: the impact of the closure of Union Hospital on remaining emergency departments in the area, including Salem Hospital; addressing transport times to remaining emergency departments for ambulances as well as regular drivers; and the potential for establishing a satellite emergency facility (SEF) of Salem Hospital in Lynn. The DPH also required that NSMC include consideration of how they will meet the cultural and linguistic needs of patients going forward, and how they plan to engage the community at large in determining future plans for the Union Hospital site and for access to services in the community.

On February 5, 2016, NSMC responded to the DPH’s finding, emphasizing their commitment to continue to care for all of their current patients through and beyond the transition. They gave assurances that a full service Emergency Department would remain at Union Hospital during the three-year transition period, and during that time, new models for the delivery of emergency and urgent care on or near the Union campus would be explored. They also reviewed the increased service capacity for patients in the NSMC’s service area resulting from the expansion of Salem hospital. NSMC addressed the DPH concerns about transportation access to Salem Hospital by reporting estimated travel times between towns in the NSMC service area to Salem Hospital under normal and rush hour traffic conditions, and pledged to explore opportunities to work with the MBTA and other local transportation providers to enhance public transportation access and assistance. Regarding patients’ cultural and linguistic needs, NSMC committed to move interpretation staff from Union to Salem, and reflect the community’s evolving language needs in their staffing. In terms of community engagement, NSMC proposed convening a small group of clinicians, administrators and community leaders to explore future emergent and urgent care needs and delivery models.

The DPH responded on February 16, 2016, urging NSMC to initiate planning and community engagement around emergency service needs as soon as possible to allow sufficient time to take action in advance of Union Hospital’s closure. The DPH expressed skepticism that NSMC’s estimates of travel times for patients
going to Salem Hospital by car reflected varying traffic conditions and congestion. Finally, they suggested considering the need for engagement beyond the small group initially proposed by NSMC, as well as deepening plans for sharing information on the process with the community to promote transparency and provide greater opportunity for meaningful public input.

On March 2, 2016, NSMC agreed to initiate its emergent/urgent care planning process immediately with a view to ensuring sufficient implementation time for the services determined to best meet the needs of the community. Furthermore, NSMC agreed to “assess options for eliciting expanded community input” through the planning group and topic-specific sub-groups.

Lastly, as part of its review of the NSMC consolidation, the Department of Public Health requested that NSMC obtain an independent cost analysis addressing the cost to society (the Commonwealth, payers and consumers), the impact of expenditures on NSMC’s future operating expenses, the savings resulting from consolidation of services in Salem, and the potential costs of keeping Union Hospital open if the consolidation was not approved. The analysis, conducted by Feeley & Driscoll, found that consolidation would result in roughly $25 million in savings for NSMC, from increased behavioral health volume, and decreased expenses. They calculated that NSMC would save 16 percent in salaries and wages, 18 percent in supplies, and 20 percent in pension expenses with approval of the project.

5.2 Union Hospital’s Relationship with Lynn

Union Hospital’s role in Lynn goes far beyond providing health care: it is a significant employer, landowner, procurer of goods and services, and civic institution. The community also receives support from NSMC’s community benefits program, which steps beyond medical treatment and seeks to improve health outside of the hospital walls. Lynn residents relate to Union Hospital and NSMC in a wide variety of ways: as care providers, volunteers, collaborators, investors, and patients. This section explores these relationships in more detail based on interviews with stakeholders in health and social services and focus groups with Lynn residents.

Providers of Care

Many of Lynn’s residents work at Union Hospital, providing the brainpower and energy behind the hospital’s care for the community. Employees and community members speak highly of the hospital’s unique culture of care. One nurse noted that Union is a place where she can truly “be a nurse, in body, mind, and spirit.” This may be due in part to the small size of the hospital, which enables staff to stay aware of patients’ conditions and to keep each other accountable to high quality care. Union Hospital staff noted that they also appreciate being able to refer patients to more holistic in-hospital services, such as yoga and reiki. They observed that while the specific characteristics of Union Hospital’s caring culture are hard to pinpoint, they successfully ensured the continuation of this culture by passing it to new generations of staff through example and training.

Recently, staff have felt that changes in the NSMC system are “pushing the care out of health care.” They lament the growing influence of a corporate culture they see originating at Salem Hospital. Though many recent changes to management and procedure are intended to improve overall quality of care, interviewees suggested that they have intangible negative effects as well: for instance, new protocol and paperwork often
get between healthcare workers and patients; time spent training for new software has curtailed vacations and discouraged staff; and new bureaucratic steps are seen as leading to increased workloads. Despite some discouragement, staff say they feel cared for at Union overall. However, they do not get this same feeling at other hospitals, including Salem Hospital. In fact, if Union closes, many staff say that they would not take a job at Salem Hospital. Some speak of retirement, while others speak of moving into other health care services, such as hospice care.

Volunteers
Volunteers contribute over 50,000 hours per year to NSMC by facilitating family visitations, assisting staff in the emergency department and surgery recovery center, working at the gift shop, staffing the information desk, providing office assistance, working in the medical library, and coaching rehabilitating patients. Many volunteers have been or are Union Hospital patients themselves, and act as coaches to other patients with similar experiences.

Community Collaborators
Through staff experience and health data, Union Hospital is a repository of valuable information about the wellbeing and vitality of Lynn’s residents and the community as a whole. Interviewees who work in social service organizations said that staff often share very useful information about the community’s health with them and helpfully assist community efforts to expand preventative care and public health. One interviewee said that Union employees are heavily invested in Lynn’s wellbeing as a community and participate often in local events, and that closing Union would likely result in a discouraging “brain drain” from Lynn.

Investors
An impressive amount of Union Hospital’s wall space is adorned with plaques commemorating community donations to the hospital and Lynn’s previous hospitals. The emergency suite, healing gardens, various hospital wings, interfaith chapel, children’s ward, and multiple renovations are among the projects made possible partially or entirely through the donations of individuals, local businesses, and larger Lynn-based companies such as General Electric.

Lynn residents collectively invest in Union through property tax breaks that the hospital receives as a non-profit organization. Since 2002, these tax breaks have amounted to over $7 million. This is money that would otherwise have been available at both a local and state level for public works and services. Forthcoming state legislation may give cities and towns the ability to negotiate city-wide Payment in Lieu of Taxes (PILOT) agreements with land-owning tax-exempt organizations such as hospitals in order to increase city revenue. Lynn has PILOT programs with specific organizations, such as the Visiting Nurses Association, but has not tried to establish one with North Shore Medical Center. One interviewee said that this is a political decision that the local elected officials have not been willing to make.

Walking through Union Hospital or talking with Lynn residents makes it clear that the local community has invested in the hospital monetarily, emotionally, and socially. Closing Union Hospital as currently planned cuts these ties and makes residents question where their money is being taken, but also opens up opportunities for different types of innovative collaboration to develop.
Patients
Many residents speak very highly of the service and staff at Union Hospital. The nurses, they say, often go above and beyond, staying late to chat with patients and providing what the patients perceive as high-quality care. They speak fondly of the cozy atmosphere of the hospital, and contrast it with Salem Hospital, which many feel is overwhelming and alienating. Others, however, have felt less comfortable at Union Hospital and generally seek healthcare elsewhere. What follows is a synthesis of how specific groups within Lynn have experienced their own care, or that of friends and loved ones, at Union Hospital based on interviews and focus groups:

- **Elderly.** Seniors have demonstrated a strong attachment to Union Hospital, and many reported feeling comfortable and well-cared for there. At the same time, they have begun to experience the effects longer wait-times and reduced staff capacity brought about by changes in management style and the early steps in the consolidation process. Some seniors cited that transportation to and from Union Hospital can be difficult, particularly for those who do not qualify for The Ride, a transportation service offered by Greater Lynn Senior Services.

- **Immigrants and refugees.** Interviewees had mixed perceptions of Union Hospital’s ability to care for immigrants and refugees. Most interviewees who work with immigrant and refugee populations indicated that their clients are far more likely to seek care at Lynn Community Health Center due to its downtown location; based on where they live and lack of access to a car, Union Hospital is not a viable option. Some interviewees praised the Union Hospital staff’s level of cultural competence, while another interviewee who speaks English as a second language shared an experience of racism at Union Hospital that he felt impacted the quality of care he received. Union has interpretation services and many bilingual nurses who help bridge cultural divides, but does not have the capacity to communicate with patients who speak less-common languages. Several interviewees noted that some immigrants, especially those who are undocumented, are scared to seek out care at Union Hospital (as well as other healthcare facilities) because they do not want to draw attention to themselves.

- **Injection drug users.** This population relies heavily on Union Hospital’s emergency services. However, they are often treated as a nuisance by staff, and one interviewee noted that it is difficult to convince the hospital to give beds to patients who appear to need detox care. It was generally agreed upon that there is significant room for improvement when it comes to connecting drug users and those taken in for overdoses to treatment options. One interviewee indicated that people who use injection drugs do have some strong advocates within Union Hospital who work internally for better harm reduction and treatment services.

- **Urban poor.** Lynn’s poorest residents, including the majority of its homeless population, live downtown, and for many of them Union Hospital is not within easy reach. Many use the Emergency Department at Union Hospital as their first point of call when seeking treatment, particularly those who do not seek care unless they find themselves in an acute situation. This creates considerable inefficiencies and frustration, and demonstrates that more entry points into the healthcare system are necessary for Lynn’s urban poor. Many do rely primarily on the Lynn Community Health Center for ongoing care. For a minority though, Union is a safe haven, particularly in the winter, when it’s common to find folks stopping by for warmth and a cup of coffee.
5.3 A System That Isn’t Theirs

Despite many positive aspects of residents’ relationship with Union Hospital and NSMC, Lynn residents do not seem to feel like the local healthcare system is *their* healthcare system. Disinvestment, disconnection, disorientation and a lack of decision-making power have left residents frustrated and concerned about the future of healthcare in their community.

A History of Disinvestment

Hospital closings and consolidations are nothing new to Lynn. Before 1983, Lynn had two major hospitals—Lynn Hospital, which opened in 1882, and Union Hospital, which opened in 1902. Lynn Hospital was well-located near downtown Lynn, and Union Hospital was located in an old mansion on Linwood Street before moving to its current location on Lynnfield Street in 1950. In 1986 Lynn and Union Hospitals merged to form AtlantiCare Medical Center. Lynn Hospital closed and the building was sold to State Street Trust, a private financial services holding company, despite a clause indicating that any sale must be to another institution with a charitable cause. The Union Hospital location remained and its name was changed to AtlantiCare.

In the 1990s, AtlantiCare decided to sell Union Hospital. They put it up for auction and received bids from four health systems—two for-profit and two non-profit, one of which was North Shore Medical Center. AtlantiCare was formally incorporated into North Shore Medical Center in 1997. During the bidding process, the Lynn Health Task Force reached an agreement with the owners of North Shore Medical Center regarding commitments to invest in the overall health of the Lynn community. These requirements included “Partners HealthCare investing $50 million in capital improvements to facilities, equipment, programs and services over a five-year period; a walk-in primary care facility in downtown Lynn and more school-based health services; improved coordination of care for AIDS patients; better community transportation to the hospital, including van service; outreach help for teenage pregnancy problems; and expanded substance abuse, mental health and domestic violence programs” (Maggi, 1994). Members of the Lynn Health Task Force say that many of these commitments have been met in part, but they have yet to see as much progress as they had hoped for. The Massachusetts Department of Public Health certified in 2002 that all of the commitments were met, however, due to the fact that accountability mechanisms were not sufficiently incorporated into the agreement, the commitments have not continued to be fulfilled over time. Additionally, it has become clear that the positioning of both Union and Salem Hospitals under one corporate umbrella has obfuscated the Lynn-specific outcomes of investments and service provision.

The current consolidation plan is yet another discouraging chapter in this longer history of a health care system slowly growing distant from the residents it was set up to serve. The plan to close Union Hospital was announced in 2013 but interviewees indicated that Partners began the process long before that. Residents and service providers began to perceive services leaving the hospital in the mid-2000s, and either shifting to Salem or disappearing altogether. Many doctors also had to move their services away from Union Hospital to the North Shore Center for Outpatient Care when it opened in Danvers in 2009. Some residents are under the impression that Partners has been slowly closing services, including those that were most profitable, to support their case that Union Hospital is operating at a deficit.

The closure of Union Hospital and the accompanying drain of resources from the community that it represents culminates what many residents feel to be a long history of disinvestment. Not only will the fruits
of significant financial contributions from the community be removed from the community, investments of time, care and knowledge will also disappear.

Interviewees noted that the disinvestment of health care affects much more than tangible services or finances. As one interviewee noted, “we learn from observation” and disinvestment has sunk into the community psyche. For some, the consolidation of NSMC in Salem sends the message that “our community members’ lives and their quality of life are less valuable” than those in neighboring cities. Other interviewees lamented that if Union Hospital closes, the city will lose an inspiration for the community and its character as a place where people’s needs are met.

This repeated disinvestment has damaged the relationship between residents and the health care system in a way that may not be easily overcome. Many interviewees still bemoan the closing of the Lynn Hospital in the 1980s; as one resident said, “we have yet to recover from that loss.” Partners should acknowledge this history, and despite not being involved in Lynn at all before 1997, work to rebuild the trust of Lynn residents in the healthcare system. Chapters 6 and 7 lay out a wide range of strategies for reinvestment and repairing the hospital-community relationship.

Disconnected from Partners
Residents feel little ownership over the future of the health system meant to serve them; they see Partners’ decision-making regarding the future of North Shore Medical Center as being governed by corporate and financial priorities rather than a genuine concern for the health of Lynn residents. A common perception throughout our interviews was that NSMC is consolidating because Partners could not make enough money in Lynn and would rather serve residents of the wealthier surrounding cities.

At the January 2016 Essential Services hearing in Lynn, residents brought up Partners’ increasing number of hospitals overseas as further evidence of a profit motive superseding the commitment to caring for Lynn. Others asked rhetorically how much Robert Norton, President of North Shore Medical Center, would receive in bonuses if he could successfully close Union Hospital, revealing an air of mistrust and suspicion.

Some groups were hardly represented at all at the Essential Services hearing, particularly racial and ethnic minorities. This may suggest that people in these communities feel that bargaining with Partners is a lost cause, or that Union Hospital does not serve them well in the first place and therefore its future is of little concern to them. Indeed, interviewees who work with these populations noted that Partners rarely reaches out to these communities. The hearing in Lynn was also poorly scheduled at 4pm, a time that conflicts with working hours for many people; on the other hand, the hearing in Salem was scheduled at 6pm.

Disoriented in the Health Care System
One’s sense of coherence and security is critical for good health that lasts beyond hospital walls, but interviewees suggest that the local health care system was often the cause of confusion, misinformation and disruption when it came to their wellbeing. Some Lynn residents spoke of confusion about Union Hospital, including the services it offers, the timeline of the consolidation process, or how to access the care they need. As one resident put it, “there is a thick fog that surrounds Union Hospital and Partners.” Many interviewees pointed out that much of the confusion about the services Union Hospital offers is a result of
recent reductions or relocations within the NSMC system. Residents also have noticed that health care providers no longer refer them to Union Hospital, even if the needed services are still available there.

Interviewees also mentioned ways in which patients’ communities and social supports are disrupted through interactions with the health care system. One interviewee explained that when patients are referred to hospitals outside of the community, it can very difficult to maintain family support, especially if these families are without transportation or secure housing. Another interviewee told of children with acute asthma whose parents take too much time off of work for medical appointments, lose their jobs, and become homeless. What may seem like appropriate medical interventions can have negative health consequences if they disrupt the familial and social structures that support the patient.

For many Lynn residents, the closure of Union Hospital would exacerbate patients’ feelings of disorientation, and in general, says one resident, “closures make people feel insecure.” As one interviewee noted, “when we move people from their places of care, they lose a sense of community and it doesn’t help the healing and rehabilitation process.” Another resident mentioned that the loss of cohesion that Lynn would experience from the hospital closure is possibly a more important consequence than the longer hospital commute.

**Left out of the Health Care System**

For some residents, especially low-income residents or new immigrants who live downtown and have little access to transportation, Union Hospital is not easily accessible and thus the institution plays little or no part in their care. Interviewees noted that UH seems to be used more by the white middle class, especially those who live near it. Some of the people living downtown often choose hospitals in Chelsea, Boston or Peabody over NSMC based on an expectation of higher quality care in a more socially comfortable setting.

Furthermore, the idea of connecting to a health care system is not even on the radar of many Lynn residents until they are faced with an emergency. These residents—often newcomers or the homeless, often in economically insecure situations—have more pressing concerns than staying healthy; if they are sick they seek care but otherwise do not think of engaging with the health system. Many residents and social service staff are under the impression that Union Hospital and Partners does not try to adequately connect to people in these marginalized communities.

**Lack of Decision-Making Power**

Perhaps the most fundamental reason for Lynn residents feeling a lack of ownership of their health care system is that they are not included in the decisions that shape this system.

For instance, interviewees suggest that Partners HealthCare does not genuinely ask about or respond to what the community actually wants and needs. One interviewee noted that Partners lauds the improved cardiology center at Salem that is made possible with the consolidation, but has never asked the residents if a better cardiology center is even a high priority for them. This approach leaves Lynn residents with a system that they continuously adjust to, rather than one that they creatively shape to meet their needs. As one interviewee said, many “feel that Partners is trying to lure us into accepting [the closure of Union hospital] when having a hospital should be a given.”

In part, this feeling of powerlessness is because the governance structure of NSMC does not meaningfully include Lynn residents. For example, the Board of Trustees only has one local representative, Terrence
McGinnis, Executive Vice President and General Counsel of Eastern Bank. Of the remaining Trustees, seven are from Marblehead, two are from Swampscott, one is from Salem, and the others are from six other cities. While they bring important perspectives to the governance of the hospital, they cannot convey the concerns of Lynn residents, especially of those marginalized people whose lived experience should be at the forefront of innovations in population health.

Some residents sense that NSMC’s consolidation is related to Lynn’s weaker political power compared to neighboring cities. Interviewees suggested a variety of factors that they perceive as contributing to this, including political apathy, that many new residents (often immigrants) are not integrated into the political system, and that many residents are overwhelmed with other challenges and have less time to engage with politics or community organizing.

5.4 Evaluating North Shore Medical Center’s Community Benefits Activities

In addition to providing in-hospital medical care, North Shore Medical Center addresses broader community needs through their Community Benefits program based out of Salem Hospital. Community Benefits programming focuses on expanding access to care, health education, and targeted outreach to provide services to focus populations. For instance, the HealthCare for the Homeless program aims to bring health care to homeless populations, while their Room to Breathe program provides health education and financial assistance to alleviate environmental triggers of health problems in low-income households.

In fiscal year 2014, NSMC spent $11,770,664 on Community Benefits; for comparison, NSMC spent $403,881,611 on total patient care-related expenses. Twenty-seven percent of the Community Benefits funds ($3,155,780) were spent on direct expenses for Community Benefits programs. However, 55 percent of the budget ($6,419,864) was spent on “charity care,” spending to offset the cost of treating uninsured patients and those with government insurance.

To evaluate NSMC’s Community Benefits program, we employed Community Strategies Lab’s developmental evaluation rubric for Community Benefits compliance. Whereas traditional evaluations are based upon definitive judgements of success or failure predicated on predetermined goals, developmental evaluation is an iterative process that emphasizes continual feedback, learning, and adjustments after reflection on changing contexts. Central to the application of this approach is the assumption that Community Benefits programs require processes that open opportunities for deep partnerships with vulnerable populations.

The rubric for assessment is divided into the following categories: defining the community served, engaging with partners, implementing a strategy, sharing and reporting info, and evaluating. Within each category are specific criteria that can be rated “negative,” “neutral,” “modest,” and “exemplary.” A summary rubric is provided in Figure 4.1 below, and a more detailed version can be found in Appendix 3.
### Figure 4.1. Summary Rubric: Evaluating Community Benefits Activities

<table>
<thead>
<tr>
<th>Category</th>
<th>Negative</th>
<th>Neutral</th>
<th>Modest</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Defining the community served</strong></td>
<td>Hospital uses its service area to define community</td>
<td>Hospital considers medically underserved, low-income, minority or underinsured populations in their service area</td>
<td>Hospital identifies specific neighborhood-level geographies as focal point of CHNA and Community Benefits activities</td>
<td>Hospital ranks neighborhoods and demographic disparities and target interventions to communities with the highest disparities to mitigate those gaps</td>
</tr>
<tr>
<td><strong>Engaging partners to address community needs</strong></td>
<td>Hospital does not engage community partners</td>
<td>Hospital consults with select community representatives to gather information on an ad-hoc basis</td>
<td>Hospital engages a range of community partners in dialogue that informs future hospital activities</td>
<td>Democratic community engagement allows inclusive decision-making and builds capacity among all partners to collectively define goals and strategies</td>
</tr>
<tr>
<td><strong>Implementation strategy</strong></td>
<td>No connection exists between CHNA and implementation strategy</td>
<td>Hospital develops and manages implementation strategy that is carried out through existing or expanded programs and services</td>
<td>Hospital develops and manages new implementation activities with assistance from community partners, but activities do not address societal determinants of health and are not part of a larger community wellness framework</td>
<td>Community partners develop an overarching policy framework to guide implementation strategies, including new initiatives that directly address health and socioeconomic issues identified in the CHNA, and have a shared commitment to carry out the work.</td>
</tr>
<tr>
<td><strong>Sharing and reporting information</strong></td>
<td>Hospital does not make the CHNA publicly available</td>
<td>Hospital posts CHNA on website and/or makes it available upon request</td>
<td>Hospital provides CHNA to selected partners and provides general health information to the public</td>
<td>Collaborators jointly collect and share information, leading to joint ownership of data and higher levels of mutual accountability; information is accessible and understandable by all stakeholders</td>
</tr>
<tr>
<td><strong>Evaluation of CHNA process and implementation strategy</strong></td>
<td>Hospital does not evaluate process or outcomes of community benefits efforts before conducting next CHNA</td>
<td>Hospital conducts an evaluation of outcomes at the end of the 3 years before starting on the next CHNA</td>
<td></td>
<td>Collaborators design multiple and continual opportunities to assess the process and outcomes of community benefits efforts measured against wellness goals; feedback results in appropriate changes to the process and maximizing cumulative impacts</td>
</tr>
</tbody>
</table>
Defining the Community Served

North Shore Medical Center’s Community Benefits team defines its focus populations based on findings from its Community Health Needs Assessments. According to its 2014 Community Benefits Report, the most recent available, its focus populations are:

- Residents of service area with access barriers
- Individuals and families struggling with substance abuse and/or behavioral health issues
- Victims of domestic violence, youth at risk for teen pregnancy, and individuals at risk for or struggling with obesity

According to the developmental evaluation this definition of community receives a neutral score. Neutral scores are given to definitions of community that “consider medically under-served, low-income, minority, or underinsured populations in their service area.” More highly rated definitions of community consider more nuanced characteristics of neighborhood-level geographies or non-medical disparities. Defining community by geography would require that NSMC examine geographic disparities in access and outcomes in their CHNA. To accomplish this NSMC will need to provide utilization data, and disaggregate that data by neighborhood.

Engaging Partners to Address Community Needs

North Shore Medical Center engages many community-based partners in the planning and implementation of Community Benefits activities. In 2014, its partners included the following organizations:

- Center for Addictive Behavior
- Danvers Cares
- Girls, Inc.
- Greater Lynn Senior Service
- Help for Abused Women and Children
- Learn to Cope
- Lynn Community Health Center
- Lynn Communities That Care Coalition
- Lynn Health Task Force
- My Brother’s Table
- North Shore Community Health, Inc.
- North Shore Elder Service
- North Shore Recovery High School
- Project COPE

NSMC also created a Community Affairs and Health Access Committee in 2004 to oversee Community Benefits activities and to strengthen community participation. The Committee meets four times a year to review and assess Community Benefits priorities, budgets, annual reports, and program progress.

From NSMC’s Community Benefits reporting, it is difficult to grasp the true level of NSMC’s engagement with the Lynn community. This is largely because reports describe project aims and outcomes, and provide little detail on how much the community (and who within the community) participated in setting and achieving these outcomes, or what was gained in the process. An additional information gap is due to report information being aggregated across the NSMC service areas, with little information about how programming reaches and impacts various communities in different ways.

However, our interviews and additional data give us some sense of the level of NSMC’s partner engagement in Lynn and suggest that it should receive a score of “neutral” or “modest” for a relatively high level of consultation with a broad number of community partners.
NSMC falls short of “exemplary” for several reasons. First, it does not provide extensive structure for democratic community engagement that allows for inclusive decision-making and builds capacity among all partners to collectively define goals and strategies. Furthermore, while the Community Benefits program does address a broad array of health outcomes — including teen pregnancy, obesity, and substance abuse — it does not attempt to address societal factors that affect overall community wellness such as racial and ethnic discrimination, building political capital and economic opportunity, or addressing environmental injustice.

North Shore Medical Center will need to welcome more voices to its planning and decision-making processes to reach a level of partnership engagement that can be considered “exemplary.” People who belong to low-income communities or communities of color, refugees and recent immigrants, as well as youth, elderly, and mobility-limited residents should have a stronger voice in Community Benefits decision-making processes, and it should not be assumed that they are accurately represented by community organizations that serve them. Furthermore, people in the community who influence broader social, political, and economic wellbeing should also be included in community benefits planning; for instance, emergency services, teachers, and economic development officials.

Once these partners are at the table, NSMC should aim to create truly collaborative and multidirectional partnerships through their community development work (see Chapter 6). Community partners should feel comfortable not only providing information and insight to shape the hospital’s priorities, but also seeing the hospital as a resource and asking for support for community-defined projects.

Implementation Strategy
NSMC’s Community Benefits implementation strategy similarly receives a rating of “neutral” or “modest.” It focuses largely on implementing Community Benefits programs through existing or expanded programs and services, but has also begun to develop new approaches to addressing broader needs identified in the community. The implementation strategy could be strengthened if it were developed within a larger community wellness framework that guides other community organizations and addresses broader social, economic, political, and population needs in the community. NSMC could also develop a larger policy framework to “guide and align subsequent implementation activities” that are focused on geographies and populations where need is greatest. This framework could be used to align all of the hospital’s activities, for instance: employment or procurement practices, or its use of political capital.

Sharing and reporting information
Based on the availability of information on NSMC’s website as well as reports from social service providers that Union Hospital has been helpful in providing data to supplement their efforts, we find that NSMC receives a “neutral” or “modest” level of sharing and reporting information. Their Community Health Needs Assessments and other data are available online through the Office of the Massachusetts Attorney General, and at times NSMC shares data with their community partners. At the same time, there are many ways in which NSMC could improve information-sharing related to Community Benefits work so that the information is easily accessible for residents and community organizations seeking to build health and wellness. For instance, information could be presented at a more granular neighborhood scale, moving beyond the scale of
the service area or city. NSMC could also translate Community Health Needs Assessments into multiple languages, and use events and more personal outreach strategies to share report findings with the community.

Ideally, NSMC would collaborate with community partners to design the research, data-gathering and analysis that contributes to Community Health Needs Assessments, ensuring that the information accurately reflects residents’ experience living in the NSMC service cites. By including residents in the research process, NSMC would build residents’ capacity to collect and use information to support community goals and visions.

**Evaluation of CHNA process and implementation strategy**

No implementation or evaluation plan was publically available, so we cannot provide a specific rating to NSMC’s level of evaluation quality. Ultimately, NSMC should be striving to develop an evaluation approach that measures program success based on whether it has met community-defined goals, not merely benchmarks in traditional health outcomes. Evaluations should be designed with community partners, and institutional mechanisms should exist for turning its findings into real change.

**5.5 The Broader Landscape of Healthcare in Lynn**

The Lynn Community Health Center is a Federally Qualified Health Center (FQHC) located in downtown Lynn that primarily serves people who face the greatest barriers to health care, with over 90 percent of their patients living at or below 200 percent of the federal poverty line. Lynn CHC has 550 staff and 130 clinicians, and is currently serving over 39,000 patients at multiple locations in Lynn, with 280,000 patient visits annually and over 400 new patients every month. The Health Center provides a wide range of services, including medical care, dental care, behavioral health care, eye care, pharmacy services and social services. The Lynn CHC is an acknowledged leader on the integration of behavioral health and primary care, refugee health, and HIV care. Finally, the LCHC runs a substantial and successful School-Based Health Center Program in collaboration with Lynn Public Schools. They provide both primary care and behavioral health services in five schools, and just behavioral health services in an additional five schools. Half of Lynn CHC’s Board of Directors are patients, and all of its board members live or work in Lynn.

Lynn is also served by several other organizations providing health-related services. Lynn has several mental health care providers, including BayRidge Hospital and Eliot Community Human Services. Lynn residents receive healthcare at private, multi-specialty practices in Lynn, many of which are members of the NSMC’s North Shore Physicians Group, as well as in neighboring communities, including at NSMC’s Salem Hospital or at the Lahey Clinic site in Lynnfield.

Many Lynn residents are also served by smaller non-profit, government, and private organizations. My Brothers Table, for instance, is a non-profit organization that offers a free health clinic every Tuesday and a foot care clinic on Thursdays. The Healthy Streets Outreach Program provides a safe space for people who use injection drugs to find safe injection support, treatment, and mental health services. Greater Lynn Senior Services provides many health services, including The Ride, a transportation service that the elderly often use to travel to medical appointments. Lynn Economic Opportunity is a private for-profit organization that also responds to local health care needs; for example, they partner with the New England School of Optometry and dental clinics to provide vision screenings and dental care for children, through their Head Start program and other community services.
The Lynn Department of Public Health manages grants for health programs, coordinates between various community groups, and runs an immunization clinic, community outreach activities and education around substance abuse. They do all of this despite only a few staff and a limited budget. Several city-wide programs and initiatives underway in the city. These include the Health and Wellness Prevention Trust Fund, a grant provided to the city to focus on reducing tobacco use, hypertension, pediatric asthma, and falls among the elderly; the program includes a strategic partnership between the health department, Lynn Community Health Center, the Housing Authority, and the Public Schools, but notably not NSMC. Another is a recent master plan developed for the city by the Metropolitan Area Planning Commission (MAPC), which includes plans related to housing, transport, and development of downtown Lynn. If the Master Plan, or aspects of the plan are implemented, it could have substantial impacts on the social determinants of health outcomes in Lynn.

Integral to wellbeing, but often overlooked when it comes to health, are the many community-driven organizations and institutions in Lynn. For instance, Massachusetts Coalition for the Homeless advocates for and organizes people experiencing homelessness in Lynn. Raw Art Works engages young people in the arts to promote mental wellness and personal growth. Massachusetts Senior Action focuses on healthy aging, and is actively involved in state-level policy advocacy, as well as community-building efforts among seniors. Neighborhood groups like the Lynn Community Association maintain the streets and waterfronts and organize events and services that encourage civic engagement.

Finally, the Lynn residents themselves are active providers of care to their family, friends, and neighbors. Some of the elderly interviewees mentioned how much they rely on family or friends for transportation, grocery shopping, or socializing, for instance, while others noted the difficulties neighbors face if they do not have this support. Many also find support through their faith and faith communities; when one interviewee was asked what her clients do to stay healthy, she said that “many rely on prayer.”

What’s more, Lynn residents are organized about their health care involvement. The Lynn Health Task Force, for example, was started over 30 years ago by the parents of children with special needs. It has expanded to become a group that advocates for health care services for any disenfranchised group. The Task Force played a large role in starting a well-coordinated AIDS collaborative in the 1990s and did a significant amount of organizing and advocacy related to the sale of Union Hospital to AtlantiCare in 1986. They have also created health care navigator positions in the community, previously ran a Health Line phone number that people could call to get connected to the right services, and advocated for interpretation services at Union Hospital.

Save Union Hospital is another local health care advocacy group. They formed in response to the announcement of Union Hospital’s closing and their activities include petitioning to take the Union Hospital building by eminent domain, suing Partners for their disinvestment from Lynn, and investigating possible anti-trust violations of Partners, who they claim refuses to sell Union Hospital to other health care providers.

**Gaps in the Health Care Landscape**

Unfortunately, as in most places, health care in Lynn is not seamless and holistic, and many residents have needs that go unmet. A resounding theme among interviewees was that health and social services are not well coordinated, leading to experiences of care that for many individuals are confusing, frustrating, and even dangerous. In large part this is due to a patchy case management system in which one person might have multiple case workers whose efforts are not well coordinated or who may resist taking the necessary leadership for fear of overstepping boundaries.
Several persistent types of gaps in the continuum of care emerged in our discussions with Lynn service providers and residents, and echo findings in previous Community Health Needs Assessments conducted by North Shore Medical Center in 2012 and 2015. Insufficient mental health coverage was one of the most frequently mentioned problems; often patients have to wait months to see therapists or receive treatments, for instance. Many interviewees noted the decreased state support of mental health services. For instance, the Massachusetts Department of Mental Health used to offer mental health services on the North Shore, but now almost all mental health care has all been privatized. The Danvers State Hospital used to serve many local patients facing mental health problems, but closed in 1992 and has not been replaced.

Services for newcomer immigrants and refugees are also insufficient to cover needs, and interviewees mentioned that transgender services or reintegration programs for people leaving prison are nearly nonexistent. Housing is also a problem for many residents, and supplemental security income has not been able to keep up with rising housing costs. Elderly residents mentioned that LCHC’s PACE program is one of the best wrap-around services they have experienced, but also noted that many do not meet enrollment requirements because they are “too healthy”.

All this should be seen in the wider context of decreases in national social service funding and funding for mental health services. Nearly two decades ago, the state began a push to move people from residential facilities and nursing homes into the community, which led to a spike in Section 8 enrollment that was not met by a concomitant increase in allocation. Others noted that increases in social support are not nearly enough to keep up with the large increases in Lynn’s cost of living. Other interviewees told us that reduced federal HUD funding has led to cuts in shelter programs, and that many food banks have also been closed in Lynn.

5.6 Putting Healthcare Back in the Community’s Hands

Currently, the community’s power to influence the development of the local healthcare system emerges reactively to proposals designed without them. Vital to creating a better health system in Lynn are processes that put this system back in the hands of Lynn residents, including communities currently on the margins of the healthcare system and who are facing the most significant access issues. As one interviewee stated, “a healthy Lynn requires that all populations of the city have the opportunity to participate in decisions that affect their lives.”

Sharing health care planning with Lynn residents would be a bold commitment —one that would require key stakeholders, including North Shore Medical Center, to democratize decision-making processes and make room for other voices to share in leadership. It would mean taking the community’s needs as they express them seriously, even if it is at odds with corporate strategy. Community partnership goes far beyond community meetings or patient advisory groups, and, as an interviewee suggested, will require the creation of new “mechanisms for people to express their pain and dreams for their voice to have power in the direction and future of this city.” Furthermore, mechanisms for sharing decision-making power with residents must be deeply inclusive and not tokenistic. One interviewee emphasized that “people can think and act for themselves regardless of formal education; I don’t think agencies, clergy, or politicians should be the facilitators or make final decisions.”

Faced with increasingly expensive health care, deepening the ways in which communities have the power and external support to shape their own health systems is the only sustainable way forward. The policy changes currently underway at the state and federal level, as outlined in the previous chapter, support this
shift. The closing of Union Hospital creates an opportunity to develop the local healthcare landscape in innovative ways, via investments in resources and services, as well as deeper multi-stakeholder collaboration and community engagement with the aim of creating and sustaining community health and wellness.
6. Recommendations

Good health is essential to creating and sustaining thriving communities. The following recommendations are intended to contribute to a local healthcare system that is more responsive and tailored to the needs of the Lynn community in the context of the closure of Union Hospital, as well as to create a healthier living environment overall by addressing the upstream determinants of health outcomes. Community engagement is emphasized, as is collaboration between diverse stakeholders. Chapter 8 synthesizes the importance of collaboration and identifies near-term next steps.

6.1 North Shore Medical Center

Retaining Emergency Services in Lynn

The need for lasting Emergency Room (ER) services in Lynn is clear. The demand for Emergency services from Lynn residents is high for a variety of reasons, and the current Emergency Department (ED) in Salem is not easily accessible for many Lynn residents. We recommend developing plans for a “Freestanding Emergency Department” (FSED) to open in Lynn following the expected closure of the Emergency Room at the Union Hospital site at the end of the three-year transition period. This FSED should serve as a satellite facility of the NSMC in Salem; it would be a crucial link for Lynn residents to Partners’ system of surgeons and specialists. We recommend locating this facility in or near downtown Lynn to maximize accessibility for underserved populations, and to provide a clear link between the NSMC system and the Lynn community at large. The FSED should also have a close working relationship with the Lynn Community Health Center, as well as partnerships with other key service providers in the community, such as Eliot CHS, that work with populations who depend on Union Hospital’s ED, and often deliver direct support to clients who need emergency care.

Freestanding Emergency Departments are open 24 hours per day, seven days per week. They have all the capabilities, personnel, and equipment of a conventional emergency department at an inpatient hospital. Patients presenting in the FSED would be stabilized and treated, and those needing higher levels of care would be transferred to Salem hospital.

Based on conversations with health and social service providers in Lynn, we recommend that the FSED include the following capacities:

- Mental health monitoring for a minimum of 6 hours after care
- Formal connections to substance abuse treatment and counseling resources
- Patient Navigators on staff who can work with patients to connect and coordinate relationships with other health and social service providers, ensuring that ER visits are linked to patients’ other care services
- Ability to serve as a first point of refuge for those escaping domestic violence or abuse
- In-person Spanish-language interpretation, and access to the full complement of interpretation resources at North Shore Medical Center and/or Lynn Community Health Center, as appropriate
Similar facilities have recently opened in Massachusetts in Quincy and North Adams, operated by Steward Health Care and Berkshire Medical Center respectively, following the closure of larger hospitals in those communities. The East Boston Neighborhood Health Center also operates a fully-equipped emergency department in coordination with Boston Medical Center, New England Medical Center and Massachusetts General Hospital. The first FSEDs in the United States opened in the 1970s, but have begun to sprout up rapidly in recent years, especially in urban areas where community hospitals facing heavy financial losses in the context of development and gentrification are closing.

Ensuring Affordable, Accessible Transportation to Care
Every year, 3.6 million Americans and 950,000 children delay or miss medical care appointments due to a lack of transportation access, causing damage to their health and additional cost to the medical system as their health worsens (Myers, 2015). For services that may not be provided in downtown Lynn, such as specialist services, and mental health care, NSMC should work to ensure adequate, affordable (or free), reliable transportation for Lynn residents to the NSMC Salem campus and other specialist providers such as those at the Danvers ambulatory care center

By making transportation access to healthcare more readily available and affordable, NSMC can likely reduce costs from non-emergency ambulance rides and lessen the impacts of delayed care. In a study conducted by the University of Florida, researchers found that if just one percent of healthcare trips provided by the state resulted in the reduction of a hospital stay, the state would see a return of $11.08 for every $1 it invested in increasing transportation access to healthcare (Cronin et al, 2008).

Eliminate health-related transportation cost barriers for low-income patients
Eliminating transportation barriers to health should be a top priority both to improve health outcomes and reduce costs. NSMC should work with physicians, staff, and social service organizations to ensure that low-income, minority, and non-English speaking patients have easy, convenient, and flexible access to affordable, accessible transportation. While parking is provided for free at the Union and Salem NSMC locations, no shuttles and only limited taxi vouchers are currently provided for the many Lynn households without access to vehicles who may be most in need of transportation assistance. In particular, NSMC should prioritize:

Continuing and publicizing free transit passes: NSMC should continue, expand, and widely publicize in multiple languages its free transit pass program to ensure that transit-dependent patients, especially non-English speakers, know of the opportunity and can access public transportation.

Improving access to PT-1: In addition, NSMC should train physicians and healthcare workers on the PT-1 program to increase usage of that program in appropriate cases. The PT-1 program, under which physicians can prescribe transportation for follow-up appointments for MassHealth patients, unfortunately currently it has cumbersome bureaucratic requirements to gain eligibility, inflexible requirements such as the need to book travel 48 hours in advance and to only be picked up from one’s home (rather than work or school), and requires patients to pay up front and get reimbursed later, which may be a significant barrier for many low income patients. Over the long term, Partners, 1199 and others should work with MassHealth to improve the flexibility and accessibility of this program.

Increasing taxi voucher access and awareness: While the PT-1 program should be used where possible, its unrealistic requirements for low-income patients indicate a need for other, more accessible non-emergency transportation services. We recommend expanding and better publicizing NSMC’s current taxi voucher program for low income patients who require late night and unforeseen trips. These vouchers help
to ensure that patients aren’t missing or delaying medical appointments or calling unneeded ambulances. NSMC does currently provide taxi vouchers to patients in need—approximately 3,000 in 2015—although this number accounts for just 2.2 percent of the 138,785 patient encounters reported at Union Hospital for 2015. In addition, no information regarding the taxi voucher program is provided on the NSMC website, and Lynn service providers interviewed for this report were unaware of the program.

**Improve transit access to NSMC Salem Hospital:** Over the longer term, NSMC should work with community members and stakeholders to determine what type of transportation options, routes, and schedules would best serve transit dependent patients as well as employees throughout the North Shore. Options include NSMC running its own shuttles to serve both patients and employees, like it currently does with Greater Lynn Senior Services, but expanding it beyond seniors, or partnering with the MBTA to improve frequency and span of service along the bus lines connecting downtown Lynn to the Salem Hospital. With the MassDOT 107 study currently underway, NSMC should leverage its position on the study’s steering committee to improve transit access from downtown Lynn to Salem Hospital, as well as other specialist sites such as Lahey Health in Danvers.

**Include transportation in care management:** In addition, NSMC should integrate transportation into care management to ensure patients can access their health and medical needs. A 2014 study found that patients who worked with community health workers to determine their transportation access scheduled more primary-care follow-up appointments than those who didn’t.

**Expanded Ambulance Service**

**Add additional ALS and BLS emergency vehicles to maintain access to emergency vehicles:** Lengthened travel time to Salem and higher levels of traffic will put already limited numbers of ambulances (especially Advanced Life Support (ALS) vehicles) out of service for longer periods of time, requiring greater numbers of ALS vehicles to provide the same reliability of service. We recommend consulting with Lynn Fire and EMS to determine the number of additional ALS and BLS vehicles needed to provide the same reliability of emergency care transport.

**Advocate for ambulance policy change:** Currently, Ambulances must take all patients to an emergency department. Advocating for policy change that would give paramedics the permission to determine whether to take patients who do not require emergency treatment to urgent care or other inpatient facilities could also help improve care access, decrease emergency travel times, and decrease emergency department overcrowding.

**Shared bus/emergency vehicle lanes**

Over the long term, due to heavy levels of congestion on Route 107, the primary route connecting Lynn with NSMC Salem, shared bus and emergency vehicle lanes should be considered in order to improve bus reliability while also providing a clear lane for emergency vehicles traveling to and from Lynn. Bus lanes in other cities, including New York City and Arlington, VA also allow emergency vehicles to utilize them in order to improve travel times. While the MassDOT 107 corridor study is currently considering bike lanes, shared bus/emergency lanes have not been mentioned, but should be considered given the importance of providing transit access for employees and patients, and for providing reliable travel times for emergency vehicles. NSMC should leverage its position as part of the study Working Group to improve transit and emergency access to Salem Hospital.
**Cultural Competency and Humility**

In its Determination of Need correspondence with the Department of Public Health, NSMC has pledged to continue efforts to expand the availability of linguistic interpretation at its facilities. Language needs in Lynn include Spanish, Khmer, Vietnamese, Somali, Arabic, Haitian Creole, Swahili, and Portuguese. In addition to interpretation services for patients, NSMC should consider contributing resources to the availability of education, outreach and support groups for speakers of these languages, whether within the hospital or through other appropriate venues and organizations.

These pragmatic steps towards “cultural competency” are urgent and important, but may not adequately address the increasing cultural, racial and ethnic diversity of Lynn and surrounding communities. Linguistic capacity is crucial to ensuring access and entry to the healthcare system, but does not itself ensure that patients from all cultural backgrounds receive equal care within that system. Care for diverse populations cannot be measured in terms of the availability of interpretation staff alone. Linguistic services need to be coupled with ongoing and honest processes of reflection and awareness of how patterns of unintentional and intentional racism and classism manifest within and outside the hospital’s walls, and how these forces impact patient health.

We recommend that NSMC shift their paradigm from “cultural competency” to “cultural humility” in order to more adequately care for its communities. The practice of cultural humility is defined as incorporating “a lifelong commitment to self-evaluation and critique, to redressing the power imbalances in the patient-physician dynamic, and to developing mutually beneficial and non-paternalistic clinical and advocacy partnerships with communities on behalf of individuals and defined populations” (Tervalon and Murray-Garcia, 1998.) To aid in this change, NSMC should invest in cultural humility trainings and resources.

In a similar vein, “cultural competency” overlooks the potential for gendered inequalities in care, as well as unequal and/or inadequate care for LGBTQ patients. The paradigm of humility is equally relevant here, in light of the potential for significant power imbalances patients might face. Numerous interview respondents reported that LGBTQ residents of Lynn consistently seek treatment in Boston due to experiences of discrimination and judgment and a lack of appropriate and comfortable treatment options.

At Salem Hospital and through expanded community-oriented activities, NSMC has an obligation to deepen its commitment to cultural humility, ensuring that the culture of care that staff strove to maintain at Union Hospital remains intact in Lynn, and accessible to all residents of the NSMC service area regardless of the nature of their relationship with the hospital itself. Community leaders from across the North Shore have the right and the obligation to hold NSMC accountable to this higher standard of caring for the community.

**Community Engagement and Representation**

In the very near term, it is imperative that NSMC clarify and publicize its plans for engaging the Lynn community in the process of consolidation. Community engagement must extend well beyond “eliciting input” as described in communications with the MA Department of Public Health, and include clear mechanisms for accountability to the residents of the service area who will be most affected by these changes. Resident voices must not only be heard, but must substantively contribute to the full range of decisions involved in the process of consolidation, including but not limited to: the future of emergency services in Lynn, the future use of the Union Hospital site, significant spending on community health care infrastructure (i.e. Lynn Community Health Center), and addressing accessibility and transportation issues. Pathways for the community at large to have meaningful influence over the outcome of these
determinations should be identified in collaboration with community leaders in a manner that is representative of Lynn’s social and economic diversity.

In the medium-term, and before the completion of the consolidation, NSMC should expand the presence of community members—particularly those from underserved and/or historically marginalized communities—on its board. In addition, NSMC should ensure that the Lynn community is adequately and proportionally represented on the board. NSMC should also reconfigure membership of the Community Affairs and Health Access Committee to fully represent and balance the voices of community residents, representatives of key health and social service institutions, and NSMC personnel. Special attention should be given to the importance of including representation of the following populations: immigrants; refugees; seniors; LGBTQ individuals with experience of substance abuse. Residents and community leaders should be full partners in the evolution of community relationships and community benefits budgeting, spending and strategy.

NSMC should establish the means to evaluate the extent, adequacy and efficacy of their community engagement in a participatory manner; this is now required by the Affordable Care Act. One avenue for doing so is through expanding the scope of regular Community Health Needs Assessments. Other hospitals have used Public Deliberation exercises to augment CHNAs; this is a method of stakeholder engagement used to gather input on values-based decisions that require engaging a range of knowledge sources and types. Furthermore, mechanisms must be in place to ensure that the results of such evaluations are continuously taken into account and addressed internally in a manner that ensures ongoing and meaningful accountability to Lynn and neighboring communities in the NSMC service area.

Community Benefits

Massachusetts state law does not specify a minimum level of community benefits that nonprofit hospitals must provide. Voluntary guidelines from the office of the Attorney General set spending goals of 3-6 percent of total patient expenses. In FY2014, NSMC’s spending on community benefits programs and net charity care was $11,770,664, which amounts to 2.9 percent of total patient care expenses. Charity care accounted for just over half of community benefits spending; direct expenses on community benefits programs totaled $3,155,780. Highlights of NSMC’s community benefits spending to date include the Room to Breathe project and HealthCare for The Homeless. Overall, funds have been directed to an array of initiatives addressing issues including obesity, substance abuse, and primary care access. Additionally, Community Benefits spending has been an important conduit for resources supporting close collaboration between NSMC and the Lynn and North Shore community health centers.

NSMC’s Community Affairs and Health Access Committee oversees community benefits activities and spending. Membership and proceedings of this committee should be made readily available to the community. The committee’s membership should evolve to better reflect the demographics and needs of the service area, and include resident representatives from a diverse range of communities.

Community Health Needs Assessments

The Affordable Care Act added new requirements for non-profit hospitals’ tax-exempt status related to community benefits activities, including a requirement for hospitals to conduct a Community Health Needs Assessment every three years. New IRS rules issued in 2014 indicate that the CHNA must include a plan for: preventing illness; ensuring adequate nutrition; and addressing the social, behavioral and environmental factors that influence health, the community’s health, and emergency preparedness. Furthermore, an implementation strategy is required to accompany this plan.
The next CHNA required by the IRS will be for FY2018. This will be a crucial report, reflecting the first phase of NSMC’s consolidation and a period of significant change in Lynn. An outside consultant was charged with preparing the report for FY 2013 and FY2015, and as indicated in Chapter 2, the result was limited in scope and impact. The CHNA process is an opportunity for deep, participatory and meaningful inquiry into the state of the community’s health. The preparation of the FY2018 report should involve community organizations and residents in designing, carrying out and analyzing the research, and establishing the implementation plan in partnership with NSMC.

Future CHNA’s should include evaluation of the impact of prior spending efforts. Furthermore, Partners and NSMC should make all possible efforts to make all relevant data available to those conducting the research, including inpatient and emergency data as well as relevant data from outpatient sites and future facilities such as a satellite emergency facility.

**Spending**

NSMC should seek to increase its Community Benefits spending to 5 percent of total patient expenses from 2017-2022. By this time, direct expenses on community benefits programs should total at least half of overall Community Benefits Spending. After the consolidation of NSMC, Lynn should continue to receive Community Benefits spending in proportion to its population’s size relative to other communities in the NSMC service area.

**Community control**

As indicated above, meaningful community representation and participation on NSMC’s Community Affairs and Health Access Committee is a crucial step forward. Furthermore, future CHNA’s should involve community organizations and residents in designing, carrying out and analyzing research into the community’s health, and the development of community health plans and implementation strategies. Community control over planning and implementation will be crucial to impactful community benefits activities. To this end, we suggest a periodic participatory budgeting that allows the community to identify and assign value to spending priorities and strategies that advance health in the short-, medium- and long-term. We also suggest regular workshops or charrettes that allow community members to envision strategies for achieving community health. Engaged research and planning, and concerted efforts to share the results of these activities with the community at large will ensure that NSMC is accountable to residents of its service area and their health.

**Wellness-based development**

The Affordable Care Act provides significant pathways to use health as a means to build more equitable community economies. In the near future, Community Benefits funds could be used to pull together a “comprehensive development plan” that explores opportunities for promoting wellness-based business and economic development in the community. This could include anything from green construction jobs to healthy food options. Community Benefits funds could then serve as seed capital for these businesses – this would create broad returns for the community as a whole, in terms of jobs, wealth and health.

**Future of the Union Hospital Campus**

At present, NSMC and Partners have not clarified plans or even intentions for the future of the Union Hospital site. A number of questions are therefore outstanding. First, whether any health or related services will remain at that location, and if so, which and why. Second, whether NSMC/Partners will retain full or partial ownership of that location. Third, if any part of the site is sold, how the profits from the sale will be
distributed given the extent of community investment in the hospital’s physical plant as outlined in Chapter 4. Each of these questions indicates a series of decisions that must involve meaningful community voice and participation. As soon as possible, NSMC should collaborate with community and labor leaders to chart the timeline of consolidation, key decision points along the way, and opportunities for the community to inform decision-making. As required in the Department of Public Health’s Determination of Need finding, this must be an open and transparent process.

If the Union Hospital site is sold, it is our belief that the revenue be re-invested in Lynn using a community benefits framework. A plan for doing so would have to be developed in collaboration with community. This report indicates significant opportunities for such reinvestment should this arise, including physical construction projects such as the new facilities discussed in Section 6.2 below.²

6.2 Building the Local Landscape of Care

North Shore Medical Center’s physical presence in Lynn will continue to be a key determinant of health after the consolidation of hospital facilities in Salem. However, a healthy community and an efficient, effective and accessible healthcare system depend on a wide range of organizations, health and social service providers and other stakeholders that make up the “landscape of care” in Lynn. The following recommendations seek to develop and strengthen Lynn’s landscape of care, which will be an ever-more crucial foundation for the community’s wellbeing moving forward.

Improving Access to Care

Social, cultural, racial and economic barriers inhibit full access to care, and are significant determinants of health inequities. Significant improvements to accessibility and overall community health can be made by expanding coordination, collaboration and innovation among key players in Lynn’s landscape of healthcare and social service providers.

EMS and Paramedicine

The closure of Union Hospital will significantly impact the provision of emergency services in Lynn. There has been some discussion between municipal officials, ambulance providers and NSMC regarding potential additions to the local ambulance fleet in light of increases in traffic and distance traveled between callers and Salem hospital, but little in the way of clear agreement on steps forward. As indicated earlier, increasing the EMS fleet size will be crucial to maintaining access to emergency and other healthcare services.

EMS providers reported that staff were increasingly fatigued and “burnt out” by rising numbers of preventable calls, nuisance calls, drug-related incidents and mental health issues. Furthermore, fatigue is perceived as impacting the quality and efficiency of service. In light of the increased demands placed on EMS by NSMC’s consolidation and shifting health needs in Lynn, this must be addressed. Doing so involves better mental health training for EMTs, increasing affordable transportation options to discourage use of ambulances as a taxi service, better access to care among homeless and shelter populations, increased paramedicine capacity and supports for the mental and physical wellbeing of EMTs.

---

² Physical construction projects do not fall under the IRS’ definition of acceptable Community Benefits spending. Thus, re-investment of revenue from the sale of the campus would be an appropriate way to finance new facilities such as a Wellness Center.
NSMC’s consolidation is an opportunity to bring care closer to the community in different ways. Stakeholders should explore innovative programming that extends EMT and first-responder training to youth and young adults from low-income communities and establishes internships and pathways to employment in emergency services, healthcare and public health, such as the pioneering EMS Corps program in Alameda County, CA. The role of EMTs can also be expanded and reframed: in the United Kingdom, a new breed of “community paramedic practitioners” are being trained to keep people out of the hospital, using decision-making skills and local knowledge of regular patients to provide on-site treatment, advice, reassurance and counseling in response to emergency calls. The new model of practice has reduced the number of callers (particularly seniors) ending up in the ER by one-third, reducing overcrowding and unnecessary use of emergency care, and establishing better linkages across the continuum of care. Here in Massachusetts, Commonwealth Care Alliances uses idle EMTs to conduct routine home visits, a model similar to the “community paramedic practitioner” and equally relevant to a community, such as Lynn, seeking to ameliorate barriers in access to the full continuum of care.

Access to Primary, Specialist and Mental Health Care
Low-income residents of Lynn have insufficient access to primary, specialist and mental health care. This was consistently identified, through interviews, as one of the most pressing health challenges facing Lynn. Barriers can be geographic, financial, informational and cultural/linguistic. In other cases—specifically mental health—the entire system is inadequately resourced at a state level and is insufficient to meet the needs of the population. In this under-resourced system, Lynn residents suffer from disproportionately high rates of mental and behavioral health challenges. Lynn needs a multi-stakeholder process to identify strategic ways to address these barriers and increase overall accessibility of the healthcare system. Low-income and minority communities must be at the head of this effort, supported by NSMC, LCHC, the City, schools, and local community organizations. NSMC should establish a referral system that improves access for LCHC patients to specialists at Salem and throughout their network more broadly. NSMC should take leadership and responsibility for expanding primary and specialist care access in a manner consistent with needs as voiced by the community at large and as indicated in multiple Community Health Needs Assessments, including this one. Furthermore, NSMC should take advantage of the opportunity to expand services through the Lynn Community Health Center, as well as through other organizations grounded in the community (such as My Brother’s Table) that are able to connect vulnerable populations to care.

Substance Abuse Treatment and Recovery
Lynn residents with substance dependencies lack sufficient access to treatment and recovery options. As indicated in the subsequent section, a number of impactful investments can be made in the community to address these issues, including a detoxification facility, a medical respite facility, and a safe injection facility. Lynn has a range of service providers dedicated to working with people with substance dependencies, but lacks the infrastructure to support and coordinate their tireless efforts. Transformational investment is needed to break the worsening trends of substance use. Healthcare leaders in Lynn should use the consolidation of NSMC as an opportunity to chart a radical new course for recovery in a community at the heart of the country’s opioid epidemic: Partners can re-imagine the role of healthcare providers and 1199 can re-imagine the role of healthcare practitioners in collaboration with communities on the ground.

Substance use is highly stigmatized in Lynn. Some healthcare providers perpetuate this stigma, and it gets in the way of adequately addressing an issue which is fundamentally cultural. NSMC, 1199 and community organizations need to lead the way in changing the culture surrounding substance abuse from one of individual-level shame to one of community-level empathy, care and healing.
**Lynn Community Health Center**

Lynn Community Health Center has long been the primary provider of healthcare for low-income and minority communities in Lynn, and at present is working over-capacity to meet the needs of its patients. It is widely acknowledged that the consolidation of NSMC in Salem will mean significant expansion of LCHC’s responsibility and patient panel, and it is widely expected by community leaders interviewed for this study that NSMC will make significant investments into LCHC to support such an expansion.

Plans for expansion for the LCHC should be made transparently and should be determined and driven by community engagement. Expanding LCHC is a critical opportunity to begin to meet unmet needs in the realms of primary, specialist and mental health care but it is imperative that this be done in conversation with communities experiencing inequities in access to ensure that their needs are adequately addressed by the influx of resources.

In supporting LCHC, we recommend that NSMC treat Lynn Community Health Center not only as a crucial healthcare provider, but also as an anchor institution with the potential to benefit the community in numerous ways, using all of its resources – including employment, physical plant and procurement power – in addition to patient care programs to advance community wellness.

**Location and transit accessibility**

Moving Union Hospital from downtown Lynn to its current location inhibited access to healthcare for the 20 percent of Lynn households without access to vehicles, placing important healthcare needs out of the 30-minute range for transit or walking set by the State to evaluate access for Medicaid patients. Moving emergency services to Salem will only worsen patients’ ability to access follow-up appointments, primary care, and 24/7 treatment. As a result, we recommend that all providers prioritize locating future healthcare facilities intended to serve Lynn be located within a 30-minute walk or transit ride of downtown Lynn. Such a plan will minimize transportation barriers to care, as well as to minimize transportation costs for the hospital system.

**Building New Institutions**

**Community Wellness Center**

Lynn would benefit enormously from a Wellness Center with resources and programming encouraging healthy behavior and community wellbeing. A Wellness Center would also provide capacity to coordinate community-wide health organizing and initiatives addressing the social and economic determinants of health while reducing barriers to care faced by underserved populations.

We suggest that a hub for health and wellbeing include the following programmatic elements (with accompanying examples):

- **Physical Wellness**: exercise facilities and recreational programming with a focus on youth, seniors and minorities
- **Mental Wellness**: individual and group programming, i.e. meditation, art therapy, support groups
- **Healing**: opportunities including massage, acupuncture, and other culturally- or spiritually-specific activities based on demand
- **Education**: public education campaigns, health-related classes, ESL classes and health literacy for ESL learners, trainings for community-driven health-related initiatives.

We also envision a Wellness Center serving as a hub for the following activities:
• Care coordination: access point, navigators, and case management
• Community Engagement: facilitating community participation in Community Health Needs Assessments, and in community health and urban development planning
• Community-wide initiatives (see below)

Space at the Wellness Center should be made available to community-based organizations who may be at risk of displacement from their base in downtown Lynn. The City’s Department of Public Health could also establish a satellite office at the Wellness Center; co-location of municipal and social services will facilitate coordination. As a hub, the Wellness Center can leverage existing community assets, including a variety of community-based organizations to help combat health disparities. The Wellness Center could also serve as a gateway to jobs in the healthcare sector, by providing space, resources and capacity for training PCAs, EMTs, and community health workers.

New York City’s new Neighborhood Health Action Centers are a notable precedent. Launched in 2016, these centers will operate in under-utilized City-owned buildings, working to increase community-based programs in neighborhoods with high rates of chronic disease and premature mortality. The Health Action Centers provide space for community-based organizations, healthcare providers and non-profits to coordinate with Health Department staff on planning, coordination and advocacy to address complex needs and the root causes of health inequity.

Such a significant investment in the community’s health would be a significant financial undertaking that no stakeholder can bear alone. We believe that NSMC should be a significant financial partner. Construction of a Wellness Center is an opportunity to re-invest the profits made through consolidation back into the Lynn community. (In particular, if the Union Hospital site is sold, Community Benefits funds cannot go towards construction, but could contribute strategically to program development in all areas indicated above. State and municipal resources would also be necessary; 1199SEIU and Partners could consider jointly approaching the State to seek funding. 1199SEIU might also consider the possibility of leveraging pension fund investments to support efforts such as this. The city could also support by contributing land, and/or stipulating that residential and commercial developers contribute funding as part of the development approval process.

Medical Respite Facility
In our interviews, local service providers working with homeless and housing-insecure people pointed out that many of these residents find themselves recovering from illness or injury in unsafe environments that impede a full recovery and can lead to further hospitalizations. They have begun advocating for a medical respite facility in Lynn, an effort we strongly urge NSMC, the City of Lynn, and other stakeholders to support both politically and financially. According to the National Health Care for the Homeless Council, medical respite facilities provide acute and post-acute medical care for homeless persons who are too ill or frail to recover from a physical illness or injury on their own, but are not ill enough to be in the hospital. Such facilities offer short-term residential care that allows patients the opportunity to rest in a safe environment while accessing medical care and supportive services.

Adequate respite care would minimize the strain that increasing levels of homelessness put on the resources of the Lynn Community Health Center, Eliot CHS, and the North Shore Medical Center by repeat visits and inadequate long-term personal care management. It would also provide a key pillar of support for My Brothers Table, the Massachusetts Coalition for the Homeless, and other local service providers seeking to care for homeless people in other ways. Lastly, respite care could be an important part of a strategy to
combat the opioid epidemic both by ensuring healthy pain management practices and by connecting residents to treatment and services to address substance dependencies.

An effective model of such respite care identified by a number of community stakeholders is Boston’s Barbara McInnis House. It offers short-term medical and recuperative services for the homeless and housing-insecure who are too sick for life in shelters but not sick enough to occupy a hospital bed. In addition to respite care, McInnis House offers a range of services including patient support groups, behavioral health care, dental care, case management and discharge planning support. Such a facility could also be crucial for patients who do not have legal immigration status, and are thus unable to go to a nursing facility or hospice for end-of-life care.

**Inpatient Detoxification Facility**

Service providers interviewed for this study consistently indicated that inpatient detoxification options for drug users residing in Lynn were insufficient, and that the absence of such services contributes to persisting ill health among drug users in their communities and to associated problems. Additionally, service providers indicated that it can be difficult to convince hospitals to admit and provide a bed for patients who also need detox care.

Those in Lynn seeking to address substance dependencies face limited options. No inpatient detox facility exists in Lynn, and the most accessible are at some distance (i.e. Danvers Treatment Center), removed from familiar settings and communities of support, factors acknowledged as crucial for a full recovery. Encouragingly, Lynn Community Health Center will begin a pilot outpatient detoxification program in June 2016 in partnership with Cataldo Ambulance and Beacon Health Strategies. Drug users are far more likely to seek treatment if it is easily accessible within their day-to-day lives; distance can be prohibitive, particularly for those without ready access to a car.

We recommend exploring the feasibility of opening an inpatient detoxification treatment center in Lynn, with the capacity to provide inpatient stays for up to 30 days. A feasibility study would need to be conducted in collaboration with key community stakeholders to determine specifics of treatment options and the size of the facility, as well as its siting and funding. We recommend that NSMC take a leadership role in exploring the options for an inpatient detox facility in Lynn, and that NSMC support potential implementation with financial and human resources. The presence of an inpatient detox facility would relieve the various burdens that Emergency Departments experience from the substance abuse epidemic, both in terms of the lack of availability of clear options for patients who need detoxification, and in terms of reducing the epidemic overall.

Detoxification facilities are most impactful when situated within a robust continuum of care along which patients can move based on their needs. Existing agencies in the community, such as Eliot CHS, are well-poised to establish a reciprocally beneficial relationship with such a facility in the service of a more robust continuum of care. A detoxification facility alongside a Supervised Injection Facility (see next section) in Lynn, this would significantly increase the possible pathways out of drug dependency for those affected by the drug epidemic in Lynn.

---

3 The Lynn Community Health Center, in partnership with Cataldo Ambulance and Beacon Health Strategies, will be piloting an outpatient detoxification program beginning June 1, 2016.
Supervised Injection Facility

We recommend exploring the potential for a Supervised Injection Facility (SIF) in Lynn. Supervised Injection Facilities are locations where people can legally use small amounts of heroin under medical supervision. Staff provide sterile equipment and supplies, answer questions on safe drug injection practices, administer first aid if needed, and monitor for overdoses. Nurses respond to overdoses and other health needs associated with the use of injection drugs, and connect visitors to the general healthcare system, a crucial role in relation to a patient group that often foregoes non-acute medical treatment. Such a facility would also have an addiction counsellor and support staff who can address the complex needs of drug users, and connect them to appropriate resources in the community ranging from treatment to housing.

Supervised Injection Facilities target high-risk, socially marginalized drug users with the aim of reducing the public health and public order issues associated with high rates of public drug use. They have a unique potential to reduce overdoses, public drug use, rates of infection and disease, and to increase access to and viability of treatment options. Along with prevention, treatment, law enforcement, community engagement and public education, a SIF in Lynn is a crucial piece of a community-wide strategy to combat the substance abuse epidemic.

No such facility exists in the United States at this point, however, various proposals are being considered in a number of communities across the country. There are 100 such facilities operating in 66 cities in 9 countries around the world. The only existing facility in North America is Vancouver’s InSite, where fatal overdoses dropped by 35 percent in the surrounding Downtown Eastside community within two years of its opening. Evaluations of InSite and other such facilities found a range of benefits to clients and the greater community associated with the facility (British Columbia Center for Excellence in HIV/AIDS, 2009; Kerr et al, 2006; Marshall, 2011; Wood et al, 2005; Wood et al, 2007). These included:

- Successfully attracting highest-risk drug users (public injectors, homeless/housing insecure, daily heroin/cocaine use, recent overdose);
- Reduced risk of overdose and reduced risk of death from overdose;
- Reduced risk behaviors associated with HIV and Hepatitis C infection and transmission;
- Reduced risk of physical and sexual abuse of female drug users;
- Increased rates of participation in detoxification services and subsequent enrollment in addictions treatment;
- Measurable decreases in rates of public injections, open-air drug markets, and improperly-discarded syringes;
- No increase in drug use or drug-related crime;
- Cost-effectiveness;
- Studies seeking to identify harms stemming from the facility’s presence found no evidence of negative impact.

This offers an opportunity for 1199, NSMC, and the Lynn community to take a bold new direction in the battle against the country’s opioid epidemic. Such an effort would require a strong, coordinated effort by stakeholders from various sectors of the community. Police will be crucial partners; by referring high-risk public drug users, they can help reduce health-related harm and trauma and to promote public order and community safety.

Community-Wide Initiatives

Lynn is a city rich with organizing potential: service providers, community organizations, cultural groups and anchor institutions have deep connections to residents that can be combined and leveraged in the service of
broad wellness goals. Community health is an issue that can unite the city’s diverse constituencies – it affects everyone, and coordinated action will have the broadest impact on wellbeing. In light of this, we have identified four potential community-wide organizing/advocacy initiatives that can serve to build coalitions between community leaders, elected officials, police, labor, youth, schools, parents, businesses and healthcare and social service providers. As the table below indicates, many of the potential projects within these initiatives are cross-cutting and offer opportunities for a diverse range of stakeholders to come together toward a common objective.

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Potential projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Access</td>
<td>Community gardening, mobile fresh food markets, healthy school meals, healthy catering cooperatives</td>
</tr>
<tr>
<td>Physical Health</td>
<td>Summer camps, free fitness and recreation classes, walking clubs, bicycling trails</td>
</tr>
<tr>
<td>Mental Wellness</td>
<td>Public art, youth outreach, mentorship</td>
</tr>
<tr>
<td>Economic Security</td>
<td>Job-readiness and skills training; financial literacy; small-business development</td>
</tr>
</tbody>
</table>

Within each of these initiatives, there are opportunities for policy advocacy, community engagement, resource generation, and service provision that can draw on the unique skills and capacities of the stakeholders listed above.

In the near-term, we recommend that 1199SEIU, the labor union representing many of the staff at Union Hospital, takes responsibility for initiating the first steps on one such community-wide initiative. The union has a large base of workers with expert knowledge on a wide range of health matters, as well as a history of skillful organizing, connections in the community and convening capacity. Leadership of such an initiative is an opportunity for the union to set a precedent for the future of its involvement in the community after the consolidation of NSMC. At the same time, no one group should lead alone: complex initiatives require collaboration among cross-sectoral leadership.

Community-wide initiatives will need a central body for convening capacity, identifying best practices, monitoring/evaluation and strategic guidance. This is an opportunity to engage residents from all demographics in becoming organizers and leaders in community health. Ideally, in the long-term, coordination of such efforts would be based out of an institution with physical and accessible presence in the community such as a Wellness Center.

**Building Capacity Across the Landscape of Care**

Our research has identified opportunities to meaningfully strengthen certain core capacities across the continuum of care through coordinated action.

*Coordinated case management.* Patients are falling through the cracks of a complex system of health and social service providers; some organizations have been able to access funding to improve coordination, but resources remain limited. Health and social service providers should continue their efforts to improve
coordinated case management with increased support from larger institutions and organizations such as NSMC, LCHC and 1199SEIU.

**System navigation.** In a related manner, a number of stakeholders interviewed for this project reported that patients have a difficult time managing multiple providers and services and navigating across the continuum of care as their needs change. Funding for specific “navigator” positions to address particular illnesses such as cancer has fluctuated unreliably over time. NSMC should work with leaders in community health to develop an expanded “navigator” program aligned with local needs, and take the lead in securing stable, long-term funding for navigators based in Lynn. Conduits into the healthcare system will be essential in the absence of a hospital.

**Appointment prep and follow-up.** Related to the previous two points, preparing and following through on appointments is a challenge, particularly for those with chronic health, substance abuse, homelessness or economic insecurity challenges. Interviewees indicated that missed appointments and failed follow-up are a main source of inefficiencies for health and social service providers in Lynn. Some organizations have begun to experiment with promising initiatives focused on increasing appointment readiness (especially for inpatient or specialist visits). Such efforts should be supported with financial and human resources in the service of efficiency across the continuum of care.

**Trauma-informed practice.** Poverty, inequity, substance abuse, ill health, stigma and discrimination can all be the source of traumatic stresses on individuals, families and communities. We recommend that all those involved in the health and wellbeing of Lynn make a coordinated effort to introduce trauma-informed practice to their work. Models of trauma-informed practice exist for most fields related to individual or collective welfare. Such approaches realize the widespread impact of trauma and the potential paths for recovery; recognize the signs and symptoms of trauma; and respond by adhering to key principles. These principles include: safety; trustworthiness and transparency; peer support; collaboration and mutuality; empowerment, voice and choice; and cultural, historical and gender issues. Trauma-informed practice working groups offer an opportunity for those working at various points across the landscape of care to come together, share knowledge, and develop reparative practices for their work.

**Coordinated community engagement and advocacy.** Much of this chapter identifies opportunities for deeper engagement with the community around health issues, and advocacy for advances in local health. This is not a task for any single group, organization or institution. Rather, the key is for this to be a coordinated undertaking across the continuum of care. Seizing these opportunities, as well as seeking out new opportunities for collaboration, is a crucial practice to cultivate. Collaboration is resource-intensive, however, and project-based funding rarely takes this into account. Thus, we recommend that NSMC continue to seek opportunities to support collaborative efforts between organizations in the community that have the potential to positively impact health, and support community efforts to seek funding for collaborative activities from other sources.

### 6.3 Addressing the Societal Determinants of Health

Addressing the determinants of health is a significant undertaking that requires deep community engagement, capable organizing, participatory decision-making, collaboration between organizations and institutions, committed financing and a common vision. The will and the collective experience and wisdom necessary to address this need exists in Lynn. This section of the report identifies strategies to leverage all of these capacities in the community. Where relevant, we identify opportunities for anchor institutions to play a
catalytic role in addressing these key determinants of health. Action on the following fronts will require adoption of the collective impact model described in Chapter 8.

Transportation

Improving transit and emergency vehicle access to NSMC Salem
Improving public transit, walking, and cycling options for Lynn residents can improve affordable access to healthcare, jobs, and other key services. NSMC should continue working with the Route 107 Corridor Study process to support the implementation of recommendations to improve transit, walking, cycling, and vehicular access. In particular, improving bus service on the routes connecting Lynn with NSMC Salem should be prioritized, including consolidating stops, adding bus shelters and improved signage, increasing frequency, and improving pedestrian access by adding missing sidewalks and crosswalks, calming traffic, and ensuring ADA accessibility for seniors and persons with disabilities. Over the long term, shared bus and emergency vehicle lanes should be considered to serve the goals of both improving transit service and ambulance travel times. Given that transit riders, walkers, and cyclists were barely consulted and car drivers were disproportionately included during the Route 107 Corridor Study, we recommend NSMC conduct focus groups and surveys with these groups to understand their transportation needs and inform future actions.

Accessibility of health, wellness, and opportunity for households without cars
In addition to improving affordable access to NSMC Salem, locating jobs and health services within downtown Lynn, in convenient walking and transit distance from the primary concentrations of households without access to cars, should remain a top priority for future healthcare and economic development efforts. Currently, households without cars, or with less than one car per worker, have access to far fewer jobs within an hour commute compared to those who can drive. Future economic development strategies should consider transit and walking accessibility when locating future services, institutions, and workforce development programs in order to serve those with the least access.

Housing
Housing is an important determinant of physical and mental health: affordability, safety, quality and neighborhoods all affect how and whether residents get sick, and how and whether they heal. Across the spectrum of housing situations, there is opportunity for collective action to improve health. When housing is affordable, families can spend more on food and health care. Safe housing in a healthy community can reduce stress and social isolation, and serve as a key support for those managing chronic conditions. North Shore Medical Center can adopt an anchor institution approach to becoming more actively involved in supporting the development of safe, affordable housing through collaboration with community development organizations.

Homelessness
A safe place to live can help homeless people access medical care, maintain healthy habits, and experience better overall health. Lynn is privileged to be home to a number of experienced organizations providing high-quality service to homeless members of the community, such as My Brothers Table, the Lynn Shelter Association and the Massachusetts Coalition for the Homeless, who, along with other agencies, coordinate their efforts as the Lynn Continuum of Care. These service providers need continued financial, community and political support to continue to carry out their essential work. Their efforts need to be supported by a long-term strategy to reduce homelessness. Ending homelessness requires an adequate supply of safe and
affordable housing, pathways to stable tenure and home ownership, and opportunities for building overall economic stability.

Through a “continuum of care” approach involving housing, counselling, medical assistance, substance abuse treatment, financial assistance and housing, Lynn has already ended homelessness among local veterans, becoming the first city in Massachusetts to do so. This was achieved through collaboration between the Office of the Mayor, Lynn Housing Authority & Neighborhood Development, and the Lynn Continuum of care. The challenge now is to scale this approach up to the rest of the local homeless community; appropriate housing options are likely to be the most difficult piece of the puzzle. A “Housing First” approach should be seriously considered, and might be an impactful use of Community Benefits resources from North Shore Medical Center. A strategy to end homelessness should be developed in collaboration with Lynn residents who have experienced homelessness, with the full support of local leaders from the public, private and civic sectors. Between them, NSMC and 1199 have the financial, social and political power to support the Lynn Continuum of Care’s efforts to reduce homelessness in Lynn.

Homelessness is a complex and multi-layered challenge with systemic and structural causes. To effectively combat homelessness, stakeholders across the community must commit to supporting strong shelter systems, transitional housing programs, access to physical and mental health care, humane and compassionate outreach, and opportunities for education and employment. Community leaders should also seek to mobilize their constituents to advocate for policies at the state level that seek to resolve homelessness. Lastly, stakeholders including NSMC should consider collaborating on community efforts to leverage the state’s Housing Innovations Fund, which supports the creation and preservation of shelters, transitional housing, and leases to purchase housing.

Rental Assistance
Section 8 housing is in high demand in Lynn. As the city develops economically, rents continue to rise and low-income tenants face increasing housing insecurity when it comes to housing. Landlords are prejudicial towards those using vouchers, or may charge unfairly high rents to those who have no other options. Sub-standard conditions may go overlooked in inspections due to concerns about decreasing overall Section 8 housing stock. Overcrowding in Section 8 units is increasingly common.

Residents relying on Section 8 or other vouchers come from the communities facing some of the most significant health disparities. The City of Lynn, along with those in the healthcare sector, should act in concert to more thoroughly address substandard conditions within the city’s Section 8 units, and take action against landlords maintaining substandard conditions, as well as landlords who are reported for abuse or misconduct.

The city, with support from key stakeholders, should also increase efforts to expand the availability of housing options for low-income residents eligible for rental assistance such as Section 8 or the Massachusetts Rental Voucher Program (MRVP).

Expanding and Ensuring Affordability
As Lynn continues to experience population increases, particularly in immigrant and refugee communities, and as the city seeks to raise its economic profile, housing prices can be expected to rise along with the cost of living. This can be expected to take a particular toll on the city’s renters, and to increase the risk of displacement and housing insecurity among vulnerable groups. The City of Lynn and state elected officials should develop a long-term strategy to promote and retain affordable housing throughout the community. Efforts to expand workforce housing on Washington Street have received support from a new $100 million
MassHousing fund targeted at increasing housing opportunities for households who are overqualified for subsidized housing but cannot afford market rents; this demographic, which faces significant housing cost burden, should continue to be a priority. 1199SEIU could also support efforts to expand and maintain affordability for low-income households by considering affordable housing as an avenue for pension fund investment.

Ongoing participatory Community Health Needs Assessments might be a useful avenue through which to focus on the impact of housing on health outcomes, and to identify health-creating interventions in the built environment. Community-based organizations should see the Community Health Needs Assessment as an opportunity to seek partnership from NSMC in addressing housing concerns that impact health. For example, the CHNA could be the basis for efforts to upgrade substandard housing through homeowner grants for small improvements (i.e. heating) which would reduce the risk of serious injury and illnesses such as asthma, or by developing strategies to promote home ownership which reduces the cost burden of housing and allows families to spend more on nutrition and needed healthcare (Viveiros and Sturtevant, 2015).

If North Shore Medical Center decides to stop using and/or sell the Union Hospital campus, one impactful option to explore would be the development of mixed-income housing with a high proportion of affordable units and onsite supportive services. This could be done in partnership with the Lynn Housing Authority or an affordable housing developer from the private sector with a proven track record of equitable development, chosen in coordination with community representatives.

4.3 Economic Development
Inequitable patterns of economic development are likely to exacerbate current disparities in health outcomes and access to health care, both directly as well as indirectly through other social determinants such as housing and employment. In addition to negative health consequences, inequality has been proven to negatively impact educational attainment, childhood and adolescent development, economic security, community stability and social cohesion, all of which influence health in due course. Public, private and civic sector actors invested in Lynn’s economic future should directly address potential community health impacts when preparing and/or approving development plans and proposals. Control over the course that Lynn’s economic development takes must also move towards the hands of the community; at present, many feel like these decisions are being made with an eye on profits without democratic buy-in and popular support.

We recommend that community leaders adopt an “economic democracy” framework to guide advocacy, policy-making and community organizing around economic development issues. Economic democracy is a socio-economic arrangement that puts control over capital and resources in the hands of civil society. It rests on two principles: collective ownership and democratic control of assets such as land and labor. Transitioning toward economic democracy means creating opportunities for collectively controlling resources, like worker cooperatives, credit unions and participatory budgeting, and creating institutions that support democratic decision-making over collectively-held assets.

Residents of low-income neighborhoods are rarely sought out as true partners in traditional, top-down economic development planning. These communities and their leaders require access to information and support in building sound analyses of economic issues in order to make strategic decisions and shape public discourse around economic development. To this end, we recommend that 1199 partner with leading community organizations such as the North Shore Labor Council to conduct an economic development study of the city, with a view to identifying key opportunities to build economic democracy and community wealth in Lynn. A sector-by-sector analysis looking at health, manufacturing, and infrastructure (for example) could
identify opportunities for: leveraging anchor institutions; import substitution and local procurement; expanding community-owned businesses; job creation and skills development; and moving toward the green economy and environmental resilience. Such a study would be a key step in engaging Lynn’s diverse communities in working toward a model of sustainable urban development that promotes wealth and wellbeing.

Building on the development study, community organizations and civic leaders should consider working to build a community enterprise network that leverages local assets to: promote the development of employee-owned businesses; build business-development and business support capacity; and foster collaboration between small businesses and anchor institutions (Thompson et al, 2013). Such a network can serve as the foundation for building wealth, ownership and a more equitable economic development trajectory in low- and moderate-income communities across the North Shore.

Institutions such as hospitals, banks, and educational institutions should be encouraged to adopt an anchor role in the community, linking institutional well-being to community well-being and capitalizing upon this interdependence. Anchor institutions already play a crucial role in the local economy through real estate and social capital investments, providing jobs, and purchasing goods and services. These are significant flows of capital, much of which still bypasses local residents and businesses. Localizing these flows of capital is a crucial step towards community wealth-building (Dubb et al, 2013; Norris and Howard, 2015). A near-term objective should be to align local and existing businesses with anchor institution supply chains in order to expand local purchasing and procurement.

4.4 Employment
The closure of Union Hospital does not, by any means, have to mean a net job loss for the city of Lynn. Indeed, the healthcare industry is still a significant locus of opportunity due to the Affordable Care Act, the power of organized labor in the sector, and the importance of the industry in the state and national economy. Community health is a rapidly expanding field with numerous opportunities for members of the workforce with a wide range of experiences; this chapter has indicated a wide range of opportunities for employment in the field of community health. Furthermore, numerous fields connected to determinants of health represent significant opportunities for local job creation, including: green energy, healthy building construction, advanced manufacturing, food and nutrition, and childcare.

1199SEIU should work with local labor, community and elected leaders to ensure that new jobs have living wages, good benefits, and opportunities for union membership when appropriate. The priority should be for jobs to go to Lynn residents, and special attention should be paid to pipelines to stable employment for marginalized communities and youth. Even in fields without union jobs, 1199 should consider itself a leader of the city’s working community, and support all workers in the transition to community health and economic democracy through organizing, skill development and training, and political advocacy.

Healthcare workers. As Lynn Community Health Center expands and as new pieces of Lynn’s healthcare infrastructure fall into place, there are numerous opportunities for nurses and healthcare workers to practice in Lynn. Although these jobs are not in traditional hospital settings, their successful performance will depend on the level of knowledge, expertise and experience held by the community’s seasoned healthcare professionals. Furthermore, a host of new health-related leadership opportunities are likely to emerge which would be well-suited to those with experience in the healthcare field. 1199SEIU members and other healthcare practitioners will also have a crucial role to play in many of the community engagement efforts recommended in this report, including serving as champions of community health during a period of
transition. Working in a community health setting may require some skill-development and/or retraining. 1199SEIU and employers including NSMC and LCHC should leverage the 1199SEIU Training Fund to support these endeavors, and should see Lynn as an opportunity to pilot innovative strategies to engage members in community organizing and leadership development. As an anchor institution, NSMC should set an example by further expanding the ways in which it works with other parties and prepares and connects young people to careers in health.

Other job-seekers. The transitions in the local healthcare landscape suggested in this chapter open up numerous opportunities for employment for people of a wide range of experiences and backgrounds in the labor market, including youth and immigrants and refugees. In the long run, the move toward economic democracy will produce high-quality jobs for local residents, as well as opportunities for employee ownership and local wealth creation. Stakeholders in all sectors should give special priority to developing and publicizing pathways to employment for youth; 1199SEIU and other local labor leaders should hold employers accountable for continuing to create economic opportunities for young people, and work with them to find innovative ways to do so. 1199SEIU should take leadership in bringing workshops on small business development and employee ownership to the community, to strengthen the local economy and increase opportunities for wealth generated by the community to stay in (and create value for) the community. It will also be necessary to have a strategy in place to prepare residents with varying levels of education to meaningfully participate in new businesses and economic development opportunities.
7. Collaboration towards a Healthy Lynn for All

The spaces where people live, work, and play are the most significant determinants of their health status. The strength of this relationship means that community health and economic justice must be addressed collectively – people with higher incomes experience better health outcomes and attend better school, have better jobs, and are likelier to own a home, while those with low-incomes consistently experience poor health, which is often driven by income, employment status, and housing quality. Access to health insurance does not remedy the social and environmental factors that largely drive health outcomes and disparities. Nonetheless, conventional health care expenditures largely focus on medical interventions, while wellness-based approaches that address the systemic and structural conditions determining health status are largely ignored.

The Affordable Care Act incentivizes hospitals to reduce healthcare costs by shifting from treating illness to maximizing community health. In return for billions of dollars in tax subsidies, not-for-profit hospitals must provide “Community Benefits” beyond the types of medical services that might also be provided by for-profit institutions. Community Benefits guidelines encourage the pursuit of innovative approaches combining health interventions with housing and economic development, environmental remediation, workforce development, and community development to build social cohesion to improve health at the community level. Unfortunately, most hospitals have not yet come to see the necessity of this approach to addressing the root causes of ill health. Despite robust evidence indicating the strength of societal determinants on one’s health status, it is a paradigm shift that not all healthcare providers have been willing or able to make.

Union Hospital is a critical piece of the healthcare landscape for Lynn residents, and in order for North Shore Medical Center to continue to improve health, reduce costs, and provide better care it is imperative that the provider collaborate with other local stakeholders to leverage the hospital’s closure to strengthen the local healthcare sector in other ways. We strongly recommend that North Shore Medical Center adopt a role in Lynn that builds social cohesion by designing a path forward that emphasizes community engagement, cross-sector collaboration between diverse stakeholders, and societal determinants of health.

Local residents must have a stronger voice in shaping health priorities over the short and long term. This will depend on North Shore Medical Center significantly expanding education and outreach efforts which, if done in collaboration with labor leaders and community stakeholders, opens the potential to unlock a powerful tool for sustained health and wellness: the community itself. Various approaches to collective, multi-stakeholder impact on community health have been successful across the country, including Trinity Health Transforming Communities in Michigan, University Hospitals in Cleveland, Ohio, the national-level Health Leads, and Shape Up Somerville here in Massachusetts.4

---

4 For an inventory of similar initiatives, see the Center for Disease Control and Prevention’s online index: http://www.cdc.gov/chinav/resources/glossary/index.html
This chapter presents a model for collective impact, Healthy Lynn for All, that engages a wide range of stakeholders in a set of key roles designed to build community health in Lynn. Furthermore, we identify Community Health Needs Assessments and Community Benefits Agreements as key tools through which to realize this model, which can in turn guide the implementation of the full range of recommendations identified in the previous chapter.

7.1 Collaboration and Collective Impact

Community health improvement is an adaptive problem that requires looking beyond conventional models of community engagement. The solutions to adaptive problems like community health are unknown and require the inclusion of stakeholders outside of the conventional social service sector (Center for Disease Control, 2015; Hanley Brown, Kania, & Kramer, 2012; Jolin, Schmitz, & Seldon, 2012; Kania & Kramer, 2011; 2013 2044; Karp & Lundy-Wagner, 2015, 2016; Zimpher & Lane, 2015). The evolution of collaboration spans several decades, often demonstrating limited capacity to substantively address complex problems (Kania & Kramer, 2013). Conventionally, the social sector addresses problems with singular solutions led by individual organizations or institutions - an approach called isolated impact. Hospitals also often find themselves taking this approach to community benefits spending. This norm has also led to the proliferation of single issue nonprofits—many with limited organizational capacity—or the emergence a few large non-profits as actors to produce social progress. The poor health outcomes observed in Lynn’s communities of color is an indicator of a similar pattern occurring.

Bringing a variety of stakeholders together around a single issue can be a process fraught with mistrust, competition and political differences. Collective impact is a model for collaboration that has emerged in response to the challenges involved in bringing diverse stakeholders with different resources, capacities and types of knowledge about a problem together to generate an approach to solving it. The model below is centered upon long-term cross-sector partnerships focused on complex social problem such as housing, education, healthcare, and transportation. Stakeholders commit to a common framework, agenda and rules of interaction, and develop an independent backbone organization to hold the process. We see Collective Impact as a useful framework to guide the continuous creation of community awareness about local health and the co-creation of a coordinated action plan for a vibrant, healthy Lynn. Collective impact offers stakeholders a continuous improvement cycle to programmatically evaluate, measure, and sustain success while establishing rules of interaction to ensure transparency and accountability.

It is important to note that collective models of collective impact do not adequately incorporate analysis of — or strategies to address — power imbalances between stakeholders. Roles, programing, and collaboration are often pre-determined or inflexible. More perversely, such models can obfuscate the history of struggle, race, gender, sexuality, and politics embedded in the work of creating healthy communities. Such imbalances occur way too often and ultimately limits the impact of the depth of collaboration with low-income communities and community stakeholder. For this reason, we iterate on conventional models of collective impact by integrating deep community engagement, as well as strong accountability measures.
7.2 Healthy Lynn for All: A Roadmap

Addressing the recommendations made in this report will require engaging stakeholders across the public, private and civic sectors to come together to build a healthier Lynn from the ground up. We outline a new model for community health transformation through collective impact, Healthy Lynn for All (HL4A).

Strategy and Objectives

The key strategies of the Healthy Lynn for All initiative should be:

- Addressing place-based inequities in access to care and the structural conditions of poor health
- Creating opportunities for health and wellbeing rooted in the lived experiences and needs of low-income communities in Lynn
- Building civic infrastructure and governance for democratically determined community health
- Creating and maintaining links between community health and economic justice
- Foster more productive collaboration among North Shore Medical Center, the state and city Department of Public Health, 1199SEIU and community stakeholders

The key objectives in the service of these strategies should be:

- **Develop** a collective impact model for creating community health that:
  - Leverages local assets and knowledge of residents and community stakeholders
  - Supports community-driven creation and expansion of landscape of care
  - Harnesses the financial power of anchor institutions
  - Puts democracy at the core of health equity work
- **Design** a participatory and inclusive community planning process that:
  - Leverages the closure of Union Hospital and NSMC's community benefits activities
  - Enables community members to articulate goals for health and wellness, and shape the health planning process through regular Community Health Needs Assessments
  - Builds accountability through Community Benefit Agreements
  - Increases deliberative capacity of local residents, leaders and community-based organizations to influence and lead the future of community health in Lynn
  - Emphasizes cultural humility and community control
- **Organize, coordinate and institutionalize** a local, cross-sector democratic network that:
  - Provides the technical and funding support infrastructure necessary to develop and sustain a robust community health infrastructure
  - Ensures the resilience of individuals, healthcare providers, communities and institutions through: planning and policy; community engagement and organizing; education and training; finance; business and economic development; and research and developmental evaluation.

Roles and Responsibilities

An “influential champion with adequate financial resources and a sense of urgency for change” is fundamental to the success of collective impact initiatives (Kania & Kramer, 2013). With significant financial and political capital, North Shore Medical Center is the natural choice for such a role, but will need to be supported and held accountable by other stakeholders in the community.

Achieving collective impact will also require that stakeholders take on a variety of important responsibilities. Below, we identify several key roles for local stakeholders that we believe are necessary for the Healthy Lynn for All collaboration to have a meaningful impact on community health in Lynn:
- **Capacity Builder** (1199SEIU, Lynn Health Task Force, North Shore Community College, community organizers, urban planners, and technical experts) Build the ability of hospitals, community stakeholders, and social services to increase democratic ownership of community benefits activities and advance community wellness. Examples of capacity-building efforts include:
  - Strengthening communities’ ability to collect, interpret, analyze and understand and disseminate data about the health context
  - Developing community leadership
  - Strengthening hospitals’ ability to collaborate with a wide range of stakeholders to address social determinants of health
  - Enabling collaborative planning among hospitals
  - Supporting hospitals’ expansion of their role as anchors

- **Convener** (North Shore Medical Center and 1199SEIU) Reimagining and redesigning the processes behind stakeholder collaboration by:
  - Leveraging relationships across a broad spectrum of stakeholders
  - Creating forums for robust exchange of ideas and exploration of mutual interests across multiple stakeholder institution
  - Developing MOUs to coordinate responsibilities among stakeholders
  - Including CBOs in the CHNA process as key stakeholders sharing valuable information about the needs of the populations they serve
  - Facilitating pooled investments/collective impact approaches
  - Convening advisory groups to bring attention to critical health issues
  - Enabling collaborative planning among hospitals that can provide jobs, exercise procurement power and otherwise affect local economic patterns, and shape local land use, traffic and transportation patterns.

- **Advocate** (North Shore Labor Council, 1199SEIU, Lynn Community Health Center, Lynn Health Taskforce): Collectively these organizations can leverage each other’s assets and resources to become more vocal about the relationship between health and its societal determinants. Activities might include:
  - Working with relevant municipal, state, and federal agencies to highlight health impacts of policies in education, land use, housing, transportation, criminal justice, and other areas that influence health. For example, advocates could deploy staff to serve on interagency commissions to highlight public health perspectives, testify at public hearings, convene cross-agency consultations, and/or underwrite Health Impact Assessments on important policy concerns and issue joint reports.
  - Co-creating campaigns to raise public awareness of health issues and the ways in which broader policies impact public health

- **Legitimator** (Lynn Department of Community Development, Lynn Public Health Department, Lynn Public Schools, and Lynn Housing Authority): Plan, promote and protect public health by drawing the connections between economic development, program investments, policy changes, and health impacts. Establish links between investments in upstream interventions and improved health outcomes through Health Impact Assessments.

- **Truth-Teller** (Lynn Public Health Department, North Shore Medical Center, Lynn Community Health Center): Local agencies and healthcare providers are key sources of health data, which will be critical to the ongoing work of all those who seek to address the societal determinants of health. The city and providers should also use their data to identify, highlight and act upon specific health disparities at the neighborhood and state level. The collection, analysis and dissemination of health data must be democratized such that other stakeholders and
community groups can investigate aspects of health that concern them, with strategic support regarding the collection, analysis and impactful use of data in the service of action.

- **Watchdog** (Lynn Department of Public Health and Massachusetts Department of Public Health): This role is important for ensuring that hospitals are accountable to the regulatory standards, are accurately reporting their compliance activities, and effectively investing in community benefits. Hospitals may need support, monitoring, and enforcement to meet new, more rigorous standards for financial transparency and changes in allowable charity care expenses (e.g., prohibition of bad debt collection expenses) under the ACA. State and local Departments of Public Health can help by:
  - Articulating standards for financial accountability for NMSC
  - Developing policies that link other municipal agencies’ decision-making to ACA compliance, e.g., building permits and zoning variances
  - Auditing North Shore Medical Center’s charity expenditures
  - Coordinating Community Benefits Agreements

**Key Tools**

Moving forward on the recommendations in the previous chapter and developing the Healthy Lynn for All collective impact initiative identified here will depend on the strategic use of two key tools: Community Health Needs Assessments and Community Benefits Agreements.

Community Health Needs Assessments are required by non-profit hospitals every three years under the Affordable Care Act. These should serve as the primary means through which to engage the community in building knowledge about community health and developing strategic Community Benefits activities that address them in a manner consistent with community development priorities. Furthermore, Community Health Needs Assessments are an excellent means through which to evaluate ongoing community health activities, the fulfillment of strategic objectives and the performance of various stakeholders according to the roles and responsibilities identified above. We recommend using the Community Benefits evaluation rubric presented in Chapter 5 and in greater detail in Appendix 3 to guide the development of future Community Health Needs Assessments and ensure that they build community capacity to understand and analyze health needs, identify assets useful for promoting community wellness, create arenas for deliberation, collaboration and innovation, all towards the goal of addressing social determinants of health at a local scale.

We recommend that 1199SEIU, local elected officials and community organizations collectively organize to develop a Community Benefits Agreement with North Shore Medical Center to be in place once the consolidation process is complete. Community Benefits Agreements are most common in the context of real estate development. In this case, we envision the tool being repurposed to establish accountability in the relationship between NSMC and the Lynn community to ensure not only a high-quality local healthcare system aligned with local needs, but a broader commitment to collaboration with other stakeholders to create community health over the long term. A Community Benefits Agreement could include commitments to fulfilling any range of the recommendations identified in the previous chapter, as well as to carrying out regular Community Health Needs Assessments in a manner that is “exemplary” according to the evaluation rubric presented in Chapter 5 and Appendix 3. Finally, A Community Benefits Agreement could include mechanisms to ensure that each of the four success factors in the Healthy Lynn for All collective impact model (Strategic Planning, Governance and Infrastructure, Community Engagement and Evaluation and Improvement) have the resources and capacity to be sustainably maintained by local stakeholders.
Implementation

Several core are necessary to maintain mutual agreement, impact, and transparency through a collective impact effort. The first element of success is a strategic plan developed by a range of stakeholders that includes a joint definition and understanding of the problem and a common agenda for problem-solving. The second factor for success is the creation of a backbone organization to serve as the organizational home of the entire Healthy Lynn for All initiative and coordinate efforts by participating organization and agencies. If we are to mitigate the power dynamics that underlie the societal determinants of health inequities, we must adopt inclusionary practices that allow for ongoing participation and partnership in creating health. Thus, the third factor of success is that this process be participatory and include community residents from all walks of life; we elaborate upon this in the following section. The fourth element of success is a shared approach to measuring and evaluating the collective effort. Data collection and analysis must be consistent across the initiative to maintain alignment and accountability of all stakeholders. This is also critical for the use of an ongoing evaluation framework that allows for continuous process improvement.

The action plan and timeline below divides these factors of success across four stages of the collective impact life cycle: exploration, formation, operation, and evaluation. We suggest a 24-month timeline (July 2016 to July 2018) to allocate enough time for effective and sustained collaboration. North Shore Medical Center’s next Community Health Needs Assessment will be published in 2018, and should solidify and embody this new collaborative approach to community health. Planning for the hospital consolidation and upcoming Community Health Needs Assessment simultaneously will require that NSMC and stakeholder complete the exploration, formation, and operation stages before the end of this year. This will give community stakeholders the time needed to articulate priorities for a Community Benefits Agreement with North Shore Medical Center, and prepare for meaningful participation in the 2018 Community Health Needs Assessment. Doing so creates an enforcement mechanism to ensure that the democratization of local health and wellness infrastructure and improvements is sustained over time.

**Figure 7.2.2 Planning Stages for “Healthy Lynn for All” Collective Impact Initiative**

<table>
<thead>
<tr>
<th>SUCCESS FACTOR</th>
<th>Phase 1: Exploration</th>
<th>Phase 2: Formation</th>
<th>Phase 3: Operation</th>
<th>Phase 4: Sustainability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic Planning</strong></td>
<td>Create coordinated HL4A action plan and governance model to carry out set of future recommendations.</td>
<td>Community asset mapping to align capacity and recommendations.</td>
<td>Agree on strategy, framework and goals.</td>
<td>Implement revised HL4A action plan. Evaluate and revise at regular intervals.</td>
</tr>
<tr>
<td><strong>Governance &amp; Infrastructure</strong></td>
<td>Determine seed funding, overall budget, and project management.</td>
<td>Organize local stakeholders to create scope of work and roles and responsibilities.</td>
<td>Stakeholders activate launch initiative.</td>
<td>Determine need for backbone organization. Facilitate and modify governance and infrastructure.</td>
</tr>
<tr>
<td>Community Organizing &amp; Engagement</td>
<td>Engage stakeholders to design community engagement process for Union Hospital consolidation, Community Benefits Agreement, and CHNA.</td>
<td>Identify leaders and organizations for community outreach and engagement.</td>
<td>Launch community engagement efforts.</td>
<td>Participatory Community Health Needs Assessment and ongoing engagement and advocacy.</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------</td>
<td>-------------------------------------------------------------------</td>
</tr>
<tr>
<td>Evaluation and Improvement</td>
<td>Clarify data-gathering needs and identify legal support.</td>
<td>Review of key data to identify central issues and key gaps.</td>
<td>Establish shared metrics for community wellness and decision-making.</td>
<td>Collect, track, report, and communicate progress</td>
</tr>
</tbody>
</table>
Appendix 1: Glossary

ACA: Patient Protection and Affordable Care Act

National healthcare and health insurance reform legislation enacted in 2010 which includes a voluntary state expansion of Medicaid and an individual mandate.

ACO: Accountable Care Organization

Accountable Care Organizations (ACOs) are groups of doctors, hospitals, and other providers who work to coordinate high quality care for Medicare patients.

Ambulatory Care Sensitive Conditions (ACSC): Conditions for which hospitalization could be avoided with high quality and timely outpatient care, also termed preventable admissions.

APM: MassHealth Alternative Payment Methods

APMs are method payment methods that are not entirely fee-for-service based, used to reimburse providers for services delivered. APMs shift some of the financial burden of managing medical conditions to providers in order to incentivize performance-based quality measures and efficiency.

CCHIP: Commonwealth Care Health Insurance Plan

Established as part of the 2006 Commonwealth of Massachusetts health insurance reform legislation. Provides subsidized health insurance to low-income individuals and households.

Chapter 224: “Chapter 224 of the Acts of 2012 on the Health Care Payment and Delivery System in the Commonwealth and on Health Care Consumers, the Health Care Workforce, and the General Public.”

Massachusetts healthcare cost containment legislation, passed in 2012, which also aims to improve healthcare access and quality and improved public health.

CHIA: Massachusetts Center for Health Information and Analysis

CHIA is an independent state agency that serves as an information and data hub for the Massachusetts healthcare system and conducts independent analysis.

CHIP: Children’s Health Insurance Program

CHIP is a national health insurance program that provides coverage to children whose families do not qualify for Medicaid but cannot afford to purchase health insurance. Each state has its own CHIP eligibility rules and some offer insurance coverage to parents and pregnant women as well.

Chronic Condition: A condition or disease that is persistent or long lasting in its effects. These conditions can be controlled but often are not curable.

CMS: Centers for Medicaid and Medicare Services

Previously known as the Health Care Financing Administration (HCFA), CMS is a federal agency within the Department of Health and Human Services that administers Medicare, Medicaid, CHIP, and the Health Insurance Marketplace.
Diagnosis-Related Group (DRG): System of classifying any inpatient stay into groups of diseases.

DSH: Disproportionate Share Hospital

The Medicaid Disproportionate Share Hospital (DSH) program aims to offset the costs of providing uncompensated care to uninsured patients at safety net hospitals.

Dual Eligible: Individuals who are eligible for Medicare part A and for some form of Medicaid benefit.

Entitlement: In the context of Medicaid and CHIP, entitlement means that a person who meets eligibility requirements is entitled to receive benefits.

FFS: Fee-For-Service

Fee-For Service is a reimbursement model in which providers are paid for each service delivered to patients.

Healthcare Innovation Awards: Centers for Medicaid and Medicare Services Innovation Center awards are given to applicants designing and implementing healthcare innovations.

HRRP: Hospital Readmission Reduction Program

A Medicare pay-for-performance program that penalizes hospitals with rates of risk-adjusted readmissions that are higher than expected within the programs metrics by reducing Medicare base operating payments.

IAP: Medicaid Innovation Accelerator Program

IAP is a Center for Medicaid and Medicare Services program that aims to improve health care for Medicaid beneficiaries through reforms to payment and delivery systems aimed at cost reduction.

MAGI: Modified Adjusted Gross Income.

The Affordable Care Act method of standardizing the process of determining eligibility for all state and federal Medicaid and CHIP programs, implemented in 2013.


Medicaid Waivers and Demonstrations: States may use waivers and demonstrations to test both existing and new ways of delivering or paying for services within Medicaid and CHIP programs. There are four main types of waivers and demonstration projects:

• Section 1115 Research and Demonstration Projects
• Section 1915(b) Managed Care Waiver
• Section 1915(c) Home & Community-Based Waivers.
• Concurrent Section 1915(b) and 1915(c) Waivers

Waivers are not considered an entitlement. This means that individuals who meet eligibility requirements are not entitled to benefits and waiver benefits may only be available to a limited number of people.

Premature Mortality: Deaths that occur before a person reaches age 75. Many of these are considered preventable.
**Primary Care Physician (PCP):** A physician who provides both the first contact for a person with an undiagnosed health concern as well as continuing care of varied medical conditions. Also used to abbreviate Primary Care Provider. A Primary Care Provider may be a nurse practitioner, physician assistant, or other physician extender, rather than a physician.

**Public Insurance:** Includes Medicare, MassHealth (Medicaid & CHIP). Such plans often reimburse providers at lower rates than private insurance.

**Quality of Care:** A measure of the ability of a doctor, hospital or health plan to provide services for individuals and populations that increase the likelihood of desired health outcomes and are consistent with current professional knowledge

**Section 1115 Research and Demonstration Projects:** States may use “to test new or existing approaches to financing and delivering Medicaid and CHIP.”

**Section 1915(b) Managed Care Waiver:** States may use “to provide services through managed care delivery systems or otherwise limit people's choice of providers.”

**Section 1915(c) Home & Community-Based Waivers:** States may use “to provide long-term care services in home and community settings rather than institutional settings.”

**SPA: State Plan Amendment**

The ACA requires that each state have an SPA, which describes how individual states have designed their Medicaid and CHIP programs within federal requirements.
Appendix 2: Community Benefits Evaluation Rubric

Framework Structure
This evaluation rubric defines four categories of behavior:

- **Negative:** does not meet minimum regulation requirements
- **Neutral:** meets minimum regulation compliance
- **Modest:** goes above and beyond regulation requirements but adheres to traditional outcome-based approaches to addressing health needs
- **Exemplary:** demonstrates transformative leadership in addressing social determinants of community wellness

The rubric assesses behavior according to five overarching categories largely based on the questions asked in the IRS 990 Schedule H Form.

Each section has been given a percentage weight based on relative importance for the purposes of driving community wellness approaches. Some categories are given greater weighting as a reflection of their contribution to the overall CHNA process. The categories are as follows:

**Defining the community served** Though it is not the only factor, the neighborhood level is the scale at which most of the social determinants of health directly impact people. Evidence suggests that a hospital’s decision to target specific neighborhoods can significantly increase effectiveness of interventions towards community wellness.

**Engaging community partners to assess community needs** This aspect of the process is given the most weight because it carries the potential to build community capacity to understand and analyze health needs, identify assets useful for promoting community wellness, create arenas for deliberation, collaboration and innovation, all towards the goal of addressing social determinants of health at a local scale. These elements comprise a critical pathway for residents to take ownership of a community’s health.

**Implementation strategy** This framework gauges the extent to which a hospital’s implementation strategy reflects, and is designed to address, health needs identified in the assessment process. It does not evaluate the results of hospitals’ implementation efforts.

**Sharing and reporting information** Sharing and reporting is an important aspect because it’s a pathway for increasing democratic accountability.

**Evaluation of CHNA process and implementation strategy** Ideally, the community benefit process is iterative and over time, interventions have cumulative impact. Hospitals, the community, and partners can learn from each iteration of the assessment process and make adjustments based on experience.

While this framework provides guidance on how hospitals may change their approaches to the CHNA, it does not prescribe specific activities that hospitals should undertake. Many context-dependent details should shape hospitals’ CHNA process, and this framework should merely be the starting point for further discussion.
within and among hospitals and the communities they serve. Ideally, in order to achieve a community benefits process that has buy-in from all stakeholders, the details of how to go about changing the community benefits process are decided collaboratively by all the stakeholders. After each table below for each of the five categories, there is a series of follow-up questions that stakeholders can address collaboratively in order to continue the conversation.

**Defining the Community Served**

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>Negative</th>
<th>Neutral</th>
<th>Modest</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range of behaviors hospitals may undertake to define the communities that they serve</td>
<td>Hospital uses its service area to define their community</td>
<td>Hospital considers medically underserved, low-income, minority, or underinsured populations in their service area</td>
<td>Hospital identifies specific neighborhood-level geographies as focal point of CHNA/community benefit activities</td>
<td>Hospital ranks neighborhoods and demographic disparities and target interventions to communities with the highest disparities to mitigate those gaps</td>
</tr>
<tr>
<td>What is the geographic boundary of the community served?</td>
<td>Geographic boundary is defined by catchment area</td>
<td>Geographic boundary is defined by catchment area</td>
<td>Area served is defined by catchment area but hospital acknowledges that this is because it is most convenient to focus on</td>
<td>Geographic boundary is inherently linked to demographics; hospital identifies neighborhood-level hot-spots of disproportionate unmet health needs within its catchment area</td>
</tr>
<tr>
<td>Who makes up the demographics of the community served?</td>
<td>Specified geographic boundary excludes medically underserved populations, low-income persons, minority groups, or those with chronic disease needs</td>
<td>Hospital considers demographics of race, ethnicity, age, educational attainment, income, or other health-influencing factors, but the demographics are calculated for a broad geographic scale (for example, an entire catchment area or borough)</td>
<td>Community served may be largely based on the locations with the highest hospital admissions</td>
<td>Hospital identifies the disproportionate health issues facing various demographic groups to highlight the social determinants of health in communities</td>
</tr>
</tbody>
</table>

**Follow-up Questions to Address Collaboratively**

1. Which factors can and should be analyzed spatially to identify patterns of health needs?
2. What is the methodology for identifying populations with disproportionate health needs (i.e., articulating what makes their needs disproportionate, and which health factors are being assessed)?
## Engaging Community Partners to Assess Community Needs

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>Negative</th>
<th>Neutral</th>
<th>Modest</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Range of behaviors hospitals may undertake to engage communities</strong></td>
<td>Hospital does not engage community partners</td>
<td>Hospital consults with select community representatives to gather information on an ad-hoc basis that informs future hospital activities</td>
<td>Hospital engages a range of community partners in dialogue that informs future hospital activities</td>
<td>Democratic community engagement allows inclusive decision-making and builds capacity among all partners to collectively define goals and strategies</td>
</tr>
<tr>
<td><strong>How does the hospital seek to address community wellness through public engagement?</strong></td>
<td>Hospital addresses community health on a patient-care level. Hospital does not explicitly define community needs</td>
<td>Hospital defines community needs with some consultation with community</td>
<td>Hospital seeks to verify community needs and address poor health outcomes through community engagement, but does not address underlying social determinants of health</td>
<td>Hospital addresses wellness on a community and societal level where social determinants, such as history of racial and ethnic discrimination, political capital, economic opportunity, and environmental factors, shape community health. Engagement seeks to illuminate and mitigate root causes of health inequities</td>
</tr>
<tr>
<td><strong>Who is at the table?</strong></td>
<td>A narrow representative spectrum of the community. Public health experts are not engaged.</td>
<td>Public health experts; Community leaders; Community-based organizations</td>
<td>Residents from traditionally underrepresented communities; Community-based organizations; Health providers (including community health clinics, school-based health clinics, and hospitals); Health advocates</td>
<td>Low-income communities, communities of color, youth, elderly, and mobility-limited residents that have been identified as having significant health disparities; Community-based organizations; Local agencies that influence social determinants of health (e.g. police departments, social service agencies, probation offices, and economic development offices); Health providers,</td>
</tr>
<tr>
<td><strong>What are the mechanisms for engagement?</strong></td>
<td>Hospital relies on static health data from agencies, community boards, and other entities as a proxy for community participation</td>
<td>Hospital relies on previous outreach data collected; Hospital conducts outreach through online or paper mechanisms such as surveys or questionnaires that ask respondents to select from close-ended questions or pre-defined scenarios</td>
<td>Hospital provides multiple opportunities for community partners to provide information; Hospital organizes and leads outreach activities, such as community meetings, focus groups, workshops, interviews, or forums; Questions are open-ended</td>
<td>Hospital and broad range of health stakeholders regularly communicate and meet in person; Outreach activities are co-led or co-hosted by Collaborators and have rotating facilitators; Collaborators train community leaders to help lead engagement activities; Collaborators make provisions to accommodate many types of residents, such as providing on-site childcare, dinner, and translators at meetings; If no existing coalitions that involve all relevant stakeholders, Collaborators approach each other to form such a group to establish a forum for long-term engagement; Collaborators jointly develop engagement activities that build each other’s capacities for advancing community wellness Collaborators jointly determine questions and structure of engagement mechanisms</td>
</tr>
</tbody>
</table>

Including community health clinics, school-based health clinics, and hospitals; Health advocates
| What are the outcomes of engagement | Hospital continues business as usual | Hospital publicly posts data collected to websites, such as through health dashboards; Findings from engagement provide quantitative and qualitative data that inform subsequent hospital activities | Hospital improves existing programming through the use of data collected in the CHNA process; Hospital forms some partnerships with community groups or leaders | Engagement process integrates local and technical understandings of community health needs; Collaborators create a shared vision, for example by articulating vision and mission statements; Collaborators identify community assets, including financial, technical, and social resources and abilities; examples include ability to provide meeting space, food, volunteers, transportation assistance, and fundraising support Community data are mapped to understand spatial distribution of issues; Collaborators jointly design implementation strategies that achieve wellness goals and draw upon a wide range of community assets; Engagement results in capacity building for all Collaborators through sharing of knowledge, assets, resources, relationships, and social structures |
### What is the length and scope of engagement?

| Hospital does not engage with the community or partners once the assessment and implementation plan is complete | Stakeholders are consulted on an ad hoc or one-time basis for hospital to collect data and information | Engagement is on a short-to medium-term basis with multiple opportunities for interaction  
Hospital sets up committees or working groups that schedule interim meetings to update partners on the process or status of implementation activities. Hospital continues relationships with existing community partners | Engagement is on a medium- to long-term basis with multiple opportunities for interaction  
Collaborators continue to engage beyond the data collection phase and also embark on shared implementation efforts  
Stakeholders involved in these efforts can change to include new players as necessary  
Hospitals involve community in cultivating and processing data; for example, hospitals may hire and pay community partners to help input and process data gathered to better understand results |

### What is the directionality of the engagement?

| Hospital does not engage with the community or partners | Hospital solicits information and data from community stakeholders  
Hospital leads and manages the engagement process | Hospital solicits information and more open-ended feedback from community, but the relationship is still unidirectional  
Hospital maintains ownership of the process  
Community view hospital as a source of funding or resources | Collaborators invite each other to participate in events and discussions; for example, community groups may invite public health officials to participate in neighborhood committee meetings to better understand neighborhood issues and dynamics  
Collaborators have shared ownership of process  
Collaborators maintain a co-creative relationship |
What is the hospital’s engagement with other health institutions?

- Engagement with other health institutions is not required in the regulations.
- Hospitals rely on their own services and outreach to support community benefits requirements.
- Engagement with other health institutions is not required in the regulations, but it is encouraged.
- Hospitals learn from practices with other health institutions incidentally, but do not have a structured process for seeking it out.
- Hospitals consult with health coalitions or trade organizations about best practices for engagement.
- Hospitals meet regularly to share data and experiences across hospitals, local health departments, and community health centers to inform best practices in the region.
- Hospitals use their information exchange and learning to jointly define and develop effective strategies to carry out community benefits.

Follow-up Questions to Address Collectively

1. What are best outreach mechanisms to employ, keeping in mind access to technology, literacy levels, and time availability?
2. When are in-person dialogues desirable to understand and address health and wellness issues in greater depth? When are surveys or questionnaires more appropriate to collect aggregate data and understanding on a topic?
3. Who should lead outreach activities and how will participants respond to the facilitator? When is it more appropriate for hospital or public health staff person to facilitate engagement, and when is it more appropriate for a community leader to facilitate engagement?
4. Which existing organizations, health institutions, local government agencies, faith-based institutions, social service providers, and community groups exist to partner with? Do those organizations have existing strong channels of engagement?
5. How can hospital reach populations that are not formally organized?

Implementation Strategy

<table>
<thead>
<tr>
<th>Range of behaviors hospitals may undertake to design implementation strategies</th>
<th>Negative</th>
<th>Neutral</th>
<th>Modest</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>No connection exists between CHNA and implementation strategy</td>
<td>Hospital develops and manages implementation strategy that is carried out through existing or expanded programs and services</td>
<td>Hospital develops and manages new implementation activities with assistance from community partners to address health issues identified in CHNA, but activities do address underlying social determinants of health and are not part of a larger community wellness framework</td>
<td>Community partners develop an overarching policy framework to guide implementation strategies, including new initiatives that directly address health and socioeconomic issues identified in the CHNA, and have a shared commitment to carry out the work</td>
<td></td>
</tr>
<tr>
<td>How is the implementation strategy related to CHNA?</td>
<td>The implementation strategy does not describe how the hospital plans to meet each need identified in the CHNA, and the hospital does not explain why it does not intend to meet certain needs as required by the regulations. CHNA does not lead to development of any new implementation activities.</td>
<td>Implementation strategy focuses on service delivery. Implementation strategy covers community health issues identified in CHNA based on existing available resources.</td>
<td>Hospital develops new or expanded stand-alone programs designed to address specific health needs identified in the CHNA, but implementation actions may not have targeted geographical or demographic focus. New or expanded programs may be time-limited.</td>
<td>Collaborators incorporate understanding from CHNA to develop an overarching policy framework to guide and align subsequent implementation activities. Hospital expands or develops new initiatives to address issues in specific geographical focus areas where needs are greatest, as identified in CHNA. New initiatives are developed in concert with one another, are in line with overarching policy agenda, and are sustainable in the long-run. Hospital uses multiple capacities (beyond just health care service provision) to address community wellness, such as its role as a major employment center and purchaser, political capital, and staff technical expertise.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>How is the implementation strategy developed and who is involved in developing it?</td>
<td>Hospital manages implementation activities. Hospital develops new activities to address findings from CHNA. Hospital presents implementation strategy to community partners to inform them of new activities.</td>
<td>Hospital manages implementation activities. Hospital translates CHNA findings to implementation actions. Hospital leads manages implementation activities with assistance from community partners. Hospitals consult with community partners.</td>
<td>Hospital translates CHNA findings to implementation actions. Hospital leads manages implementation activities with assistance from community partners. Hospitals consult with community partners.</td>
<td>Collaborators jointly prioritize community health needs identified in CHNA and translate those priorities into actions. Stakeholders jointly develop a timeline for implementation. Implementation process is guided by a wide range of ...</td>
</tr>
</tbody>
</table>
Follow-up Questions to Address Collaboratively

1. What themes, issues, or words consistently reoccur during CHNA engagement? How do those patterns inform a potential implementation approach?
2. Does hospital share a geographic catchment area with other hospitals? Where are the areas of overlap and where are communities not covered? How can the region’s hospitals work together to ensure quality service for a range of health needs to communities with greatest health disparities?

Sharing and Reporting Information

<table>
<thead>
<tr>
<th>Range of behaviors hospitals may undertake to share and report information</th>
<th>Negative</th>
<th>Neutral</th>
<th>Modest</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital does not make the CHNA publicly available</td>
<td>Hospital posts CHNA on website and/or makes it available upon request</td>
<td>Hospital provides CHNA to selected partners and provides general health information to the public</td>
<td>Collaborators jointly collect and share information, leading to joint ownership of data and higher levels of mutual accountability; emphasis on ensuring that information is accessible and understandable by all stakeholders</td>
<td></td>
</tr>
</tbody>
</table>

| How does the hospital share community health data? | Hospital does not make the CHNA or other health data publicly available | Hospital provides a direct link or exact web address to the CHNA, as required in the regulations | Hospital distributes CHNA to established partners, such as groups with whom hospitals typically engage or rely upon | Collaborators have joint ownership of data that is collected and processed together |

Information from CHNA is packaged in multiple forms (summary)
| To whom does the hospital publicize community health data? | Hospital does not make the CHNA publicly available, as required by the regulations | Hospital makes CHNA generally available | Hospital identifies partners to whom to give CHNA | Hospital uses various strategies to ensure that Collaborators and the community at large have ready access to the CHNA
Health data is shared with participants in all prior engagement activities |

Follow-up Questions to Address Collaboratively

1. How can hospital tailor sharing and reporting strategies to account for communities’ literacy rates, technological access, and language proficiency, among other factors?

2. What level of detail of data and information do different audiences require, and how can hospital, local departments of health, health providers, health advocates, and other stakeholders work together to provide the most useful types of data at useful geographic scales?
<table>
<thead>
<tr>
<th>Evaluation of CHNA Process and Implementation Strategy</th>
<th>Negative</th>
<th>Neutral</th>
<th>Modest</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Range of behaviors hospitals may undertake to evaluate their CHNA processes and implementation strategies</strong></td>
<td>No evaluation is required under the regulations; hospital does not evaluate the process or outcomes of their community benefits efforts before conducting the next CHNA</td>
<td>No evaluation is required under the regulations; hospital does not evaluate the process or outcomes of their community benefits efforts before conducting the next CHNA</td>
<td>Hospital conducts an evaluation of outcomes at the end of the 3 years before starting on the next CHNA</td>
<td>Collaborators design multiple and continual opportunities to assess the process and outcomes of community benefits efforts measured against wellness goals; feedback results in appropriate changes to the process and maximizing cumulative impacts</td>
</tr>
<tr>
<td><strong>What is being evaluated?</strong></td>
<td>No evaluation is required under the regulations</td>
<td>No evaluation is required under the regulations</td>
<td>Traditional health outcomes are evaluated Activities and outcomes (such as Collaborators participating, number of people surveyed, action undertaken, and meetings attended)</td>
<td>Program is evaluated on whether it has met community-defined goals or addressed issues identified in CHNA Program success measures include community input on priorities and impacts.</td>
</tr>
<tr>
<td><strong>When does evaluation occur?</strong></td>
<td>No evaluation is required under the regulations</td>
<td>No evaluation is required under the regulations</td>
<td>Evaluation happens at the end of the process</td>
<td>Opportunities to provide feedback occur throughout the CHNA and implementation process Collaborators foster a culture of regular adjustments driven by ongoing feedback</td>
</tr>
<tr>
<td><strong>What evaluation mechanisms are used?</strong></td>
<td>No evaluation is required under the regulations</td>
<td>No evaluation is required under the regulations</td>
<td>Outcome indicators Post-process surveys of community partners by the hospital</td>
<td>Both outcome indicators and process evaluations are employed There are multiple opportunities and channels for evaluation, such as online or on-site suggestion boxes, regularly scheduled</td>
</tr>
<tr>
<td>Who provides the evaluation and feedback?</td>
<td>No evaluation is required under the regulations</td>
<td>No evaluation is required under the regulations</td>
<td>Uni-directional relationship in which evaluation is led and conducted internally by hospitals. Community has limited opportunities to provide feedback</td>
<td>Feedback solicited from and provided to all Collaborators</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>------------------------------------------------</td>
<td>------------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
<td>-----------------------------------------------------------</td>
</tr>
<tr>
<td>Do changes result from the evaluation?</td>
<td>No changes to process; business as usual</td>
<td>May lead to limited changes in program administration, but programs remain fundamentally the same</td>
<td>Leads to changes to the CHNA process mandated by the hospital</td>
<td>Collaborators jointly decide upon the changes that are necessary to improve the CHNA process. Evaluation shapes broader health and wellness agenda for the city or county. Collaborators are able to achieve cumulative impacts by building on and improving past experiences</td>
</tr>
</tbody>
</table>

**Follow-up Questions to Address Collaboratively**

1. What sorts of channels are most appropriate to allow feedback from partner agencies, organizations, individuals, and other stakeholders?
2. Keeping in mind access to technology, literacy levels, and time availability, what are best ways to reach people?
3. Which types of issues require in-person dialogue to evaluate?
## Appendix 3: Data Sources

<table>
<thead>
<tr>
<th>Figure</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2.1</td>
<td>McGinnis JM, Williams-Russo P, Knickman JR. The case for more active policy attention to health promotion. Health Aff Proj Hope.2002 Apr;21(2):78–93</td>
</tr>
<tr>
<td>3.3.1</td>
<td>U.S. Census Bureau American Community Survey 2014</td>
</tr>
<tr>
<td>3.3.2</td>
<td>U.S. Census Bureau American Community Survey 2014</td>
</tr>
<tr>
<td>3.3.3</td>
<td>U.S. Census Bureau American Community Survey 2015</td>
</tr>
<tr>
<td>3.3.4</td>
<td>U.S. Census Bureau American Community Survey 2016</td>
</tr>
<tr>
<td>3.3.5</td>
<td>U.S. Census Bureau American Community Survey 2017</td>
</tr>
<tr>
<td>3.3.6</td>
<td>U.S. Census Bureau American Community Survey 2018</td>
</tr>
<tr>
<td>3.3.7</td>
<td>U.S. Census Bureau American Community Survey 2019</td>
</tr>
<tr>
<td>3.3.8</td>
<td>U.S. Census Bureau American Community Survey 2020</td>
</tr>
<tr>
<td>3.3.9</td>
<td>U.S. Census Bureau American Community Survey 2021</td>
</tr>
<tr>
<td>3.3.10</td>
<td>U.S. Census Bureau American Community Survey 2022</td>
</tr>
<tr>
<td>3.3.11</td>
<td>U.S. Department of Housing and Urban Development</td>
</tr>
<tr>
<td>3.3.12</td>
<td>U.S. Department of Housing and Urban Development</td>
</tr>
<tr>
<td>3.3.13</td>
<td>U.S. Department of Justice, Uniform Crime Reporting Statistics</td>
</tr>
<tr>
<td>3.3.14</td>
<td>U.S. Census Bureau American Community Survey 2014</td>
</tr>
<tr>
<td>3.3.15</td>
<td>Massachussetts Department of Public Health, Massachusetts Community Health Information Profile</td>
</tr>
<tr>
<td>3.3.16</td>
<td>Massachusetts Department of Health and Human Services, Bureau of Health Information</td>
</tr>
<tr>
<td>3.3.17</td>
<td>Massachusetts Behavioral Risk Factor Surveillance System</td>
</tr>
<tr>
<td>3.3.18</td>
<td>Center for Health Information Analysis Uniform Hospital Discharge Database System</td>
</tr>
<tr>
<td>3.3.19</td>
<td>Massachusetts Department of Health, School Health Unit, Bureau of Community Health and Prevention</td>
</tr>
<tr>
<td>3.3.20</td>
<td>Massachusetts Department of Health, School Health Unit, Bureau of Community Health and Prevention</td>
</tr>
<tr>
<td>3.3.21</td>
<td>Massachusetts Behavioral Risk Factor Surveillance System</td>
</tr>
<tr>
<td>3.3.22</td>
<td>Center for Health Information Analysis Uniform Hospital Discharge Database System</td>
</tr>
<tr>
<td>3.3.23</td>
<td>Massachusetts Department of Public Health Bureau of Environmental Health</td>
</tr>
<tr>
<td>3.3.24</td>
<td>Center for Health Information Analysis Uniform Hospital Discharge Database System</td>
</tr>
<tr>
<td>3.3.25</td>
<td>Massachusetts Department of Public Health Bureau of Environmental Health</td>
</tr>
<tr>
<td>3.3.26</td>
<td>Center for Health Information Analysis Uniform Hospital Discharge Database System</td>
</tr>
<tr>
<td>3.3.27</td>
<td>Massachusetts Behavioral Risk Factor Surveillance System</td>
</tr>
<tr>
<td>3.3.28</td>
<td>Massachusetts Behavioral Risk Factor Surveillance System</td>
</tr>
<tr>
<td>3.3.29</td>
<td>Center for Health Information Analysis Uniform Hospital Discharge Database System</td>
</tr>
<tr>
<td>3.3.30</td>
<td>Massachusetts Behavioral Risk Factor Surveillance System</td>
</tr>
<tr>
<td>3.3.31</td>
<td>Center for Health Information Analysis Uniform Hospital Discharge Database System</td>
</tr>
<tr>
<td>3.3.32</td>
<td>Center for Health Information Analysis Uniform Hospital Discharge Database System</td>
</tr>
<tr>
<td>3.3.33</td>
<td>Center for Health Information Analysis Uniform Hospital Discharge Database System</td>
</tr>
<tr>
<td>3.3.34</td>
<td>Massachusetts Department of Public Health, Massachusetts Community Health Information Profile</td>
</tr>
<tr>
<td>3.3.35</td>
<td>Center for Health Information Analysis Uniform Hospital Discharge Database System</td>
</tr>
<tr>
<td>3.3.36</td>
<td>Massachusetts Behavioral Risk Factor Surveillance System</td>
</tr>
<tr>
<td>3.3.37</td>
<td>Massachusetts Department of Public Health, Bureau of Substance Abuse Services, Office of Data Analytics and Decision Support</td>
</tr>
<tr>
<td>3.3.38</td>
<td>Massachusetts Department of Public Health, Bureau of Substance Abuse Services, Office of Data Analytics and Decision Support</td>
</tr>
<tr>
<td>3.3.39</td>
<td>Massachusetts Department of Public Health Registry of Vital Records and Statistics, MDPH</td>
</tr>
<tr>
<td>3.3.40</td>
<td>Massachusetts Behavioral Risk Factor Surveillance System</td>
</tr>
<tr>
<td>3.3.42</td>
<td>Massachusetts Behavioral Risk Factor Surveillance System</td>
</tr>
<tr>
<td>3.3.43</td>
<td>Massachusetts Behavioral Risk Factor Surveillance System</td>
</tr>
<tr>
<td>3.3.44</td>
<td>U.S. Census Bureau American Community Survey 2014</td>
</tr>
<tr>
<td>3.3.45</td>
<td>Massachusetts Behavioral Risk Factor Surveillance System</td>
</tr>
<tr>
<td>3.3.46</td>
<td>Massachusetts Behavioral Risk Factor Surveillance System</td>
</tr>
<tr>
<td>3.3.47</td>
<td>Center for Health Information Analysis, Massachusetts Hospital Profiles, Acute Hospital Data Appendix</td>
</tr>
<tr>
<td>3.3.48</td>
<td>Center for Health Information Analysis, Uniform Hospital Discharge Database System</td>
</tr>
<tr>
<td>3.3.49</td>
<td>Center for Health Information Analysis, Massachusetts Hospital Profiles, Acute Hospital Data Appendix</td>
</tr>
<tr>
<td>3.3.50</td>
<td>Center for Health Information Analysis, Acute Hospital Utilization Trends in Massachusetts FY2009-FY2013</td>
</tr>
<tr>
<td>3.3.51</td>
<td>Center for Health Information Analysis, Hospital-Specific Readmissions Databook</td>
</tr>
<tr>
<td>3.4.1</td>
<td>Lynn Community Health Center</td>
</tr>
<tr>
<td>3.4.2</td>
<td>Lynn Community Health Center</td>
</tr>
<tr>
<td>3.4.3</td>
<td>Lynn Community Health Center</td>
</tr>
<tr>
<td>3.5.1</td>
<td>U.S. Census Bureau American Community Survey 2014</td>
</tr>
<tr>
<td>3.5.2</td>
<td>U.S. Census Bureau American Community Survey 2014</td>
</tr>
<tr>
<td>3.5.3</td>
<td>Environmental Protection Agency Smart Location Database, accessibility analysis completed using Transport Analyst</td>
</tr>
<tr>
<td>3.5.4</td>
<td>Massachusetts Bay Transit Authority Blue Book</td>
</tr>
<tr>
<td>3.5.5</td>
<td>Massachusetts Bay Transit Authority Blue Book</td>
</tr>
<tr>
<td>3.5.6</td>
<td>Massachusetts Bay Transit Authority Blue Book</td>
</tr>
<tr>
<td>3.5.7</td>
<td>Open Street Map; U.S. Census Bureau American Community Survey 2014</td>
</tr>
<tr>
<td>3.5.8</td>
<td>Massachusetts Bay Transit Authority Blue Book; U.S. Census Bureau American Community Survey 2014</td>
</tr>
<tr>
<td>3.5.9</td>
<td>Massachusetts Department of Transportation Route 107 Corridor Study</td>
</tr>
</tbody>
</table>
Appendix 4: References

Chapter 3


Health, M. D. o. P. (2007). Regional Health Status Indicators Northeast Massachusetts Boston, MA: Massachusetts Department of Public Health


Valkonen, T., & Martikainen, P. (1995). The association between unemployment and mortality: causation or selection?


**Chapter 4**


Chapter 5


Chapter 6


Chapter 7


Rosenbaum, S. (2013). *Principles to consider for the implementation of a community health needs assessment process*: George Washington University, School of Public Health and Health Services, Department of Health Policy.
