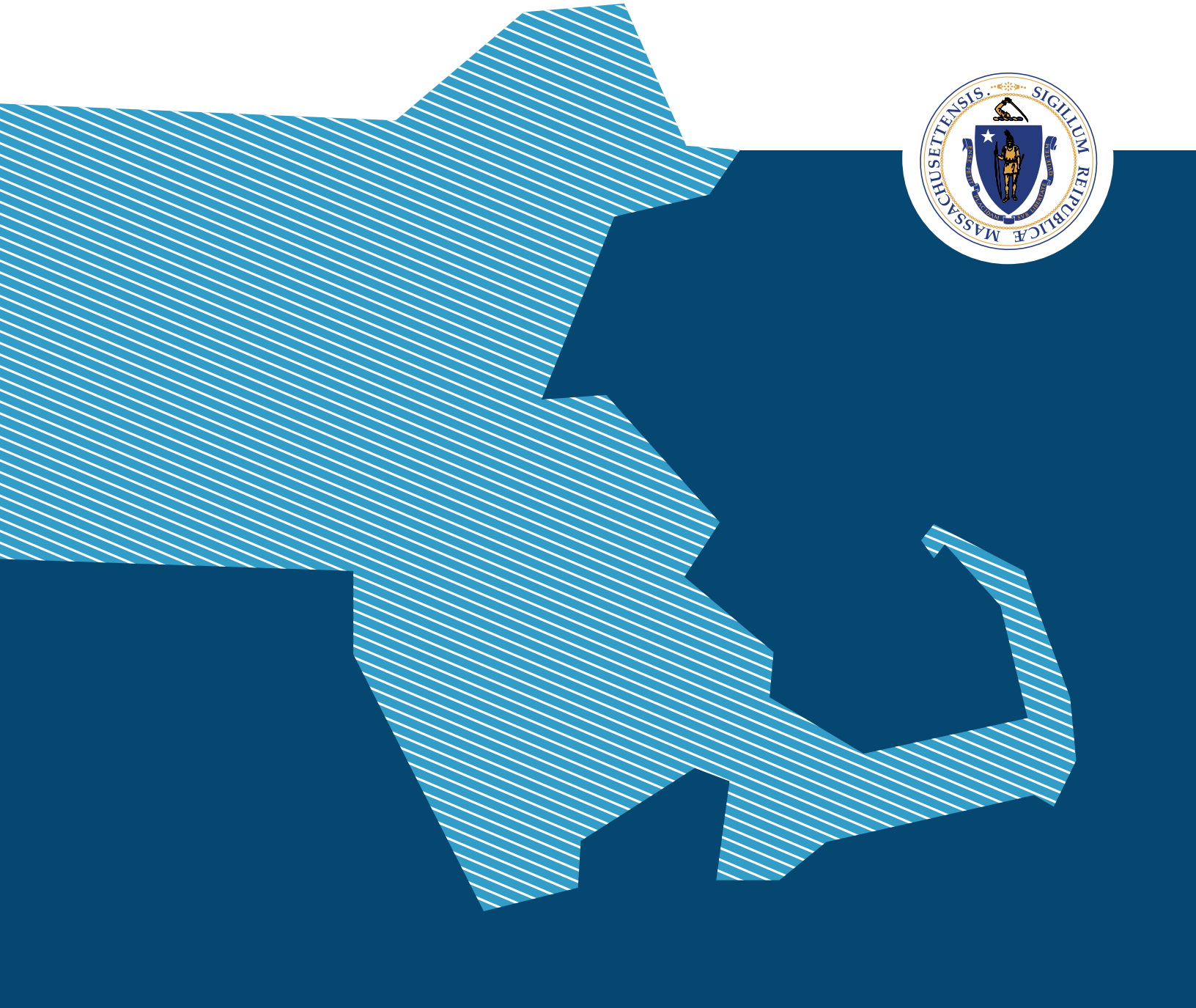
COMMONWEALTH OF MASSACHUSETTS
HEALTH POLICY COMMISSION

Community Hospitals at a Crossroads:

Findings from an Examination of the Massachusetts Health Care System



MASSACHUSETTS
HEALTH POLICY COMMISSION

About the Health Policy Commission

The Health Policy Commission (HPC) is an independent state agency established through Chapter 224 of the Acts of 2012, the Commonwealth's landmark cost-containment law. The HPC, led by an 11-member board with diverse experience in health care, is charged with developing health policy to reduce overall cost growth while improving the quality of care, and monitoring the health care delivery and payment systems in Massachusetts. The HPC's mission is to advance a more transparent, accountable, and innovative health care system through independent policy leadership and investment programs. The HPC's goal is better health and better care at a lower cost across the Commonwealth.

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Introduction

Massachusetts has been a national leader in ensuring access to high quality health care for its residents and, with the passage of the Commonwealth's landmark 2012 health care cost containment law, Massachusetts took significant steps to again lead the nation in efforts to slow the growth of health care costs. However, community hospitals[1] — a crucial part of the health care delivery system — face substantial challenges, threatening Massachusetts' progress toward an efficient, high-quality health care system accessible to all residents of the Commonwealth.

These challenges were highlighted by the recent closures of two community hospitals in lower income communities, North Adams Regional Hospital (NARH) and Quincy Medical Center (QMC), and closures of inpatient services currently contemplated at Baystate Mary Lane and Partners North Shore Medical Center's Lynn-Union Campus. These closures highlighted the need to review the state of community hospitals in the Commonwealth and served as the catalysts for this study. After more than a year of research, analysis, and interviews with providers, payers, elected officials, patients, and expert partners,[2] the Health Policy Commission (HPC) is publishing this study to document the challenges facing community hospitals, identify a future vision for community-based care, and advance a statewide dialogue about steps to transform the care delivery and payment system to achieve that vision.

NARH and QMC closed despite significant efforts to continue operating as full-service hospitals. In recent years, many more community hospitals have proactively restructured or decreased services, or sought affiliations with health care systems. These recent changes are not isolated incidents, but rather reflect a trend of closure and consolidation as community hospitals have sought to contend with persistent market dysfunction while also adapting to an evolving health care delivery and payment system.

Driven by pressure to control costs, technological advancements, and patient preferences, health care is increasingly being provided in less intensive outpatient, rather than inpatient, settings. Simultaneously, payers have worked to change the payment system to increasingly pay providers based on quality and the total cost of care for patients rather than on the number of procedures those providers perform. These changes

1 Community hospitals are general acute care hospitals which do not support large teaching and research programs; Section I of this report provides more information on the categorization of hospitals into the cohorts of community hospitals, academic medical centers, and teaching hospitals.

2 This report builds upon prior and continuing work by the Massachusetts Center for Information and Analysis (CHIA), the Massachusetts Department of Public Health (DPH), the Massachusetts Office of the Attorney General (AGO), industry groups, and academic researchers.

have created pressure on all health care providers, but smaller, independent, and community providers, including many community hospitals, are particularly vulnerable as the health care system evolves.

For community hospitals, the pressures of the changing health care system are exacerbated by persistent market dysfunction. The Massachusetts health care market is now dominated by a few large health care provider systems, nearly all anchored by large academic medical centers (AMCs) or teaching hospitals[3] which attract patients from across the state and beyond. In many cases, patients choose AMCs and teaching hospitals for care because they believe these hospitals have the highest quality, despite the lack of evidence that these hospitals provide better care than most community hospitals for routine care. In other cases, patients are referred to AMCs or teaching hospitals for routine care by their primary care physicians, a large and increasing majority of whom are affiliated with provider systems anchored by these hospitals. Increasing migration of patients away from community hospitals for routine care, along with the general decline in the use of inpatient care statewide, reduces the volume of patients seeking care at community hospitals. As community hospitals see fewer patients, these hospitals are likely to receive lower commercial rates as they have less bargaining leverage with commercial insurers. Thus, community hospitals also receive less revenue caring for the patients who remain local. Exacerbating these challenges, the patients who remain at their local community hospitals are disproportionately individuals seeking lower-margin services such as behavioral health care, elders, individuals with disabilities, individuals with low incomes, and others for whom reimbursement rates are generally lower.[4]

As many community hospitals face lower revenues from decreased volume and low rates, their financial position is weakened; they are unable to make investments in programs, staff, marketing, fundraising and infrastructure. As a result, even fewer physicians refer to those community hospitals, and more patients chose to receive routine care at AMCs and teaching hospitals. Some community hospitals have sought to consolidate into larger systems in hopes that consolidation will bring greater financial and operational security. However, this increased consolidation into a few large health care provider systems risks further perpetuating payment disparities and referrals to AMCs and teaching hospitals for routine care at a higher cost. For those community hospitals that seek to adapt to the changing health care system, many face barriers, including institutional and community resistance to changes in the traditional community hospital model, difficulties of shifting from volume-based to value-based payment systems, and regulatory barriers, which further drive a self-reinforcing cycle of challenges for many community hospitals. This report details the value of community hospitals, these challenges they face, and sets forth a vision for the future of community based care.

The HPC's vision is a system of community-based health care that preserves the values of cost efficiency, local access, and high quality in a sustainable way. Such a system must be one in which patients use local, high-quality providers for most care. This vision requires community hospitals and others to assess local care needs, reorient services, and expand relationships with medical, behavioral health, and social service organizations to match those needs. Creating and sustaining this system will require new and expanded initiatives to compensate providers on the basis of quality, efficiency and other measures of value. Perhaps most importantly, achieving this vision of sustainable community-based care will require the concerted effort and support of providers, payers, government, and communities alike to proactively identify and overcome barriers to change. The HPC looks forward to facilitating discussion among all of these stakeholders to further develop and realize this vision of a more sustainable, accessible, affordable, and high-quality health care system.

3 Section I of this report provides more information on the categorization of hospitals into the cohorts of community hospitals, academic medical centers, and teaching hospitals. Some teaching hospitals provide advanced clinical services more similar to AMCs, and share other features with AMCs (e.g. referral, pricing, and service mix patterns) while others provide a range of services and share features more similar to those of community hospitals. When discussing differences between hospital cohorts, we frequently compare community hospitals to "AMCs and teaching hospitals," but note that the comparison is more accurately made to AMCs and only the subset of teaching hospitals that operate similarly to AMCs.

4 Not all community hospitals are equally impacted by these challenges. Some have aligned with provider systems that support them in bargaining with payers and drawing in increased patient volumes. Others have benefited from favorable geography and larger populations of commercially-insured patients, while others have found ways to bargain for higher prices, operate more efficiently, or develop strong brands. Conversely, some AMCs and teaching hospitals face greater challenges than others, particularly those with higher public payer mix and lower commercial payment rates. We will address these differences among providers within hospital cohorts throughout this report.

The Closure of Two Community Hospitals in 2014 Highlighted the Need to Review the State of Community Hospitals in Massachusetts

When hospitals close or reduce services suddenly, some patients can lose access to necessary services, and communities scramble to fill the gaps.

North Adams Regional Hospital (NARH) was a 109-bed, full-service community hospital serving approximately 37,000 residents of the Northern Berkshires, southern Vermont, and eastern New York, including 62% of North Adams residents who received hospital care. Financial distress stemming from several consecutive years of declining admissions and outpatient visits,[5] low rates from commercial payers, and heavy reliance on public payer revenue threatened the hospital's viability.[I] NARH attempted to join a larger health system but was unsuccessful, and announced it would file for bankruptcy. The hospital closed on March 28, 2014.[II]

Many residents in the community commented in public meetings that the closure of NARH occurred suddenly and unexpectedly. They stressed that the closure would make it more difficult for them to access needed medical care due to increases in travel time, especially in the winter.[III] In its review of the impact of the closure on local health needs, the Department of Public Health agreed that certain discontinued services were critical for the area, including emergency services, substance use treatment and mental health services, dialysis and infusion services, maternity services, imaging, and wound care. Compounding the impact of the reduction in acute services, North Adams continued to face a chronic lack of access to primary care, with residents reporting that primary care physicians in the area had full patient panels, and providers reporting that patients were foregoing needed chronic and preventative care.

Quincy Medical Center (QMC) was a 196-bed full-service community hospital with a psychiatric unit, which was affiliated with the Steward Health Care System and which served residents of Quincy, Braintree, Weymouth and the surrounding communities. Similar to NARH, QMC was in profound financial distress after many years of providing services to predominantly public payer patients (three out of four patients at QMC were publicly insured) and steeply declining volume across all inpatient, outpatient, and emergency services except behavioral health.[6] Unlike North Adams, however, Quincy is surrounded by many other hospitals, and most Quincy residents chose to receive care at other hospitals rather than QMC.[7] Recognizing that patients had chosen to seek care at other hospitals, Steward Health Care closed QMC on December 26, 2015, retaining a satellite emergency facility in the community to provide access to emergency services.[IV]

NARH and QMC shared certain similarities, but their closures and the after-effects also reflect substantial differences. In addition to facing similar financial distress due to declining patient volumes and heavy reliance on public payers, a large proportion of services at both hospitals was behavioral health, a low margin service.[8] Initial outcry was also pronounced in both communities. However, after closure of QMC, the patients who still received care there have largely shifted to other providers, and little public outcry remains about the impact of the closure. Yet in North Adams, nearly two years after closure, substantial pressure exists to examine opportunities to reinstate inpatient services. Local patients who formerly used NARH, traveling an average of 8 minutes to reach the hospital, now must travel an average of 34 minutes for inpatient care.[9]

To respond to community health needs and to increase access to critical services, Berkshire Medical Center has progressively reinstated emergency and outpatient services in North Adams, with some funding for these efforts provided by the HPC and other state entities.[10] Both of these closures also helped to inspire a renewed focus on community hospitals by providers, payers, government, and the public. This report explores some of the issues impacting community hospitals, as well as some potential paths toward a more sustainable future for community-based health care providers.

5 In fiscal year 2012, North Adams Regional Hospital had an inpatient occupancy rate of 24% (which reflected a decline of 17.8% from 2008–2012). Ctr. for Health Info. & Analysis, Hospital Profile: North Adams Regional Hosp. (Mar. 2014), *available at* http://www.chiamass.gov/assets/docs/r/hospital-profiles/2012/north-ad.pdf.

6 At the time of closure, only 90 of the 196 beds at QMC were staffed, of which only 72% were occupied by patients on a daily basis. QMC also had among the lowest commercial payment rates in the Commonwealth, at the 20th percentile in 2014. From 2010–2014, inpatient discharges decreased by 27.2%, outpatient visits declined by 24.1%, and from 2013–2014, emergency department visits dropped by 9.3%. Ctr. for Health Info. & Analysis, Hospital Profile: Quincy Medical Ctr. (Nov. 2015), [hereinafter QMC Hosp. Profile] *available at* http://www.chiamass.gov/assets/docs/r/hospital-profiles/2014/quincy.pdf.

7 QMC Hosp. Profile, *supra* footnote 6.

8 Although it only provided only 6% of total regional discharges, QMC was responsible for 34% of mental health discharges in its region. Similarly, NARH provided only 16% of regional inpatient discharges but 59% of care for certain complex mental health disorders. *See* QMC Hosp. Profile, *supra* footnote 6; Ctr. for Health Info. & Analysis, Hospital Profile: North Adams Regional Hospital (Mar. 2014), *available at* http://www.chiamass.gov/assets/docs/r/hospital-profiles/2012/north-ad.pdf.

9 *See* Section III.A.1 for more information on the HPC's analysis of the potential drive time impacts of community hospital closures.

10 These efforts are outlined on page 67.

Executive Summary

Background

The role of community hospitals

Massachusetts' 43 community hospitals play an important role in providing health care in the Commonwealth. In 2013, they accounted for almost two out of three emergency department visits statewide, over half of the state's hospital beds and inpatient discharges, and four out of ten outpatient visits. Community hospitals vary substantially in location, size, financial strength, types of services they provide, and the patient populations they serve. Community hospitals that serve a disproportionate share of public payer patients (community disproportionate share, or DSH, hospitals) tend to face particular challenges.

Despite these variations, looking at community hospitals as a group reveals the distinct position these hospitals play in the Massachusetts hospital market compared to most AMCs and teaching hospitals. Many community hospitals serve high shares of publicly insured patients, and most have relatively low average case mix, indicating that the bulk of the inpatient services they provide are relatively routine, low-intensity care. Community hospitals also tend to have lower costs per patient discharge than most AMCs and teaching hospitals, even after accounting for differences in the complexity of services. These features reflect some of the important ways in which community hospitals provide patients with accessible, high-quality, efficient care. At the same time, as detailed throughout this report, many community hospitals face operational challenges, including low rates of occupancy, relatively poor financial margins, and older facilities compared to many AMCs and teaching hospitals.

Transition and consolidation in the Massachusetts hospital market

Although this report was motivated in part by the recent closure of two community hospitals, these closures are only part of a trend of change in the Massachusetts provider landscape over the last three decades. Of the 115 hospitals in the Commonwealth in 1980, nine have since closed, while 22 more have been converted into non-hospital facilities. In addition to these closures and conversions, many hospitals have merged or been acquired by large provider systems. Hospital mergers and acquisitions were common throughout the 1980s and 1990s, and have been on the rise again since 2010, including two closures being contemplated at the time of publication of this report (Baystate Mary Lane Hospital in Western Massachusetts and Union Hospital, a campus of Partners HealthCare's North Shore Medical Center in Lynn).

The Value of Community Hospitals to the Massachusetts Health Care System

Community hospitals provide valuable contributions to our health care system. These include their role in providing convenient and local access to services, serving government payer patients, providing services efficiently and at relatively low prices, and providing high-quality care. As we plan for and work toward changes that will result in more sustainable systems of community-based care, we must ensure that these systems are designed to prioritize and build upon this value that community hospitals have traditionally provided to their communities.

Access to care

Community hospitals play an important role in providing access to care, due in part to their geographic distribution. HPC analysis indicates that patients living near to community hospitals drive an average of only 9⅓ minutes to reach the hospital. In many cases, particularly in more rural parts of the state, patient drive times for inpatient care would be substantially longer, 11 additional minutes on average, if community hospitals were to close. Many community hospitals also provide care to high proportions of government payer patients and others who may face additional barriers to access, such as transportation, language and mobility challenges.

Quality of care and community engagement

Community hospitals generally provide high quality health care. While there is some variation among community hospitals, we found that on nationally accepted measures of quality most community hospitals tend to perform comparably to most AMCs and teaching hospitals. These findings align with other recent assessments of hospital quality in Massachusetts.

Some community hospitals are also implementing programs designed to achieve identified, measurable health improvements for specific populations of local patients. These programs often involve relationships between the hospital and other local providers and community organizations, leveraging local connections to achieve results beyond what the hospital could achieve alone.

Spending and cost efficiency

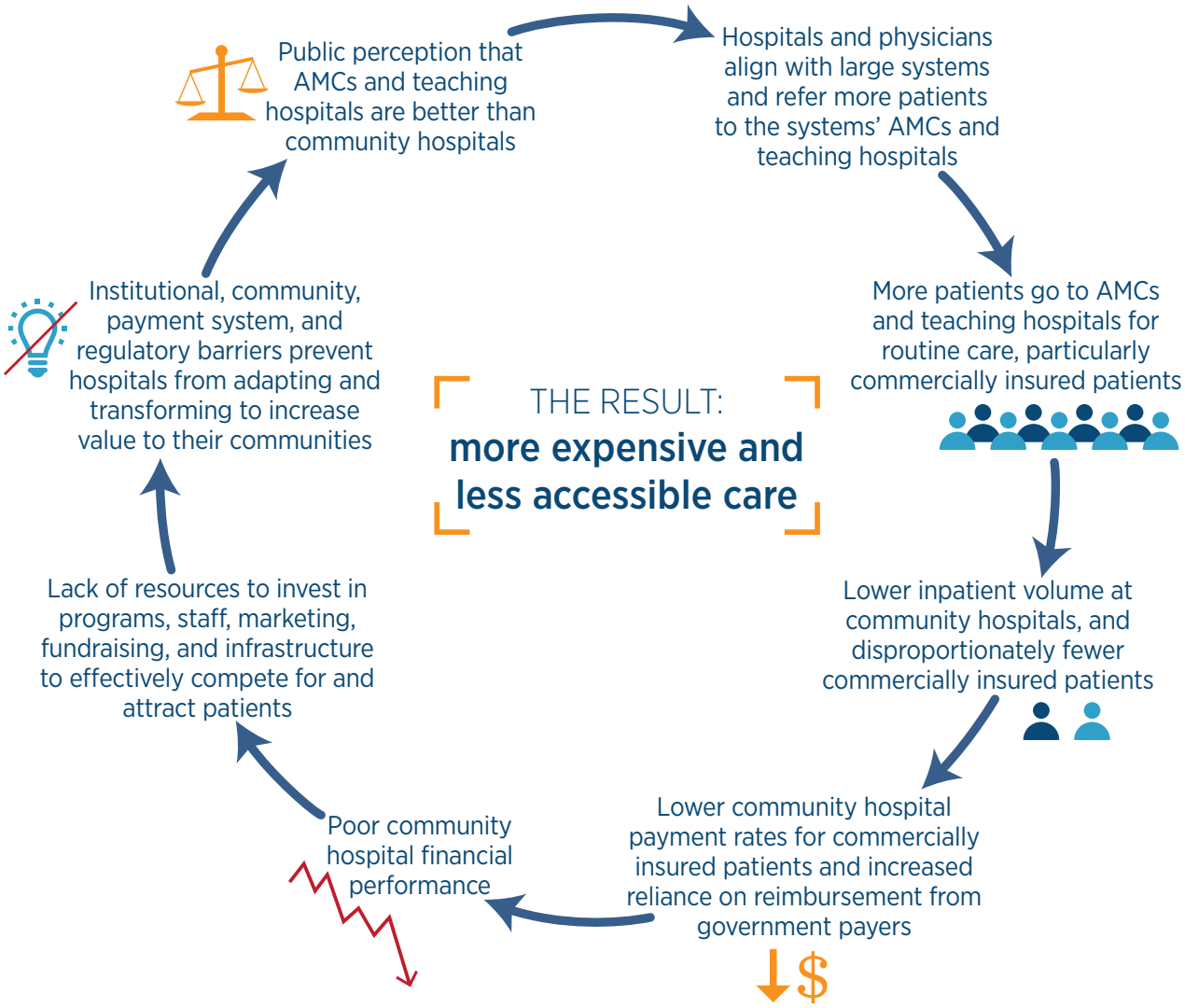
Most community hospitals provide care to patients more efficiently than most AMCs and teaching hospitals, evaluated both by the revenue they receive for services and by their internal costs for providing services. HPC analysis found that community hospitals generally received less revenue than AMCs for routine episodes of care. We found lower median spending at community hospitals compared to AMCs for routine pregnancies ($2,100 lower for pregnancy with caesarian section and $2,200 lower for pregnancy with vaginal delivery) and routine joint replacement episodes ($6,750 lower for hip replacement and $8,200 lower for knee replacement). Because spending per case tends to be significantly lower at many community hospitals, the HPC found that total spending on inpatient care would likely increase in most cases if any given community hospital were to close, although low patient volumes at community hospitals limit these potential impacts. Their role in providing relatively low-cost services makes community hospitals integral to new insurance benefit designs (e.g. tiered networks) and care delivery structures (e.g. accountable care organizations) premised on efficiently managing patient care.

In addition to providing care at lower costs to consumers and insurers, community hospitals also tend to spend less per patient to provide inpatient care than either AMCs or teaching hospitals. On average, community hospitals spend nearly $1,500 less per case mix adjusted inpatient stay as compared to AMCs, although there is variation among the hospitals in each group.

Challenges Facing Community Hospitals

Despite the important role that community hospitals play in the Massachusetts health care system, a variety of challenges—driven both by changes to care delivery and payment models and by market dysfunction—make traditional community hospital operating and business models unsustainable. These challenges reinforce one another and are compounded by barriers that have prevented many hospitals from effectively addressing them.

Self-Reinforcing Challenges Facing Community Hospitals



Patients' choice of AMCs and teaching hospitals is being driven both by referral networks and by patient perceptions of differences in quality

Despite the availability of high-quality, efficient community hospitals across the Commonwealth, many patients bypass the closest community hospitals when seeking care, and many travel to AMCs and teaching hospitals for care that could be provided in community hospitals. The HPC found that patients often felt that their hospital choices were determined by their referring doctors, or by their insurance plans. When patients considered hospital quality in choosing a hospital, they relied primarily on the reported experiences of others rather than on validated quantitative measures of quality. In addition, patients indicated that they believed that the prestige, brand recognition, and higher prices of AMCs and major teaching hospitals were indicative of higher quality and these factors contributed to their preference for these hospitals over community hospitals.

Increased consolidation of providers has driven more referrals to a few provider systems and their anchor AMCs and teaching hospitals

Due to consolidation of providers over the last three decades, the majority of care in the Commonwealth is now provided by a relatively small number of provider systems. In 2014, the five largest health care systems in the state accounted for 61 percent of discharges for commercially insured patients, an increase from 54 percent in 2012. In addition to hospital mergers and acquisitions, primary care physician (PCP) affiliations with hospitals have grown rapidly in recent years, and the majority of PCPs are now associated with a few provider systems. In 2012, 75 percent of visits to PCPs were to PCPs affiliated with one of the eight largest provider systems, and these visits constituted nearly 79 percent of all revenue for PCP visits in the state.

These affiliations can result in providers sending referrals to affiliated hospitals whenever possible, even when this results in patients bypassing their closest community hospital to reach a system-affiliated hospital, impacting both the cost and quality of care. Though some providers claim that mergers or acquisitions by larger providers are necessary to improve care coordination and clinical quality, there is little evidence that corporate integration is necessary or likely to improve clinical integration or quality of care. To the contrary, there is mounting evidence that the resulting increase in market consolidation is not typically associated with increases in the quality of care, and may even be associated with decreased quality.

Patient migration to AMCs pulls volume away from community hospitals

Patients from across Massachusetts frequently travel to Boston for hospital care, including non-complex care that could appropriately be provided at community hospitals. HPC analysis indicates that the share of care provided by hospitals in the Metro Boston region to patients from other regions of the state grew between 2009 and 2013. HPC analysis found that AMCs and teaching hospitals were most commonly the top recipients of patients who traveled outside of their home regions for community-appropriate care. Patients who had migrated to Boston from other regions of the state for community-appropriate care made up approximately one in four discharges at Boston AMCs. Commercially-insured patients and patients from higher-income communities were more likely to travel outside of their home regions for care.

This migration to higher-cost facilities by some patients can result in higher total medical spending and increased costs for all commercially-insured patients through higher premiums, even for those who do not use higher-cost providers. The HPC found that average spending per commercial discharge at a Boston hospital was $981–$4,775 higher than average spending per discharge, adjusted for severity, in other regions of the state. The migration of patients for low-acuity care that could be provided in community settings also contributes to lower occupancy rates and less revenue for community hospitals.

Community hospitals serve high proportions of government payer patients and those seeking low margin services

Many community hospitals provide services to high proportions of patients covered by government payers. While community hospitals play an important role in providing access to care for such patients, public payers pay lower rates than commercial payers, and thus this high proportion of public payer patients can strain hospital operating margins.

In addition, competition for patients needing high-margin services results in some community hospitals providing a disproportionate share of critically important but primarily lower-margin services like emergency care and behavioral health care rather than higher margin medical, surgical and obstetric services. While statewide occupancy of community hospitals' medical/surgical and obstetrics beds is only just over half, occupancy of their psychiatric beds is nearly 100%. This results in operational as well as financial difficulties; some hospitals report serving as much as double the number of patients their emergency departments (EDs) were built to handle, and the number of behavioral health patients forced to wait in EDs until they can be admitted to a psychiatric bed has increased by nearly 40% since 2012.

Many community hospitals receive lower prices from commercial payers than other hospitals for the same services

Different hospitals receive widely varying prices from commercial insurers for the same sets of services. From 2010 to 2013, the highest-priced hospital in each of the three largest commercial payers' networks has consistently been paid rates 2.5 to 3.4 times those paid to the lowest-priced hospital for the same services. Many community hospitals receive substantially lower prices than other hospitals for comparable services. These differences in price are not generally associated with differences in hospitals' performance on widely accepted measures of quality.

Although some community hospitals receive high relative prices, those with lower commercial rates may have limited resources to maintain services and invest in reforms. Hospitals with higher prices tend to have stronger financial conditions, while those with lower prices may lack the resources to invest in operations. In addition, hospitals that serve high proportions of government payer patients, including many community hospitals, are doubly impacted by unwarranted price variation, as they have both the lowest average commercial relative prices and rely more on lower public payer reimbursement rates.

Declines in inpatient utilization and competition from non-hospital providers challenge the traditional community hospital model

Inpatient care has historically been a cornerstone of services community hospitals provide. However, this traditional focus of hospitals has clashed with recent trends in how patients use health care services. Based on trends in utilization and anticipated changes in the state's population size and demographics, the HPC projects that the number of patients needing inpatient care will continue to decline over the next decade by 15%, with potentially larger decreases if Massachusetts providers succeed in improving patient care by reducing unnecessary hospitalizations and readmissions. Inpatient occupancy at community hospitals has been lower than at AMCs and teaching hospitals, and lower occupancy rates are correlated with lower hospital operating margins.

In addition, an increase in the number of non-hospital providers (urgent care centers, retail clinics, ambulatory surgery centers, and stand-alone emergency departments) is creating new competition for community hospitals. The HPC found that over two-thirds of Massachusetts residents now live within five miles of an urgent care center, and approximately three out of five Massachusetts residents live within five miles of a retail clinic. Although non-hospital providers can provide low-cost, time-saving alternatives to hospital care, they also compete with community hospitals for patients seeking low-acuity, high-margin services. In addition, non-hospital providers associated with provider systems may refer patients to affiliated hospitals rather than to local community hospitals in the event that patients need follow-up care.

Many community hospitals face additional barriers that inhibit adaptation to challenges

Most community hospitals are well acquainted with the challenges detailed in this report and are exploring new ideas and opportunities to address them. However, to successfully plan and implement changes to their operations to address these challenges, community hospitals must frequently overcome substantial barriers. For example, many community hospitals may need to make investments to successfully transform operations, such as in hiring or retraining staff, purchasing innovative equipment like telehealth platforms, upgrading electronic health records, reconfiguring hospital space to better meet patient needs, or developing data analysis and performance monitoring capabilities. In many cases, community hospitals may lack the financial resources to undertake such investments, due in part to the challenges described above. Yet, even for community hospitals with resources to invest in transformation, effectively deploying those resources may be hampered by a lack of timely, robust data or difficulty participating in new payment methodologies. Finally, misalignment of government investment programs, regulatory barriers, and community and hospital board resistance were all cited as additional barriers to change.

From Community Hospitals to Community Health: Building a Path to a Thriving Community-Based Care System

Throughout our study of community hospitals over the last year, a single prevailing theme has emerged: the need to proactively reshape community health care rather than reacting to crises. The HPC's vision is a health care system in which patients in Massachusetts are able to get most of their health care in a local, cost-effective, high-quality setting. The HPC has issued this report to inform an essential statewide dialogue about how to support the transformation of community hospitals and to how to rectify market dysfunction to achieve that vision.

Our findings and feedback from stakeholders to-date have raised the following key themes that should form the priorities for further discussion, consensus-building, and action planning:

- Planning and support for community hospital transformation;
- Encouraging consumers to use high-value providers for their care; and
- Creating a sustainable, accessible, and value-based payment system.

Promptly following the publication of this report, the HPC will seek to convene stakeholders to discuss these and other actions that can be taken to create and maintain thriving and sustainable, high-value, community-based systems of care. Developing these systems will require a shared action plan to coordinate and implement numerous reforms in tandem. The HPC looks forward to working with community hospitals and other providers, payers, consumers, employers, Commonwealth agencies, and other stakeholders to advance this goal.

"For far too long in Massachusetts, we have operated under the myth that expensive care means higher quality care. This practice has put at risk both the overall health of our local communities and the health of some of our greatest community resources - our hospitals. The Commonwealth needs to shine a bright light on the critical importance and value of our local providers. We need to fundamentally rethink care delivery by focusing on moving appropriate care away from high-cost settings, so that community hospitals can provide the necessary health services wanted and expected by their constituencies. Patients deserve high-value care in their own neighborhoods. It's time that policymakers, providers, and patients come together to ensure the health of the hospitals that have ensured the health of our families for so many years."

STEVE WALSH, EXECUTIVE DIRECTOR,
MASSACHUSETTS COUNCIL OF COMMUNITY HOSPITALS

I. Definitions, Data Sources, and Methods

A. Hospital cohort definitions

In order to describe the state of community hospitals in the Commonwealth and contrast them with other hospitals, in this report we have adopted the Center for Health Information and Analysis's (CHIA) definitions of characteristics for acute care hospitals and the four major acute hospital cohorts: academic medical centers (AMCs), teaching hospitals, community hospitals, and community hospitals with disproportionate share status (community DSH).

Acute care hospitals are those that are licensed by the Department of Public Health (DPH), that contain a majority of beds licensed for medical-surgical, pediatric, obstetric, or maternity care.[V] *AMCs* are acute hospitals with extensive research and teaching programs, are principal teaching hospitals for their respective medical schools, and that also have extensive resources for tertiary and quaternary care, with a case mix index greater than 5% above the statewide average.[11] *Teaching hospitals* are those that host at least 25 full-time equivalent medical residents per one hundred inpatient beds but do not otherwise meet the requirements to be considered AMCs. *Community hospitals* are all non-specialty acute hospitals that are not AMCs or teaching hospitals. CHIA also classifies certain hospitals as specialty hospitals based on their unique patient populations or the unique sets of services they provide; for the most part these hospitals have been omitted from analyses in this report because they are not comparable as a cohort to other acute care hospital cohorts.

Because serving large proportions of patients insured by government payers can influence many aspects of hospital operations, some of our analyses follow CHIA's system of breaking community hospitals into two cohorts: community hospitals that receive at least 63% of their gross patient service revenue from government payers are *community DSH* hospitals (27 hospitals), and all other community hospitals are in a separate *community non-DSH* cohort (18 hospitals).[VI] The threshold for DSH status is set by statute,[VII] and although we focus in this report on community hospitals, certain AMCs and teaching hospitals also qualify as DSH hospitals. CHIA's cohort definitions may differ from those used for analyses in other HPC reports.

In certain analyses we also identify community hospitals according to whether they are affiliated with a provider system anchored by a teaching hospital or AMC. These classifications are based on public information concerning the hospitals' corporate and contracting relationships. We classify 26 community hospitals as being affiliated with such a system and 19 as independent.

11 A hospital's case mix index (CMI) measures acuity based on the average level of resources needed for the procedures performed for that hospital's patients. The CMI of community hospitals ranges from approximately 0.6 to 0.97; by comparison, the CMI of AMCs range from approximately 1.1 to 1.5. Ctr. for Health Info. & Analysis, Massachusetts Hospital Profiles: Acute Hospital Data Appendix Through FY2013 at Appendix B (Jan. 2015) [hereinafter CHIA Acute Hosp. Databook], *available at* http://www.chiamass.gov/assets/docs/r/hospital-profiles/2013/databooks/Acute-Databook.xlsx.

Because this report largely utilizes data from 2013 or earlier, we use CHIA cohort designations for fiscal year (FY) 2013 and affiliation status as of January 1, 2013. In most of our analyses we refer to 45 community hospitals–the 43 currently licensed by DPH, as well as QMC and NARH, as most of our data predate the closures of these hospitals.

B. Methods and data sources

For this report, the HPC commissioned interviews with 29 community hospital leaders, including representatives of independent hospitals, hospitals affiliated with all major Massachusetts provider systems, and hospitals in all regions of the Commonwealth. The HPC also conducted or commissioned dozens of interviews with representatives of provider systems, payers, industry groups, legislators, consumer advocates, and other experts, as well as eight focus groups of hospital patients. Perspectives from these stakeholders can be found throughout the report.

The HPC also drew extensively on data and referred to analyses from other state agencies, including CHIA and the Attorney General's Office (AGO). These data sources included the Massachusetts All Payer Claims Database (APCD), and form DHCFP-403 cost reports filed annually by hospitals with CHIA (CHIA hospital 403 reports). We also used data and information from federal agencies such as the Centers for Medicare & Medicaid Services (CMS), private organizations such as the Massachusetts Health Data Consortium (MHDC) and Massachusetts Health Quality Partners (MHQP), and academic sources. The HPC engaged consultants with diverse health care expertise who contributed to analyses.

Because most data have some lag time between collection and release, the most recent and reliable data available during the development of this report were generally from 2013. Certain analyses use older or more recent data as noted throughout the report.

Some of our analyses utilize the HPC's previously-defined fifteen health care regions in the Commonwealth.[VIII] Select other analyses use only eight regions in order to examine sufficiently large sample sizes of patients. In these cases, the East Merrimack, Newburyport, and West Merrimack/Middlesex regions are included in the North Shore region, Norwood/Attleboro is included in the Metro West region, the South Shore region is included in the Metro South region, and the Fall River and New Bedford regions are combined into the Southcoast region.

C. Data limitations

Although CHIA's hospital cohort definitions of Community Hospitals, teaching hospitals and AMCs are useful to differentiate findings by hospital type, many of the analyses in this report also illustrate the differences among hospitals within the same cohort. While we often discuss hospitals as cohorts, we are mindful of the fact that averages, medians, and generalizations do not represent the situation of every hospital in every metric. In particular, some teaching hospitals operate more like AMCs, providing advanced clinical services and having similar referral, pricing, and service mix patterns, while others operate more like community hospitals. For more information on specific hospitals, refer to CHIA's Acute Hospital Profiles.[IX]

Some of our analyses focus on Massachusetts' three largest commercial payers, Blue Cross Blue Shield of Massachusetts (BCBS), Harvard Pilgrim Health Care (HPHC), and Tufts Health Plan (THP). Data for these payers are the most complete, and they represent two-thirds of the Massachusetts commercial market, a sufficiently large share to reasonably represent the commercial market for our analyses. Where findings for the three major payers are similar, we often show representative data for the largest (BCBS).

Many of our analyses focus on inpatient care, reflecting the fact that only limited data are available for outpatient care. Recognizing the growing importance of outpatient care as a segment of hospital volume and revenue, the HPC looks forward to continuing to work with payers, providers, and other state agencies to develop more robust data and analyses on outpatient care.

HOSPITAL COHORT DESIGNATIONS AND AFFILIATION STATUS, 2013		
	COMMUNITY DSH	**COMMUNITY NON-DSH**
INDEPENDENT	North Adams Regional Hospital (now closed)	Anna Jaques Hospital (now part of BIDCO)
	Lawrence General Hospital (now part of BIDCO)	Jordan Hospital (now BID-Plymouth Hospital)
	Harrington Memorial Hospital	Winchester Hospital (now part of Lahey)
	Holyoke Medical Center	Lowell General Hospital (now part of Wellforce)
	Mercy Medical Center	Milford Regional Medical Center
	Noble Hospital (now Baystate Noble Hospital)	South Shore Hospital
	Signature Healthcare Brockton Hospital	
	Southcoast Hospitals Group (Charlton Memorial Hospital, St. Luke Hospital, and Tobey Hospital)	
	Sturdy Memorial Hospital	
	Cape Cod Hospital	
	Falmouth Hospital	
	Athol Memorial Hospital	
	Heywood Hospital	
AFFILIATED	Martha's Vineyard Hospital	Emerson Hospital
	North Shore Medical Center	Hallmark Health (Lawrence Memorial Hospital and Melrose-Wakefield Hospital)
	Steward Good Samaritan Medical Center	Baystate Mary Lane Hospital
	Steward Holy Family Hospital	Beth Israel Deaconess Hospital — Milton
	Merrimack Valley Hospital (now merged with Holy Family Hospital)	Beth Israel Deaconess Hospital — Needham
	Morton Hospital	Northeast Hospital (Beverly Hospital and Addison Gilbert Hospital)
	Quincy Medical Center (now closed)	Cooley Dickinson Hospital
	Steward Saint Anne's Hospital	Nantucket Cottage Hospital
	Wing Memorial Hospital (now Baystate Wing Hospital)	Newton-Wellesley Hospital
	Clinton Hospital	Nashoba Valley Medical Center
	HealthAlliance Hospital	Steward Norwood Hospital
	Marlborough Hospital	MetroWest Medical Center
	Baystate Franklin Medical Center	
	Fairview Hospital	
	ACADEMIC MEDICAL CENTERS	**TEACHING HOSPITALS**
	Beth Israel Deaconess Medical Center	Baystate Medical Center*
	Boston Medical Center*	Berkshire Medical Center*
	Tufts Medical Center	Cambridge Health Alliance*
	Brigham and Women's Hospital	Mount Auburn Hospital
	Massachusetts General Hospital	Lahey Hospital & Medical Center
	UMass Memorial Medical Center*	Brigham and Women's Faulkner Hospital
		Steward Carney Hospital*
		Steward St. Elizabeth's Medical Center*
		Saint Vincent Hospital*

*DSH hospital

II. Background: Community Hospitals in Massachusetts

A. Community hospitals serve a distinct and important role in the health care system

There are 43 community hospitals currently licensed by DPH in Massachusetts, community hospitals serve nearly all parts of the Commonwealth. These 43 hospitals and the two recently-closed community hospitals, QMC and NARH, collectively accounted for over half (51%) of the state's inpatient care, and nearly two-thirds (65%) of all emergency department visits in 2013.[X]

Key Facts and Figures

43 Community Hospitals

25 DSH | **18** non-DSH

7,518 total | **52%** statewide
staffed beds at community hospitals

417,275 total | **51.3%** statewide
discharges at community hospitals

5.8 million | **42%** statewide
outpatient visits annually

1.9 million | **65%** statewide
ED visits annually

LOWER OCCUPANCY RATE

64% community hospitals | **84%** AMCs

LOWER CASE MIX INDEX

0.8 community hospitals | **1.33** AMCs

LOCAL ACCESS

9.3 minutes | **+11** minutes

local patients drive 9.3 minutes on average to community hospitals; they would drive 11 minutes more on average to get to the next closest hospital

OLDER AGE OF PLANT

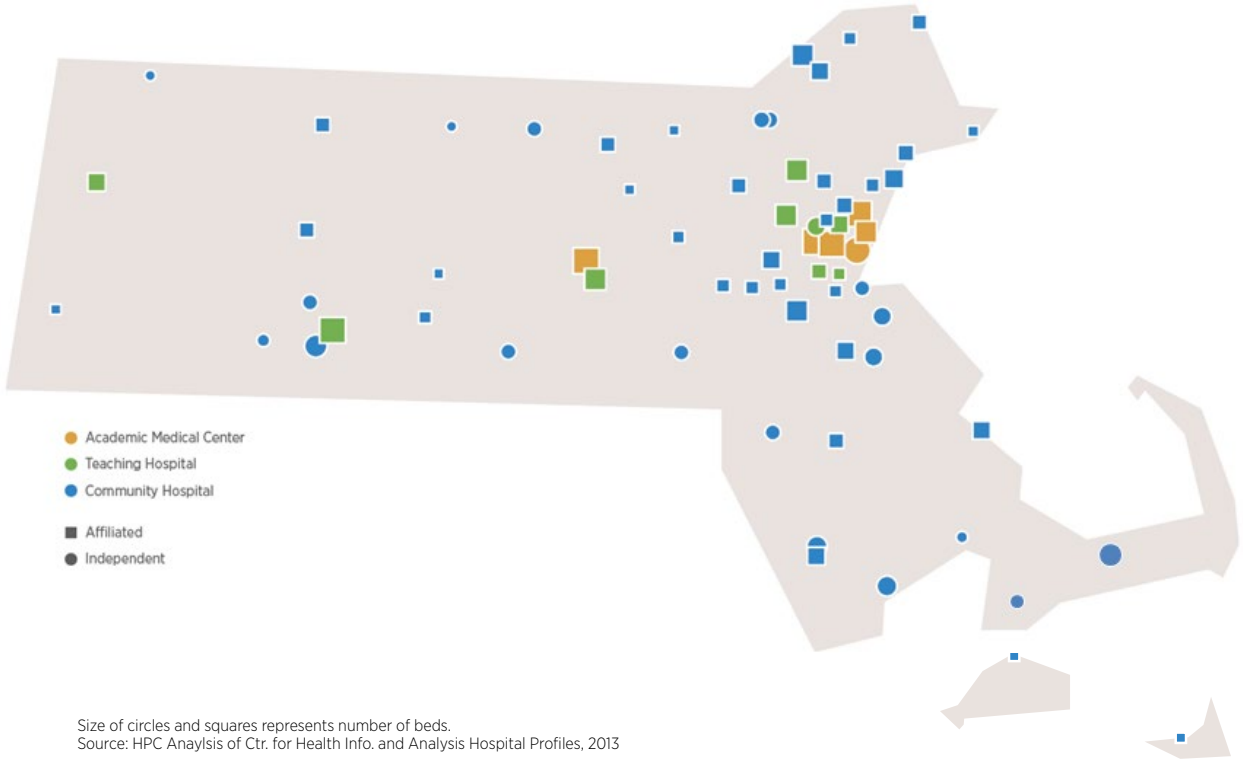
Community hospitals generally have older physical plants than AMCs or teaching hospitals

HIGHER PUBLIC PAYER MIX

Community hospitals generally have disproportionately high shares of Medicaid and Medicare patients

Note: Figures except for hospital counts represent 2013

Community Hospitals Are Heterogeneous and Serve All Parts of the Commonwealth



Size of circles and squares represents number of beds.
Source: HPC Anaylsis of Ctr. for Health Info. and Analysis Hospital Profiles, 2013

There are some substantial differences among community hospitals. They range in size from Athol Memorial Hospital's 15-bed campus to Southcoast Hospitals Group's 556 beds on three campuses, with the median being 126 staffed beds.[XI] All are equipped to provide low- to moderate-acuity adult care,[12] but many also feature obstetrics and pediatrics, some provide behavioral health services, and some offer a wide range of specialty services including interventional cardiology and trauma care.[13] They vary in terms of financial health, with some boasting large yearly margins and cash reserves while many others have limited financial resources to maintain services and invest in reforms; in FY13, for example, operating margins for community hospitals ranged from a negative 26.1% at the now closed QMC to a positive 9.3% at Falmouth Hospital. The fifteen general acute care hospitals in the Commonwealth with total annual revenues of less than $100 million in FY13 were all community hospitals, while twelve community hospitals had total revenues over $250 million. By contrast, five of the six AMCs earned total revenues of more than $1 billion, with Tufts Medical Center earning just over $660 million. Seven of the state's nine teaching hospitals also earned more than $250 million in total revenues.[XII]

12 We use the term acuity in this report to refer to the level of clinical resources necessary to treat patients, with high-acuity care requiring more specialized clinical training and/or technology. A hospital treating providing more high-acuity care will have a higher case mix index, as described in footnote 11, *supra*.

13 In 2013, three community hospitals provided cardiac surgery and percutaneous coronary intervention (PCI) services, and an additional ten provided PCI services only. *Cardiac Study Hospital Sites*, Mass-DAC, http://www.massdac.org/index.php/public-outreach/cardiac-study-hospital-sites/ (last visited Sept 30, 2015). Four community hospitals are licensed as Level 3 trauma centers, while one is designated Level 2. CHIA Acute Hosp. Databook, *supra* footnote 11, at Appendix A.

Community hospitals also vary in the patient populations that they serve; while many community hospitals serve large proportions of patients covered by government insurance programs, including Medicare and MassHealth (Medicaid), a few serve larger proportions of commercial patients. The majority of community hospitals are DSH hospitals, meaning that they receive at least 63% of their patient revenue from government payers.[XIII] Among community hospitals, Holyoke Medical Center had the largest proportion of patients covered by government payers in FY13 (75.6%), while Newton-Wellesley Hospital had the smallest (38%). One AMC and five teaching hospitals also qualified as DSH hospitals in FY13 (Boston Medical Center, Saint Vincent Hospital, Baystate Medical Center, Berkshire Medical Center, Steward Carney Hospital, and Cambridge Health Alliance).[14]

Despite these variations, looking at community hospitals as a group reveals the distinct position these hospitals play in the Massachusetts hospital market. Community hospitals generally serve higher shares of government payer patients, including elderly, disabled, and low-income residents, than teaching hospitals and AMCs. As shown in the next table, they also generally have relatively low average case mix, indicating that the bulk of the services they provide are relatively routine, low-intensity hospital care. Their low cost per case mix adjusted discharge (CMAD)[15] indicates that many of these hospitals provide services for a lower cost than AMCs and teaching hospitals, even after accounting for differences in the complexity of services. These features reflect some of the important ways in which community hospitals provide patients with accessible, high-quality, efficient care.

"The community hospital plays a role as a cultural and social staple for the community it serves. It's the place you're born at, that you grow up with, and where you get most of your basic care. The state should work to ensure access to community-based, cost-effective care."

MASSACHUSETTS LEGISLATOR

In Massachusetts in 2013, community hospitals received:

65% of emergency department visits

51% of inpatient discharges

42% of outpatient visits

14 Public payers include Medicare and Medicaid/MassHealth fee for service and managed care plans, Health Safety Net payments, and charges designated by hospitals as "other government." *See* CHIA Acute Hosp. Databook, *supra* footnote 11, at Appendix D.

15 Cost per case mix adjusted discharge (cost per CMAD) is a measure of the average amount of money a hospital spends on caring for a given patient. This amount is adjusted based on the hospital's case mix index. This adjustment is made in order to ensure that a hospital's costs do not appear disproportionately high simply because it serves sicker patients.

KEY FEATURES OF COMMUNITY HOSPITALS, ACADEMIC MEDICAL CENTERS, AND TEACHING HOSPITALS				
	ACADEMIC MEDICAL CENTERS	TEACHING HOSPITALS	COMMUNITY HOSPITALS	COMMUNITY DSH HOSPITALS
Number of hospitals	6	9	18	27
Staffed beds Cohort total (range)	3,886 (293 – 1,021)	2,502 (92 – 734)	3,306 (19 – 406)	4,212 (15 – 556)
Occupancy rate Cohort median (range)	84% (70% – 92%)	71% (56% – 89%)	64% (29% – 74%)	64% (25% – 77%)
Case mix index Cohort average (range)	1.33 (1.12 – 1.48)	1.04 (0.75 – 1.42)	0.80 (0.60 – 0.93)	0.86 (0.61 – 0.98)
Annual discharges Cohort total (range)	224,757 (19,914 – 52,186)	144,473 (5,183 – 38,900)	191,842 (556 – 24,955)	225,433 (576 – 40,303)
Annual ED visits Cohort total (range)	510,523 (41,065 – 134,891)	488,524 (26,142 – 100,299)	796,542 (11,319 – 100,803)	1,190,675 (10,329 – 155,236)
Average commercial price level	75th percentile	56th percentile	47th percentile	43rd percentile
Total surplus Cohort total (range)	$488 million ($10M – $149M)	$258 million (-$20M – $105M)	$139 million (-$1.4M – $24M)	$127 million (-$20 – $26M)
Total margin Cohort median (range)	4.6% (1.6% – 7.1%)	7.6% (-8.9% – 14.0%)	3.6% (-2.2% – 9.5%)	3.7% (-25.1% – 11.9%)

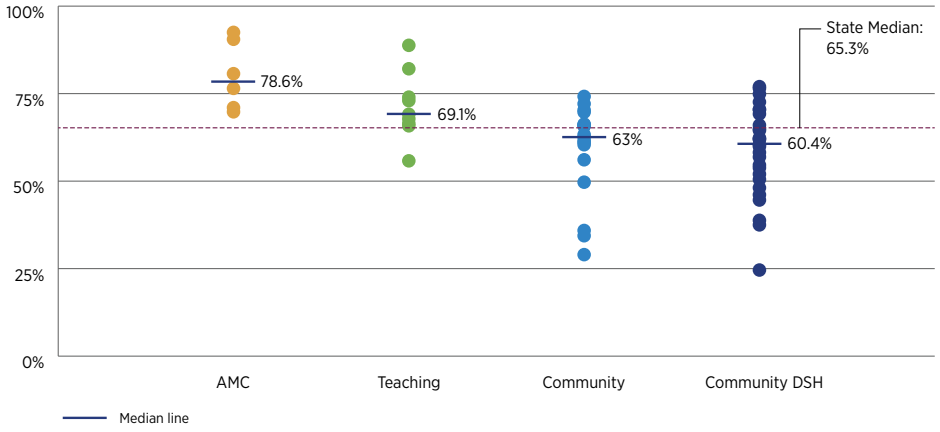
Sources: HPC analysis of CHIA Acute Hosp. Databook, *supra* footnote 11; Ctr. for Health Info. & Analysis, Massachusetts Hospital Profiles at B-1 through B-5 (Jan 2015), *available at* http://www.chiamass.gov/assets/docs/r/hospital-profiles/2013/acutehospsfulldocumentoptimized.pdf.

Notes: All statistics for 2013; NARH and QMC are included in all statistics. Cohort average case mix index is weighted by hospital discharges.

However, these statistics also point to some of the financial and operational challenges facing community hospitals. Most community hospitals have lower occupancy rates than teaching hospitals and AMCs, and the community hospital cohorts have lower median occupancy rates.

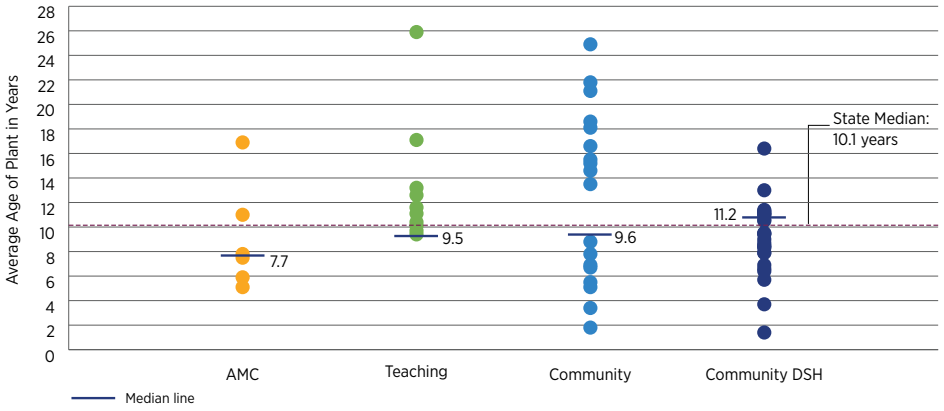
Similarly, many community hospitals face relatively difficult financial situations. Of the 44 community hospitals for which data were available in FY13, ten community hospitals had negative operating margins (including Quincy Medical Center, which has since closed), and an additional seven community hospitals had operating margins of less than one percent.[XIV] Low or negative margins may require hospitals to cut less profitable services, and limit hospitals' ability to invest in staff, equipment, fundraising, and renovations of their buildings. This can be particularly problematic for community hospitals, which tend to have older facilities than other hospitals; of the 26 hospitals with an average age of plant higher than the statewide average, all but two are community hospitals. Community hospitals may therefore have a greater need to invest in infrastructure, but are more likely to have difficulty funding those improvements.[16] We will return to these statistics, and explore their underlying causes, throughout this report.

Average Staffed Bed Occupancy Rates at MA Hospitals by Cohort, 2013
(Low occupancy rates pose financial and operational challenges)



Source: HPC analysis of MHDC 2013 discharge data and CHIA hospital 403 reports.

Hospital Average Age of Plant by Hospital Cohort, FY13
(High age of plant indicates older and/or less recently renovated facilities)



Source: HPC analysis of CHIA hospital 403 reports.
Note: Average age of plant compares a hospital's yearly depreciation expense to its total accumulated depreciation; the result is the average age, in years, of the hospital's building and major equipment. Because the way hospitals account for depreciation can be impacted by corporate acquisition, some hospitals' average age of plant figures are artificially low and do not reflect the actual age of their assets.

16 A low age of plant does not necessarily indicate that a hospital's newer investments are well-aligned with the needs of the hospital's patients. Community hospitals planning to make major investments should ensure that these plans are based on identified community needs.

B. Massachusetts hospitals are in a period of transition and consolidation

Massachusetts hospitals have been in a period of transition over the last three decades. Although closures have been rare since around 2000 (with the exception of the recent closures of QMC and NARH and the currently contemplated closures in Ware and Lynn), they were quite common in the 1980s and 1990s. Closures in that period were common nationwide, and were linked in large part to shifts in payment systems and care patterns, including the change in payments to hospitals from Medicare from the cost-based reimbursement system to the Diagnosis Related Group (DRG) system in 1983, and the development of managed care plans by private insurers in the 1990s. In total, the number of hospitals in Massachusetts declined by 33 (29%) between 1985 and 1999; over the same time period, the total number of inpatient beds decreased by 36%.[17]

Since then, the total number of hospital beds in the Commonwealth has not changed significantly, and the current number of hospital beds per person in Massachusetts is similar to the national average.[XV] However, evidence suggests that even while the total number of beds has not changed significantly in recent years, some hospitals may have shifted services, closing beds in certain service lines, such as behavioral health,[18] and correspondingly increasing beds in other service lines. This trend may be motivated by differences in the profitability of different service lines.[19] In addition to outright closures, many hospitals have been converted into non-hospital structures, including non-acute outpatient centers, long-term care or rehabilitation facilities, or satellite emergency departments. Since 1980, of the 115 hospitals in the Commonwealth, 9 have closed, while 22 have been converted into non-hospital facilities.[20]

"As we see a continued decline of hospitalizations we need to remember that we've never lost a single academic hospital - they've effectively just grown. Unless we support community hospitals and treat them as a resource, a place to lower cost of care, we are going to lose another dozen community hospitals and all of that care will just go to higher priced providers."

CEO OF LARGE HEALTH SYSTEM

17 Hospital and bed counts are based on American Hospital Association Hospital Statistic Guides, and include both acute and non-acute hospitals. Research indicates that the closure of hospitals does not necessarily decrease the use of hospitals by patients, and does not necessarily lead to declines in the health or care outcomes of local patients. *See* Karen Joynt et al, *Hospital Closures Had No Measurable Impact On Local Hospitalization Rates or Mortality Rates, 2003-2011*, 34 Health Affairs 765, 769-770 (May 2015), *available at* http://content.healthaffairs.org/content/34/5/765.abstract.

18 When hospitals propose to completely or substantially discontinue a service line, they must provide notice to DPH and participate in a review process. Task Force on the Discontinuation of Essential Health Services: Discussion Document 2-4 (Feb. 2015), *available at* http://www.mass.gov/eohhs/docs/eohhs/section-299/task-force-discussion-document.pdf. DPH received 20 such notices between 2010 and 2015, of which seven involved the proposed closure of behavioral health services and five involved the closure of maternal or pediatric services. A review by the Massachusetts State Health Planning Council found that there was a slight net decrease in the number of psychiatric beds in general acute care hospitals between 2010 and 2014. Mass. Dep't Pub. Health, State Health Plan: Behavioral Health, slide 21 (Dec. 2014), *available at* http://www.mass.gov/eohhs/docs/dph/health-planning/hpc/deliverable/behavioral-health-state-health-plan.pdf.

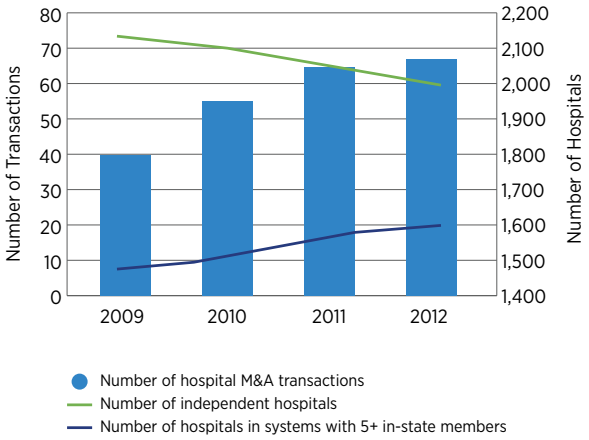
19 For more on the expansion of certain specialty service lines and the underlying factors, *see* generally Robert A. Berenson et al., *Specialty Service Lines: Salvos in The New Medical Arms Race*, 25 HEALTH AFFAIRS 337 (2006), *available at* http://content.healthaffairs.org/content/25/5/w337.

20 *Massachusetts Hospitals: Closures, Mergers, Acquisitions, and Affiliations*, Mass. Hosp. Assoc. http://www.mhalink.org/Content/NavigationMenu/AboutMHA/HospitalDirectory/HospitalClosuresMergersAcquisitionsandAffiliations/default.htm (last visited Jan. 12, 2016) [hereinafter MHA Closures and Transactions]. Total hospital counts are based on American Hospital Association Hospital Statistics Guides. These figures include both acute and non-acute hospitals. Note that the definition of transaction used by MHA is not the same as that used to define material changes subject to HPC review. *See* footnote 21, *infra*.

MASSACHUSETTS HOSPITAL CLOSURES AND CONVERSIONS BY REGION, 1980 — 2015			
REGION	CLOSURES	CONVERSIONS	TOTAL
Berkshires	-	1	1
Cape and Islands	-	-	-
Central Massachusetts	-	6	6
East Merrimack	-	-	-
Metro Boston	6	4	10
Metro South	-	1	1
Metro West	-	-	-
New Bedford	1	1	2
Newburyport	-	1	1
North Shore	-	3	3
Pioneer Valley/Franklin	1	2	3
South Shore	-	1	1
West Merrimack/Middlesex	1	2	3
MA TOTAL	**9**	**22**	**31**

In addition to closures and conversions, many hospitals have acquired one another, merged, and otherwise formed consolidated systems. The 1980s and 1990s were decades of significant activity, with 75 mergers or acquisitions of hospitals and 55 mergers of hospital holding companies in Massachusetts.[XVI] These consolidations included the formation and growth of several hospital systems in the state, including some of the largest systems such as Partners HealthCare, UMass Memorial Health Care System, and Caritas Christi (now Steward Health Care System). This consolidation in Massachusetts mirrored a national trend of increased mergers and acquisitions in these decades.[XVII] The pace of consolidation slowed in the 2000s, but the current decade has seen a resurgence of activity. From 2013 when the HPC began receiving notices of material changes when hospitals engaged in certain types of transactions through 2015,[21] the HPC has received notice of 11 transactions involving mergers or acquisitions of one hospital by another, 16 involving hospitals entering into new contracting or clinical relationships with other hospitals, and 5 involving hospitals acquiring physician groups. The recent increase in the number of consolidations in Massachusetts is in line with a nationwide trend of accelerated provider system mergers and acquisitions.[XVIII] Viewed alongside the two recent hospital closures, these material changes indicate continuing transition in the Massachusetts hospital landscape and for community hospitals in particular.

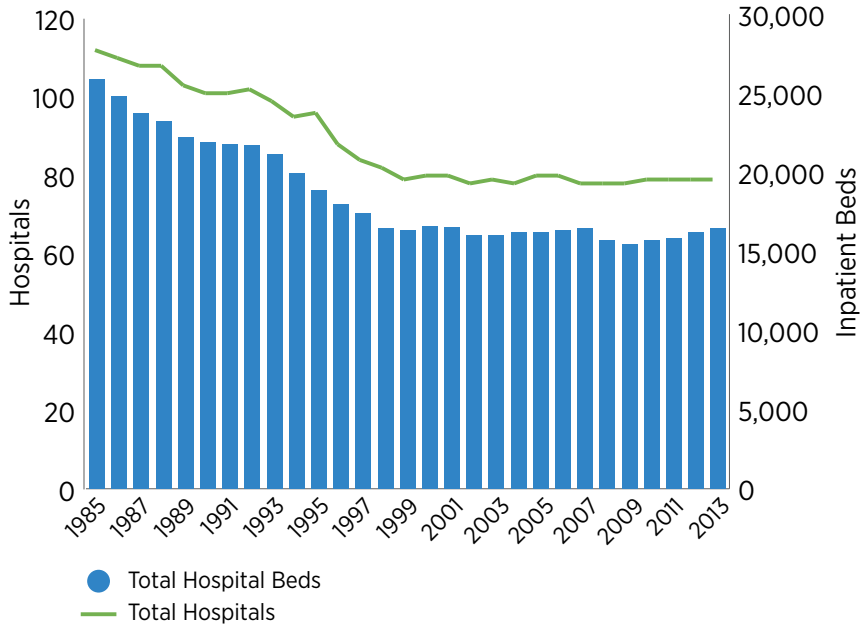
Increasing Hospital Consolidation Nationally



Source: Becker's Hospital Review, endnote xviii, *supra*.

21 We use "material changes" here to mean transactions requiring the filing of a Notice of Material Change to the HPC. These include a merger or acquisition of or by a hospital or hospital system; any other acquisition, merger, or affiliation that meets certain patient service revenue thresholds; or the formation of a new entity for the purpose of contracting with payers. *See* 958 CMR 7.02, *available at* http://www.mass.gov/anf/docs/hpc/regs-and-notices/consolidated-regulations-circ.pdf. Because the HPC's definition of a material change differs from the definition of transactions counted by the Mass. Hospital Association, the count of HPC material changes differs from those elsewhere in this section.

Total Hospitals and Inpatient Beds in Massachusetts (Acute and Non-Acute)



Source: American Hospital Association Hospital Statistics Guides, 1985-Present

Changes to physician group affiliations are even more prevalent. In total, about two-thirds of transactions requiring a notice of material change to the HPC involving new corporate or contracting alignments have involved physician groups. These include material changes involving hospitals, most of which also involved their owned or affiliated physician groups. These changes to physician affiliations are also important for understanding the hospital landscape, as physician affiliations can be vital for hospitals seeking to attract more patient referrals or manage patients' follow-up care effectively. While hospital-physician cooperation is important for patient care, the continued acquisition and affiliation of community physicians with a few large provider systems in the state has resulted in financial and operational problems for many community hospitals. We examine these impacts further in **Section IV.B**.

In sum, community hospitals provide a significant portion of health care services to people across the Commonwealth. Although they vary in terms of geography, size, and services, they serve an important role providing services to their local communities, distinct from that of AMCs and teaching hospitals. However, this role has been impacted by changes in the Massachusetts health care landscape in recent years, including hospital closures and conversions as well as consolidation of both hospitals and physicians into a few large health care systems. In the next sections, we highlight some of the ways in which community hospitals contribute to the accessibility of high-quality, efficient care, before moving on to examine the ways that the changing health care landscape is challenging the traditional community hospital model.

> 2/3 of transactions reviewed by the HPC involving new corporate or contracting alignments have involved physician groups.

III. The Value of Community Hospitals to the Massachusetts Health Care System

A high quality, accessible, and cost-effective health care system requires a range of care delivery settings so that patients can receive the right level of care in the right place at the right time. Non-hospital services must be widely available to provide primary care, urgent care, behavioral health care, and meet other routine needs conveniently and inexpensively. Specialized outpatient care, lower-acuity inpatient care, and emergency services can be provided at smaller local hospitals that draw patients from surrounding communities. Major teaching hospitals and AMCs have unique capabilities which are particularly important for providing highly specialized services and higher acuity care, including comprehensive trauma services, transplants, and the treatment of rare diseases. Post-acute care facilities, home care, specialty hospitals, and other types of providers are also important to filling patient needs. Having sufficient capacity at each level of care and facilitating appropriate transfers of patients across these settings helps to ensure patient access and constrain costs.

Community hospitals represent an important middle level of care in this system. They provide local access to services, which is particularly important for patients needing emergency care, needing low-acuity inpatient care, or for whom travel is difficult. Additionally, the relationships between community hospitals and their communities can enhance these hospitals' cultural competency, and make them particularly responsive to local need for specific services. In general, community hospital performance on widely-used quality measures is comparable to the performance of most other Massachusetts hospitals, and they generally provide care in a low cost setting at lower total expense to payers and consumers. The remainder of this section examines these features of community hospitals in more detail. As communities, providers, payers, and the Commonwealth plan for and work toward changes that will result in more sustainable systems of community-based care, we must ensure that these systems are designed to prioritize and build upon this value that community hospitals have traditionally provided to their communities.

A. Community hospitals provide necessary access to care for local communities

1. Community hospitals provide convenient and local access to services

A defining feature of community hospitals is their proximity to the communities they serve. This relationship is likely the reason community hospitals are usually viewed with pride by the towns they serve, and are often considered vital for access to services.[22] We found that, on average, about 45% of patients living close to a community hospital choose that hospital for their inpatient care.[23] This percentage is higher for patients in isolated areas such as Cape Cod (75%) and on the South Coast (58%), and lower for those living in Metro Boston (28%), although the low numbers in Metro Boston are likely influenced by the fact that relatively few community hospitals exist in the region. However, even where community members use their community hospital relatively infrequently, they often highlight the convenience and clinical importance of having a local hospital, particularly for emergency care. Reflecting the importance of community hospitals for emergency care, almost two-thirds of the state's nearly two million emergency department visits were at community hospitals in 2013.[24]

> "Being close to a hospital I think is very reassuring."
>
> PATIENT FOCUS GROUP PARTICIPANT

> "For the 13,000 residents I represent in the Northern Berkshires region, the North Adams emergency facility [formerly the North Adams Regional Hospital] is a vital piece of the public health safety net. Absent the student population, that region is the oldest demographically and the poorest in the state. [The emergency facility] reduces the isolation of that region greatly and is critically important."
>
> SENATOR BEN DOWNING (D-PITTSFIELD)

On average, patients who use their local community hospital for inpatient care travel just nine and one-third minutes to reach care.[25] If these local hospitals were unavailable, patient travel time would more than double on average, with larger increases for specific hospitals and in certain regions of the state. The graph on the following page illustrates, for each region of the state, the average amount of time patients currently spend to drive to their nearest community hospital, and how much more time they would have to spend to reach the next closest hospital. Patients using certain hospitals would need to drive significantly further to reach another hospital; examples include Athol Hospital (6 minutes increasing to 26 minutes), Marlborough Hospital (4 ½ minutes to 21 minutes), and Addison Gilbert Hospital (3 minutes to 19 minutes). Patients who formerly used NARH, traveling an average of 8 minutes to reach the hospital, now must travel an average of 34 minutes to the next closest hospital.

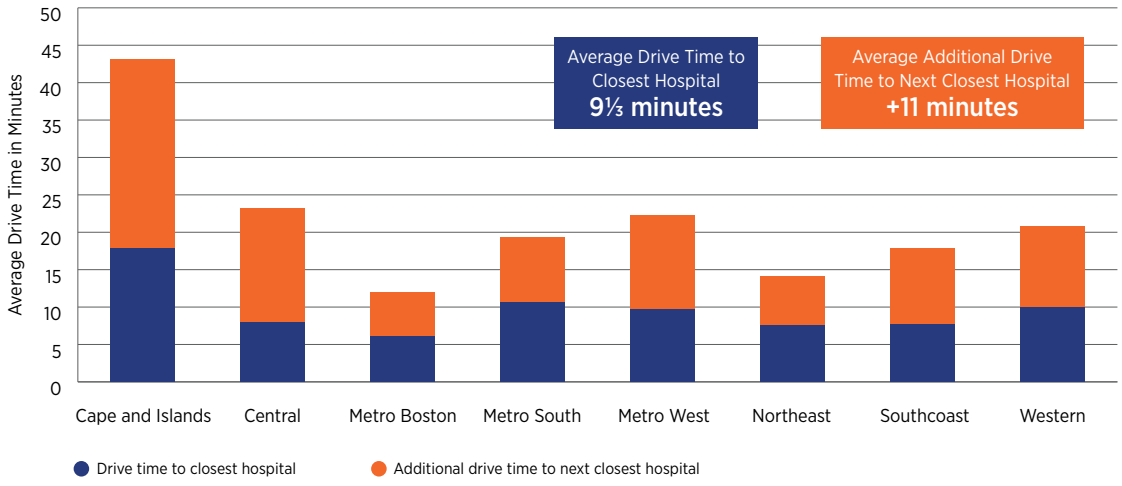
22 This view among community members can sometimes result in resistance when hospitals seek to close, change, or restructure services. As we discuss in Section IV.H, this resistance to change can in some cases complicate hospital efforts to engage in transformation activities.

23 Using the 2013 Mass. Health Data Consortium (MHDC) discharge database, we identified all patients living closer to a community hospital than to any other hospital. We then assessed how many of those patients used their closest community hospital for inpatient care, and how many went to other hospitals instead. For the purposes of this analysis, we included Cambridge Health Alliance and Berkshire Medical Center as community hospitals due to their roles providing local access to services in their communities, despite their designation as teaching hospitals elsewhere in this report. Regional average utilization was weighted by number of discharges.

24 CHIA Acute Hosp. Databook, *supra* footnote 11, at Appendix B (community hospitals accounted for 65% of 1.99 million emergency room visits in 2013). Community hospitals' high share of statewide emergency room visits also makes them critical partners in efforts to reduce unnecessary emergency department utilization and wasteful spending. *See* Mass. Health Policy Comm'n, 2013 Cost Trends Report Pursuant to M.G.L. c. 6D, § 8(g) 38-39 (Jan. 2014), [hereinafter HPC 2013 Cost Trends Report], *available at* http://www.mass.gov/anf/docs/hpc/2013-cost-trends-report-full-report.pdf.

25 Drive times presented are based on patient origin information in the 2013 MHDC discharge database for all discharges, cross-referenced with average drive time data. Average drive times are weighted by number of discharges. Our analysis includes only patients who live closer to a community hospital than any other hospital, and who used that hospital for care in 2013. This focuses our assessment on those patients who actually rely on their local hospital, rather than those who already travel to hospitals further away to get care. These drive times reflect driving under normal conditions and do not, for example, reflect emergency vehicle drive times.

Average Drive Times for Patients Using Their Local Community Hospital
(Longer drive times for care can pose access problems)



Source: HPC analysis of MHDC 2013 discharge data.
Notes: Drive times may underrepresent travel time and travel time differentials for populations relying on public modes of transportation. The Cape and Islands region includes only Falmouth Hospital and Cape Cod Hospital for the purposes of this analysis, since measuring drive times for hospitals on Nantucket and Martha's Vineyard islands would not be meaningful.

In some circumstances, quickly getting to care may decrease patient morbidity and lead to improved clinical outcomes.[26] Community hospitals are also important for ensuring access to care for patients who may lack the time, resources, or capacity to travel to more distant providers as described in more detail below. However, full service hospitals may not be necessary to meet the needs of every community, particularly those where robust non-hospital services are available. Providers engaging in transformation initiatives must work to ensure that patients continue to have access to appropriate services.

2. Community hospitals serve higher proportions of patients for whom access to care is often more difficult, including elders, individuals with disabilities, and individuals with low incomes

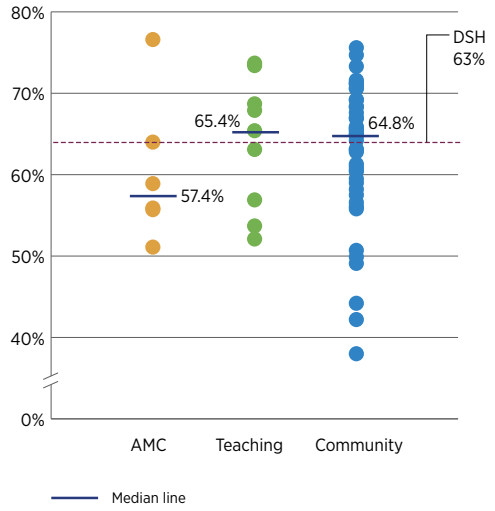
The local nature of community hospital services is particularly important for patients for whom accessing care can be difficult. These include elderly residents, people with disabilities, and people with low incomes. For these patients, physical and financial limitations make travel difficult or even impossible, and staying close to family and community-based supports can be critical for patient comfort and the coordination of post-discharge treatment. Many of these patients are covered by Medicare, MassHealth, or other government programs. Community hospitals tend to serve a higher proportion of these patients than other hospitals. This is likely due in part to the fact that patients covered by government payers are more likely to stay close to home for hospital care while commercially insured patients are more likely to travel to an AMC or teaching hospital, as discussed in **Section IV.C**. Because of their proximity to the communities they serve, community hospitals may also develop specialized resources and connections that allow for culturally-appropriate care for minority populations.[27] For these populations, community hospitals represent an important component of an accessible health care system.

26 The impact of travel time on health outcomes, and the impact of access to a full-service hospital as opposed to other types of providers, is the subject of debate among researchers. In one national study, increased distance to the nearest hospital was associated with increased deaths from heart attack and unintentional injuries at home. One mile increase in distance was found to be associated with nearly 6.5% increase in number of deaths, or just under one additional heart attack death per zip code per year. Thomas Buchmueller et al., *How Far to the Hospital? The Effect of Hospital Closures on Access to Care*, 25 J. Health Econ. 740, 755 (2006), *available at* http://users.nber.org/~jacobson/Buchmuelleretal2006.pdf. However, more recent research indicates that hospital closures do not necessarily result in worse health outcomes for local populations, including for time-sensitive conditions. Karen Joynt et al., *supra* footnote 17.

27 For example, BID-Milton Hospital recently used CHART investment funds to enhance its capability to work with non-English-speaking patients from its community by hiring an on-staff Vietnamese-speaking patient navigator and creating patient materials in Vietnamese, Spanish, and Haitian Creole. Mass. Health Policy Comm'n, CHART Phase 1 — Foundational Investments for Transformation (July 13, 2015) [hereinafter CHART Phase 1 Report], *available at* http://www.mass.gov/anf/budget-taxes-and-procurement/oversight-agencies/health-policy-commission/chart/chart-report-final.pdf.

Community hospitals serving large proportions of publicly insured patients can be critical access points to care for vulnerable populations such as elders, individuals with disabilities, individuals with lower incomes and others who are publicly insured. However, care for patients with commercial health insurance coverage is generally reimbursed at a higher rate than care for patients covered by public programs, particularly Medicaid. This means that, adjusting for case mix, community hospitals generally receive less revenue, on average, per patient.

Percent of Hospital Gross Patient Revenue from Public Payers by Hospital Cohort, FY13
(A higher share of revenue from public payers can pose financial challenges)



Source: HPC analysis of CHIA Acute Hosp. Databook, *supra* footnote 11, at Appendix D.
Note: Public payers include Medicare and Medicaid/MassHealth fee for service and managed care plans, Health Safety Net payments, and charges designated by hospitals as "other government."

Community hospitals serve as a critical community-based point of access for vulnerable populations, including poor, elderly, and disabled residents of the Commonwealth, and those who have heath insurance through Medicare or Medicaid

B. Community hospitals provide high quality health care and can form valuable partnerships with their communities

In a high-value health care system, care must be high quality as well as accessible and affordable. Massachusetts is marked by a high quality health care system where, despite room for quality improvement in some areas, the majority of hospitals in the Commonwealth consistently deliver high quality care.[XIX] The HPC examined hospital performance on well-established, standard quality measures, including measures of process quality (how often patients at a hospital receive treatments accepted as best practices for treating certain conditions) and select outcomes (how often patients at a hospital experienced medical errors, had to be readmitted for follow-up treatment, or died after their hospital stays).[28] On most nationally accepted clinical quality measures, most community hospitals generally perform comparably to most AMCs and teaching hospitals. While some hospitals within each cohort perform better than others, lower performance was not associated with a hospital being a community hospital as opposed to an AMC or teaching hospital. Rather, there are higher and lower performers among AMCs, teaching hospitals and community hospitals alike. No data that we examined suggest that a hospital's cohort classification is linked to systematic differences in quality, and none of the cohorts of hospitals performed significantly better or worse than others on average. These findings align with the AGO's recent examination of hospital quality in Massachusetts.[XX]

28 We compared the performance of community hospitals to that of AMCs and teaching hospitals across four composites of nationally recognized quality measures: a CMS Hospital Compare clinical process composite, CMS Hospital Compare readmissions composite, the Agency for Health Care Research and Quality's Inpatient Quality (AHRQ) Inpatient Quality Indicators (IQI) 91 mortality composite, and the hospital's rate of elective cesarean section deliveries. *See Measures Displayed on Hospital Compare*, Ctr. for Medicare & Medicaid Servs., http://www.medicare.gov/hospitalcompare/Data/Measures-Displayed.html (last visited Jan. 12, 2016) (case mix adjusted process measures for AMI, heart failure, pneumonia, and SCIP listed under "Timely and Effective Care"); *Methodology*, Why Not the Best, http://whynotthebest.org/methodology#rr (last visited Jan. 12, 2016) (explaining CMS methodology for measuring readmission rates of patients admitted for heart attack, heart failure, or pneumonia); Ctr. for Medicare & Medicaid Servs., Medicare Hospital Quality Chartbook at 27, 38, 43 (Sept. 2014), *available at* https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/Downloads/Medicare-Hospital-Quality-Chartbook-2014.pdf; Agency for Healthcare Research & Quality, Quality Indicator User Guide: Inpatient Quality Indicators (IQI) Composite Measures 2 (Aug. 2011), *available at* http://www.qualityindicators.ahrq.gov/Downloads/Modules/IQI/V43/Composite_User_Technical_Specification_IQI_4.3.pdf (measures included in the IQI 91 composite are the rates of mortality for acute myocardial infarction, congestive heart failure, acute stroke, gastrointestinal hemorrhage, hip fracture, and pneumonia. The HPC calculated scores on this composite from MHDC discharge data); The Leapfrog Group, Results of the 2014 Leapfrog Hospital Survey: Maternity Care at 6 (2014), *available at* http://www.leapfroggroup.org/media/file/2014LeapfrogReport_MaternityCareFINAL.pdf (noting that elective C-sections increase the costs of delivery and can lead to health problems and longer recovery times for both the mother and newborn. A lower rate of elective C-section deliveries is therefore considered to be an indicator that hospitals have high-quality obstetrics practices).

Patient perceptions of quality

Contrary to evidence showing that community hospitals generally perform comparably to most AMCs and teaching hospitals on nationally accepted clinical quality measures, in focus group interviews commissioned by the HPC, patients indicated that they generally did not perceive that community hospitals provide high-quality care, and that they believed that Boston AMCs and teaching hospitals provide better quality of care. Few patients were familiar with widely-accepted and validated clinical quality scores, and quality performance information was not a significant factor in directing where patients choose to go to for care. We explore this disconnect between patient beliefs and measurable hospital quality and efficiency in **Section IV.A**.

> "When your patient is hospitalized, they should go to the same inpatient service, same hospitalist service, and the same nursing service that they went to six or nine months ago. If you look at most academic medical centers, it's totally random."
>
> DR. ROBERT MASTER, FORMER CEO, COMMONWEALTH CARE ALLIANCE

In addition to generally scoring comparably to other hospitals on recognized quality measures, community hospitals can also add value to their communities by reaching beyond their campuses to evaluate and address local health needs.[29] Although HPC review of community health needs assessments recently published by Massachusetts hospitals revealed significant variation in how health needs were defined and identified, how service areas and populations were defined, and whether and how existing health care resources in the community were inventoried, some community hospitals have made it a priority to comprehensively assess and try to address local health needs.[30] By leveraging locally-derived data (e.g. billing records, medical records, interviews with patients and caregivers, discussions with community groups, and public demographic information)[XXI] to identify areas for improvement, some hospitals have implemented programs designed to achieve identified, measurable health improvements for specific populations of local patients. These programs often involve relationships between the hospital and other local providers and community organizations, leveraging local connections to achieve results beyond what the hospital could achieve alone.

Research indicates that engaged hospital boards can drive the quality and priorities of care in hospitals.[XXII] Community hospitals, located near community partners and governed by local boards, are particularly well-suited to act as platforms for serving local needs. Moreover, many community hospitals already have a foundation of community partnerships they can leverage to more effectively adapt to and address community needs.[XXIII]

29 All nonprofit hospitals (including community hospitals, teaching hospitals and AMCs) are required to detail these programs in regularly published Community Benefits Reports. *See generally Community Benefits Provided by Nonprofit Hospitals & HMOs*, Office of Att'y. Gen. Maura Healey http://www.mass.gov/ago/doing-business-in-massachusetts/health-care/community-benefits.html (last visited Jan. 12, 2016).

30 Federal law requires nonprofit hospitals to implement community benefits projects, and for these to be guided by community health needs assessments (CHNAs) conducted at least once every three years. 26 U.S.C. § 501(r) (2010). Although state and federal regulations require hospitals to include certain elements in their CHNAs, they do not specify uniform methods of defining a hospital's service area or identifying a population's health needs.

Partnering to Deliver Community-based Health Care

EXAMPLES FROM THE HPC CHART INVESTMENT PROGRAM

Creating linkages between community hospitals and community-based providers is a goal of the HPC Community Hospital Acceleration, Revitalization, and Transformation (CHART) Investment Program. Early results from these investments provide examples of ways that community hospitals can use partnerships to deliver integrated patient care.

Addison Gilbert Hospital in Gloucester identified a need for improved coordination between the hospital, behavioral health providers, and social services organizations in the community. To that end, the hospital joined with the Healthy Gloucester Collaborative, previously formed through the Gloucester Health Department to address the interrelated socioeconomic and health issues driving high rates of ED use in the community. The Healthy Gloucester Collaborative has brought together physicians, hospital officials, addiction treatment providers, shelter representatives, law enforcement officials, and emergency medical services providers. Addison Gilbert Hospital has relied heavily on the Healthy Gloucester Collaborative as a source for patient referrals to social services and coordinated support of patients with complex behavioral and social needs in addition to a chronic disease.

Heywood Hospital in Gardner realized that it could better serve patients with behavioral health risks by looking outside its hospital to the local school system. Heywood Hospital embedded school-based care coordinators in an effort to link students directly to social services and community-based behavioral health providers. In the program's first year, up to 500 students and family members were seen by these coordinators, who made 187 referrals to community partners.

Mercy Medical Center in Springfield is closely partnering with Behavioral Health Network (BHN) to improve behavioral health care for patients who visit Mercy's ED, provide coordinated transitions to community-based services following an ED visit, and create a more effective multi-setting system to meet behavioral needs. Mercy has allocated nearly 40% of its CHART funding to support a BHN team of community health workers that collaborate with Mercy's ED-based nurses to coordinate discharge to the community and follow-up with patients to support their recovery in appropriate care settings.

> "I don't see any future for community hospitals... I think there's a fantastic future for community health systems. If small stand-alone hospitals are only doing what hospitals have done historically, I don't see much of a future for that. But I see a phenomenal future for health systems with a strong community hospital that breaks the mold [of patient care]."
>
> COMMUNITY HOSPITAL CEO

C. Community hospitals are associated with both lower spending and lower costs

1. On average, consumers and commercial payers spend less for care at community hospitals than they do for similar care at other hospitals

In addition to generally providing high-quality care, community hospitals play an important role in the state's health care system as relatively efficient providers of hospital services. Spending for an episode of care can be affected by several factors, including utilization patterns (i.e., how many resources a provider uses to treat a given condition), the sickness of patients treated, and the prices that the hospital receives. On average, consumers and commercial payers spend less for care at community hospitals than they do for the same services provided at other hospitals, even after accounting for differences in case mix. For low-acuity care that does not require the highly specialized expertise and equipment available at major medical centers, use of a community hospital rather than an AMC or teaching hospital can result in substantial cost savings.[31]

To focus on the differences in spending on inpatient care among hospital cohorts, we examined commercial spending on a category of care that is provided in many hospitals: routine pregnancy care and deliveries. Because expectant mothers can usually plan where they will receive care and have their baby, and can choose from among many different hospitals, patients are relatively free to compare cost, quality, convenience, and other factors they may value when choosing a hospital. We examined total average spending on services related to low-risk pregnancies from 2011 to 2012, from pre-natal care through delivery.[32] Median spending on a low-risk pregnancy resulting in a vaginal delivery performed at a community hospital was approximately $2,200 (17%) lower than at an AMC, and a pregnancy resulting in a caesarean section (C-section) was approximately $2,100 (14%) lower.

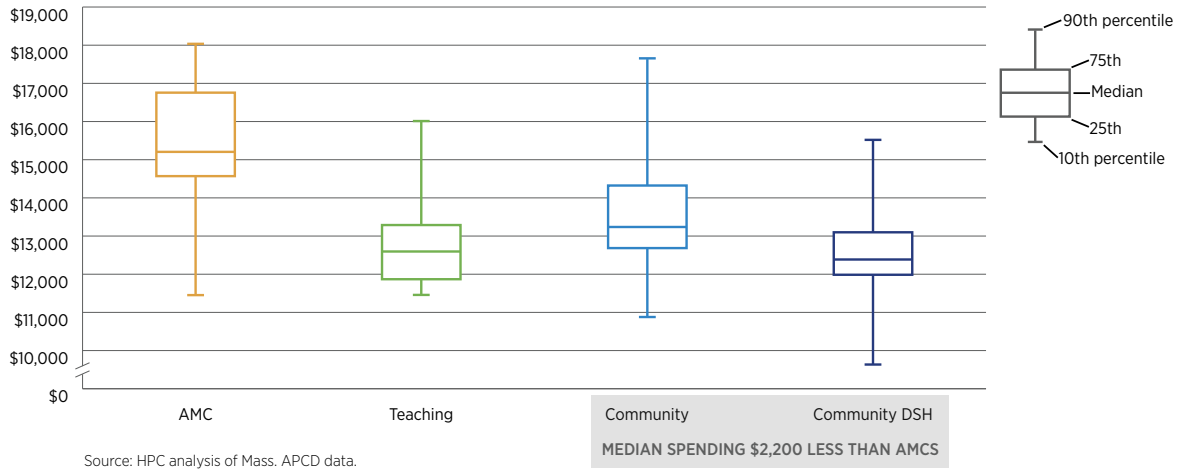
Despite this price difference, a large percentage of low-risk deliveries are performed at hospitals with the highest costs for this care. We found that six hospitals accounted for 53 percent of low-risk births from 2011 to 2012, and five of them had above-average costs for both vaginal deliveries and C-sections. Partners HealthCare, the hospital system in the state with the highest average system-wide costs for an episode of maternity care, provided care for over 35 percent of low-risk births statewide. Partners' two AMCs, Massachusetts General Hospital and Brigham and Women's Hospital, together accounted for 20 percent of all low-risk births statewide, despite also having the highest costs per episode among all hospitals. Not only do patients disproportionately choose to have low-risk labor and delivery in higher-cost settings, evidence also suggests that this trend has increased over time; a recent study indicates that in 1992, 74% of all births were done at community hospitals, while in 2012 that number had fallen to 50%.[XXIV] Importantly, comparing delivery episode spending to quality measures (neonatal injury rate and obstetrical trauma rate), the HPC has found that higher spending for labor and delivery was not correlated with better quality outcomes for mothers or newborns.[XXV]

> "I sat down with my constituents frequently during the closure of Quincy Medical Center. I was struck by how much of a community tradition it was to receive care at QMC. It was almost a rite of passage for generations of mothers to have their children there. When the maternity unit closed, it was extremely emotional for residents of the city."
>
> HOUSE MAJORITY LEADER RONALD MARIANO (D-QUINCY)

31 As discussed in Section IV.C, although some patients in the Metro Boston region choose AMCs for low-acuity care because these AMCs are their closest hospitals, many patients from other regions of the state choose to travel to Boston AMCs even for non-complex care, increasing total spending and depriving community hospitals of needed revenue.

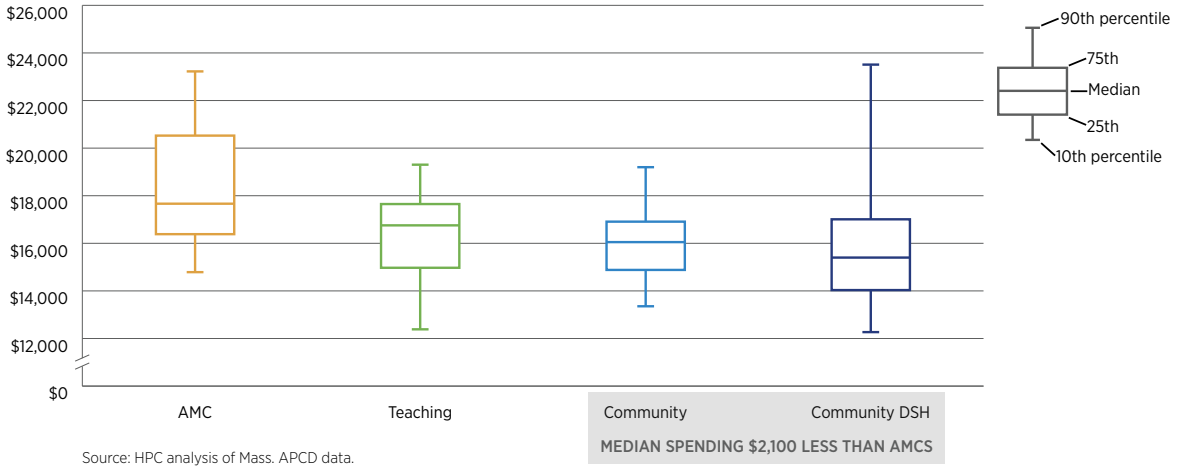
32 To assess total commercial spending on a given pregnancy, we included all claims reported in the CHIA APCD for 2011 and 2012 related to prenatal care and delivery. Two years of data were used in order to capture a large enough number of episodes for analysis. Our analysis included only patients identified as low-risk mothers in order to ensure a comparable case mix across different hospitals.

Episodic Spending for Low-risk Vaginal Delivery, by Hospital Cohort
BCBS, HPHC, and THP Patients, 2011-2012
(Lower spending indicates more efficient care being delivered)



Source: HPC analysis of Mass. APCD data.

Episodic Spending for Low-risk Caesarian Delivery, by Hospital Cohort
BCBS, HPHC, and THP Patients, 2011-2012
(Lower spending indicates more efficient care being delivered)



Source: HPC analysis of Mass. APCD data.

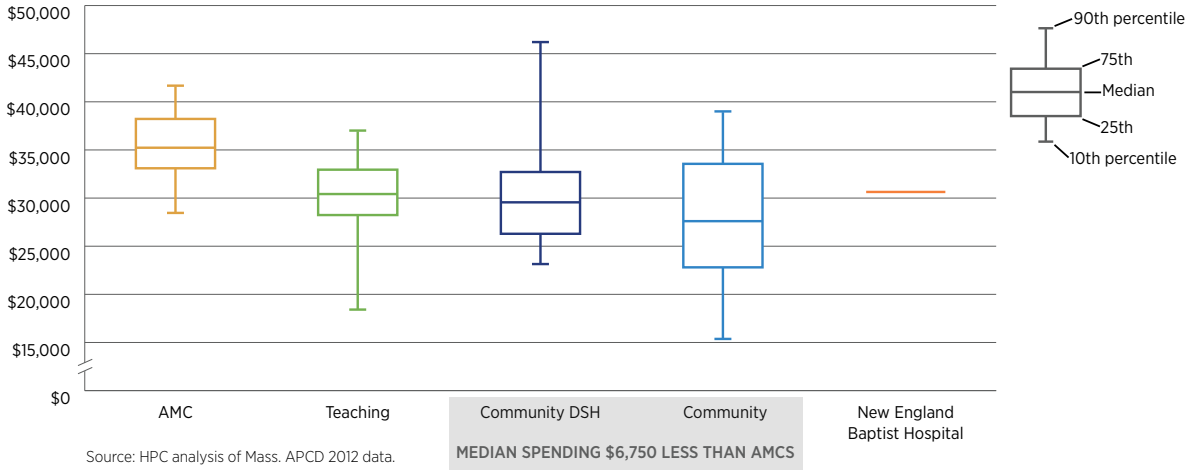
"We are very comfortable being paid on value, that being patient experience, quality, and performance on other outcomes. So I guess I just get angry when I hear our friends in Boston are getting paid more for the same type of service and the same level of complexity – when we look at our outcome data we are the same if not better. So to me, it is a mismatch of value. You're not paying for value when you are paying more for an AMC for basic services."

COMMUNITY HOSPITAL CEO

Similarly, we examined episodes of hip and knee joint replacements, from initial diagnosis through surgery and recovery in 2012.[33] Community hospitals accounted for approximately 45% of all hip and knee replacements in the Commonwealth in 2012, with AMC and teaching hospitals accounting for approximately 35% in 2012. The state's only orthopedic specialty hospital, New England Baptist Hospital, accounted for the remaining 20% of such discharges.

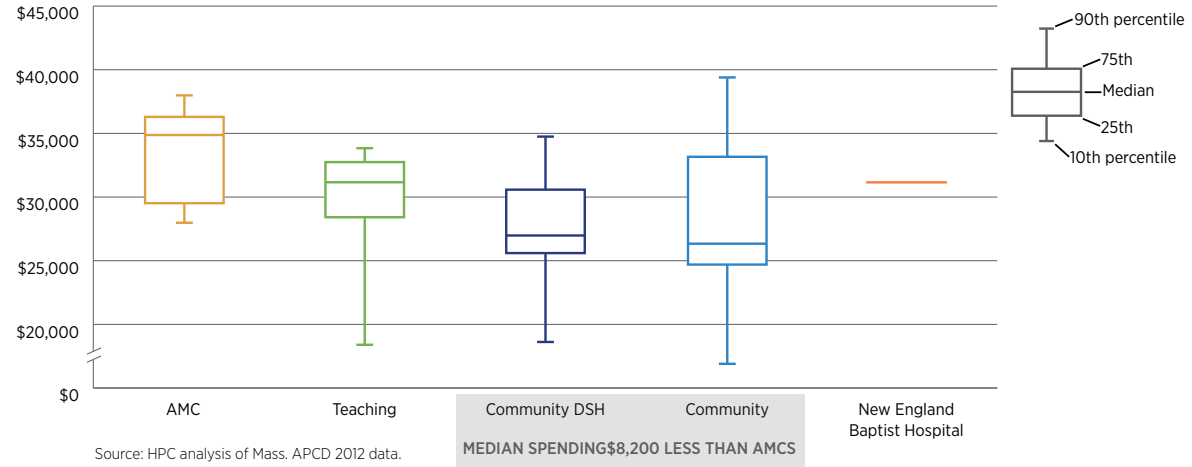
Median commercial spending on low-acuity hip replacements at community hospitals was approximately $6,750 lower than at AMCs, and median spending on low-acuity knee replacements was approximately $8,200 lower; this variation was not associated with meaningful differences in quality as measured by major complication rates (including surgical site infections) and readmission rates after the relevant procedures.[34]

Spending for Hip Replacement Episode, by Hospital Cohort
BCBS, HPHC, and THP Patients, 2012
(Lower spending indicates more efficient care being delivered)



Source: HPC analysis of Mass. APCD 2012 data.

Spending for Knee Replacement Episode, by Hospital Cohort
BCBS, HPHC, and THP Patients, 2012
(Lower spending indicates more efficient care being delivered)



Source: HPC analysis of Mass. APCD 2012 data.

33 To assess total commercial spending on a joint replacement, we identified all claims reported in the CHIA APCD related to full episodes of hip replacements and knee replacements, including diagnosis, replacement, post-acute care, and readmissions if applicable. Our analysis included only low-acuity adult inpatient claims in order to ensure a comparable case mix across hospitals.

34 Spending data was derived from HPC Analysis of 2012 Claims Data of Blue Cross Blue Shield, Tufts Health Plan, and Harvard Pilgrim Health Plan. Quality data was taken from Medicare FFS estimates from Hospital Compare. *See* Mass. Health Policy Comm'n, 2014 Cost Trends Report Pursuant To M.G.L. C. 6D, § 8(G) 24 (Jan. 2015) [hereinafter HPC 2014 COST TRENDS REPORT], *available at* http://www.mass.gov/anf/budget-taxes-and-procurement/oversight-agencies/health-policy-commission/2014-cost-trends-report.pdf.

The relatively low cost of care at community hospitals is particularly critical for new insurance benefit designs (e.g. tiered networks) and care delivery structures (e.g. accountable care organizations) premised on efficiently managing of patient care. For example, a major hospital CEO interviewed highlighted a strategic plan to expand so-called "transfer-back" protocols to transfer patients from higher-priced settings to lower-priced community hospitals where clinically appropriate to improve performance on risk contracts.

Lower-cost, high-value providers must also remain viable for product designs such as tiered networks, which encourage value-based choices across hospitals, to succeed. Tiered network products separate providers into higher or lower tiers based on cost efficiency, quality performance, and other factors; consumers may then use any of the network providers, but pay lower out-of-pocket costs if they choose a provider in a lower cost tier.[XXVI] This difference in cost sharing is intended to encourage patients to use these providers that the payer has identified as being efficient. Payers often place community hospitals in the lower cost sharing tiers of these products, indicating that the payers consider these hospitals to have lower costs and comparable quality. The table below provides an example of payer tiering, using the two largest commercial payers in Massachusetts. Both BCBS' Blue Options plan and HPHC's ChoiceNet plan divide hospitals into three tiers.[XXVII] Of the 14 hospitals which fall into the lowest cost tier for *both* BCBS and HPHC, 10 are community hospitals.

PLACEMENT OF HOSPITALS IN TIERS FOR BCBS BLUE OPTIONS AND HPHC CHOICENET PLANS, 2015

	Blue Cross MA Tiering			Harvard Pilgrim Tiering		
	Cost Sharing Tier			Cost Sharing Tier		
HOSPITALS BY TYPE	Low	Medium	High	Low	Medium	High
COMMUNITY HOSPITAL	11	6	1	4	11	3
COMMUNITY DSH	11	10	4	8	11	6
TEACHING HOSPITAL	6	1	1	2	6	1
ACADEMIC MEDICAL CENTER	3	0	3	0	3	3
TOTAL	31	17	9	14	31	13

Note: Graph excludes specialty hospitals.

"Low cost alternatives are an important part of the GIC's cost containment strategy in both limited and broad networks. Community hospitals face real challenges... but I do know we need them for choices [through incentives and other value-based product design] to be possible at all."

DOLORES MITCHELL, FORMER EXECUTIVE DIRECTOR, MASS. GROUP INSURANCE COMMISSION

The placement of community hospitals in low cost tiers shows payer recognition of and support for community hospitals as high-value providers, and also results in lower cost sharing by consumers covered by tiered network plans when they choose community hospitals. Payer industry representatives interviewed for this study indicated that some providers have declared an interest in lowering prices specifically in order to be placed in lower tiers of tiered insurance products.

"Despite no relationship between cost and quality, consumers don't yet see the value of community hospitals over larger, brand-name hospitals, though expanded and enhanced value-based insurance products may help."

MASSACHUSETTS EMPLOYER GROUP

2. If community hospitals were to close or otherwise become unavailable to patients, health care spending would increase

Another way to consider the cost-efficiency of community hospitals is to examine how total health care spending on commercial inpatient care would change if community hospitals were to close. Using hospital discharge data, we modeled where commercially insured patients who received inpatient care at a community hospital would likely choose to go for care if that hospital were not available.[35] We then compared how much commercial revenue the closing hospital received per patient discharge to the revenue the likely alternative choice hospitals would have received.[36] We found that in most cases, a community hospital closure would increase annual spending on inpatient care. The majority of these increases would be less than $4 million, although in some cases the increase in spending would likely be higher. These cost increases would occur primarily as the result of patients choosing higher-priced AMCs or teaching hospitals for inpatient care if their community hospital were unavailable. On the other hand, our model projected that in a few cases, the closure of community hospitals which receive relatively high prices for services would actually decrease total spending, as many of their patients would then seek care at other, lower-priced community hospitals.

The HPC modeled where commercially insured patients who received inpatient care at a community hospital would likely choose to go for care if that hospital were not available. For seven community hospitals, annual total health care spending on inpatient care would rise by more than $5 million if any one of them were to close.

The closure of Lowell General Hospital would cause the greatest increase in spending: over $16 million annually.

For eight community hospitals, total health care spending on inpatient care would actually decrease if any one of them were to close, as their closure would be expected to result in patients going to other, lower-priced community hospitals. Four of these eight hospitals are owned by Partners HealthCare. The greatest decreases in spending would result from South Shore Hospital ($4.2 million annually) or Cooley-Dickinson Hospital ($2.8 million annually) becoming unavailable.

35 Our analysis is based on MHDC 2013 discharge data, using an econometric regression model. This "diversion" analysis predicts where people would go for inpatient care if a hospital were no longer an option for its patients, based on patient acuity, distance to hospitals in their area, insurance coverage (e.g. commercial HMO, commercial PPO, Medicare, Medicaid, etc.), and other patient demographic factors.

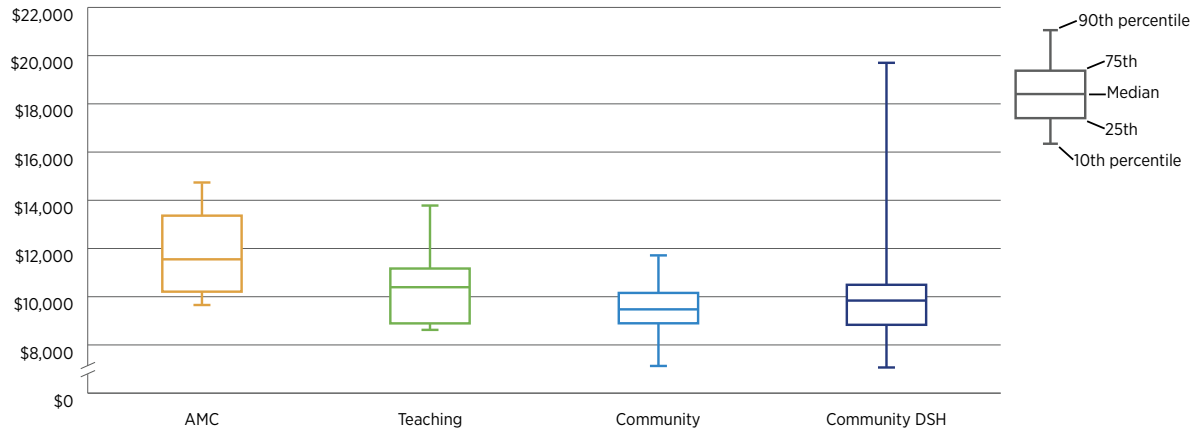
36 Our spending impact analysis is based on CHIA relative price data for 2012. Total spending impacts were case mix adjusted using hospital case mix data provided by payers. Our analysis assesses only the impacts of shifts of commercially insured inpatients. Due to data limitations, the estimated changes in total spending presented here do not perfectly reflect changes in hospital revenue and volume since 2012 and 2013, respectively. Our model also does not account for potential changes in spending due to changes in outpatient care, or the impact of factors such as the elimination of hospital fixed costs due to closures.

For many community hospitals, the relatively low impact their closure would have on spending is driven by their small patient volumes and large proportion of publicly insured patients.[37] Even if a hospital provides care less expensively than its competitors, the closure of that hospital would not have a large impact on total spending if that hospital is not serving many patients. This suggests that for some hospitals, the most concerning impacts of their closures may be on access to health care services or the economic impacts on their local communities rather than the potential effects on health care spending. Nonetheless, our analysis indicates that maintaining the availability of lower-priced community providers and encouraging patients to use them more frequently could have a significant impact on lowering health care spending.

3. Community hospitals on average provide inpatient care at a lower cost per discharge than other hospitals

In addition to the fact that insurers and consumers tend to spend less for care at community hospitals than they do for similar care at other hospitals, community hospitals also tend to incur lower costs[38] providing inpatient care than either AMCs or teaching hospitals. On average, community hospital costs are nearly $1,500 less per inpatient stay as compared to AMCs, although there is some variation among the hospitals in each group.[39] The reasons for the differences likely vary from hospital to hospital,[40] but AMC and teaching hospital costs are generally higher, in part, because they include spending on physician training and maintaining infrastructure to provide specialized services. However, lower average per-patient costs also indicate that many community hospitals may also provide low-acuity inpatient services more efficiently.

Cost per Case Mix Adjusted Discharge by Hospital Cohort, FY13
(Hospitals with lower cost per case mix adjusted discharge spend less to care for the same patients)



Source: HPC analysis of CHIA Acute Hosp. Databook, *supra* footnote 11, at Appendix D.

37 As discussed in Section IV.F, community hospitals tend to have lower occupancy rates, and many patients are already getting non-complex care at higher-priced hospitals.

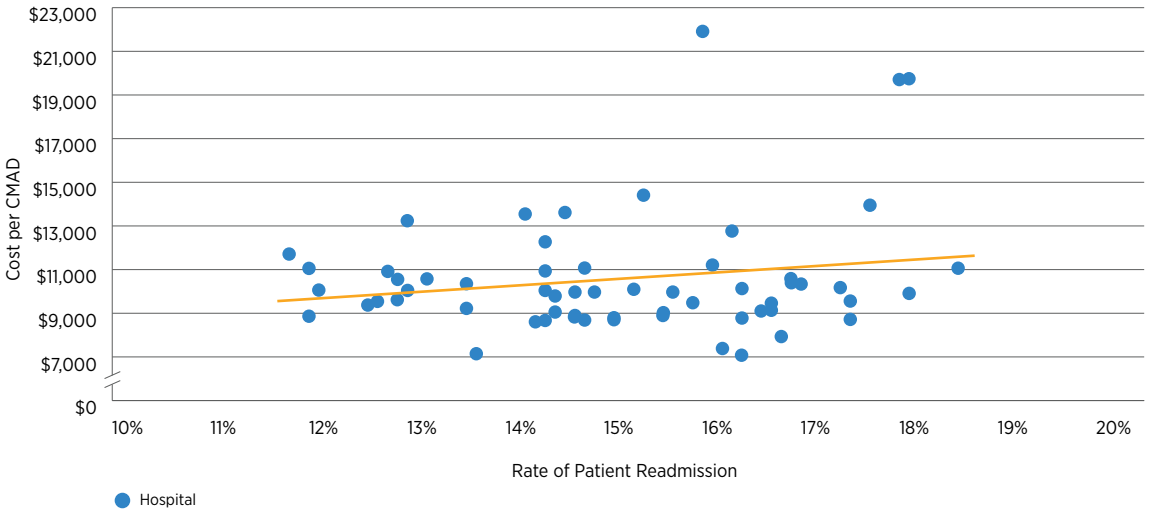
38 The term "cost" as used here is the cost to the hospital to provide services to patients, including spending on staff compensation, supplies, equipment, building maintenance, and other operating expenses. This is distinct from health care costs to payers and consumers, which are determined by factors such as prices for services and the amount of each service provided to patients.

39 The average cost per case mix adjusted discharge has grown in recent years across all cohorts except for teaching hospitals. Although costs per discharge for community hospitals have grown at a slightly higher rate than those for AMCs, the gap between AMC and community hospital costs has not substantially changed. CHIA Acute Hosp. Databook, *supra* footnote 11, at Appendix D; Ctr. for Health Info. & Analysis, Massachusetts Hospital Profiles 13 (Jan. 2015), *available at* http://www.chiamass.gov/assets/docs/r/hospital-profiles/2013/acutehospsfulldocumentoptimized.pdf.

40 The cost efficiency of some hospitals in these cohorts may be driven in part by necessity, as many community hospitals facing lower revenues try to maintain their operating margins. Variation in prices paid to hospitals is explored in more detail in Section IV.E. A correlation between financial pressure and hospital efficiency has been documented nationwide by CMS. Medicare Payment Advisory Council, Report To The Congress 2015: Medicare Payment Policy 64-65 (Mar. 2015), *available at* http://www.medpac.gov/documents/reports/chapter-3-hospital-inpatient-and-outpatient-services-(march-2015-report).pdf?sfvrsn=0.

Importantly, lower spending per discharge at hospitals is not associated with poorer quality. The HPC compared the performance of low-cost hospitals and high-cost hospitals on process quality and rates of patient readmission and mortality. As shown in the graph below, hospitals which spend more on patient care do not inherently achieve better quality outcomes, and in some cases hospitals with higher per-patient costs actually have higher readmission rates than those which spend less.[XXVIII] These quality data show that efficient hospitals do not necessarily need to spend more to provide better care. As discussed in **Section IV.A**, these findings do not necessarily align with patients' perceptions of quality, which can be impacted by hospital spending on features which may not directly improve clinical outcomes for most patients, including appealing architecture and décor, clinical research, and complex services used by only a small number of patients.

Hospital Costs per Discharge and Rate of Patient Readmission, 2013
(If higher hospital spending were associated with improved patient outcomes, we would expect the regression line to slope down to the right)



Sources: HPC analysis of CHIA Acute Hosp. Databook, *supra* footnote 11, at Appendix D, and CHIA 2015 Quality Databook, *supra* endnote xix.
Note: Higher rates of patient readmission indicate worse quality outcomes.

IV. Challenges Facing Community Hospitals

"Community hospitals play a vital role in providing excellent care and keeping costs down, but they face enormous pressure. Many need to be prioritized, invested in, and supported. But community need varies and hospitals haven't all adapted. Some need to change substantially... or close... understanding those challenges with good data is crucial."

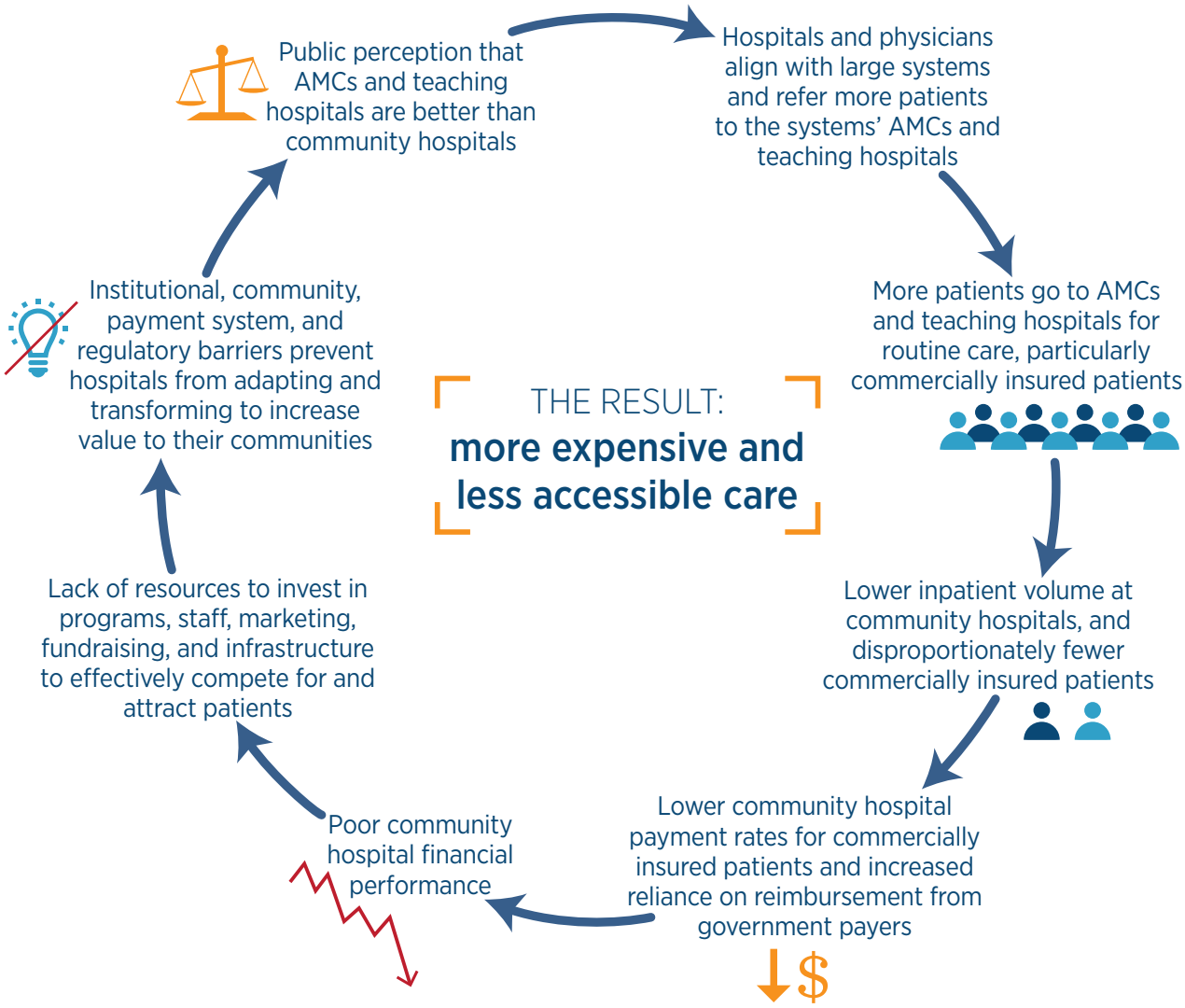
MASSACHUSETTS HEALTH PLAN LEADER

Despite the important role that community hospitals play in the Massachusetts health care system, they face a variety of challenges. When choosing where to seek health care, many people in the Commonwealth prefer to go to hospitals and physicians associated with AMCs and teaching hospitals, believing that they will get higher quality care from these providers.

As more hospitals and physician groups join health care systems, they reinforce this belief by referring their patients to other providers in the same system. This has led to an increasing number of patients migrating away from their local communities to Boston, which has a higher concentration of AMCs and teaching hospitals, for routine care. Coupled with a decline in the use of inpatient care statewide, this migration reduces the number of patients using community hospitals. In addition to seeing fewer patients, community hospitals are also typically paid less than AMCs and teaching hospitals, and significantly less than the highest priced AMCs, for providing the same services. Exacerbating these challenges, the patients who remain at their local community hospitals are disproportionately those for whom payment rates are generally lower, including elders, individuals with disabilities, individuals with low incomes, and individuals seeking behavioral health or other lower-margin services. These challenges can lead to decreased revenues, weakening the financial position of community hospitals; as a result, they may be less able to make investments in programs, infrastructure, marketing, fundraising, and staff.

These challenges form a self-reinforcing cycle and make the traditional community hospital business and operating model unsustainable. Dysfunctional market incentives and barriers to change, including institutional and community resistance, volume-based payment system structures, and regulatory restrictions, perpetuate the cycle and prevent community hospitals from transforming in ways that would allow them to more sustainably deliver value to their communities.

Self-Reinforcing Challenges Facing Community Hospitals



Many of these challenges were also identified by community hospital leaders, consumers, payers, labor leaders, other providers, and state legislators in interviews. Some of the key perspectives from those interviews are summarized in the following table. The remainder of this section details these challenges.

A CROSS-SECTION OF PERSPECTIVES ON THE STATE OF MASSACHUSETTS COMMUNITY HOSPITALS	
COMMUNITY HOSPITAL LEADERS	**OTHER HEALTH CARE PROVIDERS**
• Sufficiency of payment is a top concern, with leaders citing inadequate public payer reimbursement and lack of Medicaid risk-based contracts as a "shaky foundation" for financing operations and investing in the infrastructure needed for transformation • Almost all hospital leaders cited challenges retaining loyal primary care medical staff and specialists, "the gatekeepers to hospital volume," and commented on the continued flight of patients from their service areas seeking services for routine care at AMCs and teaching hospitals • Several leaders cited the time lags associated with licensure by the Board of Medicine and regulatory reviews by DPH as costly obstacles to change • Many described an inability to negotiate labor costs due to strong and popular labor representation as a pressing challenge. Several reflected that hospital leadership and labor needed to work more effectively together	• Risk-based payment and greater spread and adoption of technology are increasingly incentivizing the shift of routine care from AMCs to community hospitals and from community hospitals to physician practices, several provider systems noted • Several noted that cost reduction through use of ambulatory services is a direct threat to community hospitals but is good for the market overall, noting that ACOs and community hospitals should collaborate together to identify partnership models that foster coexistence through common priority setting • Going further, one provider system interviewed stated that patients, policymakers, and providers should all accept that there will be fewer and fewer community hospitals in the future
CONSUMERS AND PURCHASERS	**PAYERS**
• Reflecting on consumer purchasing patterns, an employer group noted that consumers do not yet see the value of community hospitals over larger, branded hospitals, though expanded and enhanced value based insurance products may help • Going further, some noted that although community hospitals play a vital role in providing high value care, some should not continue to function as an inpatient provider as community need is not sufficient	• Price variation is a reflection of market power dynamics and is the greatest threat to the viability of community hospitals • Some noted that supply and demand are misaligned in hospitals (weighted too heavily towards high priced AMCs). A centralized planning process should identify essential community hospitals to receive state support • Some commented that they believe that community hospitals can deliver high-quality care and also receive APMs while maintaining system independence • One payer noted, however, that community hospitals will never be ready to accept full risk until better data are available on the behavioral health patients they serve
HEALTH CARE WORKFORCE / LABOR	**MASSACHUSETTS STATE LEGISLATORS**
• Representatives of organized labor noted that the Commonwealth should play a larger role in identifying the workforce needs of the future • A labor union noted that retraining programs should develop new skills and capabilities in existing staff (ranging from coding to community health worker competencies) to meet demand in future operating models of most community hospitals	• The Commonwealth should ensure access to community-based, cost-effective care because the market itself will not guarantee high value community-based options • Unanimously, Legislators agreed that the Commonwealth needs to be proactive in addressing community hospital challenges. Several noted that the status quo of annual, short-term fixes must end in favor of a proactive long term strategy. Proposed solutions included rate setting to limit price disparities and ongoing investments in high value providers

Sources: HPC analysis of blinded interviews conducted by Public Consulting Group in 2015. The full list of invited interviewees is appended to this report.

A. Many patients are choosing AMCs and teaching hospitals over community hospitals

As discussed in **Section II** of this report, the Commonwealth has many hospitals which serve the health care needs of patients around the state, and most patients in Massachusetts live in areas with access to multiple hospitals. Despite this fact, many patients bypass nearby community hospitals when seeking care, and many travel to AMCs and teaching hospitals for care that could be provided in local community hospitals. In an effort to better understand why patients choose specific hospitals for care, the HPC commissioned a team of researchers to conduct focus groups with patients who had recently been in a hospital for inpatient care.[41]

The eight focus groups were split evenly among patients who had most recently received care at a community hospital and those who had received care at a teaching hospital or AMC. They included a mix of patients covered by all types of insurance, and of different races, educational achievement, and health status. Patient focus group participants were asked questions about what factors were most important when choosing a hospital, how patients perceive hospital quality and find information about their options for care, and how cost plays a role in patient decisions. These discussions revealed underlying consumer perceptions and experiences that may lead more patients to get care at AMCs and teaching hospitals rather than community hospitals.

1. Referral networks influence choice

Patients participating in the focus groups often mentioned that they did not feel that they had a choice of hospitals. Many indicated that their doctors were the ones who determined which hospital they used. Some patients stated that they trusted their primary carephysician and would go where they were referred, while others thought that the choice of hospital was unimportant, and that what mattered was the specialist they were seeing. Some others felt that they had to choose specific hospitals because their insurance networks would not allow for other choices. Rather than choosing which hospital to go to when they needed care, patients also said that they had chosen insurance plans or primary care providers based on which hospitals they would like to use in the future.[42] This may explain in part why patients go to AMCs and teaching hospitals even for non-complex care, and highlights the important role that referrals play in driving hospital care. We will explore the impacts of increasing provider consolidation into health care systems on referral patterns in **Section IV.B**.

> "I think about the doctor. The facility is just a facility. It's just a location...If you're the best, I don't care if you did it out in the parking lot. You're going to do my surgery."
>
> PATIENT FOCUS GROUP PARTICIPANT

2. Patients value the experience of peers over validated quality measures

When asked about what quality health care meant to them, patients tended to discuss the importance of attentive staff, cleanliness and attractiveness of facilities, and the speed with which they were seen and diagnosed. In terms of the quality of clinical care, patients indicated that an accurate diagnosis was their top priority, and that in many cases the quality of the doctor mattered more to them than the hospital at which he or she practiced. Almost no patients referenced quantitative measures of quality like readmission or mortality rates.

41 This research team was led by Amy Lischko and Susan Koch-Weser of the Tufts University School of Medicine.

42 The point at which a patient enrolls in a plan or chooses a PCP may therefore represent an opportunity to provide information about provider quality and efficiency. *See* AGO 2015 Cost Trends Report, *supra* endnote XX, at 5 ("The point of enrollment, PCP selection, and point of service all represent important opportunities to provide clear, comparable information to employers and consumers on the cost and quality of different insurance plans, providers, and services").

Most indicated they did not feel they had access to objective quality information, and that they relied on recommendations from acquaintances, doctors, and news media when assessing the quality of providers.

> "I chose [my hospital] because my friend had very similar surgery and he had recommended both the doctor and the hospital."
>
> PATIENT FOCUS GROUP PARTICIPANT

These findings are consistent with national studies on consumer choice. For example, one recent study found that "[d]espite significantly more data comparing the quality of local health care providers becoming available to consumers in recent years…people still turn to the doctors and hospitals with which they are most familiar, not necessarily where evidence suggests care is best coordinated and delivered." When the researchers asked respondents to choose between different hospitals—one where the person has been treated for years and another that rates much higher in quality—most respondents (57%) said they would choose the familiar, over those (38%) who would opt for a hospital that scores better in quality.[XXIX] These findings are also consistent with prior work commissioned by the HPC in partnership with the Betsy Lehman Center.[44] Patient attention to the experiences of peers is not inherently problematic for community hospitals, as some recent research indicates that the most important factors influencing whether patients recommend a hospital are staff coordination and communication with patients, which are areas in which community hospitals can excel.[XXX] However, the relatively small volume of patients to drive recommendations for community hospitals and the importance of factors like new facilities and prestigious doctors pose challenges for community hospitals with fewer resources.

44 *See* Robert Blendon et al., *The Public's Views on Medical Error in Massachusetts*, Betsy Lehman Center, Health Policy Commission, & Harvard School of Public Health (Dec. 2014), *available at* https://cdn1.sph.harvard.edu/wp-content/uploads/sites/21/2014/12/Patient-Safety-Report-12-14.pdf (two of three Massachusetts adults have never sought information about the safety or quality of medical care provided by physicians or hospitals in Massachusetts. Where individuals have sought information on safety or quality, their most likely source of information is their primary care doctor, followed by friends and family).

Differing Perspectives on Referral

Patients tend to feel providers have significant influence over which hospital they go to. As one focus group participant said, "I trust my doctor. If my doctor says this is where I need to go, then I will."

Providers tend to feel patients make their own choices. An HPC poll of over 200 representatives from community hospitals indicated that over 70% felt that the biggest factor in whether a patient went to a non-local hospital for care was the patient's own choice based on brand and perceived value; fewer than 30% felt that physician opinions or formal referral relationships were the most significant influence.

Research indicates that patient choice is influenced by a number of factors, including distance, cost, and quality, but that affiliations between hospitals and physicians have a significant impact on patients' choice of hospitals.[43]

43 *See* Laurence Baker et al., National Bureau of Economic Research, *The Effect of Hospital/Physician Integration on Hospital Choice* 11–16 (Aug. 2015), *available at* http://www.nber.org/papers/w21497 (finding that hospital ownership of physician practices made it more likely those practices would refer patients to associated hospitals even when those hospitals were higher priced and had lower quality scores).

> 2/3 of Massachusetts adults have never sought information about the safety or quality of medical care. Where individuals have sought information on safety or quality, their most likely source of information is their primary care doctor, followed by friends and family.

3. Patients believe prestige, brand, and cost indicate quality

In addition to anecdotal information, many patients stated that they felt that AMCs and teaching hospitals were inherently better than community hospitals. Some expressed a belief that the best physicians are associated with those hospitals, and academic affiliations appeared to capture patients' attention; multiple focus group participants reported that they had greater confidence in the abilities of doctors who had graduated from medical schools they considered prestigious.

> "I guess it might be something in your psyche because I like brand-name products. So maybe that's what drives me to Boston."
>
> PATIENT FOCUS GROUP PARTICIPANT

Many others indicated that they believed AMCs and teaching hospitals had developed reputable brands, and that being in a big hospital with great technology was important.[XXXI] Some indicated that they would be more likely to use community hospitals affiliated with a major AMC or teaching hospital, but most expressed a belief that community hospitals would provide lower-quality care, or would not be able to handle important cases. We discuss some of the factors that underpin these differences in reputation, including price disparities and the growth of large provider systems, in the coming sections.

Some focus group participants indicated that staff members in community hospitals are more friendly and knowledgeable about local community culture than staff in AMCs or teaching hospitals. This perception is consistent with patient experience metrics that show that doctor and nurse communication in some community hospitals is relatively strong.[XXXII] This finding indicates an opportunity for community hospitals to enhance their reputation through a focus on building community linkages and adapting to meet community needs.

When asked about the cost of care, some patients stated that the higher costs of AMCs and teaching hospitals must mean that they provided better quality, regardless of what quality data showed, and that a lower cost hospital is perceived as being "low budget." Many also reported an interest in "getting their money's worth" from the health care system after investing heavily in health insurance coverage. Others reported that cost is not a factor when it comes to health.

> "The marketing of the biggest hospitals and systems is at a level that most of us [community hospitals] simply cannot compete with. Usage of community hospitals will continue to dwindle without a change to this pattern."
>
> COMMUNITY HOSPITAL CEO

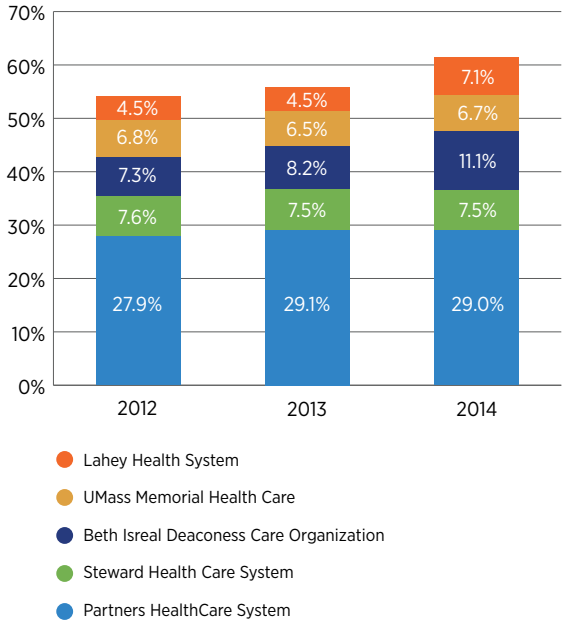
B. Increased consolidation of providers has driven referrals away from independent and community providers

In addition to patients choosing AMCs and teaching hospitals for the reasons discussed above, many patients seek care at AMCs and teaching hospitals because their physicians, an increasing number of whom are affiliated with these institutions, refer them there. Hospitals, primary care physicians (PCPs), specialty providers, home care organizations, post-acute care institutions, and other providers refer patients to one another in order to ensure that patients receive necessary care, but as noted above these referrals can substantially influence where patients receive health care. The focus on improved care coordination among providers has led many providers to create and formalize referral relationships through a variety of different forms of alignment, including through corporate ownership, joint contracting relationships, and clinical affiliations.[45]

The degree of consolidation in a health care system can have implications for both the cost and quality of care. Though some providers claim that corporate integration, such as through mergers or acquisitions of smaller providers, is necessary to improve care coordination and clinical quality, there is little evidence that corporate integration is necessary or likely to improve clinical integration or quality of care. To the contrary, there is mounting evidence that increases in market consolidation are not typically associated with increases in the quality of care, and may even be associated with decreased quality.[46]

From 2013, when the HPC began tracking material changes to health care providers in Massachusetts, through 2015, the HPC received notice of 58 proposed mergers, acquisitions, and affiliations.[XXXIII] As a result of these and other changes to the health care system over the last several decades, the majority of care in the Commonwealth is now provided by a relatively small number of large provider systems. In 2014, the five largest health systems in the state accounted for 61 percent of discharges for commercially insured patients, an increase from 54 percent in 2012.

Percent of Statewide Inpatient Discharges at the Five Largest MA Provider Systems, 2012 – 2014



Source: HPC analysis of MHDC discharge data.
Note: Systems shown have the highest total net patient service revenue among providers in the Commonwealth.

45 Corporate affiliations involve some level of ownership or control (i.e. merger or acquisition); contracting affiliations involve a relationship under which independent providers negotiate with a payer for rates and contract terms to provide services to that payer's patients; clinical affiliations involve an agreement to cooperate to provide certain services to patients without changes in ownership, control, or contracting (i.e. independent physicians staffing a hospital's ED). Different provider systems involve differing levels of integration among their members.

46 Martin Gaynor & Robert Town, *The Impact of Hospital Consolidation — Update*, Robert Wood Johnson Found., Synthesis Project Policy Brief, no. 9 (2012), *available at* http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2012/ rwjf73261 (reviewing literature indicating that increases in hospital market concentration lead to increases in hospital prices, that mergers in highly concentrated markets generally lead to price increases, and that competition increases quality of care); Deborah Haas-Wilson & Christopher Garmon, *Hospital Mergers and Competitive Effects: Two Retrospective Analyses*, 18 Int'l. J. of the Business of Econ. 17-32 (Feb. 2011), *available at* http://www.smith.edu/economics/documents/Haas-WilsonGarmon.pdf. The impacts of provider consolidation under joint contracting or clinical affiliations have not yet been thoroughly explored.

However, it is not simply consolidation of hospital care that can impact community hospitals, but also consolidation of physician groups into large, hospital-led systems. A significant trend, both in Massachusetts and nationally, is the rapid acquisition of physicians by hospitals and the transition from independent or affiliated physician practices to employment models. Many physician groups, even if they do not choose direct employment by the hospitals, are joining the contracting networks of these primarily hospital-led integrated provider systems. To date, more than two-thirds of material changes filed with the HPC involving new corporate or contracting affiliations have included physician groups.

Acquisitions, mergers and other affiliations involving PCPs can have particularly profound implications for smaller and independent community hospitals. PCPs exercise significant control over where their patients receive follow-up care, both because they are tasked with coordinating their patients' care under certain insurance models and because patients tend to trust the recommendations of their doctors.[47] Thus, the hospital or system affiliation of a patient's PCP will influence where that patient is referred for hospital services, and can play a bigger role in patient decisions about hospital care than cost, quality, or travel distance. One recent nationwide study found that physicians whose practices are owned by hospitals send an average of at least 70% of patients needing hospital care to the hospitals that own their practices. That study also found that patients of owned physicians are approximately 1/3 more likely to use the hospital that owns the physician's practice and that physician ownership has a much greater influence on a patient's choice of hospital than the hospital's cost or quality.[XXXIV]

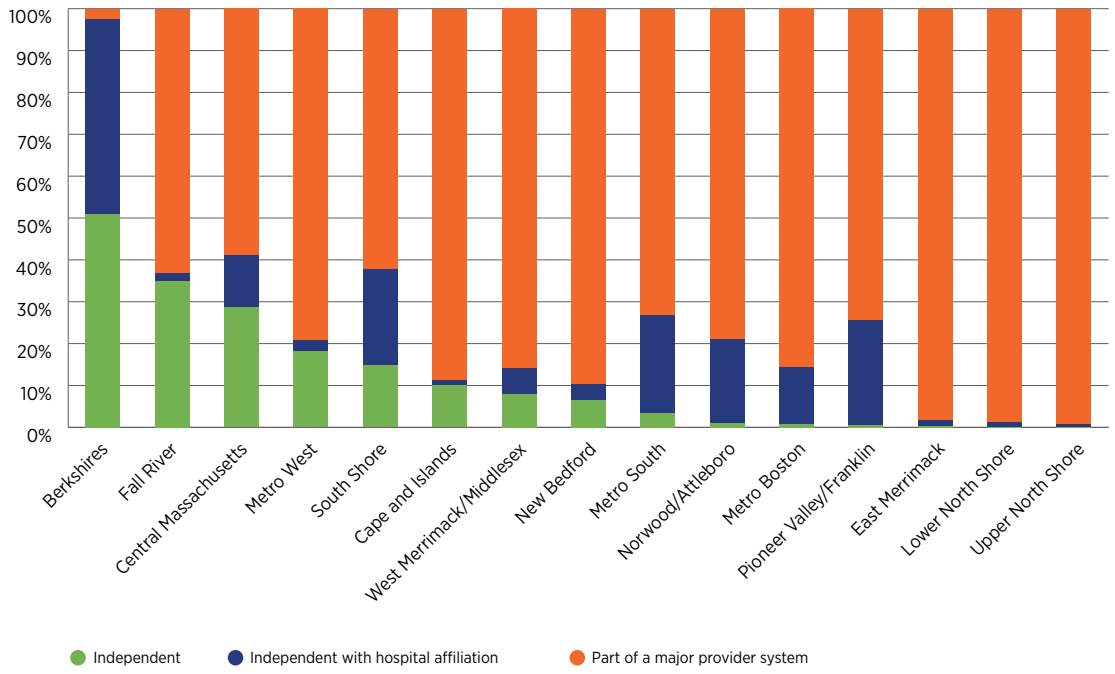
"Our biggest fear as health plans was that this whole system was going to look to consolidate and that's not good for lowering health care costs based on the data we've seen thus far."

LORA PELLEGRINI, PRESIDENT AND CEO, MASS. ASSOC. OF HEALTH PLANS

These findings are particularly relevant in Massachusetts, where PCP affiliations with hospitals have grown rapidly in recent years, and the vast majority of PCPs are now associated with a relatively small number of provider systems. In 2012, 75 percent of visits to PCPs were to PCPs affiliated with a large provider system, and these visits constituted nearly 79 percent of all revenue for PCP visits in the state. The figure on the next page shows the share of primary care services in each region of the state provided by independent PCPs, PCPs affiliated with a hospital but not a major provider system, and PCPs with a contracting or corporate affiliation with a major provider system.

47 *See* Section IV.A.

Percentage of Primary Care Services Delivered by Independent versus Affiliated Physicians by Region, 2012
(Affiliated providers may be more likely to refer to their affiliated institutions)



Sources: HPC analysis of 2012 APCD claims for BCBS and HPHC; 2012 MHQP Master Provider Database.
Note: For the purposes of this analysis, major provider systems include Atrius Health, Baycare Health Partners, Beth Israel Deaconess Care Organization, Lahey Health System, New England Quality Care Alliance, Partners Community Health Care, Steward Health Care Network, and UMass Memorial Health Care. PCPs affiliated with multiple systems are counted as being part of a major provider system.

The share of PCPs associated with provider systems is also growing rapidly. Between 2008 to 2014, the percentage of PCPs in the state that are associated with the eight largest provider systems grew from 62% to 76%.[48] Although provider systems proposing to affiliate with physicians often tout the need to establish stronger relationships with physicians in order to appropriately manage patient care, these affiliations can result in physicians sending referrals to affiliated hospitals whenever possible, even where these providers may not represent the most efficient site of care.[XXXV] This can drive referrals away from smaller and independent providers and can result in patients bypassing their closest community hospital to reach a system-affiliated hospital. In an interview with the HPC, one payer representative noted that even for those physicians who are part of payer contracts designed to incentivize patient referrals to efficient community hospitals, affiliation with an integrated system may outweigh those incentives, resulting in the physicians referring patients to system hospitals that are less efficient. Recognizing the importance of physician referrals to maintaining hospital patient volume, providers and other health care industry representatives interviewed by HPC also report that community hospitals must

62% to 76%
Growth in the share of PCPs associated with the eight largest provider systems in Massachusetts from 2008 to 2014.

48 The HPC calculated these percentages based on the number of PCPs in the Mass. Health Quality Partners Master Provider Database associated with Atrius Health, Baycare Health Partners, Beth Israel Deaconess Care Organization, Lahey Health System, New England Quality Care Alliance, Partners Community Health Care, Steward Health Care Network, and UMass Memorial Health Care.

vigorously compete with other provider systems to recruit and keep physicians and other staff, including by offering sizeable financial incentives that can strain community hospital budgets and limit the amount of money available to invest in other operations.[49]

> "What we're seeing a lot of is that many of the bigger systems are competing over doctor groups. A lot of money is going towards buying and selling doctor groups.... At the same time, that is taking away from the income a smaller system could have to take care of the job skill needs for their lower workforce."
>
> CELIA WCISLO, ASSISTANT DIVISION DIRECTOR OF MA, 1199 SEIU UNITED HEALTHCARE WORKERS EAST

In addition to acquisitions and affiliations, the continued expansion of large provider systems can also result in increased volume and referrals to those systems, and decreased volume to smaller and independent providers. For example, some large provider systems have opened or expanded hospital satellites, freestanding emergency departments, outpatient centers, or urgent care clinics near existing community hospitals. While the direct impacts of these outpatient sites on total medical spending can be mixed,[50] they can erode the patient volume that smaller and independent hospitals need to remain viable. This may pose a problem even for community hospitals which are affiliated with provider systems—as systems compete for patient referrals, a community hospital affiliated with a system may still experience declines in referrals if nearby physicians join a different system, or if another system opens new clinics or outpatient centers near the community hospital.

C. Patient migration to AMCs due to referrals and consumer preferences pulls volume away from community hospitals

One of the core missions of community hospitals is to serve patients from nearby cities and towns. Caring for patients is also a hospital's primary source of revenue, and a hospital that attracts too few patients will not be able to sustain itself. Hospitals therefore compete for patients in an attempt to draw in more business. Hospital competition can benefit consumers if hospitals compete by offering lower prices or better quality care. However, as discussed in the previous sections, patients' choices of hospitals are often driven primarily by their perceptions of the institutions and by provider referral networks. This results in many patients in Massachusetts using relatively high-cost Boston area AMCs for non-complex care that could be provided safely and effectively at community hospitals (community-appropriate care).[51]

49 In a 2012 survey of community hospital department chiefs, 94 percent reported "significant difficulty filling [physician] vacancies," citing limited numbers of physician applicants and the inability to offer competitive salaries as primary causes. Mass. Med. Society, 2012 MMS Physician Workforce Study 26-27 (Oct. 2012). While no specific data exist for Massachusetts, labor costs across the nation indicate that smaller communities and rural areas generally have to pay more to attract not only physicians, but also other health care providers. *See e.g.*, Kenneth Simone, *Rural Hospitalist Recruiting Challenges*, NEJM CareerCenter (Nov. 2012), *available at* http://www.nejmcareercenter.org/minisites/rpt/rural-hospitalist-recruitment-challenges/ ("rural communities are challenged to successfully recruit and retain hospitalist physicians. The challenges may be related to work, family, visa status, and educational, financial, and geographical considerations"); American Medical Group Association, 2014 Medical Group Compensation and Financial Survey (Aug. 4, 2014), *available at* https://www.amga.org/store/detail.aspx?id=COMPSRV_2014 (labor costs are highest in the central states, in particular in rural and suburban communities, and lowest in New England).

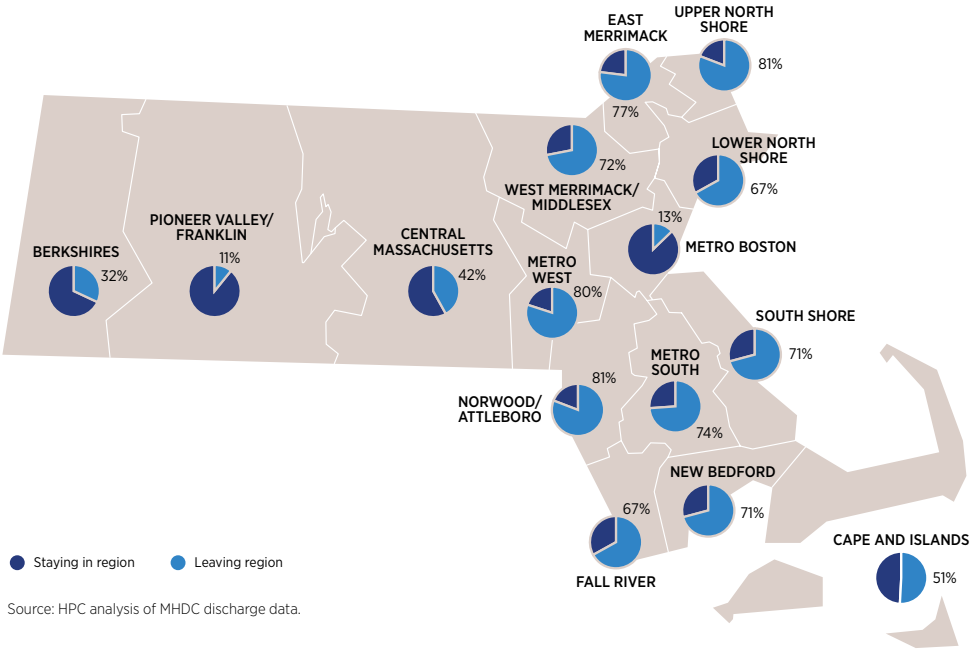
50 The impact of integrated systems opening community-based facilities can vary depending upon their structure. Because hospital satellites in many cases are able to bill through their associated hospitals, outpatient satellites of AMCs and teaching hospitals are typically higher-priced than community hospitals. Conversely, if a facility is licensed as a clinic, it may receive lower prices than a hospital would for outpatient services. In either case, a community facility belonging to a system has an incentive to refer patients to affiliated hospitals, which may result in higher total spending.

51 Several analyses in this section discuss community-appropriate care. Some complex care may not be suitable for treatment in community hospitals because they may lack the specialized technology or staffing to care for rare conditions; other cases which are less complex or which can be treated using well-established treatment protocols can be handled in much the same way at any hospital. We focus on these less complex cases in our analyses so as not to confuse patients who need to use an AMC with those who elect to choose an AMC. Discharges which could be appropriately treated in community hospitals were determined based on expert clinician assessment of the acuity of care provided, as reflected by the cases' diagnosis-related groups (DRGs). We chose to exclude cases with DRGs which might be suitable for only some community hospitals or in limited cases depending on clinical circumstances and differences in resources. As a result, our analyses involving community-appropriate care exclude about 1/3 of all discharges, including those for patients receiving routine procedures but who experienced minor or major complications. The exclusions of these discharges mean that our analyses represent a conservative estimate of the volume of care which might be appropriately provided at community hospitals rather than AMCs. Discharges classified as emergency or transfer cases were also excluded.

1. Patients in Massachusetts frequently come to Boston for non-complex hospital care that could be provided at community hospitals

The HPC has previously assessed patterns of patients living in one region of the state traveling to other regions to seek care.[XXXVI] This assessment revealed that every region of the state other than Boston experienced a net outflow of patients for inpatient care (i.e. more patients leave the region for care than enter the region for care), while the Metro Boston region experienced a large net inflow of care.[52] While the total volume of inpatient care generally decreased from 2009 to 2013, the share of care provided by hospitals in the Metro Boston area to patients from other regions of the state continued to grow.[53] When considered by major service category (deliveries, medical, surgical, and behavioral health), we found that patients needing community-appropriate care tended to be more likely to travel outside of their home regions for deliveries and for surgery, in particular. The map below shows the share of patients who chose to remain local and those which traveled outside of their home regions for relatively non-complex deliveries.

Percentage of Patients Leaving their Home Regions for Community-Appropriate Deliveries, 2013



Source: HPC analysis of MHDC discharge data.

6 hospitals saw **53%** of low risk births in 2011-2012. 5 of these hospitals had above average delivery costs.

Massachusetts General Hospital and Brigham and Women's Hospital have the highest costs statewide for maternity care and saw **20%** of all low-risk births in the state

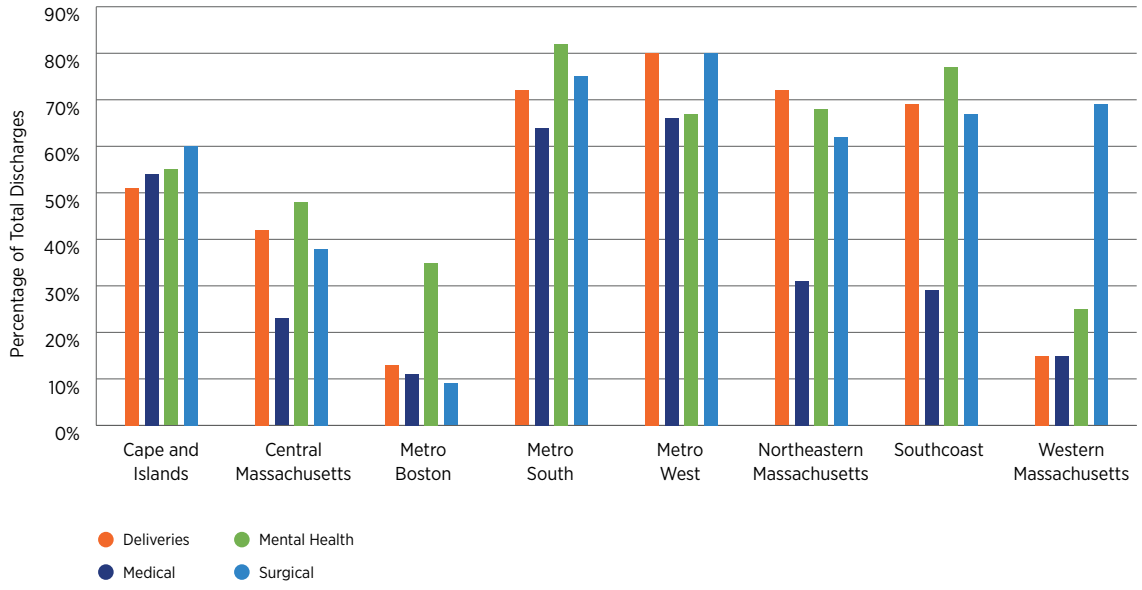
52 *See* Cost Trends 2014 Supplement, *supra* endnote xxxvi, at 26. Metro Boston received approximately 68,000 discharges from Massachusetts patients living outside of Metro Boston. This assessment included only discharges for non-emergency, non-transfer inpatient care, as patients receiving emergency or transfer care are less likely to have a meaningful choice of hospital.

53 The HPC used MHDC discharge data to assess increases and decreases in hospital discharges in each region of the state from 2009 to 2013, and compared these changes in hospital discharges in each region to changes in the number of discharges of patients living in that region. By comparing the two figures, the HPC was able to determine whether changes in volume were due to changes in local patient use of hospitals or due to changes in patient migration. Similar to Metro Boston, utilization by local residents declined faster than discharges at hospitals in the Southcoast and Cape and Islands regions, indicating an increase in net migration to the region from other regions. Local utilization declined more quickly in the Metro West, Northeastern Massachusetts, and Central Massachusetts regions, indicating increasing migration out of those areas. The only region in which hospital discharges and local patient utilization grew was Western Massachusetts; hospital discharges grew slightly more quickly than utilization by local patients, indicating an increase in migration to the region.

As shown below, some regions tended to have high levels of outmigration across all service categories. AMCs and teaching hospitals received the largest proportion of migrating patients from most regions, with Brigham and Women's Hospital, Mass. General Hospital, Lahey Hospital and Medical Center, and Beth Israel Deaconess Medical Center most commonly among the top recipients of patients from other regions.

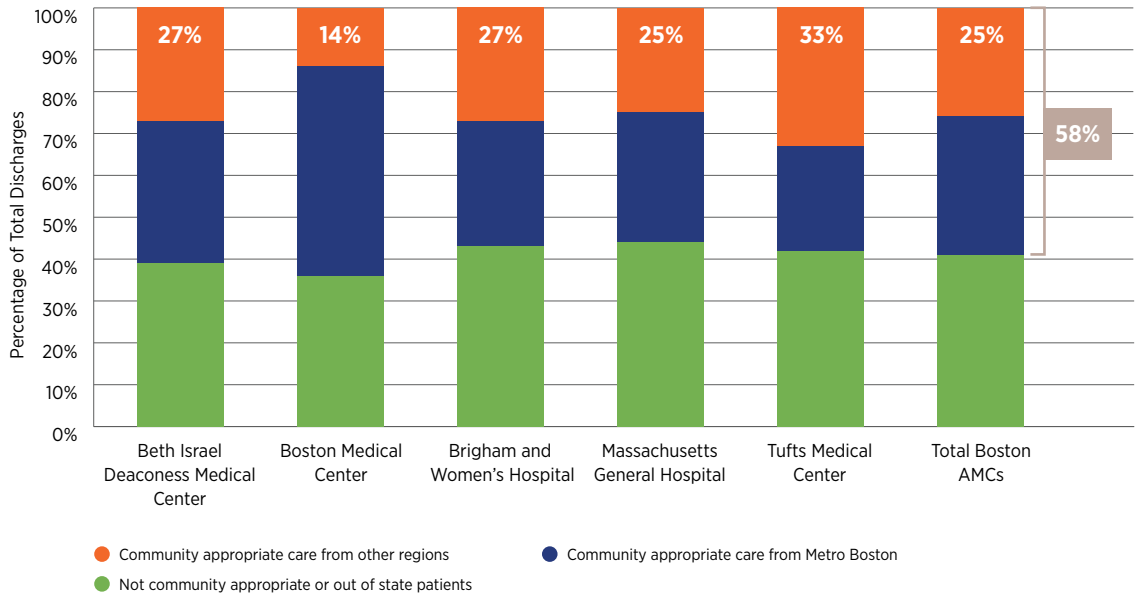
These analyses indicate that even for those services generally provided by community hospitals (obstetrics, general medicine), a significant proportion of patients from other regions choose to leave their home regions for care. Because many of these patients choose to go to Boston-area hospitals for care, we also assessed how many of the discharges at Boston AMCs could have been appropriately provided in a community setting. For each Boston AMC, well under 50% of discharges were for care which would require the capabilities of an AMC (more complex cases and patients from out-of-state). More than 25% of discharges at most of these AMCs were for Massachusetts patients who traveled to Boston from other regions of the state for care that could appropriately have been provided at a community hospital (see graph on next page).

Percentage of Community-Appropriate Discharges Leaving Each Region, by Major Service Category, 2013
(Community-appropriate discharges leaving each region largely represent preventable outmigration)



Source: HPC analysis of MHDC discharge data.

Community-Appropriate Discharges as a Proportion of Total Discharges at Boston AMCs, FY13
(Providing community-appropriate care in AMCs is less efficient)

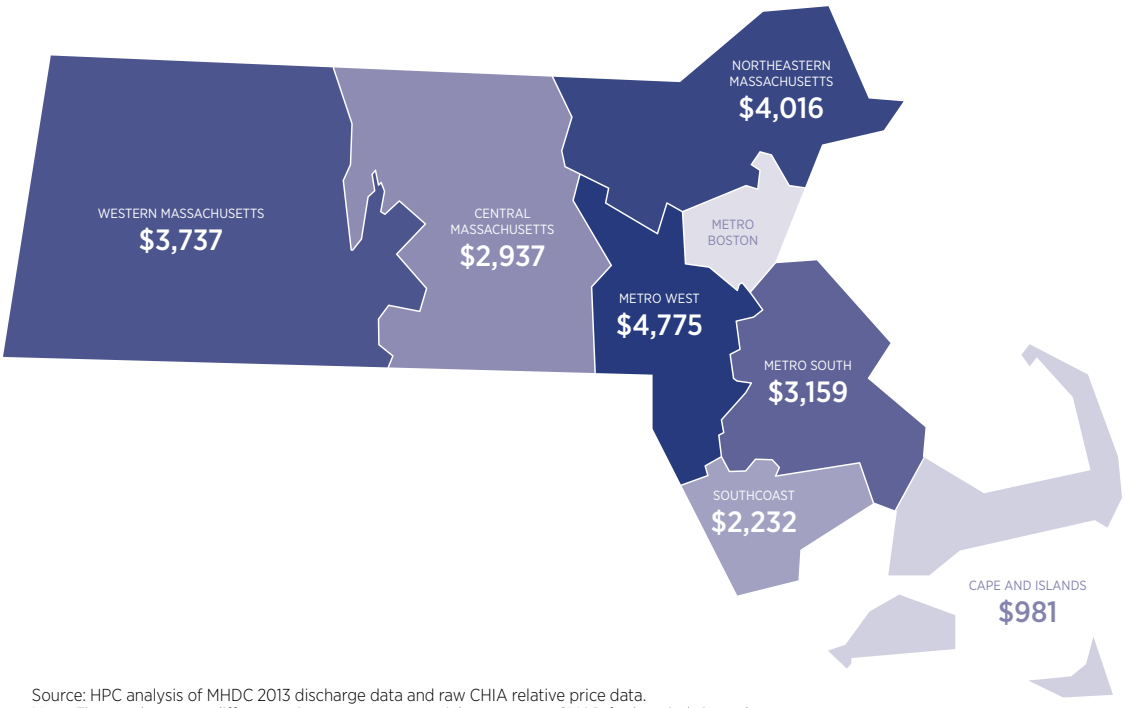


Source: HPC analysis of MHDC 2013 discharge data.
Note: Figure shows proportion of volume at each hospital, and does not reflect differences in total volume amongst the hospitals shown. Estimates of the volume of community appropriate care provided at AMCs are conservative, as community appropriate care is defined to exclude cases which some community hospitals could effectively handle but that many community hospitals could not.

As described in more detail below, inpatient and outpatient volume in Massachusetts is concentrated at hospitals with higher prices. Much of this volume is attributable to use of higher-priced Boston AMCs rather than lower-priced community hospitals. If even a small proportion of community-appropriate care were to be redirected from Boston AMCs back to community hospitals, the savings could be substantial. Using data on patient discharges and hospital revenue, we estimate that for each patient who chooses to receive inpatient care at a hospital in the Metro Boston region rather than their home region, the additional cost ranges from approximately $1,000 per patient from the Cape and Islands region to over $4,000 per patient from Northeastern Massachusetts or Metro West (see graph on next page).[54]

54 These estimates are based on HPC analysis of hospital revenue, discharges, and case mix index in CHIA relative price data. By comparing the average commercial revenue for each CMAD at hospitals in Boston to the average revenue for hospitals in other regions, we arrived at an average difference in spending between Boston and other regions for each commercial discharge, adjusted for patient acuity and payer mix. These estimates exclude data for patients covered by Celticare, Health New England, and Network Health due to data limitations.

Average Additional Cost for Each Commercial Discharge at a Boston Hospital rather than a Local Hospital, by Region of Patient Origin



Source: HPC analysis of MHDC 2013 discharge data and raw CHIA relative price data.
Note: Figures shown are differences in average commercial revenue per CMAD for hospitals in each region compared to those in Metro Boston, adjusted for payer mix.

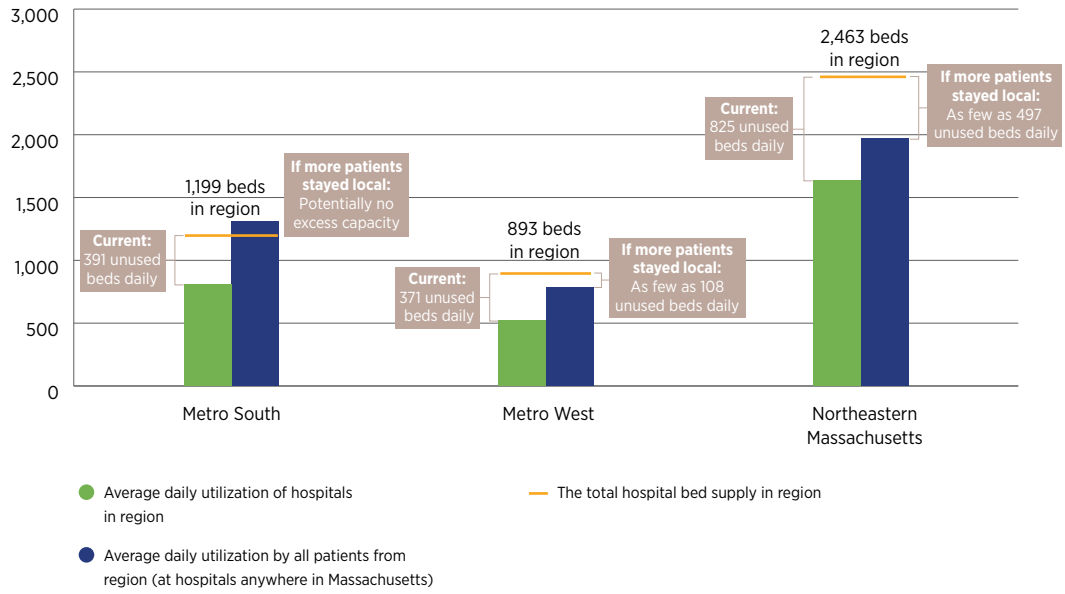
The migration of patients into the Boston region for low-acuity care that could be provided in community settings leaves beds in community hospitals empty. This trend is particularly notable in the regions directly surrounding Metro Boston. The graph on the next page shows the average number of beds being used in each region neighboring Metro Boston on any given day and the average number of that region's residents that are using a hospital on a given day, whether in that region or elsewhere. In these regions, the occupancy of local hospitals is not nearly as high as average daily utilization by that region's patients, meaning those patients are going elsewhere. While some of these patients may require higher acuity care that necessitates receiving care at an AMC or teaching hospital, based on the other analyses described in this section, it is likely that many of these patients are leaving their region to go to Boston-area AMCs and teaching hospitals for community-appropriate care. If these patients got care at their local hospitals more often, the occupancy of hospitals and patients in each region outside of Boston would more closely align, and there would likely be fewer unused beds among community hospitals.[55] However, even if more patients were to use local hospitals more often, our findings indicate that there would still likely be some unused beds in some regions. This suggests that some of these beds could be closed or repurposed in order to cut down on hospital operating expenses and better meet community need for other services.[56]

55 Because these figures are averages for FY13, they do not account for fluctuations in patient utilization; some surplus beds are needed in all regions in order to ensure hospitals are equipped to respond in the event of a major emergency. *See Prepared to Care: The 24/7 Standby Role of America's Full Service Hospitals*, American Hosp. Assoc., http://www.aha.org/research/policy/PreparedToCareIndex.shtml (last visited Dec. 7, 2015).

56 The experience of other states in grappling with these challenges offers insights to inform Massachusetts dialogue and action planning. The Illinois Medicaid program has proposed creating a $25 million fund to help hospitals and nursing homes close or repurpose capacity. *See* Illinois Dep't. of Healthcare and Family Servs., The Path to Transformation: Illinois 1115 Waiver Proposal (Feb. 10, 2014), *available at* http://www.illinois.gov/hfs/SiteCollectionDocuments/020714draftwaiver.pdf. New York has been the most aggressive state in removing empty beds. New York launched a multi-stakeholder collaboration between the state, the hospital industry, unions, and other key stakeholders to close nine hospitals beginning around 2007. Another 48 were downsized or converted to other uses, at a cost of more than $500 million in public money. Overall, about 4,200 beds were eliminated. *See generally* Commission on Health Care Facilities in the 21st Century, *Final Report*, http://www.nyhealthcarecommission.org/final_report.htm (last visited Jan. 12, 2016).

Average Use of Hospitals in Regions Neighboring Metro Boston versus Average Use of All Hospitals by Region Residents, FY2013

(A higher blue bar indicates that region residents are using hospitals outside of their home region for much of their care)

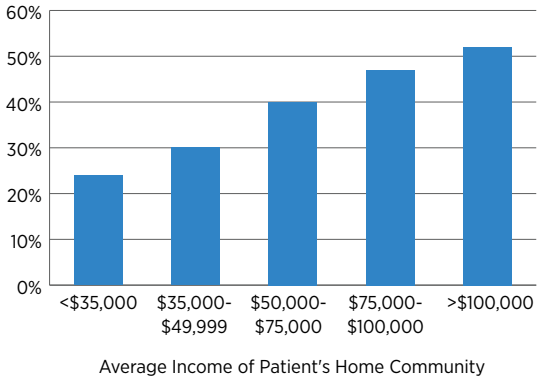


Source: HPC analysis of MHDC 2013 discharge data and CHIA hospital 403 reports.

2. Commercially insured patients and patients from wealthier communities are more likely to migrate to Boston for care

Some types of patients travel outside of their local region for care more often than others. In previous examinations of patient migration, the HPC has found that patients who travel to Boston for care are disproportionately commercially insured.[XXXVII] We also found that patients who come from wealthier home communities are more likely to travel to Boston for care, while patients from lower income communities are less likely to travel to Boston for care.[57]

Probability that a Patient will Travel Outside of His/Her Home Region for Inpatient Care, Based on Income



Source: HPC analysis of MHDC 2012 discharge data and U.S. Census Bureau American Community Survey data.

57 The HPC used a regression analysis to cross-reference hospital discharge data on patients' home regions and demographic factors with U.S. Census Bureau data on median household income by ZIP code in order to determine to what extent community income influences the likelihood that a patient will migrate for inpatient care. This analysis included all patients, including publicly and privately insured patients.

The fact that patients from higher income communities disproportionately travel to get care at higher-priced providers contributes to greater health status-adjusted medical spending in higher-income communities compared to lower-income communities,[58] even though lower socioeconomic status is generally associated with greater health needs.[XXXVIII] When some patients get care from higher-priced providers, without paying for those costs out-of-pocket, payers must raise premiums or decrease benefits for all members to cover those higher costs. Because patients from lower-income communities and higher-income communities often pay insurance premiums into the same insurance plans, greater migration to higher-priced providers by patients in higher-income communities may result in the cost of those higher-priced choices being socialized to all commercially-insured patients through higher premiums, including those in lower-income communities who are less likely to use higher priced providers.[59]

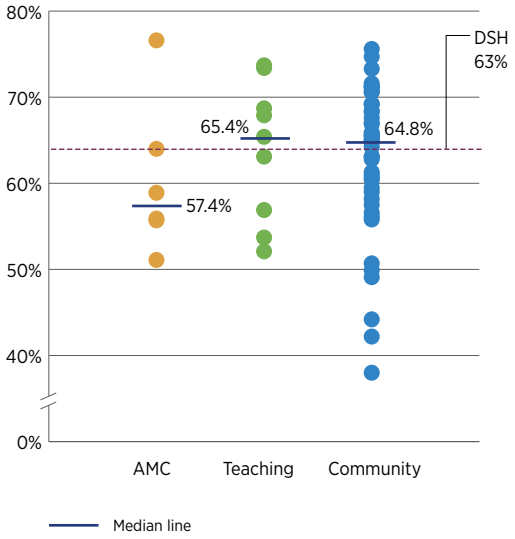
D. Community hospitals serve high proportions of government payer patients and those seeking low margin services

Patients who choose to get care at community hospitals rather than traveling to Boston typically need low-complexity care, and many are covered by government insurance programs. As discussed in **Section III.A**, community hospitals play an important role in providing local access to services for these patients. However, the bulk of the low-acuity services that community hospitals provide are not profitable, and government programs pay lower rates for patient care than commercial payers.[XXXIX] Added to patient migration and relatively low commercial prices (discussed below), these factors put more stress on the sustainability of the current community hospital service model.

1. Community hospitals disproportionately provide services to government payer patients

Because commercially insured patients disproportionately migrate away from their local communities for care and into Boston, many community hospitals disproportionately serve patients covered by public payers, as described in **Section III.A.2**. More than half of community hospitals were DSH hospitals in 2013, receiving more than 63% of their patient revenue from government payers (27 of 45 community hospitals were DSH hospitals in 2013). While most AMCs receive a far smaller share of their revenue from public payers,[60] many teaching hospitals are similar to community hospitals in that they also serve a large proportion of publicly insured patients.

Percent of Hospital Gross Patient Revenue from Public Payers by Hospital Cohort, FY13
(A higher share of revenue from public payers can pose financial challenges)



Source: HPC analysis of CHIA Acute Hosp. Databook, *supra* footnote 11, at Appendix D.
Note: Public payers include Medicare and Medicaid/MassHealth fee for service and managed care plans, Health Safety Net payments, and charges designated by hospitals as "other government."

58 *See* Office of Att'y Gen. Martha Coakley, Examination of Health Care Cost Trends and Cost Drivers Pursuant to G.L. c. 6D, § 8: Report for Annual Public Hearing (2011), *available at* http://www.mass.gov/ago/docs/healthcare/2011-hcctd-full.pdf (finding that in 2009, total medical expense (TME) was higher in zip codes with higher average income. TME is adjusted for health status, so the difference is spending is not due to differences in age or sickness. The AGO noted that some of this spending difference may be due to wealthier consumers choosing higher-priced providers).

59 Increasing provider participation in risk-based contracts is unlikely to change this pattern. Global budgets are largely based on historic spending which, as discussed in Section IV.E, reflect inequities among providers and, as discussed in Section IV.H, current risk adjustment models only adjust for age, sex and utilization history of the patient population, but not other factors predictive of overall health needs including socioeconomic status, education level and health literacy.

60 Notable exceptions are Boston Medical Center and UMass Memorial Medical Center, both of which are DSH hospitals.

This poses a financial challenge. Private insurers, on average, pay higher rates for the same hospital services than do public payers, both nationally and in Massachusetts.[61] While serving these patients is important for ensuring access to care, low reimbursement by public payers can strain hospital operating margins.

> "No matter how well run a community hospital is, if 50% of your hospital volume is Medicaid and you're losing 30 cents on the dollar, you're going to go out of business."
>
> COMMUNITY HOSPITAL CEO

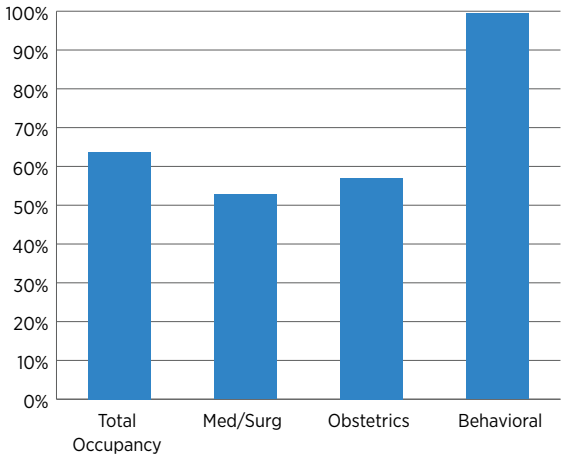
2. Competition for high-margin service patients results in community hospitals providing more lower-margin services

Community hospitals have traditionally provided a broad range of services for patients, including low-acuity outpatient care, medicine, surgery, and emergency department (ED) services. These services require differing levels of hospital resources to build and maintain, and are paid for at differing rates by payers and consumers. As a result, some services are relatively profitable (high-margin) and some are not (low-margin); some may even cost more to maintain than the hospital receives for providing the service, resulting in a loss (negative margin) for the hospital. When hospitals provide a mix of service types, revenue from high-margin services like ambulatory surgery can help to balance out costs from lower-margin services like behavioral health.[62] Notably, both NARH and QMC cared for a large proportion of patients needing low-margin behavioral health services, which likely contributed to their financial difficulties prior to closure.[63] Because high-margin services are valuable sources of revenue, many hospitals seek to compete to attract these patients, and some community hospitals lack the resources to invest in advertising, recruiting well-known specialists, or building improvements to their physical spaces that help other hospitals attract these patients. In addition, community hospitals must compete for some high-margin services with ambulatory surgery centers (ASCs), outpatient specialty and imaging centers, urgent care clinics, retail clinics, and freestanding emergency departments, as described in more detail in **Section IV.G.**

As a result of this competition for patients needing care in high-margin services, community hospitals are often left providing critically important but primarily lower-margin services like emergency care and behavioral health care. Occupancy in community hospitals' medical/surgical and obstetrics beds is only just over half, while occupancy in psychiatric beds is nearly 100%.[64]

Community Hospital Staffed Bed Occupancy Rate by Admission Type, FY13

(Med/surg and obstetrics tend to be higher margin service lines than behavioral health)



Source: HPC analysis of MHDC 2013 discharge data and CHIA hospital 403 reports.

61 According to a survey of community hospitals by the American Hospital Association, in 2013 private insurers paid, on average, just over 140% of hospital costs per discharge while Medicaid and Medicare each paid just under 90% of costs, factoring in disproportionate share payments. American Hospital Assoc., Trends Affecting Hospitals and Health Systems, Chartbook 4.6: Aggregate Hospital Payment-to-Cost Ratios for Private Payers, Medicare, and Medicaid, 1993 — 2013 (Apr. 14, 2015), *available at* http://www.aha.org/research/reports/tw/chartbook/ch4.shtml. Massachusetts community hospitals tend to serve relatively high proportions of Medicaid patients, although some AMCs and teaching hospitals serve larger Medicaid volumes as a proportion of their total public payer volumes.

62 Nationally, low-margin services include HIV/AIDS treatment, burn care, emergency departments, inpatient and outpatient behavioral health services, obstetrics, and trauma centers. High-margin services include cardiac care, diagnostic imaging, women's health/neonatal/pediatric care, orthopedic surgery, and sports medicine. Jill Horwitz, *Making Profits and Providing Care: Comparing Nonprofit, For-Profit, and Government Hospitals,* 24 Health Affairs 790 (2005), *available at* http://content.healthaffairs.org/content/24/3/790.full.pdf+html.

63 *See* footnote 8, *supra.*

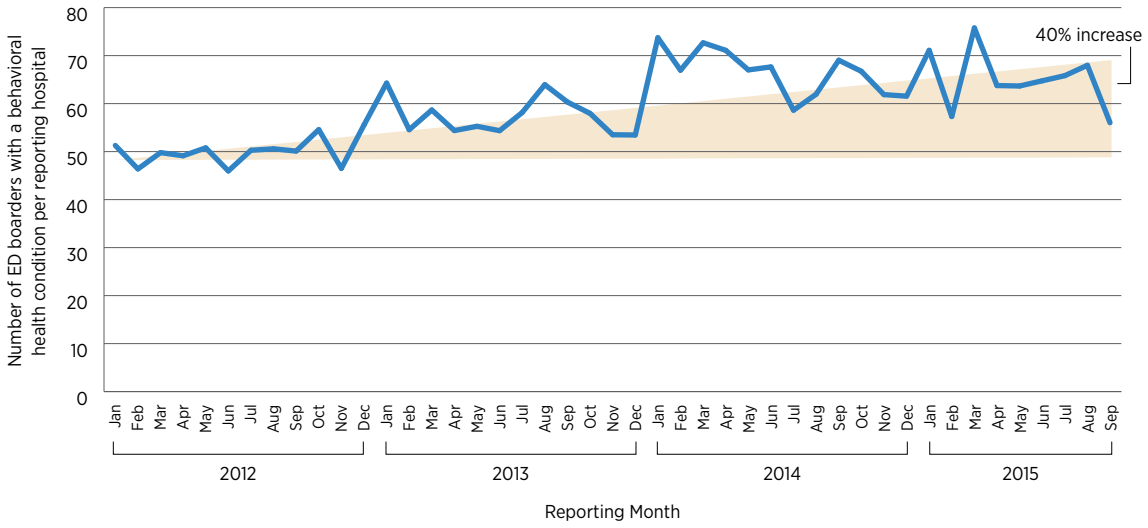
64 The HPC grouped 2013 MHDC discharges into medical/surgical, obstetric-related, and behavioral health categories based on patients' primary DRGs. We combined this data with bed counts from CHIA hospital 403 reports to derive occupancy rates. In many cases we found that hospitals had more patients with behavioral health diagnoses than they had psychiatric beds available, and these patients were treated in medical/surgical beds instead.

This results in operational as well as financial difficulties. As noted in the Background section of this report, community hospitals serve approximately two of every three emergency department visits in the state every year. Community hospital representatives indicated in interviews that many were seeing between 50-100 percent more ED patients than the capacity ratings for their facilities. These capacity problems are due in part to the lack of psychiatric beds in the Commonwealth, which forces patients needing behavioral health treatment to wait in community hospital EDs for beds to open up, and also suggest a need to expand patient management and outpatient service options to prevent unnecessary hospital utilization.[65] Consistent with this challenge reported by hospitals, data on ED boarding, in which patients are in ED for more than 12 hours, indicate that boarding of behavioral health patients has increased by approximately 40 percent in the last three years, even as overall ED volume has declined. ED boarding is problematic not only for patient access to care, but also because it is financially challenging for hospitals to house patients for extended periods of time without providing billable services.

"To a certain extent we are struggling like any ED in the state with the unfunded mandate of housing for days, or occasionally weeks at a time, behavioral health patients who are difficult to [place] for a variety of reasons."

COMMUNITY HOSPITAL CEO

Average Behavioral Health Emergency Department Boarding Volume, January 2012 – September 2015
(Higher rates of emergency department boarding implies capacity challenges in meeting behavioral health need)



Source: HPC analysis of Department of Public Health ED boarding data.
Note: Denominator (number of hospitals reporting) varies month by month (range: 42-73; average: 64).

65 *See* Cost Trends 2014 Supplement, *supra* endnote xxxvi, at 19 ("Reducing the rate of hospitalizations and ED visits by providing care in lower-intensity settings may represent a significant opportunity to improve care while reducing costs for this population and would help to address the estimated $550 million associated with unnecessary ED visits and $700 million associated with preventable hospitalizations highlighted by the Commission in its 2013[Cost Trends] report") *and id.* at 21 (nearly half of patients who waited for 12 or more hours in an ED before being admitted had a behavioral health diagnosis).

E. Many community hospitals receive lower prices from commercial payers than other hospitals for the same services

The prices a hospital is paid for the services it provides are critically important for its financial performance and can influence its reputation with patients. However, the prices a provider receives from commercial insurers are not necessarily based on the cost or measurable clinical quality of the provider's services; rather, prices are determined in negotiations between the providers and those insurers. Investigations by multiple state agencies since 2010 have documented that provider prices for the same services vary considerably in Massachusetts, and that such variation does not generally reflect higher quality, patient complexity or other common measures of value. Rather, the high prices that some providers receive appear to be largely based on differences in those providers' market leverage.[66]

> "The gap in prices, [which is] a reflection of the market power dynamics in the state, is probably the biggest threat to a lot of the community hospitals."
>
> LORA PELLEGRINI, MASS. ASSOC. OF HEALTH PLANS

One of the key challenges for many Massachusetts community hospitals is that commercial payers pay them lower prices than other hospitals, even after taking into account quality of care and patient acuity.[67] For higher-priced hospitals this can create a cycle of increasing prices: hospitals with higher prices do better financially and can invest in improvements and expansions, such as facility renovations and new technology, as well as marketing campaigns to publicize their reputations.[68] Some of these investments serve to attract patients who might otherwise have received care at lower-priced hospitals. Higher-priced hospitals may also invest in physician recruitment or the construction of satellite facilities, which also bring in more patients through referrals. As high-priced hospitals gain market share, they may be able to negotiate for even higher prices. Lower-priced hospitals can also enter a cycle of decreasing prices: lower-priced hospitals may invest less money in improvements, staffing, and marketing, which in turn may prevent them from attracting patients, reducing their market leverage to negotiate higher prices. Nearly every community hospital interviewed for this study discussed price variation as a topic of vital importance. This section explores variation in hospital prices in more detail.

1. Different hospitals receive widely varying prices for the same services

Multiple Massachusetts agencies have documented substantial variation in health care provider prices over a number of years.[XL] Higher prices that are not tied to quality, complexity, or other common measures of value create costs to consumers, businesses, and the state budget, and threaten the sustainability of lower-priced providers, including many community hospitals.

Using a metric called "relative price", CHIA summarizes price variation across payer networks for the same services. Based on information submitted to CHIA by payers, CHIA identifies the average price each payer pays for a fixed bundle of services (e.g. all inpatient services), and sets this average equal to 1.00. Then, each provider's relative price is expressed as a multiplier to that figure to express how its price for the service bundle compares to the average. For example, a hospital with a relative price of 1.5 (similar to several AMCs) receives a 50 percent higher price than average for a standard set of services, and a hospital with a relative price of 0.8

66 Market leverage impacts payer-provider contract negotiations because a payer network that excludes "important" providers will be less marketable to purchasers (employers and consumers). If a provider has a substantial market presence such that there are few or no effective substitutes for that provider in its market, the potential cost to a payer of excluding the provider from that payer's network will be high. The provider may use that leverage to command supracompetitive, higher prices (or other favorable contract terms) from the payer, and the payer may be motivated to agree to such terms in order to keep that "important" provider in its network. On the other hand, providers who have less market leverage may be motivated to agree to lower prices (or less favorable contract terms) to stay in payers' network to ensure needed patient volume. In both cases, the prices may not reflect differences in measurable provider quality, or other measures of value.

67 Because patients who are sicker to begin with are often more difficult to care for than ones who are healthier, payers typically adjust the prices they pay to hospitals based on available data on the relative sickness of the hospital's patients.

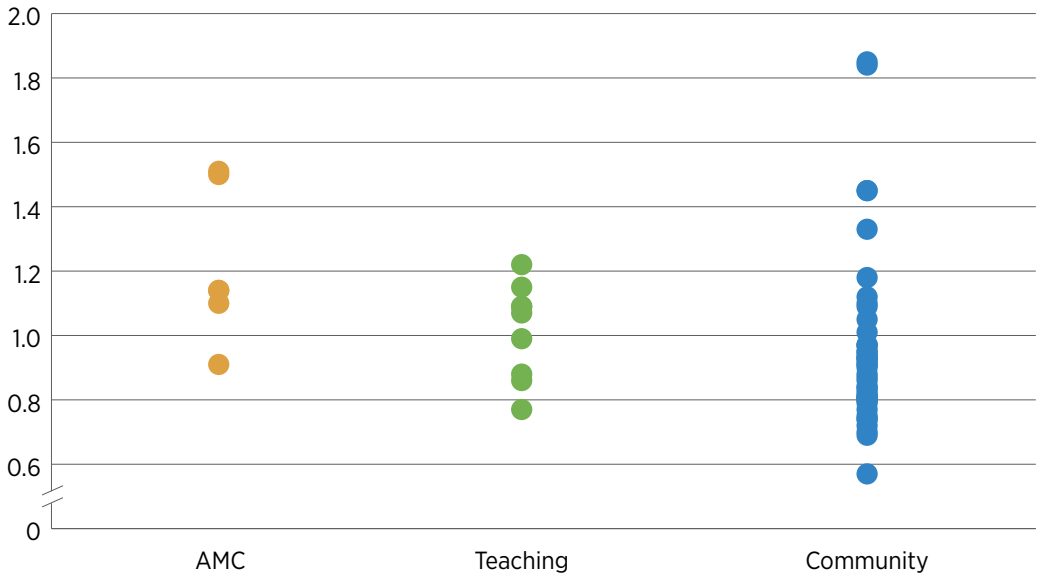
68 While no quantitative research has been conducted on the relationship of brand recognition and provider prices in Massachusetts, economic literature recognizes the value of a brand's goodwill as a corporate asset that can generate revenue. Some research on for-profit health care providers indicates that the strength of a provider organization's brand is correlated with greater returns for its stockholders, suggesting that brand power can drive increased revenue. Richard Heiens, *Assessing the Importance of Brand Equity in Health Services Marketing Through the Impact of Acquired Goodwill on Stockholder Returns*, 307 J. Econ. And Behavioral Studies 364 (June 2012), *available at* http://scholarcommons.sc.edu/cgi/viewcontent.cgi?article=1000&context=aiken_business_administration_facpub.

(similar to many community hospitals), receives only about 80 percent of the average price for the same set of services. Utilizing this metric, CHIA has reported significant variation in hospital prices, both among all hospitals and within hospital cohorts.[XLI] Similarly, in our analysis of relative price data, the HPC found that from 2010 to 2014, the highest-priced hospital in each major payer's network has consistently been paid rates 2.5 to 3.4 times those paid to the lowest-priced hospital for the same services.[69] These variations are not merely confined to a few outlier hospitals; a significant number of hospitals receive prices that are more than 25% higher or lower than the average network price for payers.[XLII] This variation exists across payer networks, and has persisted since CHIA began collecting data.[XLIII]

2. Many community hospitals are paid rates that are lower than those paid to other hospitals for the same services

Community hospitals frequently get rates that are lower, and sometimes substantially lower, than the rates paid to other hospitals for the same services. The majority of community hospitals receive substantially lower prices than teaching hospitals and AMCs for the same sets of services and, notably, many community hospitals are also paid substantially less than other community hospitals.[XLIV] The spread of hospital relative price in the BCBS network, shown here, is generally representative of the distribution in the networks of the two other largest commercial payers, HPHC and THP.

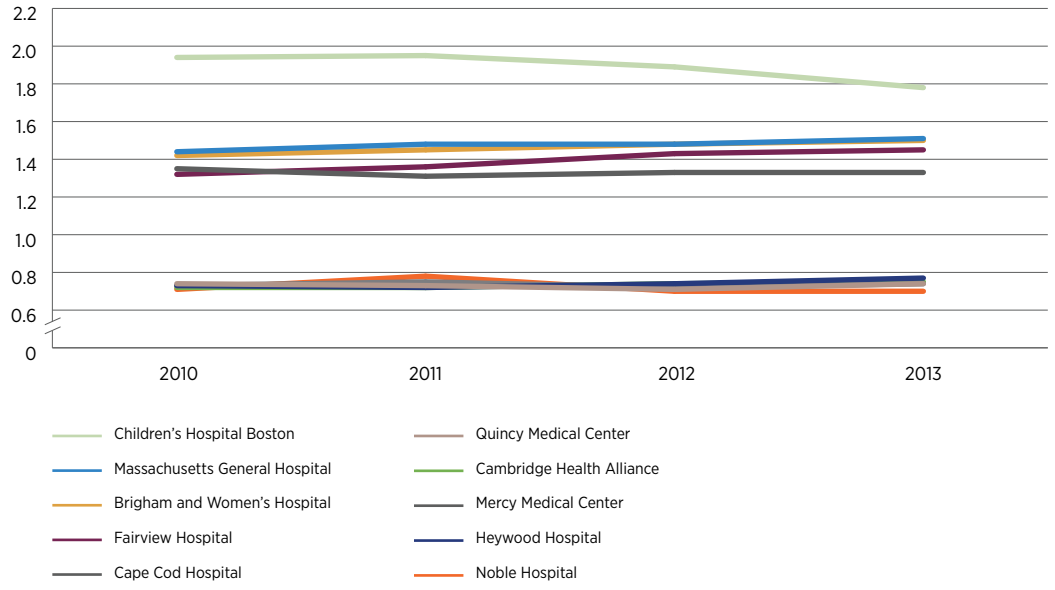
Hospital Relative Prices by Cohort, BCBS 2013



Source: HPC analysis of Ctr. for Health Info & Analysis, Provider Price Variation in the Massachusetts Health Care Market (calendar year 2013 data) Databook (Feb. 2015), [hereinafter CHIA 2013 RP Databook] *available at* http://www.chia-mass.gov/assets/Uploads/relative-price-databook-2013.xlsx.

69 The relative price figures presented here represent a blend of prices for both inpatient and outpatient hospital services, also known as "blended relative price." While some other analyses in this report focus on inpatient care, blended relative price is useful for examining hospital prices because some hospitals may find it to their advantage to negotiate with payers for higher outpatient rates in exchange for lower inpatient rates, or vice versa. Because of these trade-offs in negotiation, looking at blended relative price provides a more accurate picture of a hospital's overall prices than inpatient relative price or outpatient relative price separately.

Change in Relative Price for Hospitals with the Highest and Lowest Relative Price, BCBS 2010 – 2013
(Hospital prices relative to one another have remained largely stable over time)

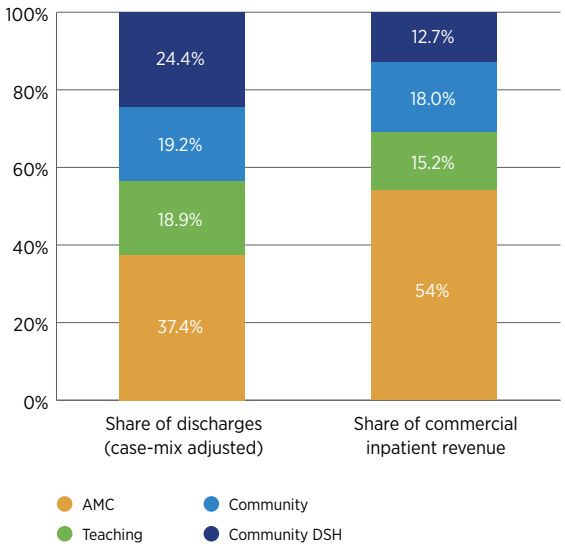


Source: HPC analysis of CHIA RP data.
Note: This analysis only includes hospitals for which the payer reported data in all four years, to allow consistent comparison. Martha's Vineyard Hospital and Nantucket Cottage Hospital were excluded as low volume coupled with unique patient flow patterns make comparisons difficult between these and other Massachusetts hospitals.

There has been little change to this variation over the past five years and hospitals tend to receive prices at similar levels above or below the network average over time. For the hospitals with the highest and lowest prices, their prices relative to other providers in the market have remained largely stable over time as shown in the graph above. Note that this graph indicates only that these hospitals' prices *relative to the market* have remained stable over time, not that there have been no changes in each hospital's prices; each of the providers below likely received some price increases each year, in line with general price increases across the market.

This unwarranted variation in prices contributes to drastic differences in revenue for hospitals. Although three of every four hospitals in the state are community hospitals, and they serve 38% of all case mix adjusted discharges, they receive less than one third of payments for inpatient care. The graph to the right shows the share of inpatient revenue received by each hospital cohort compared to the share of patients served by that cohort, adjusted for case mix.

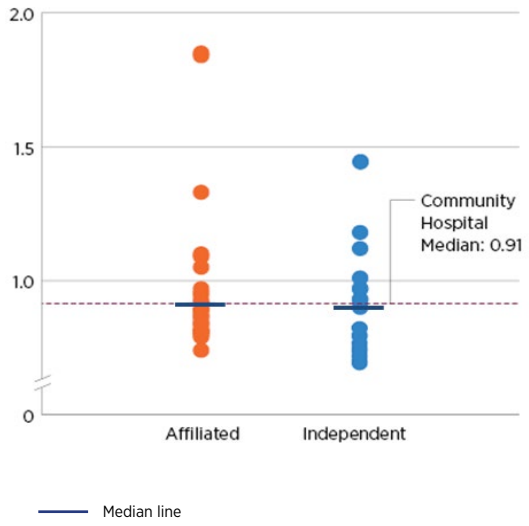
Share of Statewide Commercial Discharges and Inpatient Revenue by Hospital Cohort, 2013



Source: HPC analysis of CHIA RP data and CHIA Acute Hosp. Databook, *supra* footnote 11, at Appendix D.
Note: Excludes specialty hospitals.

Some community hospitals associated with large provider systems receive higher relative prices, while the community hospitals with the lowest relative prices tend to be unaffiliated.

Community Hospital Relative Prices and Affiliation Status, BCBS FY13



Source: HPC analysis of CHIA 2013 RP Databook, *supra* page 54.
Note: While this graph shows relative prices for only one major commercial payer, price and affiliation status are similarly correlated for the other two major commercial payers.

3. Variation in prices is not generally tied to measurable clinical quality or other common measures of value

Differences in prices are a concern to the extent that they do not reflect meaningful differences in quality, complexity, or other common measures of value. Prior research by the Massachusetts AGO, CHIA, and the HPC has demonstrated that the higher prices that some providers receive are not generally explained by better quality, higher patient acuity, or other indicators of high value care. In 2010, for example, the AGO found no connection between price and the quality of care delivered or how sick the patients served were; however, it did find an association between hospital market share and price, suggesting that hospitals seeing more patients were able to negotiate higher rates with payers.[XLV] Further research presented by the AGO in 2015 again found almost no correlation between price and quality measures.[XLVI] A 2011 Special Commission on Provider Price Reform similarly found no statistically significant relationship between quality of care and price for any payer, and only a weak correlation between patient acuity and price for one payer's inpatient prices, with no significant correlation for other payers.[XLVII] The Special Commission found that DSH hospitals tended to have lower prices, and CHIA also found that DSH hospitals had lower prices while AMCs and teaching hospitals had higher prices.[XLVIII]

As discussed in more detail in the HPC's 2015 Cost Trends Report on Provider Price Variation, the HPC has further investigated the relationship between inpatient hospital price and various clinical, operational, and competitive factors. Consistent with past research, the HPC generally did not find a statistically significant relationship between price and measures of quality, while having more public payer patients was associated with lower commercial prices. This runs counter to the assertion by many providers that their higher commercial rates make up for lower reimbursement by Medicaid; rather, hospitals are more likely to have higher commercial prices when they have less need to balance lower public payer payments. Consistent with past AGO findings on the role of market share in driving higher prices, the HPC also found that membership in larger hospital systems (as measured by beds) was associated with higher prices, whereas increased competition (more hospitals in a market) was associated with lower prices. Particularly relevant to community hospitals, the HPC found that community hospitals that shared service areas with an AMC had lower rates than community hospitals that did not share service areas with an AMC, perhaps reflecting the degree to which patients are choosing AMCs for community-appropriate care, reducing the bargaining leverage of community hospitals operating near AMCs. The HPC also found, consistent with CHIA's research, that teaching status was associated with higher prices, and that offering more tertiary services was associated with higher prices.[70]

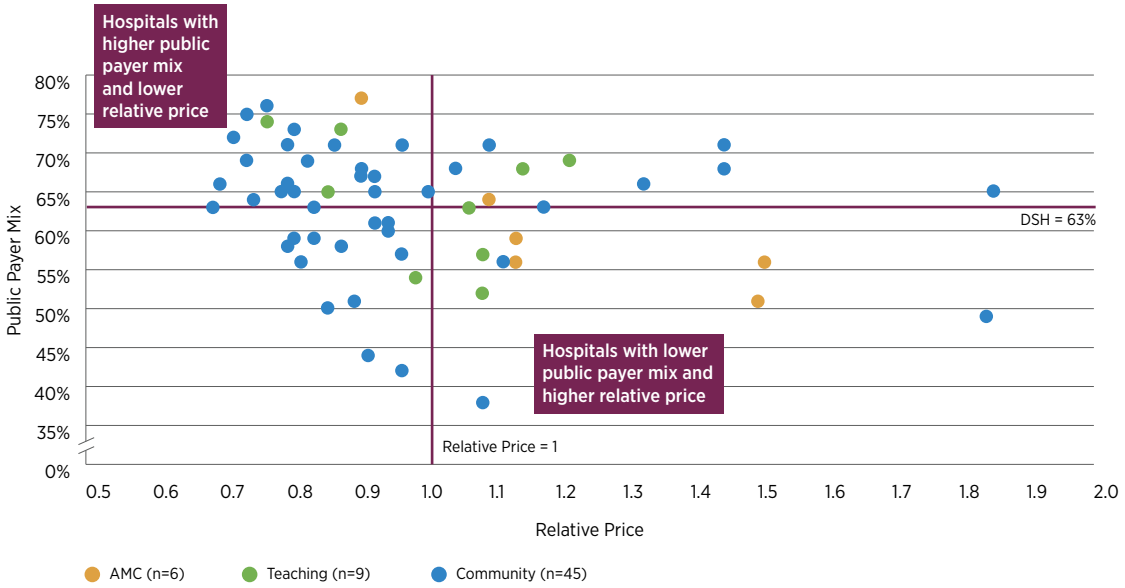
70 Because the HPC's model controlled for case mix, all observed price variation was independent of patient acuity.

4. Unwarranted price variation threatens the sustainability of community hospitals

Community hospitals with lower commercial rates may have limited resources to maintain services and invest in reforms. Hospitals with higher prices tend to have stronger financial conditions,[XLIX] while those with lower prices often lack the resources to invest in operations.[L] Hospitals that serve more patients covered by government insurance programs, including the elderly, poor, and/or disabled, are doubly impacted by price variation, as they tend to have both the lowest commercial relative prices and depend more on lower public payer reimbursements. This is shown by the cluster of community hospitals in the upper left of the chart below with both higher public payer mix and lower relative price. While the chart shows relative prices for the largest commercial payer in the Commonwealth, payment rates for the other two major commercial payers follow similar patterns.

> Contrary to assertions by many providers that they must maintain higher commercial rates in order to make up for lower reimbursement by Medicaid, the HPC found that hospitals are more likely to have higher commercial prices when they have lower public payer mix.

Hospital Commercial RP and Percent of Revenue from Public Payers by Cohort, BCBS FY13 (Hospitals with higher public payer mix receive less revenue per patient; this may be reinforced by lower commercial prices)



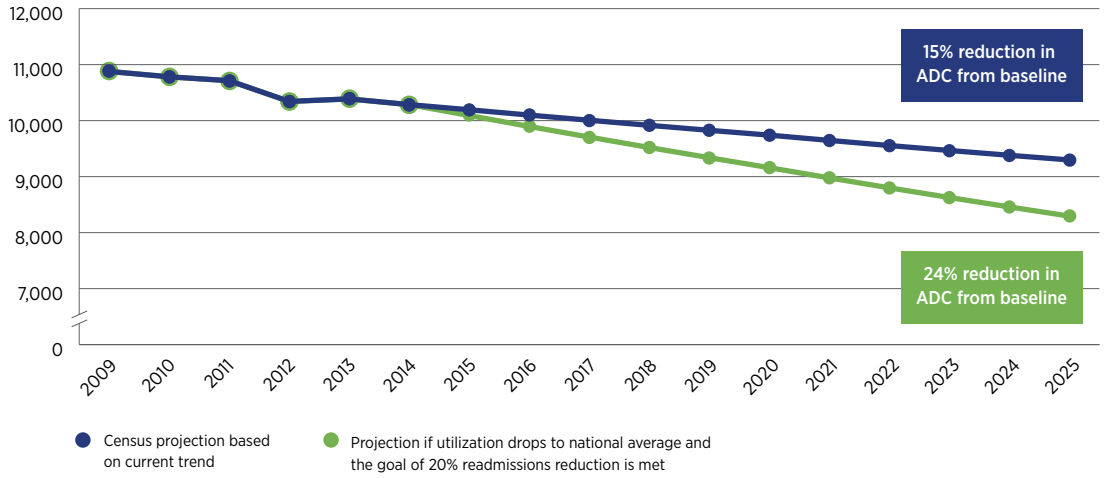
Source: HPC analysis of CHIA Acute Hosp. Databook, *supra* footnote 11, at Appendix D, and CHIA 2013 RP Databook, *supra* page 54.

F. Declines in inpatient utilization and occupancy pose financial challenges for the traditional community hospital model

Inpatient care has been the historical cornerstone of services community hospitals provide, and is still a critical part of their work, as discussed in **Section III.** However, the traditional focus of hospitals on putting "heads on beds" has clashed with recent trends in how patients use health care services. Even if drastic action to address the other challenges identified in this report were to succeed, this structural shift in utilization will force community hospitals to change how they provide care. As one provider system CEO stated, "the need for inpatient care is inexorably declining."

Although average occupancy rates in Massachusetts are still slightly higher than national averages, average daily census across all hospitals in the state has declined.[71] Based on trends in utilization and anticipated changes in the state's population size and demographics, we project that the number of patients needing inpatient care will continue to decline over the next decade. If Massachusetts providers succeed in improving patient care by reducing unnecessary hospitalizations and readmissions, the number of discharges will fall even further.

Total Average Daily Census Projections Massachusetts Hospitals, 2009 – 2025

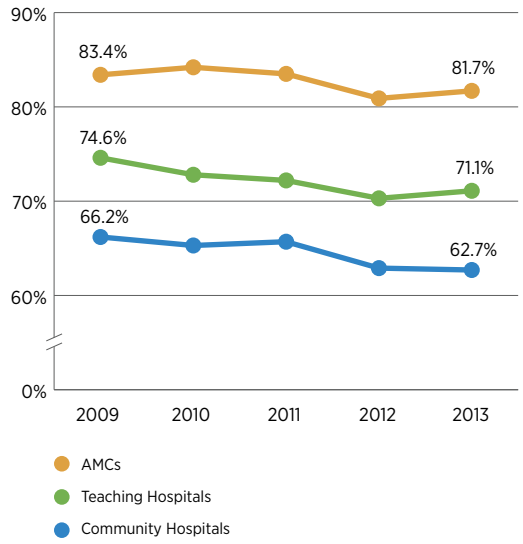


Sources: HPC analysis of MHDC discharge data, CHIA hospital 403 reports, AHA Hospital Statistics, and population data from the University of Massachusetts Donahue Institute.
Notes: Projection based on current trend assumes a continuation of recent utilization trends in major service categories, but does not take into account numerous other factors impacting utilization, e.g. the movement of more types of care from inpatient to outpatient settings. The alternate projection assumes a 10.2% reduction that would bring Massachusetts in line with national hospital utilization, and a 20% reduction in readmissions, reflecting goals of reducing unnecessary readmissions.

71 Hospital occupancy nationwide in the US averages about 65%. The higher rate in Massachusetts is due to slightly higher rates of utilization of inpatient care, not due to fewer beds, as the number of beds per capita in Massachusetts is consistent with national averages. *See* U.S. Dept. of Health and Human Servs. Nat'l Ctr. for Health Statistics, Health, United States, 2014 at 297-298 (May 2015), *available at* http://www.cdc.gov/nchs/data/hus/hus14.pdf#listtables; *see generally* Mark Brube et al., *Decline in Utilization Rates Signals a Change in the Inpatient Business Model*, Health Affairs Blog, http://healthaffairs.org/blog/2013/03/08/decline-in-utilization-rates-signals-a-change-in-the-inpatient-business-model/ (Mar. 8, 2013) (finding that, nationally, utilization of inpatient and certain outpatient services is declining, in part due to the shift toward value-based care. The authors predict that as providers move toward coordinated, collaborative, and standardized care and eliminate waste, inpatient admissions will likely continue to decline).

The decline in inpatient occupancy rates has disproportionately impacted community hospitals. Community hospital occupancy is, on average, lower than that of other hospitals and is further declining.

Total Inpatient Occupancy by Hospital Cohort, 2009 – 2013



Sources: HPC analysis of MHDC discharge data and CHIA hospital 403 reports.
Notes: Based on assessment of discharges and average patient length of stay compared to bed counts. Bed counts as of 2013. Bed types included are medical/surgical (including ICU), obstetrics, behavioral, and neonatology (normal newborn bassinets are excluded).

If current trends continue, community hospitals could face average occupancy rates of less than 50% within 10 years.

If hospital utilization declines statewide, and if AMC occupancy rates continue to decline more slowly than occupancy at community and teaching hospitals, average community hospital occupancy may fall to around 50% within the next 10 years. This would likely be unsustainable for many community hospitals, and illustrates the need for changes to our current care delivery system.

The recent declines in inpatient utilization are partially explained by advances in clinical practices and technology that have allowed some care which formerly required a hospital stay to be safely and effectively provided on an outpatient basis in hospitals.[LI] Lower hospital volumes may also be due to expanded competition from non-hospital providers such as urgent care centers, retail clinics, and ASCs, as discussed in the next section. The decline in inpatient admissions may also be driven by an increase in primary and preventive specialty care, particularly for certain patient populations.

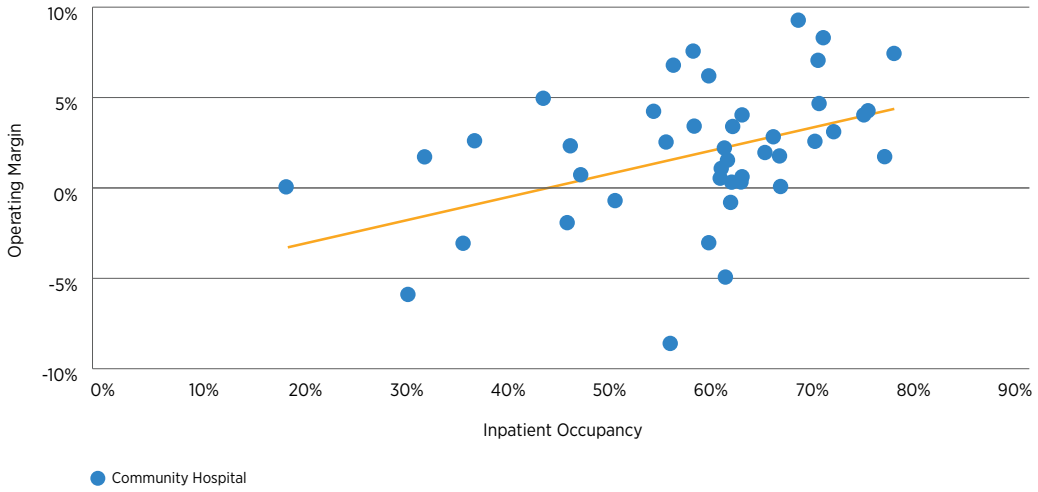
"Anything that is good for ambulatory care practices in terms of cost reduction is actually an immediate threat to the financial viability of hospitals. Physicians and community hospitals have to come together to figure out, through shared governance or priority setting, how to work together more constructively."

ACCOUNTABLE CARE ORGANIZATION CEO

While this trend toward non-hospital care may be generally good for patients and more cost-effective for consumers,[72] declines in patient occupancy can threaten hospitals' financial stability under traditional care delivery models, as lower occupancy rates are correlated with lower hospital operating margins. As one provider system CEO stated, "the economics of running any sort of health care institution given the immense cost of staffing and providing the underpinnings of the services that need to be available basically requires that institutions run very close to capacity, and running institutions at significantly less than capacity is very inefficient." As shown on the graph on the next page, lower bed occupancy is correlated with poorer hospital operating margin.

72 Although commercial prices for outpatient care vary by provider, outpatient prices tend to be lower than inpatient prices for the same care. For example, in 2013 Medicare paid ASCs 22% less on average for a procedure performed in an ASC than the same procedure performed in a hospital outpatient department. *See* Helen Adamopoulos, *The Outpatient Payment Rate Debate: What Lower Reimbursement Would Mean for Hospitals*, Becker's Hospital Review, http://www.beckershospitalreview.com/finance/the-outpatient-payment-rate-debate-what-lower-reimbursement-would-mean-for-hospitals.html (May 30, 2014).

Massachusetts Community Hospitals Inpatient Occupancy vs. Operating Margin, FY13
(upward sloping line indicates that higher occupancy is associated with a higher operating margin)



Sources: HPC analysis of CHIA Acute Hosp. Databook, *supra* footnote 11, at Appendix B; MHDC 2013 discharge data; and CHIA hospital 403 reports.

The overall decline in inpatient utilization is not likely to reverse, and continued efforts to reduce unnecessary admissions and readmissions and provide care in lower acuity settings should further decrease the need for inpatient beds.[LII] These changes have eroded traditional sources of revenue for community hospitals and have been cited as partially responsible for some recent hospital closures, emphasizing the need for hospitals to consider how to change their services and physical spaces to better align with patient needs.

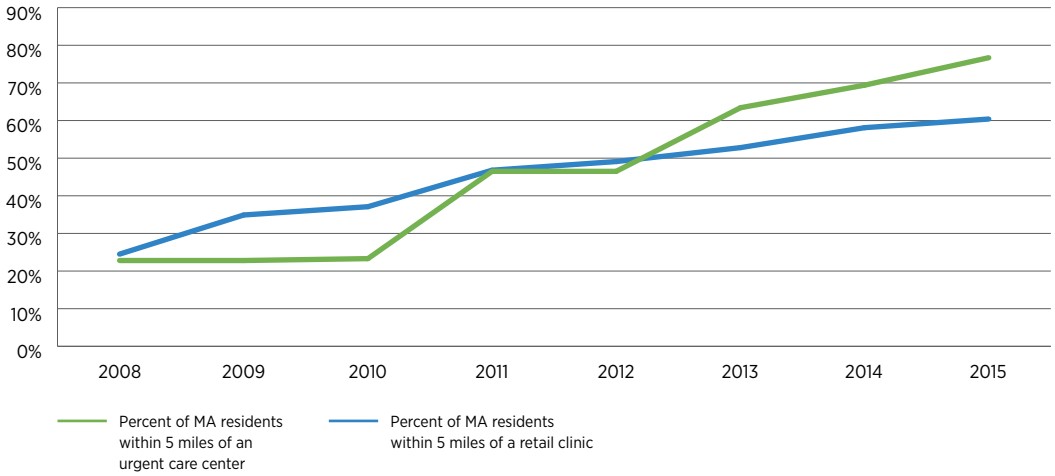
G. Non-hospital competitors challenge traditional community hospital roles

Across the Commonwealth, traditional delivery system roles played by community hospitals are being challenged by urgent care centers, ASCs, retail clinics and other non-hospital community providers. These non-hospital providers thrive on the high-margin, low-complexity care that has traditionally supported more expensive services in community hospitals, like behavioral health and the emergency department. Hospitals report that high-margin, low-acuity patients, especially those who are commercially insured, help hospitals offset the cost of caring for patients needing more complex care or who must wait in the ED for extended periods of time.

A 2015 survey of over 4,000 Massachusetts households conducted by CHIA indicates that, among respondents who had been to the ED in the past year, over half said they had done so because they could not get an appointment at their usual source of primary care when needed. Three of four respondents also said that their last ED visit occurred because they needed care after the normal operating hours of their doctor's office or clinic.[LIII] These findings suggest an unmet need for additional primary care services, particularly after-hours care. This need may have helped to spur the growth of urgent care centers, retail clinics and other non-hospital providers.

The number of retail clinics and urgent care facilities has grown rapidly in the past eight years, with urgent care centers growing from 10 to 85 centers and retail clinics growing from 3 to 56. Over two-thirds of Massachusetts residents now live within five miles of an urgent care center, and approximately three out of five Massachusetts residents live within five miles of a retail clinic. Community hospitals have developed expertise in providing culturally and linguistically appropriate services; the extent to which access to such culturally competent care is preserved by new, non-traditional market entrants has not yet been studied and warrants observation.

Percent of MA Residents Living Within 5 Miles of Retail Clinics and Urgent Care Centers
(Local access to urgent care and retail clinics may impact hospital utilization)



Sources: HPC analysis of DPH licensure data, SK&A health care claims database, and National Bureau of Economic Research Zip Code Distance Database.

"When [they] opened an urgent care center down the block we saw an immediate and precipitous decline in ED volume, especially the commercially insured, non-acute patients. It might be good for costs in the short term, but if we cannot keep our ED open, then what's next?"

COMMUNITY HOSPITAL CHIEF STRATEGY OFFICER

Although retail clinics, urgent care facilities, and ASCs can provide low-cost, time-saving alternatives to ED and hospital care, they also compete with community hospitals for low-acuity patients, attracting patients due to convenient locations[73] and lower cost-sharing. In addition, some of these facilities are affiliated with hospital systems, and may refer patients to affiliated hospitals rather than to local community hospitals in the event that patients need follow-up care; the location of some of these affiliated facilities near community hospitals may reflect a strategy of capturing patient volume that would otherwise go to community hospitals. The impact of these new market non-hospital providers on community hospitals was frequently cited by community hospital leaders as a key threat to the financial stability of community hospitals. In particular, community hospital representatives cited difficulty competing with non-hospital providers because hospitals are required by licensure regulations to conform to specific building code and service offering requirements, while clinics and other freestanding facilities are exempt from some of these requirements.[LIV]

For community hospitals, the loss of commercial patients to this competition leaves the hospital with a higher public payer mix and fewer higher margin, low-complexity cases. But for the Commonwealth as a whole, these providers may also offer potential benefits, including lower spending,[LV] increased access to low-acuity services in a less intensive setting than an emergency department, and increased convenience for consumers. Given the recent popularity of limited service clinics, urgent care centers, and ASCs, some community hospitals are exploring opening similar facilities to attract patients who need low-acuity outpatient care, or partnering with existing non-hospital providers.[74]

73 Comparing retail clinic locations to data on average per-capita income by community, the HPC found that retail clinics tend not to be located in low-income areas, which suggests that these providers in particular may be drawing higher-income patients more likely to be covered by commercial insurance.

74 Operating such outpatient facilities in conjunction with the hospital but independently from the hospital license could allow community hospitals to take advantage of the same operating efficiencies and which currently benefit their outpatient competitors, and result in lower costs for patients and payers. Although such facilities may draw patients who would otherwise have sought care at the community hospital itself, the hospital may be better off financially if those patients get care at its own outpatient facilities rather than those of competitors. The recent proliferation of outpatient clinics, particularly those owned by large provider systems, suggests that patients see value in this model of care, and that it is likely to continue to expand.

Models of Partnership between Hospitals, Urgent Care Centers and Retail Clinics

Across Massachusetts, models of partnership between hospitals and integrated delivery systems with retail clinics and urgent care centers have developed. These partnerships, such as those developed by Lahey Health, UMass Memorial Health Care, and Berkshire Health System have demonstrated value in building a more effective care continuum. As community hospitals increasingly participate in risk contracts, the incentives that these new payment arrangements offer for efficiently managing patient care should alleviate hospital fears about the disruption caused by new non-hospital community providers. In other areas of the Commonwealth, hospitals are directly investing in urgent care and retail medicine; Partners HealthCare recently announced their plans to open several urgent care centers. Among community hospitals, Hallmark Health has had great early success in redirecting care from its two emergency departments into non-hospital-based urgent care settings run by the same staff that run Hallmark's EDs.

H. Community hospitals may face additional barriers that inhibit adaptation to challenges

Community hospitals' leadership teams are well-acquainted with the challenges facing their organizations, including those outlined in this report, and most are exploring new ideas and opportunities to address them. However, to successfully implement changes, community hospitals must overcome substantial barriers and utilize resources and capabilities that may not be readily available. This section summarizes some of the key barriers that inhibit community hospitals' ability to adapt to challenges as highlighted by hospital leaders and key stakeholders throughout the Commonwealth.

1. Community hospitals may lack resources to sufficiently invest in transformation

In many cases, community hospitals must make investments in order to respond to the challenges they face (e.g., hiring new or retraining existing staff to better meet community needs, procuring new equipment like telehealth hardware, reconfiguring hospital space for outpatient care, or improving the hospital's electronic health record platform). Making investments in these capabilities may be particularly important for participation in alternative payment arrangements that better compensate the hospital for focusing on efficient and high quality care. However, community hospital leaders interviewed indicated that financial limitations often make these sorts of investments difficult or even impossible without the assistance of outside funding. Many of these financial limitations are driven by the very challenges detailed above, such as low volume, increased reliance on government payers and on low-margin services, and low commercial prices. Indeed, the poorest performers on certain financial metrics, including current ratio[75] and equity financing ratio,[76] tend to be community hospitals, indicating that some may have limited ability to make new capital investments or take on additional borrowing obligations. In some cases, it may also be difficult for community hospitals to attract additional needed staff.[77] While the recent implementation of the HPC's Community Hospital Acceleration, Revitalization, and Transformation (CHART) Investment Program[LVI] has shown that even relatively small amounts of funding can have positive impacts if deployed thoughtfully, finding these resources can be difficult for some community hospitals. Overcoming financial and technical barriers may require government and hospitals to closely partner together to identify the resources necessary to support innovation.

75 Current ratio compares the value of all of the assets to which a hospital has easy access (including, for example, cash reserves and stocks) to its short term debts (for example, payments owed to suppliers). A current ratio of 1.0 or greater indicates that a hospital can meet all of its current obligations, and has some cushion against unexpected changes; a current ratio near or below 1.0 means that a hospital may have difficulty paying its creditors and suppliers and will be at greater risk of closure due to unexpected revenue or cost changes. Community hospitals tend to have lower current ratios than other Massachusetts hospitals; of the 19 hospitals which had current ratios of 1.0 or lower in FY13, 16 were community hospitals.

76 Equity financing ratio compares the amount of the hospital's assets to its debt, in order to assess how much the hospital has borrowed against its net assets. A high ratio indicates that a hospital has not borrowed much money compared to its net assets, and could potentially borrow more for future projects; a negative ratio indicates that a hospital's debts are greater than its assets, and it may have difficulty borrowing additional funds. Of the 13 hospitals with negative equity financing ratios in FY13, 10 were community hospitals.

77 Hospitals in smaller or rural communities may have to pay higher salaries to attract clinical staff, as discussed in footnote 49, *supra*.

2. Lack of sufficient data and analytic capability may further hinder change

Even for community hospitals that have resources to invest in transformation, deploying those resources effectively can be difficult. The use of locally-derived data is critical for effective innovation efforts, and investments in information systems are often cited as a key part of hospital systems' efforts to improve quality and efficiency under new payment structures. However, many community hospitals currently lack needed information and data.[78] In some cases, no standard exists for collecting needed data; for example for some types of care, relevant quality measures have not been developed. Other measures have significant flaws; for example, measures of patient health status for risk adjustment do not incorporate socioeconomic factors that impact patient health and care management. In other cases, hospitals collect data like discharge information and medical records, but do not have the (often substantial) staffing and technical resources to organize, analyze, and apply that data effectively.[LVII] Patient claims data collected by payers can be useful to hospitals planning for transformation, but hospital representatives interviewed reflected that this information is not always delivered quickly enough for it to be most useful, and capability has not been developed to use such information.

> "To transition to population health management, it is critical that our administrative and support staff have the training, education, and experience to leverage information systems...."
>
> COMMUNITY HOSPITAL CEO

In planning for change, it is particularly important that community hospitals know the health care needs in the communities they serve. Community hospitals report difficulties developing and utilizing standard and analytically rigorous ways of assessing health care needs in their local service areas, including difficulty assessing the baseline health status and collecting other information necessary to stratify the risk of the populations they serve.[79] Several noted that they had tried to coordinate with other providers on conducting community health needs assessments on a local or regional basis without success.

Government plays a role in gathering and disseminating information useful to hospital transformation, but more development of this relationship is necessary. Many stakeholders (payers and community hospitals in particular) noted that the lack of a State Health Plan and an active Health Planning Council limits their ability to invest in capacity change.[80] Some community hospitals interviewed have also called for a more robust and permanent center for technical assistance that would gather and share information and best data practices on an ongoing basis.

3. Hospital governing bodies and community representatives may be resistant to substantial re-envisioning of the role of a community hospital

Some hospital executives interviewed stated that their governing boards are resistant to discussing changes to traditional hospital operations, seeing it as their duty to maintain the hospital rather than change it. Some health system leaders have also identified organizational leadership as the most important factor in whether a hospital can effectively transform to meet changing needs as the payment system and care delivery structures evolve. This view is supported by some research indicating that greater engagement of hospital board members can improve hospital performance and quality outcomes.[LVIII] However, historically, incentives have not always been aligned to encourage hospital leaders to embrace change.[81]

78 For example, the HPC has found through discussions with hospital representatives that many hospitals do not know important information about their role vis-à-vis other providers in their community, such as which other provider organizations employ the physicians on their medical staffs.

79 Models for stratifying the risk of populations are rapidly evolving across the nation; the most innovative models incorporate social factors in addition to health status and other clinical information. *See* Tracy Johnson et al., *Augmenting Predictive Modeling Tools with Clinical Insights for Care Coordination Program Design and Implementation*, eGEMs (July 30, 2015), *available at* http://repository.edm-forum.org/cgi/viewcontent.cgi?article=1181&context=egems.

80 Created through Chapter 224 of the Acts of 2012, the Council was tasked with assessing the needs of Massachusetts residents and the current health care resources available to those residents. *Health Planning Council*, Mass. Dep't of Health and Human Servs, http://www.mass.gov/eohhs/gov/departments/dph/programs/admin/hpc/ (last visited Jan. 12, 2016).

81 Compensation of CEOs at nonprofit hospitals is highly variable and has historically been associated with factors like technology and patient satisfaction but not with processes of care, patient outcomes, or the provision of community benefits. Karen Joynt et al, *Compensation of Chief Executive Officers at Nonprofit US Hospitals*, 174 JAMA Internal Med. 61 (Jan. 2014), *available at* http://archinte.jamanetwork.com/article.aspx?articleid=1748832.

Moreover, the necessity of certain changes, such as substantial reconfiguration of services, may be difficult to accept for hospital leaders and community members alike. Inpatient utilization declines, capacity misalignment (such as overwhelming demand for behavioral health on one hand and excess medical-surgical and obstetric capacity on the other), and an increasing push towards integrated delivery models require community hospitals and the market to substantially re-envision traditional community hospital roles in order to meet emerging community needs.[82] For some hospitals, a thorough assessment of local needs may result in a conclusion that a full-service acute care hospital is not necessary in its present location; community hospitals that reach this conclusion will need to be able to plan proactively with community stakeholders to maintain needed services in a sustainable way and work with other hospitals to ensure that local needs for inpatient care are still met.

4. The role of a community hospital as an employer may prevent necessary realignment of services

Other external forces may also inhibit transformation efforts by community hospitals. Community hospitals are often the largest or among the largest employers in their communities, meaning that plans for transformation can have significant economic impacts and draw scrutiny and criticism from community leaders, employees, and others who may be impacted. In interviews for this study, both hospital leaders and organized labor representatives noted that workforce resistance and labor negotiations can have a cooling effect on rapid transformation of health care organizations. Specifically, hospital leaders cite that unions resist changes that require workforce retraining or reassignment without extensive negotiation, while labor leaders report that hospital strategic planning processes are not transparent or inclusive of front line staff, and do not convey to those staff the imperatives of change. Both hospital and labor leadership acknowledged that financial pressures and market challenges facing hospitals have implications for workforce. For example, allocation of resources to compete for hiring and retention of professional staff can lead to wage freezes or benefit reductions for existing workforce. In many cases, hospital management and labor are still struggling to develop a dialogue that allows them to discuss transformation initiatives in a proactive way in order to ensure that they can continue providing the best care possible to patients.

5. Existing alternative payment models are inaccessible to many community hospitals, and community hospitals are disadvantaged in current models

Many community hospital representatives reported that they were told by insurers that it would be difficult for their hospitals to participate effectively in existing alternative payment models due to constraints such as small service populations and limited ability to invest in analytic and population health resources. Other hospital representatives indicated that concern about the financial implications of transitioning to alternative payments made them more cautious about making such investments. Many hospitals and several insurers noted in interviews that greater availability of bundled and episodic payment arrangements, in which hospitals assume risk for spending on pre-hospital, inpatient, and post-acute care for a given episode of care (e.g. a hip replacement), would facilitate the participation of more community hospitals in risk-based payment systems. Hospitals indicated that in traditional capitated payment models, which focus on primary care providers, community hospitals must join systems or affiliate with primary care practices, which can also be operationally and financially challenging.

Additionally, most alternative payment models in the Massachusetts market today center around a global budget which is risk adjusted for only the age, sex and utilization history of the patient population. Current risk adjustment methodologies do not account for other important factors in determining health and use of health care such as socioeconomic status, education level, and health literacy. These factors are particularly relevant to community hospitals, as their patients may

82 *See* Steven Valentine, *10 Trends for 2014*, Trustee Magazine, http://www.trusteemag.com/display/TRU-news-article.dhtml?dcrPath=/templatedata/HF_Common/NewsArticle/data/TRU/Magazine/2014/Jan/1401TRU_FEA_strategicplanning (Jan. 1, 2014) (As services move into outpatient and community-based settings, hospitals nationwide are diversifying their delivery systems by moving into the post-acute care delivery continuum to provide services such as home health, hospice and palliative care, and to reposition their inpatient facilities into skilled nursing, rehabilitation, step-down units and transitional care units).

disproportionately have lower incomes, disabilities, or other challenges that may not be reflected in current risk-adjustment methodologies. Further, in these global budget models, providers are measured against their own budget as well as trend in their region. This means that the trend for community hospitals and their providers that are located in the same region as teaching hospitals, AMCs, and their affiliated providers are measured against the trend of those much larger, well-resourced providers. These shortcomings of risk adjustment, coupled with the comparator group of more well-resourced providers, disadvantage community hospitals and their affiliated providers participating in global budget models. These challenges will persist until risk adjustment methods are updated (e.g., to account for socioeconomic factors), and the model for creating comparison groups is redesigned to group together similar providers.

Community hospitals could benefit from participating in alternative payment arrangements that provide financial incentives for managing patient care in low-cost, high quality settings. Because of this potential, overcoming barriers to community hospitals joining and operating effectively under these arrangements will be an important step toward transforming how these hospitals pay for and deliver care.

6. While government investment programs provide some needed resources, providers report that these programs are not aligned with each other, leading to duplicative or burdensome requirements

Community hospitals interviewed for this study frequently expressed appreciation for support by various Commonwealth agencies. They noted, however, that requirements and program goals are often misaligned across agencies, leading to unnecessary burden. Providers further noted support for the concept of a low or zero-interest capital investment vehicle for community hospitals and partners, but few were aware of the existing Moral Obligation Bond Program, and others noted that no provider had participated to-date.[83]

7. Regulatory barriers may limit the pace and ability of community hospital transformation

Community hospital representatives frequently cited government regulations and requirements as factors which constrain their ability to transform their model of delivering services. Regulations frequently cited as barriers included the complex Determination of Need process,[LIX] elements of the requirements for maintaining hospital licensure, and lengthy physician credentialing processes.

Regulatory requirements were also cited as a barrier to changing community-based provider capacity to better match health needs. Providers described regulatory barriers in such areas as inability to adjust bed designations to fit evolving service needs; barriers to implementing free-standing EDs and urgent care centers, as well as concern with differential requirements of hospitals for licensing the same services as freestanding clinical laboratories, ASCs, or urgent care centers; and barriers to use of and reimbursement for telehealth as a tool to maintain higher intensity care in community settings.

While some community hospitals have successfully navigated these challenges and barriers, fostering systems of accessible, efficient, high-quality community-based care will require providers, payers, and government to coordinate to push forward effective reforms. In the next section, we lay out a vision for the future of community-based care and identify steps toward making that vision a reality.

83 Moral Obligation Bonds are state bonds for non-profit community hospitals and health centers, which can be used for the promotion of patient centered care and integration and coordination of care, development of capabilities necessary to implement alternative payment methods, quality improvement, and relocation of care to high-quality, cost-efficient settings. Most community hospitals interviewed indicated that interest-free bonds obtained through the state could be a key source of funding for capital improvements.

Lowell General Hospital — Exploring Success

"Lowell General has done a terrific job of serving the folks in [their] community at a price point that is significantly below the statewide mean."

GOVERNOR CHARLIE BAKER, OCTOBER 5, 2015

Lowell General Hospital (LGH) is a non-profit community DSH hospital in Northeastern Massachusetts. With 333 staffed beds, LGH is among the largest community hospitals in the Commonwealth. However, unlike many community hospitals, which lose substantial volume to teaching hospitals, Lowell General serves 77% of residents in the City of Lowell and more than 50% of residents in key surrounding communities. Lowell's volume has remained high, their prices have remained low (35th percentile statewide), their age of plant is generally young, and they have built an effective and financially successful community-based accountable care organization with partnering physicians. In order to understand the factors that support LGH's success as a high value community provider we interviewed key LGH leadership, who reflected a strong commitment to setting and maintaining a community-oriented strategy, cultivating a supportive culture, preserving an effective physician-hospital partnership, and a laser focus on being a low cost, high quality provider.

The Sum of 1,000 Decisions — Strategic Priorities and Culture: For more than 30 years under CEO Norm Deschene's leadership, Lowell General has maintained a singular focus on providing top-notch community-based care for residents of Greater Lowell. According to CEO Deschene, "We concentrate on recruiting and retaining a great workforce and all of the important factors that are within our control. We built a business that is focused on putting our patients first — one that is low on cost and high on service and quality. As the CEO, I am solely focused on setting a strategy for my strong leadership team to execute that is laser focused on maintaining high value, community-based care. Now do that for 30 years. There's no secret sauce. It's the sum of 1,000 decisions." According to President Joseph (Jody) White, "[LGH's] strategy imbues our culture and it's simple: We just stick to our knitting. We operate every day like we are going to get less. Because you know what? We know we are going to get less. So we stick to what we do well, and we do it to the best of our ability, every day. We're proud to be a low cost provider; we are probably the only hospital in the state for which the goal is having prices below the state median. And we stay focused on running a good business, where a commitment to operational excellence matters most."

It's All About the Physicians — Partnership with Community Physicians: "Our success begins and ends with our physician partners," says Executive Vice President and COO Amy Hoey, referencing LGH's engagement with community physicians, most of whom participate in LGH's Physician Hospital Organization but less than 10% of whom are employed by the hospital. "Physicians are engaged in all aspects of decision-making at LGH." The hospital and its physician partners have also developed innovative compensation models to incentivize keeping care in lower cost community settings, even absent the incentives driven by risk contracts. Although physician-hospital alignment can raise certain concerns as detailed in **Section IV.B** of this report, the LGH case demonstrates that such an integrated partnership can also drive positive change to patient referral volume and promote alignment models that can maximize the autonomy and influence of community providers.

To Consolidate or Not to Consolidate — The Launch of Wellforce: "In Massachusetts, brand matters, and academic connections matter," reflected CEO Deschene. "So we went recruiting. But most of the systems wanted to take control over Lowell General; we wanted local control. And so we found the teaching hospital with the best combination of low prices and high quality and asked Tufts Medical Center to join us in creating something truly different. Wellforce is built on allowing communities to control their own destiny. We don't offer millions in new investment. We offer a new approach to doing business, putting patients and their relationships with their clinicians and communities first and running a good business over all else."

"What made them a low cost, high quality player, in my view, was the culture and the approach that they took to what it was they were doing and how they delivered care day after day after day and month after month and year after year."

GOVERNOR BAKER

Examples of Hospital Transformation through Conversion of Services: Hubbard Regional Hospital, Somerville Hospital, and North Adams Regional Hospital (NARH)

The conversion of a full-service acute care hospital into an outpatient institution or other care delivery model can be a difficult decision for hospital leadership and communities alike, but it can also preserve local access to needed services sustainably.

Hubbard Regional Hospital (Hubbard) was a 22-bed community hospital in Webster, MA. By 2008, Hubbard was serving an average of eight inpatients per day, due in part to the loss of primary care physicians who had formerly referred patients to the hospital. The hospital was acquired by nearby Harrington Hospital in 2009. Harrington closed Hubbard's inpatient beds, but maintained diagnostic and outpatient services and invested in renovating Hubbard's emergency room. Hubbard continues to provide access to emergency and outpatient services to its community, with patients needing inpatient care being referred to Harrington and other nearby hospitals.

Somerville Hospital, part of Cambridge Health Alliance (CHA), was a 90-bed community hospital serving Somerville, MA. In response to financial challenges, CHA closed a number of services across its system in 2009, including all of Somerville hospital's inpatient beds. CHA preserved the Somerville Hospital's emergency department and ambulatory surgical services, and implemented protocols to transfer patients to its other nearby hospitals to maintain continuity of care. It subsequently converted Somerville Hospital's inpatient space to house additional ambulatory and diagnostic services, as well as CHA's administrative headquarters.

The closure of North Adams Regional Hospital (NARH) was detailed earlier in this report. A concerted effort by the Northern Berkshires communities, government, and local hospitals to respond to community health needs and to increase access to critical services led to the conversion of the NARH facility after closure. Berkshire Medical Center (Berkshire) acquired the facility and has progressively reinstated emergency and outpatient services. Immediately following the closure, the emergency department reopened to provide critical and non-critical urgent care, staffed by clinicians and allied health personnel who had formerly been employed by NARH. In 2015, thanks in part to a grant by the HPC, Berkshire converted NARH's former intensive-care unit to an outpatient center delivering behavioral health, cardiac, and endocrinology care. The Brien Center, a local nonprofit, opened a new location within the former NARH campus to deliver mental health counseling and substance use treatment. Making creative use of limited onsite presence, the Berkshire North Adams campus began aggressively pursuing a telemedicine model to coordinate consultations with physicians at Berkshire's main Pittsfield campus and to "introduce" patients in real-time to community providers who would be taking on their care. Finally, new federal funding for expanding a federally-qualified health center in North Adams means the community is expecting more primary care capacity in the near future.

Notably, both acute community hospitals currently contemplating closure in the Commonwealth (Baystate Mary Lane Hospital and Partners North Shore Medical Center's Lynn-Union Campus) have framed those changes as conversions, to outpatient and behavioral health services respectively, to better align with community need. Dialogue on these two changes is ongoing.

V. From Community Hospitals to Community Health:

Building a Path to a Thriving Community-Based Care System

"We need to stop playing defense and start playing offense. This [challenge of supporting community hospitals] is one of the most complex health policy issues we have, but we cannot keep just relying on short term fixes. These hospitals are the backbones of our communities — we owe it to our communities to come together to develop a plan for their future."

SENATE MINORITY LEADER BRUCE TARR (R-GLOUCESTER)

Throughout our study of community hospitals over the last year, a single prevailing theme has emerged: the need to proactively reshape community health care rather than reacting to crises. The Health Policy Commission has issued this report to catalyze a statewide dialogue about how to support the transformation of community hospitals and to how to rectify market dysfunction in support of a more equitable and sustainable health care system.

The HPC's vision is a health care system in which patients in Massachusetts are able to get most of their health care in a local, convenient, cost-effective, high-quality setting.

As detailed throughout this report, community hospitals currently play a crucial role in that system by providing cost-effective, accessible care that is particularly important for some of our most vulnerable populations. However, the traditional role and operational model for many community hospitals faces tremendous challenges, both from evolution in the health care delivery and payment system, as well as from persistent market dysfunction that perpetuates resource inequities and encourages patients to bypass community providers to seek care from academic medical centers and teaching hospitals for routine care. While some community hospitals are successfully contending with and transforming to adapt to such challenges, others have already closed or restructured in ways that may ultimately perpetuate market dysfunction or compromise local access to cost-effective care, and many more face continuing challenges that make long-term viability in their current form untenable.

Some of the challenges detailed in this report—such as the transition to new care delivery models and shifts in payment models to increasingly hold providers accountable for the cost and quality of care—hold significant promise for improving access to high quality and affordable health care. However, realizing this promise requires a radical re-envisioning of the role of community hospitals, a comprehensive assessment of health care capacity, and planning for better alignment of capacity and services with community needs.

Other challenges detailed in this report—such as persistent variation in provider prices not tied to value, and the increasing migration of commercially insured patients to higher-priced AMCs and teaching hospitals for routine care without measurable differences in clinical quality—are symptoms of significant market dysfunction. Combating these entrenched issues will require coordinated action to equitably and sustainably pay health care providers based on value, and to provide consumers with the information and incentives to make high-value choices for their care.

To inform urgent action to address these challenges, the HPC will convene market participants to reflect on the findings of this report and to create a shared action plan with steps to be taken by community hospitals and other providers, payers, purchasers, the Commonwealth, and other stakeholders to create and maintain a thriving and sustainable, high-value, community-based system care of care.

Next Steps: Creating a Shared Action Plan

Our findings and feedback from stakeholders to-date have raised the following key themes that should form the priorities for further discussion, consensus-building, and action planning:

1. Planning and support for community hospital transformation

To guide necessary transformation from traditional community hospitals to sustainable community health systems, Massachusetts needs a cohesive, visionary strategy for health care across the Commonwealth and a system to support community hospitals in undertaking necessary changes to best serve patients and the Commonwealth. Some of the necessary steps to effectively plan for and support community hospital transformation include:

Working together with community hospitals, other providers, payers, community members and other stakeholders, the Commonwealth should comprehensively assess community needs and the extent to which existing services meet those needs. Community health care needs must be assessed alongside existing capacity in a standard and rigorous way. This analysis should include both assessments of unmet need (e.g. unmet behavioral health need requiring additional capacity) and capacity that should be aligned to better meet community need (e.g. full-service inpatient facilities that should be shifted toward outpatient services and partnerships with other providers and community-based organizations).

Community members, community hospital leadership, hospital employees, and other stakeholders must evaluate the viability of current community hospital operational models and recognize the need for substantial changes. Because community hospitals vary significantly in terms of geography, structure, services, and patient populations, there is no single model which will work for every hospital. However, significant structural changes in care delivery and payment systems necessitate all community hospitals undertake transformation to become community health systems that can address community need, adopt new care delivery models, and participate in value-based payment arrangements. Local stakeholders must engage in dialogue to identify and consider community needs, and plan together for changes that will be necessary to shift strategy and business priorities to meet these needs. These local efforts should be informed by statewide assessments of health care provider capacity and health need.

Payers, providers, and the Commonwealth must work together to ensure that transformation planning and patient care management are supported by the best possible data. Payers, providers and government must discuss and identify the information that will be most useful for analyzing patient care trends—including tracking utilization, spending, and quality performance—to support community hospital trans-

formation and better patient care management. As these needed data are identified, payers, providers, and government must work together to improve systems for information collection and exchange, and to ensure that information is made available in routine, standardized ways that benefit business planning, patient care, and market functioning.

The Commonwealth should continue to work with providers and payers to identify ways it can support health care system transformation. The Commonwealth should continue to work with market participants to enhance its support of thriving community-based health care, including developing and deploying results-oriented investment programs, reforming regulations in ways that safeguard patient safety while allowing greater flexibility to engage in transformation, supporting and expanding innovative payment initiatives through MassHealth and the Group Insurance Commission, and aligning state programs with federal programs and market-driven reforms.

2. Encouraging consumers to use high-value providers for their care

As described throughout this report, many patients, especially commercially-insured patients and patients from higher income communities, bypass local community hospitals to receive care from higher-priced providers such as AMCs, even for routine care for which there is frequently no demonstrable difference in quality. This trend is driven by multiple factors, including referral patterns impacted by increased consolidation of hospitals and physicians into large provider systems and patient perceptions of differences in quality. To encourage consumers to use high-value providers for their care, payers, employers, consumers, and the Commonwealth must work to incentivize more efficient referral practices and care utilization patterns and identify opportunities to provide better information and incentives to consumers about high-value care options. Some of the necessary steps to encourage consumers to use high-value care options include:

The Commonwealth should continue to closely monitor market dynamics that impact patient referral patterns. As detailed in this report, increased consolidation of providers into a few large systems has driven referrals away from independent community providers to the larger systems, including their anchor AMCs and teaching hospitals. The Commonwealth should continue to closely monitor increasing consolidation among health care providers along with other market dynamics that can encourage referrals to less efficient providers.

Payers must seek to effectively incentivize members to choose providers and sites of care based on value and the care that they need. Payers should continue to develop and improve value-oriented products to create incentives for members, such as financial rewards, for choosing high-value services and providers. As described in the Health Policy Commission's 2015 Cost Trends Report, payers should employ strategies such as using transparent, aligned methods to tier providers; increasing the cost differentials between preferred and non-preferred tiers to better reflect value-based differences among providers; improving educational and outreach efforts to help employers and employees better understand the insurance products and their benefits and tradeoffs; providing cash-back rebates for choosing low-cost providers; and offering members incentives at the time of PCP selection, with the level of incentives tied to differences in the total cost of care associated with the selected PCP.

Payers should continue to improve price and quality information available to members. Information, coupled with incentives and choice, is an essential element of a well-functioning market for health care. Patient difficulty in finding price information and general confusion about the relationship between health care spending and quality indicates a need for continued discussion of how to make prices for services more readily available and accessible to patients. Payers should prioritize making usable cost and quality information available to members and linking such information with opportunities and incentives to make high-value choices.

3. Creating a sustainable, accessible, and value-based payment system

To create and maintain a high-value, community-based system care of care, providers across the Commonwealth must have access to payment structures that appropriately reward them for providing high-quality, cost-effective care and adequately fund historically underpaid services for which there is documented community need. Some of the necessary steps toward creating a sustainable, accessible, and value-based payment system include:

Payers and providers, with support from the Commonwealth, must work to address unwarranted variation in provider prices. One of the key challenges for many Massachusetts community hospitals is that commercial payers pay many community hospitals lower prices than other hospitals, even after taking into account quality of care and patient acuity. As discussed in the HPC's Cost Trends Report on Provider Price Variation, the Health Policy Commission is convening stakeholders to discuss specific, data-driven policy options to reduce unwarranted price variation. Payers and providers should participate in this process to ensure that payments, both through fee-for-service prices and global budgets, better reflect value to patients and account appropriately for differences in provider populations and services.

Payers, providers, and the Commonwealth must work together to ensure that new payment models are accessible and fair to community hospitals. Community hospitals could benefit from participating in alternative payment arrangements that provide financial incentives for managing patient care in low-cost, high quality settings. However, certain common characteristics of community hospitals such as small patient populations and limited ability to invest in analytic and population health resources are often cited as barriers to community hospitals joining and operating effectively under these arrangements. Payers, providers, and the Commonwealth should work together to explore opportunities to make existing alternative payment models accessible to community providers and should seek to explore new payment methodologies, such as bundled or episodic payments, that may be well-suited for community hospital capabilities. Payers should seek to improve risk adjustment models and trend comparison groups to ensure that community hospitals are not disadvantaged by being compared to larger, more well-resourced providers caring for healthier populations.

Promptly following the publication of this report, the HPC will seek to convene stakeholders to discuss these and other actions that can be taken to create and maintain thriving and sustainable, high-value, community-based systems of care. The HPC looks forward to working with community hospitals and other providers, payers, purchasers, other Commonwealth agencies, and other stakeholders to advance this goal.

I. *See generally*, Stroudwater Associates, Healthcare Market Assessment: Northern Berkshire County, MA (Sept. 2014), *available at* http://www.mass.gov/eohhs/docs/dph/northern-berkshire-county-assessment.pdf.

II. Robert Weisman, *North Adams Regional Hospital to close*, Boston Globe (Mar. 25, 2014), *available at* https://www.bostonglobe.com/business/2014/03/25/nurses-union-says-was-told-north-adams-regional-hospital-will-close-friday/NO7iK2H4f2N8UNwoJyLgNI/story.html.

III. Stroudwater Associates, *supra* endnote i, at 28.

IV. Priyanka Dayal McCluskey, *Quincy Medical Center Closes Its Doors at Midnight*, Boston Globe (Dec. 26, 2015), *available at* https://www.bostonglobe.com/business/2014/12/26/quincy-medical-center-closes-its-doors-midnight/tU9GOvwImj8n7S1qmz8goN/story.html.

V. *See* Ctr. for Health Info. & Analysis, Massachusetts Hospital Profiles: Technical Appendix at E-3 (Jan. 2015) [hereinafter CHIA Hosp. Profiles Technical Appendix], *available at* http://www.chiamass.gov/assets/docs/r/hospital-profiles/2013/hospitalprofiletechappendix.pdf.

VI. CHIA Hosp. Profiles Technical Appendix, *id*., at E-7 to E-8.

VII. Mass. Gen. Laws ch. 6D, §1.

VIII. Mass. Health Policy Comm'n, 2013 Cost Trends Report Pursuant to M.G.L. c. 6D, § 8(g): July 2014 Supplement Technical Appendix B3 (Jul. 2014) [hereinafter Cost Trends 2014 Supplement], *available at* http://www.mass.gov/anf/docs/hpc/2013-cost-trends-report-technical-appendix-b3-regions-of-massachusetts.pdf.

IX. *Massachusetts Acute Hospital Profiles*, Ctr. for Health Info. & Analysis, http://www.chiamass.gov/massachusetts-acute-hospital-profiles/ (last visited Aug. 6, 2015).

X. *See* CHIA Acute Hosp. Databook, *supra* footnote 11, at Appendix B and Appendix D.

XI. *See id*. at Appendix B.

XII. *See id*. at Appendix F.

XIII. Mass. Gen. Laws ch. 6D, §1.

XIV. CHIA Acute Hosp. Databook, *supra* footnote 11, at Appendix F.

XV. *See Hospital Beds per 1,000 Population by Ownership Type*, Kaiser Family Foundation http://kff.org/other/state-indicator/beds-by-ownership/ (last visited Jan. 12, 2016).

XVI. *See* MHA Closures and Transactions, *supra* footnote 20.

XVII. *See* Claudia Williams, et al., *How Has Hospital Consolidation Affected the Price and Quality of Hospital Care?*, Robert Wood Johnson Foundation: The Synthesis Project, Policy Brief 9 (Feb. 2006), *available at* http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2006/rwjf12056.

XVIII. Kelly Gooch, *Breaking down the 5 most interesting hospital M&A deals of the year*, Becker's Hospital Review, http://www.beckershospitalreview.com/hospital-transactions-and-valuation/new-table.html#sthash.7SrzYy7P.dpuf (Dec. 11, 2014) (citing figures of 50—60 mergers and acquisitions nationally from 2005 to 2009, increasing to a high of 107 in 2012); *Number of Hospital Transactions Grew in 2013 According to New Kaufman Hall Analysis,* Reuters, (Apr. 10, 2014), *available at* http://www.reuters.com/article/2014/04/10/il-kaufman-hall-idUSnBw106277a+100+BSW20140410 (finding an increase of 51% in the number of hospital systems between 2010 and 2013).

XIX. *See generally* Ctr. for Health Info. & Analysis, Annual Report on the Performance of the Massachusetts Health Care System, Data Appendix: A Focus on Provider Quality (Nov. 2015) [hereinafter CHIA 2015 Quality Databook], *available at* http://www.chiamass.gov/assets/docs/r/pubs/15/2015-Focus-on-Provider-Quality-Databook.xlsx.

XX. Office of Att'y Gen. Maura Healey, Examination of Health Care Cost Trends and Cost Drivers Pursuant to G.L. c. 12N, § 11N: Report for Annual Public Hearing Under G.L. c. 6D § 8, 21 (Sept. 2015) [hereinafter AGO 2015 Cost Trends Report], *available at* http://www.mass.gov/ago/docs/healthcare/cctcd5.pdf.

XXI. *See* Mass. Health Policy Comm'n, Use of Locally Derived Data to Design, Develop, and Implement Population Health Management Interventions: Lessons from CHART Hospitals (Feb. 2015), *available at* http://www.mass.gov/anf/budget-taxes-and-procurement/oversight-agencies/health-policy-commission/chart/phase-2/chart-case-study-011615.pdf.

XXII. *See generally* James Conway, *Getting Boards on Board: Engaging Governing Boards in Quality and Safety*, 34 Joint Commission J. on Quality and Patient Safety 214 (Apr. 2008), *available at* http://www.ihi.org/resources/Pages/Publications/GettingBoardsonBoard.aspx.

XXIII. *See* Mass. Health Policy Comm'n, CHART Leadership Summit: Proceedings Report (Sept. 2, 2014), *available at* http://www.mass.gov/anf/docs/hpc/chart-leadership-summit.pdf.

XXIV. Healthcare Equality and Affordability League, Healthcare Inequality in Massachusetts: Breaking the Vicious Cycle 8 (Mar. 2014), *available at* https://healthcaremassachusetts.files.wordpress.com/2013/05/heal-report.pdf.

XXV. Mass. Health Policy Comm'n, 2015 Cost Trends Report Pursuant To M.G.L. C. 6D, § 8(G) 54 (Jan. 2016), *available at* http://www.mass.gov/anf/budget-taxes-and-procurement/oversight-agencies/health-policy-commission/publications/2015-cost-trends-report.pdf.

XXVI. *See, e.g., Harvard Pilgrim's Choice Net,* Harvard Pilgrim Health Care https://www.harvardpilgrim.org/portal/page?_pageid=848,363408&_dad=portal&_schema=PORTAL (last visited Jan. 12, 2016).

XXVII. *See Harvard Pilgrim's Choice Net Tiered Hospitals*, Harvard Pilgrim Health Care https://www.harvardpilgrim.org/pls/portal/url/ITEM/0475C32B7DBD4217979385387A37AD15 (last visited Jan. 12, 2016); *Blue Options v.4 Hospital Tiering*, Blue Cross Blue Shield of Mass., http://www.bluecrossma.com/common/en_US/pdfs/New_SOB/55-1072_2015_Blue_Options_Hospital_List.pdf (last visited Jan. 12, 2016).

XXVIII. HPC 2013 Cost Trends Report, *supra* footnote 24, at 30-32.

XXIX. Robert Blendon et al., *Report on Americans' Views on the Quality of Health Care*, Robert Wood Johnson Found. & Harvard School of Public Health (Mar. 22, 2011), *available at* http://www.rwjf.org/en/library/research/2011/03/report-on-americans--views-on-the-quality-of-health-care.html; *see also* Constance Fung et al., *Systematic Review: The Evidence That Publishing Patient Care Performance Data Improves Quality of Care*, 148 Annals of Internal Medicine 111 (Jan. 15, 2008), *available at* http://annals.org/article.aspx?articleid=738899 (reviewing the impact of the publication of clinical quality data and finding inconsistent impact on patient choice of providers).

XXX. *Consumerism: Earning Patient Loyalty and Market Share*, Press Ganey (2015), *available at* http://healthcare.pressganey.com/research-note-consumerism.

XXXI. *See also* Kyoungrae Jung et al., *Where would you go for your next hospitalization?*, 30 J Health Econ 832 (May 23, 2011), *available at* http://www.ncbi.nlm.nih.gov/pubmed/21665300 (finding that, nationally, consumers perceive differences in reputation and out of-pocket costs across hospitals and that reputation had the largest impact on future hospital choice).

XXXII. *See* CHIA 2015 Quality Databook, *supra* endnote xix, at tab 4 (showing scores on HCAHPS measures of how often patients rated doctors and nurses as having "always communicated well").

XXXIII. *See* Mass. Health Policy Comm'n, *Material Change Notices*, http://www.mass.gov/anf/budget-taxes-and-procurement/oversight-agencies/health-policy-commission/material-change-notices-cost-and-market-impact-reviews/material-change-notices.html (last visited Jan. 12, 2016).

XXXIV. Baker et al., *supra* footnote 43; *see also* Hannah Neprash et al., *Association of Financial Integration Between Physicians and Hospitals With Commercial Health Care Prices*, 175 JAMA Internal Med. 1932 (Oct. 19, 2015), *available at* http://archinte.jamanetwork.com/article.aspx?articleid=2463591.

XXXV. *See* Laurence Baker et al., *Vertical Integration: Hospital Ownership of Physician Practices is Associated With Higher Prices and Spending*, 729 Health Aff. 756 (May 2014), *available at* http://content.healthaffairs.org/content/33/5/756.abstract (finding that increases in the market share of provider systems with an owned hospital and owned physician group increased both prices and spending).

XXXVI. *See, e.g.* Cost Trends 2014 Supplement *supra* endnote viii, at 24-25.

XXXVII. *See id*. at 26.

XXXVIII. *See, e.g.*, Carl Stevens et al., *Geographic Clustering of Diabetic Lower-Extremity Amputations in Low-Income Regions of California*, 1310 Health Aff. 1383 (Aug. 2014), *available at* http://content.healthaffairs.org/content/33/8/1383.abstract (finding that diabetes patients in some low-income communities were ten times as likely as those in high-income communities to experience complications leading to limb amputation); Anna V. Diez Roux at al., *Neighborhood of Residence and Incidence of Coronary Heart Disease*, 79 N. Engl. J. Med. 99 (Jul. 2001), *available at* http://www.nejm.org/doi/full/10.1056/NEJM200107123450205 ("Even after controlling for personal income, education, and occupation, we found that living in a disadvantaged neighborhood is associated with an increased incidence of coronary heart disease").

XXXIX. Thomas Selden et al., *The Growing Difference Between Public and Private Payment Rates for Inpatient Hospital Care*, 34 Health Aff. 2147 (Dec. 2015), *available at* http://content.healthaffairs.org/content/34/12/2147.full.html.

XL. *See, e.g.* Office of Att'y Gen. Martha Coakley, Examination of Health Care Cost Trends and Cost Drivers Pursuant to G.L. c. 118G, § 6 ½ (b): Report for Annual Public Hearing (Mar. 16, 2010) *available at* http://www.mass.gov/ago/docs/healthcare/2010-hcctd-full.pdf.

XLI. Ctr. for Health Info. & Analysis, Health Care Provider Price Variation in the Massachusetts Commercial Market: Baseline Report at 8 (Nov. 2012), [hereinafter CHIA RP Variation Baseline Report] *available at* http://www.chiamass.gov/assets/docs/cost-trend-docs/cost-trends-docs-2012/price-variation-report-11-2012.pdf (finding that in 2010, BCBS, HPHC, and THP paid their highest-priced hospitals 2.73, 3.05, and 3.58 times as much as their lowest-priced hospitals, respectively); Ctr. for Health Info. & Analysis, Health Care Provider Price Variation in the Massachusetts Commercial Market: Results from 2011, at 5 (Feb. 2013), *available at* http://www.chiamass.gov/assets/docs/r/pubs/13/relative-price-variation-report-2013-02-28.pdf (finding that in 2011, BCBS, HPHC, and THP paid their highest-priced hospitals 2.88, 3.08, and 3.7 times as much as their lowest-priced hospitals, respectively).

XLII. *See generally* CHIA RP Variation Baseline Report, *supra* endnote xli (finding that in 2010, 22% of BCBS network hospitals had relative prices 25% or more higher or lower than the network average, while 37% and 32% of HPHC and THP hospitals had relative prices 25% or more higher or lower than their network averages, respectively).

XLIII. Office of Att'y Gen. Martha Coakley, Examination of Health Care Cost Trends and Cost Drivers Pursuant to G.L. c. 6D, § 8: Report for Annual Public Hearing 22 (Apr. 24, 2013), *available at* http://www.mass.gov/ago/docs/healthcare/2013-hcctd.pdf; AGO 2015 Cost Trends Report, *supra* endnote xx, at 20.

XLIV. Ctr. for Health Info. & Analysis, Performance of the Massachusetts Health Care System Series: Provider Price Variation in the Massachusetts Health Care Market (CY 2013 data) (Feb. 2015), *available at* http://chiamass.gov/assets/Uploads/relative-price-brief-2013.pdf.

XLV. *See generally* Office of Att'y Gen. Martha Coakley, Examination of Health Care Cost Trends and Cost Drivers Pursuant to G.L. c. 118G, § 6 ½(b): Report for Annual Public Hearing (Mar. 16, 2010), *available at* http://www.mass.gov/ago/docs/healthcare/2010-hcctd-full.pdf; Office of Att'y Gen. Martha Coakley, Examination of Health Care Cost Trends and Cost Drivers Pursuant to G.L. c. 118G, § 6 ½(b): Report for Annual Public Hearing (Jun. 2011), *available at* http://www.mass.gov/ago/docs/healthcare/2011-hcctd.pdf.

XLVI. AGO 2015 Cost Trends Report, *supra* endnote xx, at 21 (finding no correlation between price and quality performance except for a slightly positive correlation with the AHRQ IQI 90 Mortality Composite for Select Conditions).

XLVII. Special Commission on Provider Price Reform, Recommendations of the Special Commission on Provider Price Reform (Nov. 9, 2011), *available at* http://www.chiamass.gov/assets/docs/g/special-comm-ppr-report.pdf.

XLVIII. CHIA RP Variation Baseline Report, *supra* endnote xli.

XLIX. AGO 2015 Cost Trends Report, *supra* endnote xx, at 21-22 (hospital RP was found to be positively correlated with days cash on hand and equity financing ratio).

L. CHART Phase 1 Report, *supra* footnote 27.

LI. *See, e.g.,* Allison Russo et al., Healthcare Cost and Utilization Project (HCUP) Statistical Briefs, Hospital-Based Ambulatory Surgery, 2007 (Feb. 2010), *available at* http://www.ncbi.nlm.nih.gov/books/NBK53600/ ("Colonoscopy and biopsy was the most commonly performed [ambulatory surgery] procedure in 2007, followed by upper GI endoscopy, lens and cataract procedures, diagnostic cardiac catheterization, and debridement of wound").

LII. *See, e.g.*, Cost Trends 2014 Supplement, *supra* endnote viii, at 24-25 ("Data suggest opportunities to handle some of these cases in outpatient settings and avoid hospitalizations. For Medicare beneficiaries age 65-74, Massachusetts' admissions for ambulatory care-sensitive conditions—admissions that may be indicative of insufficient outpatient management—are 9 percent greater than the national average. Massachusetts has made progress in this area over the last few years, but still lags the median state").

LIII. Ctr. for Health Info & Analysis, Findings from the 2015 Massachusetts Health Insurance Survey 26 (Dec. 2015), *available at* http://www.chiamass.gov/assets/docs/r/survey/mhis-2015/2015-MHIS.pdf.

LIV. *See* 105 CMR 130.

LV. Kathleen Carey et al., *Hospital Competition and Financial Performance: The Effects of Ambulatory Surgery Centers*, 505 Health Econ. 571-581 (May 2011), *available at* http://onlinelibrary.wiley.com/doi/10.1002/hec.1617/full.

LVI. *See generally* CHART Phase 1 Report, *supra* footnote 27.

LVII. Megan Burns & Michael Bailit, *The Status of Alternative Payment Model Adoption in Massachusetts: The Penetration of Global Budgets and the Case of Safety-Net Providers*, Blue Cross Blue Shield Foundation of Mass. (2014), *available at* http://bluecrossfoundation.org/sites/default/files/download/publication/APMs_report_final.pdf.

LVIII. Ashish Jha & Arnold Epstein, *Hospital Governance and the Quality of Care*, 29 Health Affairs 182 (Jan. 2010), *available at* http://content.healthaffairs.org/content/29/1/182.long.

LIX. Mass. Dep't of Public Health, *Determination of Need (DoN)*, http://www.mass.gov/eohhs/gov/departments/dph/programs/hcq/don/ (last visited Jan. 12, 2016).

COMMUNITY HOSPITALS AT A CROSSROADS - INVITED INTERVIEWEES		
ORGANIZATION	**NAME**	**TITLE (at time of interview)**
1199SEIU	Celia Wcislo	Assistant Division Director & Vice President At-Large
1199SEIU	MaryEllen Leveille	Acting Vice President
Abt Associates, Inc.	Danna Mauch	Senior Fellow/Principal Associate/Scientist
Anna Jaques Hospital	Mark Goldstein	President & Chief Executive Officer
Association for Behavioral Healthcare	Vicker DiGravio	President & Chief Executive Officer
Atrius Health	Gene Lindsey	President & Chief Executive Officer Emeritus
Baystate Franklin Medical Center, Baystate Health Northern Region	Steven Bradley	Regional President
Baystate Noble Hospital	Ronald Bryant	President & Chief Executive Officer
Baystate Wing Memorial Hospital, Baystate Health Eastern Region	Charles Cavagnaro	Regional President
Berkshire Health Systems - Fairview Hospital	Eugene Dellea	President
Beth Israel Deaconess Care Organization	Christina Severin	President & Chief Executive Officer
Beth Israel Deaconess Hospital - Milton	Peter Healy	President & Chief Executive Officer
Blue Cross Blue Shield of Massachusetts	Dana Gelb Safran	Senior Vice President of Performance Measurement & Improvement
Blue Cross Blue Shield of Massachusetts	Michael Katzman	Director Public Government & Regulatory Affairs
Blue Cross Blue Shield of Massachusetts	Stephen Katinas	Vice President of Health Care Contracting & Management
Boston Medical Center HealthNet Plan	Karen Boudreau	Chief Medical Officer
Boston University School of Social Work	Linda Sprague-Martinez	Assistant Professor, Micro Practice
Cambridge Health Alliance	Andrew Fuqua	Senior Vice President & General Counsel
Cambridge Health Alliance	Patrick Wardell	Chief Executive Officer
Cape Cod Healthcare	Michael Lauf	President & Chief Executive Officer
Cape Cod Healthcare - Falmouth Hospital	Jeffrey Dykens	Chief Operating Officer
Commonwealth Care Alliance	Melissa Shannon	Director of Government Relations & Public Affairs
Commonwealth Care Alliance	Robert Master	Chief Executive Officer
Harrington HealthCare System	Edward Moore	President & Chief Executive Officer
Harvard Business School	Richard Bohmer	Senior Lecturer of Business Administration
Harvard Pilgrim Health Care	Eric Schultz	President & Chief Executive Officer
Harvard School of Public Health	James Conway	Adjunct Faculty
Harvard School of Public Health	John McDonough	Professor of Public Health Practice
Harvard School of Public Health	Nancy Kane	Professor of Management, Associate Dean
Harvard School of Public Health	Nancy Turnbull	Senior Lecturer on Health Policy, Senior Associate Dean

COMMUNITY HOSPITALS AT A CROSSROADS - INVITED INTERVIEWEES		
ORGANIZATION	**NAME**	**TITLE (at time of interview)**
Health Care for All	Brian Rosman	Research Director, Director of Government Relations
Heywood Healthcare	Winfield Brown	President & Chief Executive Officer
Holyoke Medical Center	Spiros Hatiras	President & Chief Executive Officer
Institute for Healthcare Improvement	Derek Feeley	President & Chief Executive Officer
Lahey Health	David Spackman	General Counsel & Senior Vice President of Governmental Affairs
Lahey Health	Howard Grant	President & Chief Executive Officer
Lahey Health - Beverly Hospital	Philip Cormier	Chief Executive Officer
Lawrence General Hospital	Dianne Anderson	President & Chief Executive Officer
Lowell General Hospital	Amy Hoey	Executive Vice President and Chief Operating Officer
Lowell General Hospital	Joseph (Jody) White	President
Maryland Health Services Cost Review Commission	Donna Kinzer	Executive Director
Maryland Health Services Cost Review Commission	Robert Murray	Executive Director (retired)
Massachusetts Association of Behavioral Health Systems	David Matteodo	Executive Director
Massachusetts Association of Health Plans	Eric Linzer	Senior Vice President of Public Affairs & Operations
Massachusetts Association of Health Plans	Lora Pellegrini	President & Chief Executive Officer
Massachusetts Council of Community Hospitals	Steven Walsh	Chief Executive Officer
Massachusetts Executive Office of Health and Human Services, MassHealth	Daniel Tsai	Assistant Commissioner for MassHealth
Massachusetts Group Insurance Commission	Dolores Mitchell	Executive Director
Massachusetts Hospital Association	Lynn Nicholas	President & Chief Executive Officer
Massachusetts Hospital Association	Timothy Gens	Executive Vice President & General Counsel
Massachusetts House of Representatives	Jeffrey Sanchez	Representative/House Chair Health Care Financing
Massachusetts House of Representatives	Patricia Haddad	State Representative/Speaker Pro Tempore
Massachusetts House of Representatives	Ronald Mariano	State Representative/House Majority Leader
Massachusetts Retailers Association	Jon Hurst	President
Massachusetts State Senate	Benjamin B. Downing	State Senator
Massachusetts State Senate	James T. Welch	State Senator/Senate Chairman of Health Care Financing
Massachusetts State Senate	John F. Keenan	State Senator
Mercy Medical Center	Daniel Moen	President & Chief Executive Officer
Milford Regional Medical Center	Edward Kelly	President

COMMUNITY HOSPITALS AT A CROSSROADS - INVITED INTERVIEWEES		
ORGANIZATION	**NAME**	**TITLE (at time of interview)**
Milford Regional Medical Center	Francis Saba	Chief Executive Officer
National Alliance on Mental Illness - Massachusetts	Laurie Martinelli	Executive Director
New Jersey Health Care Facilities Financing Authority	Mark Hopkins	Executive Director
Partners HealthCare	David Torchiana	President & Chief Executive Officer
Partners HealthCare - Martha's Vineyard Hospital	Timothy Walsh	President & Chief Executive Officer
Partners HealthCare - North Shore Medical Center	Robert Norton	President
RAND Corporation	Thomas Concannon	Senior Policy Researcher
Schneider Institutes for Health Policy	Stanley Wallack	Professor and Executive Director
Signature Healthcare	Kim Hollon	President & Chief Executive Officer
South Shore Hospital	Richard Aubut	President & Chief Executive Officer
Southcoast Health System	Keith Hovan	President & Chief Executive Officer
Steward Good Samaritan Medical Center	John Jurczyk	President
Steward Health Care System	David Morales	Executive Vice President and Chief Strategy Officer
Steward Health Care System	Ralph de la Torre	Chairman & Chief Executive Officer
Steward Morton Hospital, Steward Norwood Hospital	Kim Bassett	President
Sturdy Memorial Hospital	Bruce Auerbach	President & Chief Executive Officer
Tenet Healthcare - MetroWest Medical Center	Barbara Doyle	Chief Executive Officer
UMass Memorial - Clinton Hospital	Sheila Daly	President & Chief Executive Officer
UMass Memorial - HealthAlliance Hospital	Deborah Weymouth	President & Chief Executive Officer
UMass Memorial - Marlborough Hospital	Steven Roach	President & Chief Executive Officer
Urban Institute	Robert Berenson	Institute Fellow
Wellforce, Lowell General Hospital	Normand Deschene	Chief Executive Officer
Winchester Hospital	Dale Lodge	President & Chief Executive Officer

The Public Consulting Group led most of the interviews for the Report as part of a blinded process on behalf of the HPC and did not disclose final interview attendees or attribute quotations. Thus, this list reflects all individuals that the HPC invited for an interview. Additional individuals representing these organizations may have also participated in interviews.

Acknowledgements

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