



COMMONWEALTH OF MASSACHUSETTS
HEALTH POLICY COMMISSION

REVIEW OF PARTNERS HEALTHCARE SYSTEM'S
PROPOSED ACQUISITIONS OF
SOUTH SHORE HOSPITAL (HPC-CMIR-2013-1)
AND HARBOR MEDICAL ASSOCIATES
(HPC-CMIR-2013-2)

PURSUANT TO M.G.L. c. 6D, § 13

PRELIMINARY REPORT
DECEMBER 18, 2013

INTRODUCTION

The Health Policy Commission (HPC) was established in 2012 by the Commonwealth's landmark health care cost containment law, Chapter 224 of the Acts of 2012, "An Act Improving the Quality of Health Care and Reducing Costs through Increased Transparency, Efficiency, and Innovation" (Chapter 224). The HPC is an independent state agency governed by an 11-member board with diverse experience in health care. It 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.

Recognizing that excessive health care costs are crowding out other economic needs for government, households, and businesses, Chapter 224 set a statewide target for a sustainable rate of growth of total health care expenditures. This benchmark is set at 3.6% for 2013. Achieving this ambitious benchmark will require the continued development of a competitive, value-based health care market and a more efficient, accountable health care delivery system.

The HPC is advancing this statewide cost containment goal through a number of initiatives outlined in the law. We are partnering with providers and payers to foster innovative care delivery and payment models to enhance coordination, advance integration of behavioral and physical health services, improve health outcomes, and spend health care dollars more efficiently overall. In addition, we are working to enhance transparency of the health care system and evaluating both challenges and opportunities associated with achieving the health care cost containment goals set forth in Chapter 224.

A significant aspect of the health care system that requires more transparency and accountability is the evolving structure and composition of the provider market. Provider changes, including consolidations and alignments, have been shown to impact health care market functioning, and thus the performance of our health care system in delivering high quality, cost effective care. Due to confidential payer-provider contracts and limited information about provider organizations, the mechanisms by which market changes impact the cost, quality, and availability of health care services have not been apparent to government, consumers, and businesses who ultimately bear the costs of the health care system.

Chapter 224 directs the HPC to monitor this aspect of the Massachusetts health care system. With the newly required filing of notices of material change by provider organizations,¹ the HPC now tracks the frequency, type, and nature of changes in our health care market.² The HPC may also engage in a more comprehensive review of particular transactions anticipated to

¹ Section 1 of chapter 6D defines a health care provider organization as "any corporation, partnership, business trust, association or organized group of persons, which is in the business of health care delivery or management, whether incorporated or not that represents 1 or more health care providers in contracting with carriers for the payments of health care services." In this report, we use the terms provider organization and provider system interchangeably.

² See MASS. GEN. LAWS ch. 6D, § 13 (2012) (requiring health care providers to notify the HPC before making material changes to their operations or governance). See also HEALTH POLICY COMMISSION BULLETIN 2013-01: INTERIM GUIDANCE FOR PROVIDERS AND PROVIDER ORGANIZATIONS RELATIVE TO NOTICE OF MATERIAL CHANGE (Mar. 12, 2013), available at <http://www.mass.gov/anf/docs/hpc/material-change-notices/20130312-interim-guidance-on-material-change-and-notice-form.pdf>.

have a significant impact on health care costs or market functioning. The result of such “cost and market impact reviews” (CMIRs) is a public report detailing the HPC’s findings. In order to allow for public assessment of the findings, the transactions may not be finalized until the HPC issues its final report. Where appropriate, such reports may identify areas for further review or monitoring, or be referred to other state agencies in support of their work on behalf of health care consumers.³

The HPC begins its work during a period of dynamic change among provider organizations, including accelerating consolidation and new contractual and clinical alignments. In particular, hospital acquisition of physicians and the transition from independent or affiliated practices to employment models are significant trends both in Massachusetts and nationally. Through the CMIR process we seek to improve our understanding of these trends and other market developments affecting short and long term health care spending, quality, and consumer access.

In addition, our reviews will enable us to identify particular factors for market participants to consider in proposing and responding to potential future organizational changes. Through this process, we seek to encourage providers and payers alike to evaluate and take steps to minimize negative impacts and enhance positive outcomes of any given material change.

This document reports on the HPC’s first CMIR, examining the proposed acquisitions of South Shore Hospital (SSH) and Harbor Medical Associates (Harbor) by Partners HealthCare System (Partners). Based on criteria articulated in Chapter 224 and informed by the facts of the transactions, we analyzed the likely impact of these acquisitions, relying on the best available data and information. Our work included review of the parties’ stated goals for the transactions and the information they provided in support of how and when these alignments would result in efficiencies and care delivery improvements.

To the HPC’s knowledge, this is the first time any state has authorized a policy-oriented, prospective review of the impact of health care transactions that is distinct from an administrative determination of need or law enforcement review of antitrust or consumer protection concerns. This public reporting process, a unique opportunity to enhance the transparency of significant changes to our health care system, is of great interest to all stakeholders – payers, providers, purchasers, and government alike – who have demonstrated a shared commitment to sustaining access to high-quality, affordable care. Our work is intended to complement the many important efforts of other state agencies, such as the Center for Health Information and Analysis (CHIA), the Department of Public Health (DPH), the Division of Insurance (DOI), and the Attorney General’s Office (AGO) in monitoring and overseeing our health care market. Consistent with the goals of Chapter 224, we believe that comprehensive and evidence-based reporting of provider organization performance brings important information to the public dialogue about how to develop a more affordable, effective, and accountable health care system.

³ For example, MASS. GEN. LAWS ch. 6D, §13(f) (2012) requires referral of the CMIR report to the state Attorney General’s Office if the HPC finds that a provider under review (1) has a dominant market share in its service area, (2) charges prices that are materially higher than the median prices in its service area for the same services, and (3) has a health status adjusted total medical expense that is materially higher than the median in its service area.

TABLE OF CONTENTS

Introduction	
Acronyms and Abbreviations	ii
Naming Conventions	iv
Executive Summary	1
I. Analytic Approach and Data Reliances	3
II. Overview of the Parties and the Transactions	6
III. Analysis of Parties' Baseline Performance (2010 – 2012)	9
IV. Impact Projections (2014 onward)	27
V. Conclusions	54
Acknowledgements	

TABLES

Financial Performance of Four Largest Massachusetts Provider Systems (FY2011-2012)	11
Financial Performance of SSH Compared to Other Area Hospitals (FY2011-2012)	12
Inpatient Payer Mix for Residents of SSH's PSA – 2011	25
Inpatient Service Mix for Residents of SSH's PSA – 2011	27
Annual Spending Increase	32
Hospital Referral Prices by Physician Group (One Major Commercial Payer)	35
Market Share in South Shore Hospitals Primary Service Area	38
DOJ/FTC Horizontal Merger Guideline HHI Threshold	40
HHI Calculations Based on HPC and SSH Definitions of Primary Service Area	40

FIGURES

Primary Service Areas (PSAs) of Partners' General Acute Care (GAC) Hospitals and SSH	9
Relative Price for SSH and Partners Hospitals Compared to Other Area Hospitals (BCBS 2012)	14
Relative Price for PCHI and SSPHO Compared to Other Area Physician Groups (HPHC 2011)	15
Health Status Adjusted TME of PCHI and SSPHO Compared to Other Area Physician Groups (THP 2011)	16
Statewide Percentage of Physician Revenue (BCBS, HPHC, and THP, CY 2011)	17
Payer Mix of SSH and Other Area Hospitals (FY12 Inpatient + Outpatient GPSR)	24

ACRONYMS AND ABBREVIATIONS

ACC	Ambulatory Care Center
ACO	Accountable Care Organization
AGO	Massachusetts Attorney General's Office
AHRQ	Agency for Healthcare Research and Quality
AMC	Academic Medical Center
APCD	All-Payer Claims Database
AQC	Blue Cross Blue Shield of Massachusetts' Alternative Quality Contract
Chapter 224	Chapter 224 of the Acts of 2012
CHIA	Massachusetts Center for Health Information and Analysis
CHIP	Children's Health Insurance Program
CMHCB	CMS Medicare Care Management for High-Cost Beneficiaries
CMIR	Cost and Market Impact Review
CMS	Centers for Medicare and Medicaid Services
DOI	Massachusetts Division of Insurance
DOJ	United States Department of Justice
DPH	Massachusetts Department of Public Health
EMR	Electronic Medical Record
FTC	Federal Trade Commission
GAC	General Acute Care
HCAHPS	Hospital Consumer Assessment of Healthcare Providers and Systems
HEDIS	Healthcare Effectiveness Data and Information Set
HHI	Herfindahl-Hirschman Index
HIT	Health Information Technology
HMO	Health Maintenance Organization
HPC	Health Policy Commission
iCMP	Integrated Care Management Program
IP	Inpatient
IT	Information Technology
MassDAC	Massachusetts Data Analysis Center
MedPAC	Medicare Payment Advisory Commission
MHDC	Massachusetts Health Data Consortium
MHQP	Massachusetts Health Quality Partners
MMCO	MassHealth Managed Care Organization
NPSR	Net Patient Service Revenue
OP	Outpatient
PCMH	Patient Centered Medical Home
PCP	Primary Care Physician
PHH	Partners HealthCare at Home
PHM	Population Health Management
PMPM	Per Member Per Month

POS Point of Service
PPO Preferred Provider Organization
PSA Primary Service Area
RPO Registered Provider Organization
RSO Regional Service Organization
SCIP Surgical Care Improvement Project Measures
TME Total Medical Expenses
WTP Willingness-to-Pay

NAMING CONVENTIONS

Parties and Related Organizations

BWH	Brigham and Women's Hospital
BWPO	Brigham and Women's Physician Organization
Cooley Dickinson	Cooley Dickinson Hospital
Faulkner	Brigham and Women's Faulkner Hospital
Harbor	Harbor Medical Associates
Martha's Vineyard	Martha's Vineyard Hospital
McLean	McLean Hospital
MGH	Massachusetts General Hospital
MGPO	Massachusetts General Physicians Organization
Nantucket Cottage	Nantucket Cottage Hospital
Newton-Wellesley	Newton-Wellesley Hospital
North Shore MC	North Shore Medical Center
Partners	Partners HealthCare System
PCHI	Partners Community Healthcare Inc.
POSS	Physician Organization of the South Shore
SSH	South Shore Hospital
SSHEC	South Shore Health and Educational Corporation
SSPHO	South Shore Physician Hospital Organization

Payers

BCBS	Blue Cross Blue Shield of Massachusetts
HPHC	Harvard Pilgrim Health Care
THP	Tufts Health Plan

Other Providers

Atrius	Atrius Health
Baystate MC	Baystate Medical Center
BIDCO	Beth Israel Deaconess Care Organization
BIDMC	Beth Israel Deaconess Medical Center
BID-Milton	Beth Israel Deaconess-Milton
BID-Needham	Beth Israel Deaconess-Needham
BIDPO	Beth Israel Deaconess Physician Organization
BMC	Boston Medical Center
Carney	Steward Carney Hospital
CHA	Cambridge Health Alliance
Children's Hospital	Boston Children's Hospital
Dana Farber	Dana Farber Cancer Institute
Good Samaritan MC	Steward Good Samaritan Medical Center
Holyoke	Holyoke Medical Center
MACIPA	Mount Auburn Cambridge Independent Practice Association
Mercy MC	Mercy Medical Center

Metrowest MC	Metrowest Medical Center
Mount Auburn	Mount Auburn Hospital
NEPHO	Northeast Physician Hospital Organization
NEQCA	New England Quality Care Alliance
Noble	Noble Hospital
Norwood	Steward Norwood Hospital
Quincy MC	Steward Quincy Medical Center
Signature	Signature Healthcare
Signature Brockton	Signature Healthcare Brockton Hospital
St. Elizabeth's	Steward St. Elizabeth's Medical Center
Steward	Steward Health Care System
Tufts MC	Tufts Medical Center

EXECUTIVE SUMMARY

On December 21, 2012, Partners and SSH executed an Affiliation Agreement for Partners to acquire SSH, making it a fully integrated, community based member of the Partners system. According to the parties, they seek to develop an integrated physician, acute care, and post-acute care system that will support population health management (PHM) and allow the parties to assume greater risk for the quality and cost of care in southeastern Massachusetts. This vision is premised on new models for aligning physicians with SSH and the Partners hospitals, which the parties have stated is “a key component to successful implementation” of PHM and the SSH acquisition.

Subsequently, on July 19, 2013, the Partners subsidiary Brigham and Women’s Physician Organization (BWPO) executed a Memorandum of Understanding to acquire Harbor Medical Associates, the largest local practice group within South Shore Physician Hospital Organization (SSPHO). SSPHO is the managed care contracting organization for SSH and approximately 400 physicians in the South Shore region. Partners intends to integrate the Harbor physicians into a community-based, multispecialty unit of BWPO located on the South Shore, with the stated goals of improving PHM and moderating health care cost growth in southeastern Massachusetts.

Following 30-day initial reviews, the HPC determined that the transactions were likely to have a significant impact on costs and market functioning in southeastern Massachusetts and warranted further review.⁴ This preliminary report presents our analysis and the key findings from our review. Following a 30-day opportunity for the parties to respond to these findings, the HPC will issue a final report.

This report is organized into five parts. Part I outlines our analytic approach to conducting CMIRs. Part II describes the parties to this CMIR and their goals and plans for undertaking the transactions. Parts III and IV then present our findings. Part III reports on the parties’ performance leading up to the transactions, and Part IV reports on the projected impact of the transactions on that baseline. We conclude in Part V. Below is a summary of the findings presented in Parts III and IV:

1. **Cost Profile:** Partners and SSH are financially strong and are the two leading competitors for inpatient services in SSH’s service area. Partners and SSPHO have high total medical expenses (TME), due in part to high hospital prices. In each region where the parties operate, their hospitals have higher prices than nearly all other area hospitals, and Partners’ physicians have some of the highest prices in the state.
2. **Quality and Care Delivery Profile:** Partners, SSH, and SSPHO (including Harbor) are strong quality performers, consistently exceeding Massachusetts and national averages

⁴ See MASS. HEALTH POLICY COMM’N, MINUTES OF THE HEALTH POLICY COMM’N (June 19, 2013) (approval to continue the Cost and Market Impact Review of the Partners/South Shore merger); MASS. HEALTH POLICY COMM’N, MINUTES OF THE HEALTH POLICY COMM’N (Nov. 20, 2013) (approval to continue the Cost and Market Impact Review of the Partners/Harbor Medical Associates merger).

across a spectrum of measures; there is very little material variation in quality performance between them.

3. **Access Profile:** Partners' hospitals and SSH generally care for higher proportions of commercially insured patients and lower proportions of Medicaid patients than other area hospitals, and SSH generally provides fewer inpatient behavioral health services in its service area than other area hospitals.
4. **Cost Impact:** Over time, for the three major commercial payers studied, these transactions are anticipated to increase total medical spending by \$23 million to \$26 million each year as a result of increases in Harbor/SSPHO physician prices and increased utilization of Partners and SSH facilities. Total spending will also increase if facility fees are added to Harbor's clinic or ancillary visits following the transactions. The resulting system is anticipated to have increased ability to leverage higher prices and other favorable contract terms in negotiations with commercial payers. The cost impact of this increased leverage is not included in the above projection, and will be substantial if payers are unable to prevent the exercise of the parties' leverage in future contract negotiations. Overall, increases in spending are anticipated to far exceed potential cost savings from expanding Partners' PHM initiatives into the South Shore region.
5. **Care Delivery Impact:** Partners' work on PHM demonstrates potential for improving care delivery and health outcomes. However, given SSH and SSPHO's historically strong quality performance, and their own experience managing populations through risk-based payments, it is unclear how corporate integration of the parties is instrumental to raising quality performance in the South Shore region.
6. **Access Impact:** Partners and SSH have not proposed specific changes in services that would cause the HPC to anticipate changes to their existing hospital service mix and payer mix trends. Combining providers with similar profiles of high commercial payer mix may reinforce the resulting system's financial strength vis-à-vis area competitors.

In summary, we find that the proposed transactions between Partners, SSH, and Harbor will increase health care spending, likely reduce market competition, and result in increased premiums for employers and consumers. We find the projected benefits from care delivery efficiencies and quality improvement to be limited in comparison to known spending increases. Based on these findings, the HPC concludes that the transactions warrant further review and refers our report to the AGO pursuant to MASS. GEN. LAWS c. 6D, § 13(f).

I. ANALYTIC APPROACH AND DATA RELIANCES

A. ANALYTIC APPROACH

In structuring a cost and market impact review, we took the following steps. First, we identified the primary areas of impact for the HPC to study. MASS. GEN. LAWS ch. 6D, § 13 tasks the HPC with examining impact in three interrelated areas⁵:

1. **Costs.** The statute directs the HPC to examine prices, total medical expenses, provider costs and market share, and other measures of health care spending.
2. **Quality.** The statute directs the HPC to examine the quality of services provided, including patient experience.
3. **Access/market structure.** The statute directs the HPC to examine the availability and accessibility of services provided; the provider's role in serving at-risk, underserved, and government payer patient populations; the provider's role in providing low or negative margin services; the provider's methods for attracting patient volume and health care professionals; and the provider's impact on competing options for care delivery.

After identifying the primary areas for the HPC's review, we then gather detailed information in each of these areas. The HPC examines recent data to establish the parties' *baseline performance* in each of these areas prior to the transactions. The HPC then combines the parties' baseline performance with known details of the transactions, as well as the parties' goals and plans, to project the *impact of the transactions on baseline performance*. The analytic sections of this report are divided into two parts mirroring this framework: Part III addresses baseline performance and Part IV addresses impact analysis.

Within this general framework for CMIRs, the specific facts of a transaction, the availability of accurate data, and time constraints will affect the particular analyses included in our review of any given material change. We also seek to focus our work on analyses that complement, rather than duplicate, the work of other agencies. Future CMIRs may encompass new and evolving analyses, depending on the facts of a transaction, recent market developments, areas of public interest, and the availability of new data resources, like the All-Payer Claims Database (APCD) and Registered Provider Organization information (RPO).⁶

B. DATA RELIANCES

To conduct this review, we relied on the documents and data the parties produced to us in response to HPC information requests, and their own description of the transactions as presented

⁵ The HPC may also examine consumer concerns and any other factors it determines to be in the public interest. MASS. GEN. LAWS ch. 6D, § 13(d) (2012).

⁶ See *All-Payer Claims Database*, CTR. FOR HEALTH INFO. & ANALYSIS, www.mass.gov/chia/apcd (last visited 12/13/2013) (“[t]he APCD is comprised of medical, pharmacy, and dental claims, as well as information about member eligibility, benefit design, and providers for all payers covering Massachusetts residents”); MASS. GEN. LAWS ch. 6D, § 11(2012) (requiring provider organizations to register biennially with the HPC and provide information on contractual and operating structures, capacity, and other requested information).

in their material change notices and other filings with the Commonwealth.⁷ To further inform our review, the HPC obtained data and documents from a number of other sources. These include state agencies such as CHIA and the AGO's Non-Profit Organizations/Public Charities Division, federal agencies such as the Agency for Healthcare Research and Quality (AHRQ) and the Centers for Medicare and Medicaid Services (CMS), private organizations that collect health care data such as the Massachusetts Health Data Consortium (MHDC) and Massachusetts Health Quality Partners (MHQP), payers such as Blue Cross Blue Shield of Massachusetts (BCBS), Harvard Pilgrim Health Care (HPHC), and Tufts Health Plan (THP), and health care providers operating in the same areas of the state as the parties.⁸ The HPC appreciates the cooperation of all entities that provided information in support of this review.

To assist in review and analysis of information collected from these sources, the HPC engaged consultants with extensive experience evaluating provider systems and their impact on the health care market. Working with these experts, the HPC extensively analyzed the data and other materials provided. For each analysis, the HPC utilized the most recent, reliable data available. Because data—whether publicly reported or privately held—is usually generated on a variable schedule from entity to entity, the most recent and reliable data occasionally reflects 2012 data and occasionally 2011. We have noted the applicable year for the underlying data throughout this report. Wherever possible, the HPC examined multiple years of data to analyze trend and to report on the consistency of findings over time. For data and materials produced by the parties and other market participants, the HPC tested the accuracy and consistency of the data collected to the extent possible, but also had to rely in large part on the producing party for the quality of the information provided.

Several of our analyses focus on anticipated cost impact in the commercially insured market. In the commercially insured market, prices for health care services—whether fee-for-service, global budgets, or other forms of alternative payments—are established through private negotiations between payers and providers. The terms of these payer-provider contracts vary widely, both with regard to price and with regard to other material terms that impact health care costs and market functioning.⁹ By contrast, government payers such as Medicare and Medicaid pay for health care services, in large part, according to prices and other material terms established by regulators, which are typically not subject to the same mechanisms that impact total medical spending in the commercial market (e.g. increases to total medical spending as physicians join higher-priced physician groups, or as providers increase their market clout to leverage higher prices and other favorable contractual terms).¹⁰ As time and data have allowed,

⁷ *E.g.*, Application by South Shore Hospital, Inc. for Determination of Need under 105 C.M.R. 100.600-603 for Change in Ownership of South Shore Hospital (Dec. 28, 2012).

⁸ These providers include Atrius Health (Atrius), Beth Israel Deaconess Care Organization (BIDCO), Lahey Health, New England Quality Care Alliance (NEQCA), Signature Healthcare (Signature), and Steward Health Care System (Steward).

⁹ *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, at 40-43 (Mar. 16, 2010) [hereinafter AGO 2010 COST TRENDS REPORT], available at <http://www.mass.gov/ago/docs/healthcare/2010-hcctd-full.pdf> (indicating that contractual provisions governing when and how physician networks may expand vary widely, with implications for costs and market functioning).

¹⁰ Notably, over half of the members of the state's Medicaid program, MassHealth, are enrolled in a MassHealth Managed Care Organization (MMCO). Like commercial payers, MMCOs negotiate prices with providers and thus are subject to some of the same mechanisms that operate in the commercial market (e.g. bargaining leverage).

this report includes analysis of mechanisms that impact total medical spending in the government payer market, such as the potential to add facility fees when hospitals acquire physician groups and their ancillaries (e.g., imaging and laboratory facilities).

Within the commercial market, we focused our review on the three largest commercial payers (BCBS, HPHC, THP) in Massachusetts, which account for about 80% of the commercial market.¹¹ Our cost projections thus tend to underestimate the total dollar impact to commercial spending. Due to the nature of contract negotiations and bargaining leverage, we would expect to see similar trends in the 20% of the commercial market for which we did not have detailed data. For future reports, we hope to have access to consolidated data on the entire health care market through the APCD, RPO program, and other resources.

Many of our analyses compare the Partners hospitals and SSH to other hospitals operating in the same area. These comparator hospitals, shown below, were identified based on geographic proximity and patient flow patterns:¹²

- **Brigham and Women’s Faulkner Hospital (Faulkner):** Steward Carney Hospital (Carney), Steward Norwood Hospital (Norwood), Steward St. Elizabeth’s Medical Center (St. Elizabeth’s);
- **Brigham and Women’s Hospital (BWH) and Massachusetts General Hospital (MGH):** Beth Israel Deaconess Medical Center (BIDMC), Boston Medical Center (BMC), Tufts Medical Center (Tufts MC);
- **Cooley Dickinson Hospital (Cooley Dickinson):** Baystate Medical Center (Baystate MC), Holyoke Medical Center (Holyoke), Mercy Medical Center (Mercy), Noble Hospital (Noble);
- **Martha’s Vineyard Hospital (Martha’s Vineyard) and Nantucket Cottage Hospital (Nantucket Cottage):** Cape Cod Hospital, Falmouth Hospital;
- **Newton-Wellesley Hospital (Newton-Wellesley):** Beth Israel Deaconess-Needham (BID-Needham), Metrowest Medical Center (Metrowest MC), Mount Auburn Hospital (Mount Auburn);
- **North Shore Medical Center (two campuses) (North Shore MC):** Hallmark-Lawrence Memorial Hospital, Hallmark-Melrose-Wakefield Hospital, Lahey-Addison Gilbert Hospital, Lahey-Beverly Hospital, Lahey Hospital and Medical Center;
- **South Shore Hospital (SSH):** Beth Israel Deaconess-Milton (BID-Milton), Signature Healthcare Brockton Hospital (Signature Brockton), Steward Good Samaritan Medical Center (Good Samaritan), Steward Quincy Medical Center (Quincy MC).

However, the capitated prices paid to the MMCOs are limited by the state budget, and therefore MMCO price increases are constrained by other forces, and cannot be passed along to employers and consumers through premium increases in the same manner as increases in commercial prices.

¹¹ CTR. FOR HEALTH INFO. & ANALYSIS, ANNUAL REPORT ON THE MASSACHUSETTS HEALTH CARE MARKET, at 1 (AUG. 2013) [hereinafter CHIA ANNUAL REPORT AUG. 2013], available at <http://www.mass.gov/chia/docs/r/pubs/13/ar-ma-health-care-market-2013.pdf>.

¹² Because this set of comparator hospitals is based on geographic proximity, patient flow patterns, and hospital type (i.e., AMCs are compared to AMCs, not nearby community hospitals), they may not align with municipal boundaries or other fixed regions. The comparator hospitals are intended to reflect a set of local hospitals that a local patient could choose as a substitute for the focal hospital.

Throughout this report, we seek to present data in the manner that most accurately reflects the current state of the market. Except where explicitly noted, Cooley Dickinson, which was acquired by Partners in July 2013, is included in Partners' hospital statistics. Cooley Dickinson Physician Hospital Organization, which the HPC understands has not joined Partners' physician organization, Partners Community Healthcare Inc. (PCHI), is not included in PCHI's information. Other recent transactions, such as the Lahey Clinic and Northeast Health System merger in 2012, are reflected throughout our data except where explicitly noted.

II. OVERVIEW OF THE PARTIES AND THE TRANSACTIONS

On December 21, 2012, Partners and SSH executed an Affiliation Agreement for Partners to acquire SSH, making it a fully integrated, community based member of the Partners system.¹³ Partners' proposed acquisition of SSH builds on an eight-year clinical affiliation between BWH and SSH that included development of joint programs in significant service lines such as cardiovascular services, women's health, and surgery. According to the Affiliation Agreement, the objectives of Partners' acquisition of SSH are to create an integrated physician, acute care, and post-acute care system that will support PHM and assume greater risk for the quality and cost of health care in southeastern Massachusetts.¹⁴ To accomplish this, the Affiliation Agreement sets out three important initiatives that will be implemented over five years at a cost of approximately \$200 million. Two of the initiatives, the Primary Care Network Development Initiative (PCP Initiative)¹⁵ and the Specialty Physician Alignment Initiative (SCP Initiative),¹⁶ encompass recruiting and aligning physicians to support PHM, including implementation of patient centered medical homes (PCMH). The third initiative is an Information Technology and Infrastructure Initiative (IT Initiative), which aims to develop an integrated information technology and electronic medical record (EMR) infrastructure to facilitate coordination among providers.¹⁷ The parties describe these investments as key to reducing health care cost growth.

In addition to recruiting new physicians, the Affiliation Agreement underscores the importance of new "docking" models for aligning existing SSH and PCHI physicians, stating that "tighter integration" and "alignment" of physicians with SSH and the Partners hospitals is "a key component to successful implementation" of PHM and Partners' acquisition of SSH.¹⁸

¹³ On April 3 and 22, 2013, SSH and Partners filed Notices of Material Change with the HPC pursuant to MASS. GEN. LAWS ch. 6D, §13 (2012).

¹⁴ See generally Application by South Shore Hospital, Inc. for Determination of Need under 105 C.M.R. 100.600-603 for Change in Ownership of South Shore Hospital, Attachment B, Affiliation Agreement, at Exh. 4.5.1-A (Dec. 28, 2012) [hereinafter SSH Determination of Need Application, Attachment B, Affiliation Agreement].

¹⁵ Under the PCP Initiative, the parties will develop a primary care network comprised of current physicians and 42 net new PCPs. Partners will contribute approximately \$54 million to identify and develop the practices for the additional PCPs.

¹⁶ The parties will assess the number of SCPs needed to meet the objectives by acquiring existing independent SCPs, redeploying existing Partners SCPs, and recruiting new SCPs. Partners will fund about \$55 million of the SCP initiative.

¹⁷ Through the IT Initiative, Partners will invest \$88 million in developing an integrated clinical and administrative software system with SSH. Partners has contracted with Epic to develop and implement this software across the Partners system with a capital investment of over \$1 billion. The parties describe the funding of this IT Initiative as critical for SSH to be able to acquire an Epic system (different from SSH's current software, Meditech, and IT system).

¹⁸ SSH Determination of Need Application, Attachment B, Affiliation Agreement, *supra* note 14 at Art. 5.9.1.

Signaling the parties' interest in aligning their physicians, the Affiliation Agreement includes an unexecuted affiliation agreement between the parties' respective physician organizations, PCHI and SSPHO.¹⁹

Subsequently, on July 19, 2013, Partners' BWPO executed a Memorandum of Understanding to acquire Harbor Medical Associates, the largest local practice group within SSPHO. SSPHO is the managed care contracting organization for SSH and approximately 400 physicians in the South Shore region.²⁰ Pursuant to the proposed acquisition, BWPO will integrate the Harbor physicians into a community-based, multispecialty physician business unit of BWPO located in Harbor's existing offices on the South Shore. The remainder of this section describes each of these parties in turn.

A. PARTNERS HEALTHCARE SYSTEM

Partners is the largest provider system in Massachusetts and, like most providers in Massachusetts, operates as a non-profit public charity. It was founded in 1994 by an affiliation between BWH and MGH. Partners owns eight general acute care (GAC) hospitals with a total of 2,793 licensed beds that operate across the following five regions within Massachusetts:

- **Boston:** BWH and MGH (academic medical centers) and Faulkner (community hospital)
- **Metro-West:** Newton-Wellesley
- **North Shore:** North Shore MC
- **Cape and Islands:** Nantucket Cottage and Martha's Vineyard
- **Pioneer Valley:** Cooley Dickinson

BWH and MGH, Partners' largest hospitals, are academic medical centers (AMCs) that serve as principal teaching hospitals of Harvard Medical School. They are also the largest private hospital recipients of the National Institutes of Health funding in the nation.²¹ BWH has a long-standing clinical affiliation with SSH.²² BWH is also clinically affiliated with Cape Cod Healthcare and MGH with Emerson Hospital. Both BWH and MGH have clinical affiliations with Dana Farber Cancer Institute and are the preferred tertiary/quaternary providers in Steward Health Care System's limited network products through Fallon Community Health Plan and THP.

In addition to its GAC hospitals, Partners owns a psychiatric hospital (McLean), a network of rehabilitation facilities (Spaulding Rehabilitation Network), and a home care agency (Partners HealthCare at Home).²³ Partners' managed care network, PCHI, negotiates contracts

¹⁹ *Id.* at Exh. 4.10.1.

²⁰ On October 23, 2013, Partners and Harbor filed Notices of Material Change with the HPC.

²¹ See PARTNERS HEALTHCARE SYSTEM, Series L Bond Statement, (December 9, 2011), at A-3, *available at* <http://emma.msrb.org/ER539808-ER417769-ER819686.pdf>.

²² SSH clinically affiliated with BWH in 2005. They agreed to develop joint programs in cardiovascular, women's health, surgery, neurology, bone and muscle, physician engagement, information systems, oncology and physician education, principally for residents of SSH's service area.

²³ Partners HealthCare at Home (PHH) has regional branch offices in Beverly, Medford, Newton, and Rockland. PHH employs approximately 1,400 staff members and is one of the largest home health care providers in New England. See *Hospitals and Affiliates*, PARTNERS HEALTHCARE, <http://www.partners.org/services/hospitals-and-affiliates.aspx> (last visited Dec. 9, 2013).

on behalf of approximately 6,500 primary care physicians (PCPs) and specialists (SCPs).²⁴ Partners has continued to grow in recent years. In October 2012, Partners acquired Neighborhood Health Plan, a Massachusetts payer with over 260,000 members. This past July, Partners acquired 140-bed Cooley Dickinson Hospital in Northampton, MA. In November 2013, Partners also provided notice to the HPC that it intends to acquire Hallmark Health System, which operates two acute care hospitals north of Boston—Lawrence Memorial Hospital of Medford and Melrose-Wakefield Hospital.

B. SOUTH SHORE HOSPITAL

South Shore Hospital is a non-profit, acute care hospital located in Weymouth, MA. It serves the southeastern Massachusetts community with over 900 medical staff (physicians with admitting privileges) and 378 licensed acute care beds.²⁵ SSH provides inpatient, outpatient, home care, and emergency care services. In addition to its affiliation with BWH noted above, SSH has clinical affiliations with Boston Children’s Hospital (Children’s Hospital) and Dana Farber Cancer Institute (Dana Farber).

SSPHO is the managed care contracting organization for SSH and the members of the Physician Organization of the South Shore (POSS). It is equally owned by SSH and POSS, and has about 400 participating physicians, of which about 90 are PCPs.²⁶ SSPHO negotiates health care contracts on behalf of SSH and these physicians.

C. HARBOR MEDICAL ASSOCIATES

Harbor Medical Associates is a 65-physician independent multispecialty practice and the largest medical group in SSPHO.²⁷ Harbor provides primary care and specialty care services to adult patients in the South Shore region, with practice sites in Braintree, Holbrook, Pembroke, Scituate, and Weymouth.²⁸ Harbor owns and operates an urgent care center and South Shore Endoscopy Center, an ambulatory surgery center focused on providing colonoscopies and other outpatient gastrointestinal procedures.

²⁴ PCHI is organized into Regional Service Organizations (RSOs), which vary in size and structure. PCHI’s larger RSOs are tied to its AMCs. PCHI includes approximately 1,300 PCPs, 1,700 community-based specialists, and 3,560 academically-based specialists. PARTNERS HEALTHCARE SYSTEM, Series L Bond Statement (December 9, 2011), at A-5; *see also Partners Community Healthcare, Inc.*, PARTNERS HEALTHCARE, <http://www.partners.org/services/general/patient-care/community-based-programs/partners-community-healthcare-inc.aspx> (last visited Dec. 9, 2013).

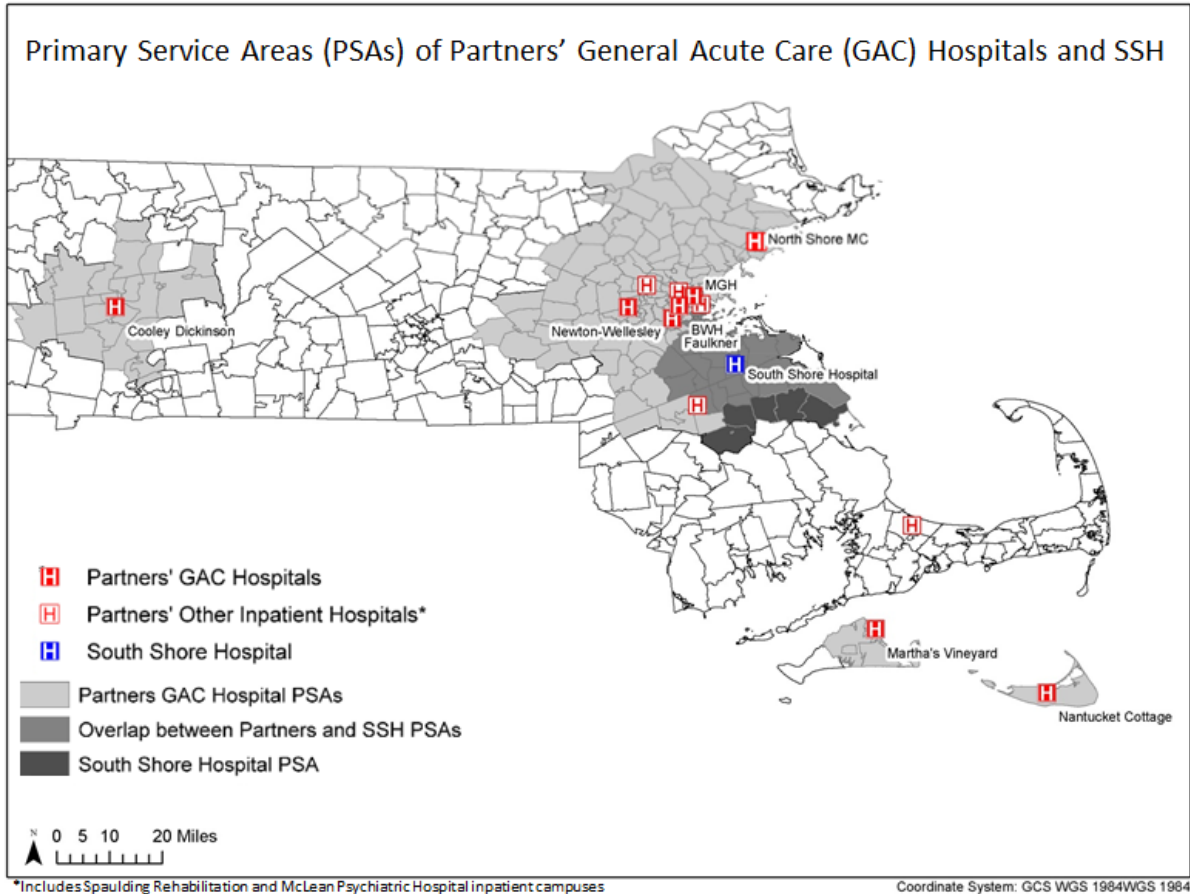
²⁵ SOUTH SHORE HOSP., NOTICE OF MATERIAL CHANGE TO THE HEALTH POLICY COMM’N (Apr. 3, 2013), AS REQUIRED UNDER MASS. GEN. LAWS CH. 6D § 13 (2012).

²⁶ *See generally* SOUTH SHORE HOSPITAL, South Shore Physician Hospital Organization (SSPHO) Organization and Governance, <http://www.southshorehospital.org/organization-and-governance> (last visited Dec. 12, 2013).

²⁷ Although SSPHO negotiates and manages risk contracts for both SSH and Harbor, SSH and Harbor are separate legal entities; neither has corporate control over the other.

²⁸ HARBOR MEDICAL ASSOCIATES, NOTICE OF MATERIAL CHANGE TO THE HEALTH POLICY COMM’N (Oct. 23, 2013), AS REQUIRED UNDER MASS. GEN. LAWS CH. 6D § 13 (2012).

Below is a map of the parties' service area. It shows in gray the primary service area (PSA)²⁹ of Partners' eight acute care hospitals and of SSH, as well as the location of those hospitals and Partners' other inpatient facilities (Spaulding Rehabilitation Network and McLean Psychiatric Hospital campuses).³⁰



III. ANALYSIS OF PARTIES' BASELINE PERFORMANCE (2010 – 2012)

To analyze the impact of a proposed transaction on costs, quality, and access, it is important to understand the parties' baseline performance in these areas, prior to the transaction. Part III examines the recent performance of Partners, SSH, and Harbor in each of these areas.

²⁹ As discussed in Section IV.A.3, the HPC generally defines a hospital PSA to be the contiguous area closest to a hospital from which the hospital draws 75% of its commercial discharges. See *infra* note 111.

³⁰ Because Martha's Vineyard Hospital draws 75% of its commercial discharges from a compact area surrounding the hospital, that area of the island is defined to be its PSA.

A. COST PROFILE

The law governing cost and market impact reviews directs the HPC to examine different measures of the parties' cost and financial performance, including their size, prices, health status adjusted TME, and market share. The HPC examined these measures over time and compared to other providers to establish the parties' baseline performance leading up to the proposed transactions. In Part IV, we will combine the parties' current performance with details of the transactions and the parties' goals and plans to project the likely impacts of the transactions on health care costs.

Measures of financial condition and market share indicate the relative strength of a provider compared to competitors. Comparisons of provider health status adjusted TME and of relative prices (the relative amounts that payers pay providers for comparable services) show differences in provider efficiency and costs, both between the parties and compared to other area providers. In examining these elements of the parties' cost profile, the HPC found:

- Partners and SSH are in strong financial condition.
- Partners receives high prices for both its hospitals and its physicians. SSH receives high prices while SSPHO (including Harbor) receives lower prices.
- PCHI and SSPHO (including Harbor) both have high TME, which is driven in part by the high relative price of their hospitals.
- Partners and SSH each have strong market share in the South Shore region, and PCHI has strong physician market share statewide.

1. Partners and SSH Are in Strong Financial Condition

The HPC reviewed financial statements from 2009 through 2012 for Partners and SSH, which showed that the parties are in strong financial condition compared to other providers in Massachusetts. Over the last four years, Partners' total operating revenue increased by 18% from \$7.6 billion in 2009 to nearly \$9 billion in 2012. Over this same period, Partners' total net assets grew by 6.2% (over \$300 million). The following table shows key financial metrics for Partners compared to the next three largest health care systems in Massachusetts, as measured by total operating revenue. As shown below, Partners' total net assets are more than three times the combined assets of the next three largest systems in Massachusetts, and Partners has invested substantially more in its facilities and equipment than other systems, as reflected in its lower average age of plant.

Financial Performance of Four Largest Massachusetts Provider Systems (FY2011-2012) ³¹				
	Partners	UMass Memorial	Steward Health Care	BIDMC
NPSR (\$000)				
FY 2011	6,443,391	2,084,438	1,421,697	1,461,503
FY 2012	6,951,914	2,105,265	1,759,979	1,509,882
Total Operating Revenue (\$000)				
FY 2011	8,481,112	2,274,945	1,604,185	1,812,256
FY 2012	8,981,337	2,293,871	1,963,164	1,856,672
Total Operating Expenses (\$000)				
FY 2011	8,248,295	2,239,991	1,649,077	1,771,051
FY 2012	8,790,428	2,288,860	1,985,362	1,824,488
Operating Margin				
FY 2011	2.70%	1.50%	2.80%	2.30%
FY 2012	2.10%	0.20%	1.10%	1.70%
Total Net Assets (\$000)				
FY 2011	5,453,587	1,315,764	929,521	787,346
FY 2012	5,282,679	603,524	21,322	913,739
Current Ratio				
FY 2011	2.4	1.8	0.9	3.5
FY 2012	2.6	1.7	1	3.3
Days Cash on Hand				
FY 2011	147.1	52.3	21.9	180.6
FY 2012	156.3	47.8	24.5	193.2
Cash and equivalents, and short-term investments				
FY 2011	3,163,294	308,129	94,597	838,264
FY 2012	3,585,274	287,543	128,205	922,817
Average age of plant				
FY 2011	6.7	10.0	N/A	18.9
FY 2012	6.9	10.0	N/A	18.8

³¹ See PricewaterhouseCoopers LLC, Consolidated Financial Statements: Partners HealthCare System, Inc. and Affiliates: Dec. 14, 2012; PricewaterhouseCoopers LLC, Consolidated Financial Statements: Partners HealthCare System, Inc. and Affiliates: Dec. 2, 2011; KPMG LLP, Consolidated Financial Statements and Other Financial Information: Beth Israel Deaconess Medical Center, Inc. and Affiliates: Dec. 20, 2012; KPMG LLP, Consolidated Financial Statements and Other Financial Information: Beth Israel Deaconess Medical Center, Inc. and Affiliates: Jan. 9, 2012; Ernst & Young LLP, Consolidated Financial Statements: Steward Health Care System, LLC: April 2, 2013; Ernst & Young LLP, Consolidated Financial Statements: Steward Health Care System, LLC: Jan. 30, 2012; PricewaterhouseCoopers LLC, Consolidated Financial Statements with Supplemental Consolidating Information: UMass Memorial Health Care, Inc. and Affiliates: Dec. 21, 2012; PricewaterhouseCoopers LLC, Consolidated Financial Statements with Supplemental Consolidating Information: UMass Memorial Health Care, Inc. and Affiliates: Dec. 20, 2011.

NOTES

- (1) Net Patient Service Revenue (NPSR) is the total inpatient and outpatient revenue after deductions for free care charges and contractual adjustments.
- (2) Total Operating Revenue includes all revenues gained from everyday business, including NPSR.
- (3) Total Operating Expenses is all expenses incurred from the provider system (e.g., salaries, benefits, supplies).
- (4) Operating Margin measures the system's profitability from patient care services and other operations.
- (5) Total Net Assets is the system's total assets minus its liabilities.
- (6) Current Ratio measures the systems' ability to meet its current liabilities with its current assets; a ratio of 1.0 or higher indicates that all current liabilities could be adequately covered by the system's existing current assets.
- (7) Days Cash on Hand is the number of days of operating expenses that the system could pay with its current available cash, cash equivalents, and short term investments.
- (8) Cash, cash equivalents, and short-term investments refer to assets that are readily available to use (e.g., stocks and bonds that can be quickly liquidated).
- (9) Average Age of Plant measures the average age of the system's facilities, including capital improvements and major equipment purchases. Steward's age of plant is not included because comparable data was not available.

SSH and its parent, South Shore Health and Educational Corporation (SSHEC), are also financially strong. Between 2009 and 2012, SSHEC's total net assets grew by 32.9% (over \$44 million), indicating steady growth.³² As shown below, SSH's FY11 and FY12 total operating revenue and total net assets were substantially greater than those of other area hospitals.

Financial Performance of SSH Compared to Other Area Hospitals (FY2011-2012) ³³					
	SSH	BID-Milton	Good Samaritan	Quincy MC	Signature Brockton
NPSR (\$000)					
FY 2011	417,328	65,895	176,503	95,551	205,479
FY 2012	436,499	72,819	N/A	N/A	228,176
Total Operating Revenue (\$000)					
FY 2011	435,612	68,411	183,031	98,591	219,586
FY 2012	455,396	75,462	N/A	N/A	239,515
Total Operating Expenses (\$000)					
FY 2011	426,550	68,203	182,924	117,137	203,503
FY 2012	451,220	74,306	N/A	N/A	213,960
Operating Margin					

³² Deloitte and Touche, LLP, Combined Financial Statements: South Shore Health and Educational Corporation and Subsidiaries: Jan. 11, 2013; Deloitte and Touche, LLP, Combined Financial Statements: South Shore Health and Educational Corporation and Subsidiaries: Dec. 21, 2011; Deloitte and Touche, LLP, Combined Financial Statements: South Shore Health and Educational Corporation and Subsidiaries: Dec. 30, 2010; Deloitte and Touche, LLP, Combined Financial Statements: South Shore Health and Educational Corporation and Subsidiaries: Jan. 5, 2010.

³³ See CTR. FOR HEALTH INFO. & ANALYSIS, *Hospital Financial Performance FY 2011 Databook*, <http://www.mass.gov/chia/docs/r/qtr/fy11-annual/hosp-fy11-databook.xls>; CTR. FOR HEALTH INFO. & ANALYSIS, *Hospital Financial Performance FY 2012 Databook*, <http://www.mass.gov/chia/docs/r/qtr/fy12-annual/fy12-databook.xls>.

	FY 2011	2.1%	0.3%	0.1%	18.8%	7.3%
	FY 2012	0.9%	1.5%	N/A	N/A	10.7%
Total Net Assets (\$000)						
	FY 2011	111,519	27,211	2,470	17,985	6,298
	FY 2012	131,702	62,011	N/A	N/A	26,105
Current Ratio						
	FY 2011	1.1	1.5	0.5	0.7	0.7
	FY 2012	1.3	1.7	N/A	N/A	0.8
Days Cash on Hand						
	FY 2011	11.8	69.8	0.1	14.8	3.9
	FY 2012	13.6	61.4	N/A	N/A	9.9

NOTES

(1) Comparable individual hospital data was unavailable for the Steward hospitals in FY2012.

The HPC also reviewed financial statements for Harbor showing it is a financially stable physician group. Between 2010 and 2013, total professional revenue for physician services grew steadily.

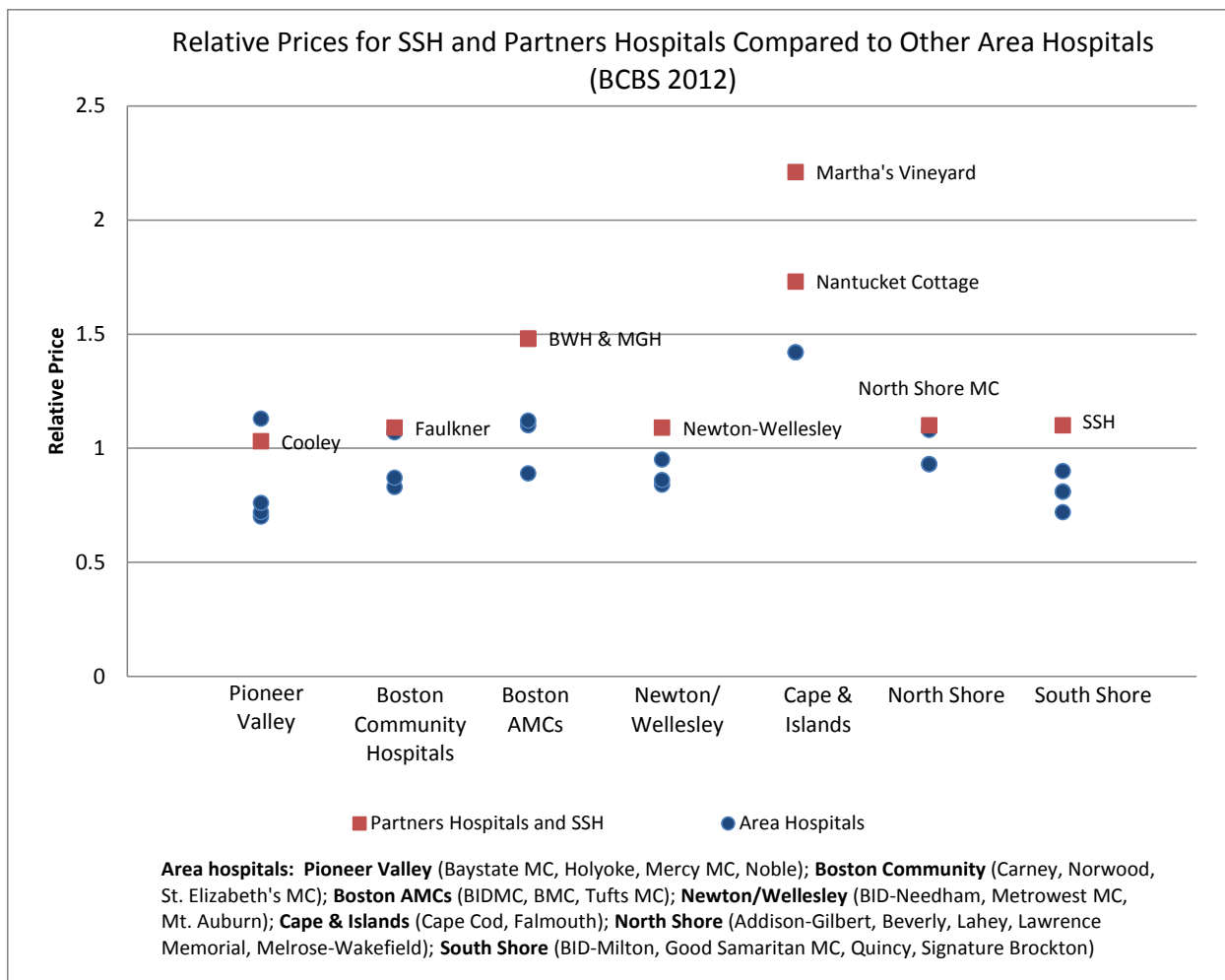
2. Partners and SSH Receive Higher Prices Than Other Area Providers; Harbor/SSPHO Does Not

The HPC examined hospital relative price³⁴ data for the parties from 2010 to 2012, and observed consistent trends for all three major commercial payers. In each region in which Partners operates, its hospitals were consistently high priced.³⁵ Similarly, SSH was consistently paid the highest relative price among area hospitals.³⁶ The following chart is an example of this trend, showing relative prices for inpatient and outpatient services for one major payer. In each region, SSH and the Partners hospitals' relative price is shown in red.

³⁴ Relative price is a standardized pricing measure that accounts for differences among provider service volume, service mix, patient acuity, and insurance product types in order to allow comparison of negotiated price levels. CHIA ANNUAL REPORT AUG. 2013, *supra* note 11 at 35.

³⁵ From 2010 to 2012, each Partners hospital received the highest price among area hospitals from BCBS and THP, except for Cooley Dickinson (acquired by Partners in July 2013 and received the second highest price from BCBS) and Faulkner (received a lower price from THP). HPHC's prices for all of the Partners hospitals except Martha's Vineyard and Nantucket Cottage were consistently either the highest or second highest among area hospitals. *See id.* at 10; *2012 Relative Prices, APM, and TME by Payer Databook*, <http://www.mass.gov/chia/docs/r/pubs/13/2013-annual-report-rp-apm-tme-data-book.xlsx> (last visited Dec. 3, 2013) [hereinafter *CHIA 2012 Relative Prices, APM, and TME by Payer Databook*].

³⁶ *See id.* (showing that from 2010 to 2012, for all three major payers, SSH was paid the highest relative price among hospitals on the South Shore).



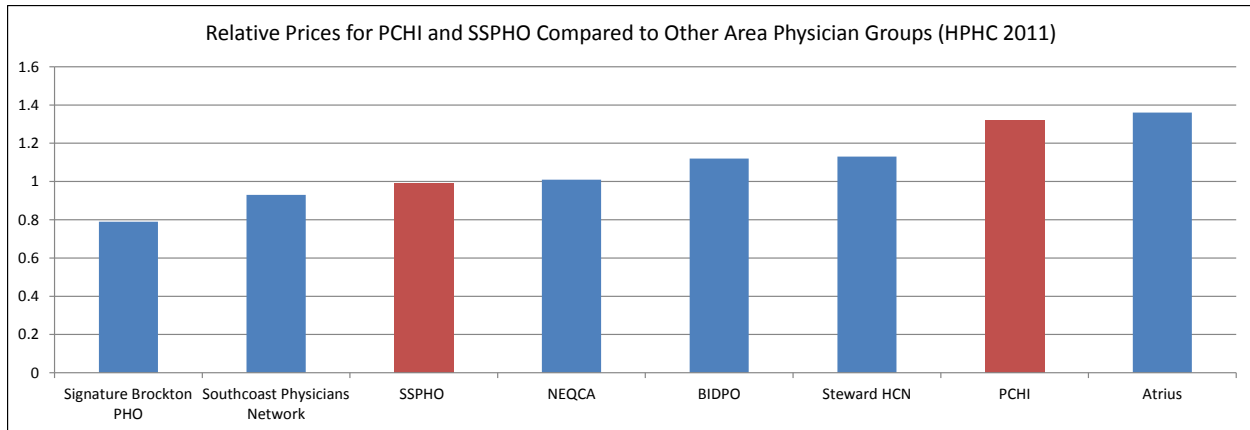
Source: CHIA 2012 Relative Prices, APM, and TME by Payer Databook, supra note 35.

The HPC examined physician relative price data from 2009 to 2011 for the three major payers,³⁷ and found that PCHI received higher prices than most other physician groups in the state.³⁸ However, unlike the hospital prices described above, SSPHO (including Harbor) has not had high physician prices compared to area physician groups. The following chart shows physician prices for groups practicing in the South Shore region as an example of this general trend.³⁹ Section IV.A.1 will project how total medical spending will be impacted if SSPHO physicians, such as the Harbor physicians, join PCHI's payer contracts at PCHI's higher prices.

³⁷ 2012 physician relative price data will likely be available from CHIA in late 2014.

³⁸ See, e.g., CTR. FOR HEALTH INFO. & ANALYSIS, Appendix: *Relative Price by Provider Type*, <http://www.mass.gov/chia/docs/r/pubs/13/rp-2012-cy-2012-data-appendix.xlsx> (last visited Dec. 10, 2013); CTR. FOR HEALTH INFO. & ANALYSIS, HEALTH CARE PROVIDER PRICE VARIATION: RESULTS FROM 2011 - *Data Appendix* –(FEB. 2013), <http://www.mass.gov/chia/docs/r/pubs/13/relative-price-variation-data-appendix-2013-03-06.xlsx> (last visited Dec. 10, 2013) (showing that PCHI generally receives prices in the 80th to 95th percentile of the 30 providers reported by CHIA).

³⁹ See *id.* (showing that SSPHO's statewide relative prices ranged from the 24th percentile to the 73rd percentile, with prices from many payers in the low 40th percentile).



Source: CHIA 2012 Relative Prices, APM, and TME by Payer Databook, supra note 35.

3. PCHI and SSPHO Have Higher TME Than Other Area Providers

The HPC also reviewed the parties' TME to examine the total cost of all health care services for Health Maintenance Organization (HMO) and Point of Service (POS) patients cared for by the parties.⁴⁰ TME reflects both utilization and price; high TME can reflect high utilization of services, but it can also reflect high prices of the hospitals or physicians that patients use. It is standard industry practice to adjust for health status differences when comparing TME, so a provider caring for a sicker population will not appear to have higher spending solely for that reason. The TME data we present is adjusted using the health status scores provided by each payer.⁴¹ Across the three major payers, we found that PCHI's 2010 and 2011 health status adjusted TME was in the 85th to 95th percentile of providers statewide.⁴²

TME can vary by region.⁴³ Since SSPHO (including Harbor) operates in a single region of Massachusetts, in evaluating SSPHO's TME, it is important to compare it to the TME of like

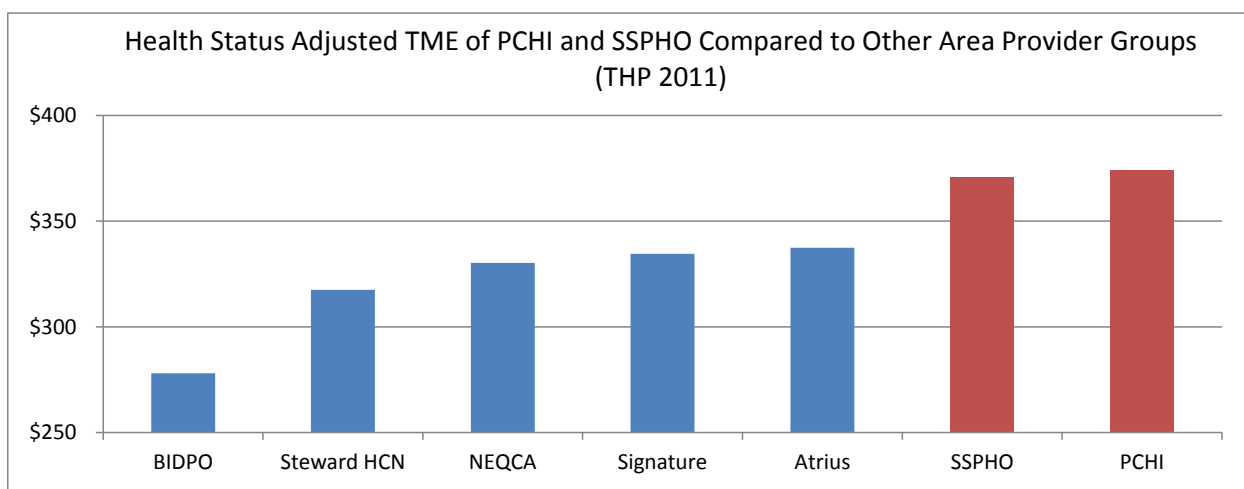
⁴⁰ TME is expressed as a per member per month dollar figure that reflects the average monthly covered medical expenses paid by the payer and the member for all of the health care services the members receives in a year. TME is currently publicly reported by provider system for patients who have explicitly selected a PCP with the provider system (patients in HMO and POS products, which require patients to select a PCP and obtain referrals to other providers through that PCP). A provider's TME for its HMO/POS patients can be informative of its TME for preferred provider organization (PPO) patients. For example, many PPO patients – though they are not required by product design to select a PCP to direct their care – functionally have PCPs who help direct their care, and in general, PCPs, do not manage the care of their patients differently depending on the type of insurance product they hold. In other cases, however, TME could differ between HMO and PPO patients. For example, if there is a substantial difference in the prices a provider receives for its HMO patients versus its PPO patients, that difference in prices could drive a difference in resulting TME. It is important that payers continue to develop PPO attribution models in order to track and report TME for PPO populations. With the further development of such models, it is our hope that we will be able to analyze both HMO/POS and PPO TME in future reports.

⁴¹ Since each payer calculates health status scores for its network according to its own methodology, TME should not be compared across payers.

⁴² Only HPHC 2010 TME was outside this range, with PCHI in the 75th percentile of providers statewide that year.

⁴³ See, e.g., 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, at Part II(B) (Apr. 24, 2013) [hereinafter AGO 2013 COST TRENDS REPORT], available at <http://www.mass.gov/ago/docs/healthcare/2013-hcctd.pdf> (showing differences of \$30 PMPM to more than \$100 PMPM in health status adjusted TME across different regions in Massachusetts).

providers that operate in southeastern Massachusetts (as opposed to providers that operate in other parts of the Commonwealth, like downtown Boston, where TME is consistently higher than in other parts of the state). The HPC reviewed data reported by the AGO on regional TME, focusing on the TME of practice groups in the South Shore region. The below chart reproduces published AGO data showing 2011 TME for practice groups in this region. For provider systems operating in multiple regions of the state (i.e., Atrius, Beth Israel Deaconess Physician Organization (BIDPO), NEQCA, PCHI, and Steward), only the TME of the practice groups within these systems that operate in the South Shore region are shown. As shown below, for one major payer, the health status adjusted TME of SSPHO and the PCHI practice groups operating on the South Shore were the highest in that region. AGO and CHIA data indicate that for the other two major payers, PCHI and SSPHO were two of the top three highest TME providers on the South Shore in 2011.⁴⁴



Source: AGO 2013 COST TRENDS REPORT, *supra* note 43, at 34.

4. Partners and SSH Have Strong Market Share

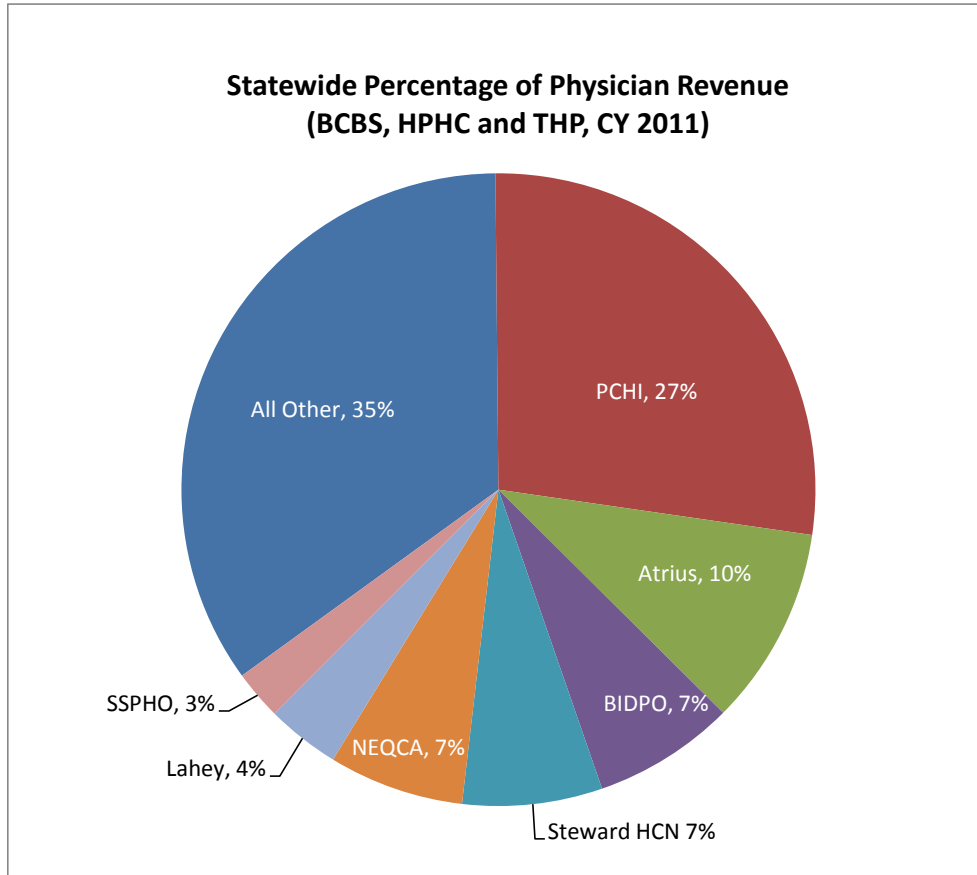
The market share of a provider is the provider’s share of patient volume in a particular market or region. When we examined inpatient utilization in SSH’s PSA,⁴⁵ we found that SSH and Partners have, by a substantial margin, the highest commercial market shares in that region, capturing 26% and 24% of commercial discharges respectively.⁴⁶ Partners has high market share even though it does not have a hospital located in that region; its high market share is driven by significant numbers of patients traveling from the South Shore region to obtain care at BWH and MGH. Combined, SSH and Partners’ hospitals account for 50% of all commercial discharges originating from SSH’s PSA.

⁴⁴ *Id.* at 35-36. Statewide, SSPHO’s 2010 and 2011 health status adjusted TME was in the 63rd to 93rd percentile of providers for the three major payers. While we did not have access to TME data for Harbor specifically, it is one of the largest primary care groups in SSPHO, responsible for about 29% of SSPHO’s HMO/POS member months according to data from one major payer.

⁴⁵ As discussed in Section IV.A.3, the HPC generally defines a hospital PSA to be the contiguous area closest to a hospital from which the hospital draws 75% of its commercial discharges. *See infra* note 111.

⁴⁶ Because hospitals primarily negotiate with commercial, not government, payers for prices, commercial market share is more relevant for assessing the competitive impact of a transaction. *See* Section I.B.

In addition to its strong market share in the South Shore region, as CHIA has previously reported, Partners also has the highest hospital and physician market share statewide based on revenue reported from nine of the largest commercial payers in Massachusetts.⁴⁷ Among the three largest payers, PCHI received 27% of statewide physician revenue in 2011, and SSPHO received 3%.⁴⁸ If all or a substantial number of SSPHO physicians join PCHI, Partners would receive about 30% of statewide physician revenue from the top three commercial payers.



NOTES

- (1) Source: CTR. FOR HEALTH INFO. & ANALYSIS, PHYSICIAN PAYMENT DATA, 2011 (HPC Analysis).
- (2) As of May 1, 2012, Lahey Clinic and Northeast Health System combined to become Lahey Health System. This chart includes NEPHO revenue with Lahey to reflect the current configuration of the market. Separately, the former Lahey Clinic and NEPHO were each 2% of statewide physician revenue for the three major payers in 2011.

In sum, Partners and SSH are both financially strong provider systems, with consistently high hospital prices. Similarly, PCHI physicians are paid more than most other physician groups. From a total cost of care perspective, PCHI and SSPHO have high TME compared to other provider groups, due in part to these high prices. Partners and SSH collectively command about half of the market for commercial discharges in SSH’s PSA, and PCHI and SSPHO

⁴⁷ CHIA ANNUAL REPORT AUG. 2013, *supra* note 11 at 33(finding that Partners received 31% of acute hospital payments in 2012 and 25% of physician payments in 2011 from these commercial payers).

⁴⁸ The HPC used revenue from the three major payers so that data for SSPHO may be included (smaller payers do not consistently report on SSPHO).

receive about 30% of statewide physician revenue from the top three payers. It is important to keep in mind the parties' financial strength and cost performance to date in assessing the likely cost impact of the proposed transactions.

B. QUALITY AND CARE DELIVERY PROFILE

The HPC examined the parties' quality performance⁴⁹ in recent years to provide a baseline from which to evaluate the parties' goals of implementing innovative care delivery models, and to assess whether there are any differences in the parties' performance that might be expected to drive a beneficial clinical impact following the transactions.⁵⁰ We focused on four core dimensions of quality: health care system structures, clinical processes, clinical outcomes, and patient experience of care. We discuss each of these below.

After examining over 100 nationally recognized measures⁵¹ across these dimensions, we found:

- Partners, SSH, and SSPHO (including Harbor) have high quality performance compared with Massachusetts and national averages.

⁴⁹ Our analysis is based on the best available, nationally accepted measures of quality and care delivery performance. As additional measures of quality performance are developed, we look forward to incorporating them into our future work.

⁵⁰ An important factor that may increase the likelihood of a beneficial quality impact from a transaction is substantial pre-merger clinical superiority of the acquiring party, though differences in quality by themselves do not guarantee a transaction will result in quality improvements. See Patrick Romano & David Balan, *A Retrospective Analysis of the Clinical Quality Effects of the Acquisition of Highland Park Hospital by Evanston Northwestern Healthcare*, 18 *INTL. J. OF ECON. OF BUSINESS* 45 (2011) (“[P]re-merger quality differences suggest one hospital has something of value to impart to the other.”).

⁵¹ Where possible, measures were drawn from the Massachusetts Standard Quality Measure Set. We assess a broad spectrum of measures, each capturing different segments of care. The following measures were examined: **Hospital Process Measures** - CMS Hospital Compare Acute Myocardial Infarction, Pneumonia, and Heart Failure Composites, and Surgical Care Improvement Project Composite; **Hospital Outcome Measures** - Mortality CMS 30-Day Risk Standardized Acute Myocardial Infarction, Pneumonia, and Heart Failure, and Massachusetts Data Analysis Center (MassDAC) Cardiac Surgery and Percutaneous Coronary Intervention Measures; **Readmissions** CMS 30-Day Risk Standardized Acute Myocardial Infarction, Pneumonia, and Heart Failure Measures; **Patient Safety** AHRQ Patient Safety Indicators, CMS Hospital Acquired Conditions; Massachusetts Department of Public Health Healthcare Associated Infection Rates; select AHRQ Inpatient Quality Indicators; **Hospital Patient Experience** - CMS Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Composite Score; **Ambulatory Care Process Measures** - select Healthcare Effectiveness Data and Information Set (HEDIS) measures; **Ambulatory Care Patient Experience** - Adult Patient Experience Composite and Pediatric Patient Experience Composite. See generally CTR. FOR HEALTH INFO & ANALYSIS, STANDARD QUALITY MEASURE SET RECOMMENDATION (Oct. 29, 2013), available at <http://www.mass.gov/chia/docs/g/sqac/2013/2013-final-report-appendix-b-standard-quality-measure-set.pdf>; *Measures Displayed on Hospital Compare*, CTR. FOR MEDICARE & MEDICAID SERVICES, <http://www.medicare.gov/hospitalcompare/Data/Measures-Displayed.html>; *Outcome Measures*, CTR. FOR MEDICARE & MEDICAID SERVICES, <http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/OutcomeMeasures.html>; *Reports*, MASS-DAC, <http://www.massdac.org/index.php/reports/>; *Patient Safety Indicators Overview*, AGENCY FOR HEALTHCARE RESEARCH AND QUALITY, http://www.qualityindicators.ahrq.gov/modules/psi_resources.aspx; Summary Analyses, Hosp. Care Quality Info. from the Consumer Perspective, <http://www.hcahponline.org/SummaryAnalyses.aspx>; *What is HEDIS?*, NATIONAL COMMITTEE FOR QUALITY ASSURANCE, <http://www.ncqa.org/HEDISQualityMeasurement/WhatIsHEDIS.aspx> (all last visited Dec. 12, 2013).

- Each party performs higher on certain measures, but there is very little material variation in quality performance between them.

1. Partners, SSH, and SSPHO (including Harbor) Generally Have Strong Quality Performance

Provider organizations in Massachusetts generally deliver high quality care with little material variation and demonstrate consistent improvement over time. Even compared to other Massachusetts providers, Partners, SSH, and SSPHO are high quality, with performance year-over-year that routinely exceeds state and national averages for both inpatient and outpatient care. For inpatient care, SSH's performance exceeded the national average in 71% of measures. Partners' community hospitals' performance was slightly higher, exceeding the national average in 76% of measures. In the outpatient setting, both SSPHO and PCHI generally outperform the state averages. Partners and SSH each had very few measures on which their performance was meaningfully lower than accepted benchmarks.⁵²

2. Partners, SSH, and SSPHO (including Harbor) Each Perform Higher on Certain Quality Measures, But There is Very Little Material Variation in Quality Performance Between Them

Across most measures, the HPC found little material variation between Partners, SSH, and SSPHO, and variation among the hospitals and physician groups within the Partners system generally exceeds any variation between Partners hospitals and SSH, or PCHI and SSPHO.⁵³ SSH's performance is comparable to that of Partners' community hospitals, especially North Shore Medical Center⁵⁴ and Newton-Wellesley Hospital. In the inpatient setting, the average performance of all Partners hospitals exceeds that of SSH on 59% of measures, but there is statistically significant variation in very few of the measures examined. In the outpatient setting, SSPHO's average quality performance exceeds PCHI's average in 61% of measures, and SSPHO's performance is comparable to the strongest PCHI local practice groups.⁵⁵

The following section details the parties' quality performance in the inpatient and outpatient setting across a variety of procedures, conditions, and disease states.⁵⁶

⁵² SSH's 2013 30-day health status adjusted mortality rate for pneumonia reported by CMS was statistically significantly worse than the national average. Two of Partners' hospitals' rates of central line associated blood stream infection were statistically significantly higher than predicted in an intensive care unit setting (notably, other Partners hospitals had statistically significantly lower rates than predicted).

⁵³ The level of variation within the Partners system indicates that uniform high performance has not been achieved across Partners hospitals and physician groups, raising the question of whether sufficiently centralized, system-wide characteristics are in place that would specifically and consistently raise the performance of SSH and SSPHO.

⁵⁴ Many quality measures refer only to North Shore Medical Center's Salem campus.

⁵⁵ The PCHI local practice group that the Harbor physicians will join, Brigham and Women's Physician Organization, is among these strongest performing PCHI local practice groups. Its weighted average performance on outpatient process measures is slightly higher than SSPHO's, though the difference is not statistically significant.

⁵⁶ We examined all measures over the most recently available three-year period, analyzed system-wide performance and differences in performance across providers within each system, and compared the results across Massachusetts providers and to national and state benchmarks.

a. *Measures of Health System Structures*

HPC's examination of a series of structural factors related to quality and patient safety (including, e.g., staff policies, accreditation, certification, and physical plants) indicates that the parties perform well.⁵⁷ Measures of structural quality, such as vaccination of health care workers for influenza, indicate that SSH and Partners perform comparably and exceed the state average.⁵⁸ The HPC's review of select accreditations and certifications relevant to operating a safe, high quality provider organization indicates that the parties have consistently complied with core requirements.

b. *Clinical Process Measures*

Clinical processes are the elements of workflow in a clinical environment, such as adherence to guidelines or the provision of certain accepted services. HPC examined the following clinical process measures:

- *Hospital Process Composites for Acute Myocardial Infarction, Pneumonia, and Heart Failure, and Surgical Care Improvement Project Measures (SCIP).*⁵⁹ SSH and Partners hospitals perform comparably on these measures, both better than national and state averages.
- *Ambulatory Care (HEDIS) Process Measures.*⁶⁰ HPC computed a weighted average of 25 measures that show how primary care providers perform on preventative care services, including hypertension, cancer screening, heart failure, and diabetes. SSPHO outperforms the PCHI average and the state average on this weighted average.⁶¹

⁵⁷ The Leapfrog Group® conducts an annual assessment of hospital patient safety performance across the nation. Based upon a series of factors, including utilization of computerized physician order entry, ICU physician staffing ratios, core safety practices, five surgical care improvement project measures, data on seven hospital acquired conditions, and six patient safety indicators, the Leapfrog Group assigns a Hospital Safety ScoreSM to each hospital. Looking at select Partners hospitals, BWH and Newton-Wellesley received an "A," MGH and North Shore MC (Salem) a "B," and SSH received an "A." Note: The Hospital Safety ScoreSM grades hospitals on data related to how safe they are for patients. See *Hospital Safety Score*, THE LEAPFROG GROUP, www.hospitalsafetyscore.org (last visited Dec. 12, 2013).

⁵⁸ Data from the Massachusetts Department of Public Health for 2012. See, e.g., MASS. DEPT. PUBLIC HEALTH, 2012 HEALTHCARE ASSOCIATED INFECTION ANNUAL REPORT (2013), available at <http://www.mass.gov/eohhs/docs/dph/quality/healthcare/hai/employee-flu-vac/acute-care-hospital-2012-2013.pdf> and MASS. DEPT. PUBLIC HEALTH, CIRCULAR LETTER DHCQ 10-02-521, available at <http://www.mass.gov/eohhs/docs/dph/quality/hcq-circular-letters/2010/dhcq-1003531.pdf> (describing requisite implementation of Code Help Plans).

⁵⁹ Hospital process composite measures and SCIP measures were obtained from CMS for years 2011-2013.

⁶⁰ HPC obtained data for years 2009 and 2010 from Massachusetts Health Quality Partners (MHQP) to conduct these analyses. MHQP is the premier source of outpatient clinical quality data in the Commonwealth. Measures derived from HEDIS are calculated at the local practice group level and can demonstrate clinical processes in the outpatient setting. A composite of all HEDIS components was used, and included adult diagnostic and preventive care, depression, medication management, asthma care, heart disease and chronic disease management, diabetes care, well-child visits (where applicable), pediatric medications and testing (where applicable), and women's health.

⁶¹ Notably, the measures included in the HEDIS composite reflect those more likely to be valued in the provision of population health management, and to be included in quality incentives in at-risk contracts. SSPHO performance generally exceeded that of PCHI physician groups and the PCHI average on these measures. HEDIS tools are required for inclusion in the Massachusetts Standard Quality Measure Set and are in use by more than 90 percent of health plans nationwide to measure important elements of outpatient care. See *What is HEDIS?*, *supra* note 51.

Overall, on these nationally accepted process measures, inpatient performance of Partners and SSH is comparable, and outpatient performance at SSPHO generally exceeds that of the majority of PCHI local practice groups.⁶²

c. *Clinical Outcome Measures*

HPC also examined clinical outcomes, or the results from a given course of care, in the hospital setting.⁶³ On most clinical outcome measures, including of healthcare-associated infections and hospital acquired conditions, SSH and Partners perform comparably. For a series of patient safety indicators, SSH performance exceeded that of Partners hospitals. On measures of readmissions and mortality, inpatient performance at the Partners hospitals generally exceeded that of SSH.⁶⁴ Differences in the performance of the Partners community hospitals and SSH on CMS measures of 30-day health status adjusted readmissions and MassDAC measures of mortality after cardiac procedures were not statistically significant. SSH's performance on the pneumonia mortality measure was statistically significantly below national performance, while performance of several Partners hospitals was statistically significantly above national benchmarks for heart attack and heart failure mortality.⁶⁵

d. *Patient Experience of Care Measures*

HPC assessed the parties' performance on ten hospital experience measures⁶⁶ and eight ambulatory patient experience measures.⁶⁷ On the inpatient hospital measures, Partners outperforms SSH, but both parties exceed the state average. On the adult outpatient measures, PCHI outperforms SSPHO and the state average, while SSPHO performs just below the state

⁶² The HPC's review of available measures of outpatient utilization and appropriateness of care, including the ratio of specialist to primary care physician use and CMS imaging use measures, is consistent with this finding. These measures bear on quality performance since many examples of inappropriate utilization (e.g., duplicative treatment) have direct implications for health care outcomes. See e.g., Donald Berwick & Andrew Hackbarth, *Eliminating Waste in US Health Care*, 307 J. AM. MED. ASS'N, 1513 (Apr. 11, 2012), available at <http://jama.jamanetwork.com/article.aspx?articleid=1148376>.

⁶³ The HPC calculated Patient Safety Indicators and Inpatient Quality Indicators from MHDC hospital discharge data for 2010-2012, using code available from the Agency for Healthcare Research and Quality. The HPC analyzed CMS data on hospital mortality and hospital acquired conditions for each year 2011 to 2013, MassDAC mortality data for 2010 and 2011, CMS readmissions data for 2011 and 2012, and DPH data on healthcare associated infections for 2010 to 2012.

⁶⁴ The only exception was MGH, which had statistically significantly more 30-day readmissions for pneumonia in 2012 (health status adjusted).

⁶⁵ SSH improved on heart attack mortality rates over the last three years but performance declined on mortality for heart failure and pneumonia.

⁶⁶ Hospital Consumer Assessment of Healthcare Providers and Systems data were obtained from CMS for years 2011-2013 and analyzed to produce these findings. See *Survey of Patients' Experiences*, CTR. FOR MEDICARE & MEDICAID SERVICES, <http://www.medicare.gov/hospitalcompare/About/Survey-Patients-Experience.html> (last visited 12/8/2013) (explaining Hospital Consumer Assessment of Healthcare Providers and Systems survey criteria).

⁶⁷ Adult and Pediatric Ambulatory Care Patient Experience Surveys for 2009 and 2011 were obtained from Massachusetts Health Quality Partners and analyzed to produce these findings. See *Quality Insights: 2011 Patient Experiences in Primary Care, Technical Appendix*, MASSACHUSETTS HEALTH QUALITY PARTNERS, <http://www.mhqp.org/quality/pes/pesTechApp.asp?nav=031638> (last visited 12/9/2013) (explaining the Adult and Pediatric Ambulatory Care Patient Experience Survey).

average. In the pediatric outpatient measures, SSPHO outperforms PCHI, but the parties both perform above the state average.

In sum, based upon available measures, Partners and SSH both have strong clinical quality performance. In certain areas of clinical care such as outpatient quality, SSPHO outperforms PCHI, while in patient experience and certain inpatient mortality and readmissions measures, Partners outperforms SSH. In the inpatient setting, the Partners hospitals' average performance is slightly higher than that of SSH (the Partners average performance exceeds SSH's performance in 59% of inpatient measures), but the variation is statistically significantly different from benchmark in very few of the measures examined. In many cases, the difference in performance between the parties is negligible or is outweighed by variation within the Partners system. In the outpatient setting, SSPHO's quality performance is stronger than PCHI's average in 61% of measures and is comparable to that of the strongest PCHI local practice groups.

C. ACCESS PROFILE

The law governing cost and market impact reviews also tasks the HPC with monitoring factors that relate to health care access. The HPC recognizes that "access" is a broad term that encompasses a spectrum of interrelated factors.⁶⁸ In Massachusetts, different agencies monitor access to health care in different ways. For example, CHIA tracks rates of insurance coverage and the DOI monitors levels of coverage and insurance network adequacy. The DPH is responsible for licensing and health resource planning, including the Determination of Need program, which relate to structural dimensions of access. The AGO reviews health care consumer complaints, which may reveal patterns in barriers to health care access.

The statute identifies additional factors that impact access, which are currently not well-monitored and reported in our system:

1. **Provider payer mix.** Payer mix shows the proportion of care a provider delivers to patients on different forms of insurance, including government payer patients.
2. **Provider service mix.** Service mix shows the proportion of care a provider delivers in different service lines, including lower margin service lines.

Differences in payer mix and service mix can have significant financial implications for how our health care system sustainably apportions care for our neediest populations, and provides adequate access to all needed services. Given presumed lower payments by government payers, there are financial implications for providers who care for a greater

⁶⁸ For example, in evaluating the accessibility of services, health care experts examine factors as varied as: (1) financial barriers, which may restrict access either because patients have limited ability to pay for services or because providers avoid treating patients of limited means; (2) structural barriers, which may impede access through a poor match between the needs of the population and the number, type, location, hours of operation, or organizational configuration of health care providers; and (3) personal and cultural barriers, which may inhibit people who need medical attention from seeking it or adhering to plans of care, and which can impact effective communication with providers. See, e.g., Institute of Medicine, *Access to Health Care in America*, 39-44 (Michael Millman, Ed., 1993); J. Emilio Carillo et al., *Defining and Targeting Health Care Access Barriers*, 22 J. OF HEALTH CARE FOR THE POOR AND UNDERSERVED 562, 564-68 (2011).

proportion of government payer patients, and those that do not.⁶⁹ Similarly, service mix has financial implications: certain service lines (e.g., behavioral health) tend to be lower margin than other service lines (e.g., surgery). Consistently tracking and reporting on payer mix and service mix will complement the work of other agencies in monitoring health care trends that impact access to services.

In examining available measures of payer mix and service mix,⁷⁰ the HPC found:

- SSH and most Partners hospitals have a higher commercial payer mix and/or lower Medicaid mix than other area hospitals, as measured by both revenue and discharges;
- In its service area, SSH provides a smaller share of inpatient behavioral health services and a larger share of deliveries than other area hospitals.

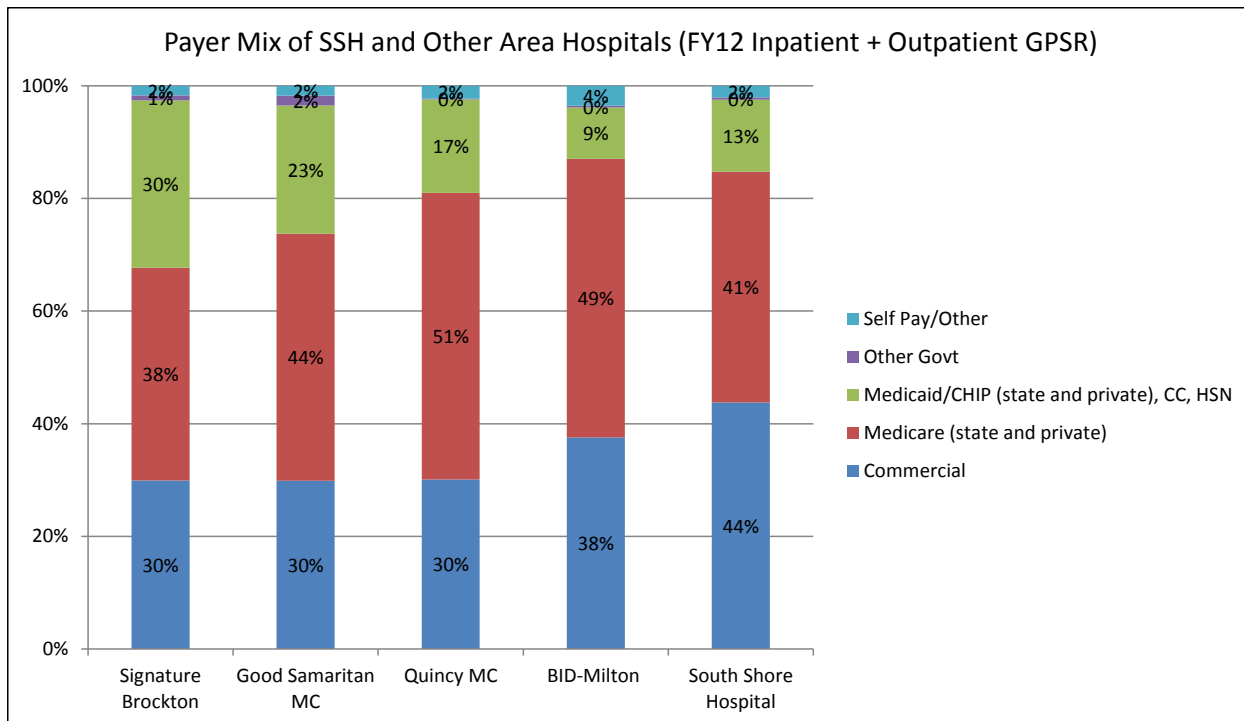
1. SSH and Most Partners Hospitals Have a Higher Commercial Payer Mix and/or Lower Medicaid Mix Than Other Area Hospitals

The HPC examined the payer mix of Partners' hospitals and SSH, as measured by revenue (encompassing IP and OP services) and discharges (IP services). From 2010 to 2012, each Partners hospital, with the notable exception of North Shore MC, had the highest commercial payer mix and/or lowest Medicaid/Children's Health Insurance Program (CHIP) mix of any area hospital, based on revenue.⁷¹ SSH's payer mix reflects the same trend: high commercial payer mix and low government payer mix compared to area hospitals, as shown in the chart below.

⁶⁹ See Millman at 40 (“[M]ost structural barriers to access have their roots in the way health care is financed. Despite a greatly enlarged physician force and the existence of some 600 community health centers, many of today's poor still find it difficult to identify physicians who will accept Medicaid. A major reason for this dilemma is Medicaid's low reimbursement rates.”).

⁷⁰ The HPC examined hospital payer mix using (1) data gathered by CHIA on hospital inpatient (IP) and outpatient (OP) revenue by payer and (2) MHDC data on hospital discharges by payer. The HPC examined IP service mix using the MHDC's hospital discharge database. Based on production from the parties and other market participants, the HPC also preliminarily surveyed outpatient service mix, and physician payer mix and service mix, but is unable to report any results due to inconsistencies in that data. In future reports, based on the facts of a given transaction and data availability, the HPC may explore other dimensions of access.

⁷¹ By contrast, North Shore MC had the lowest commercial payer mix and the highest Medicaid/CHIP mix compared to area hospitals. Where we examined two Partners hospitals together (MGH and BWH among Boston AMCs and Martha's Vineyard and Nantucket Cottage among the four Cape and Island hospitals), the two Partners hospitals were the two highest commercial payer mix and/or lowest Medicaid/CHIP mix compared to other area hospitals.



Source: CTR. FOR HEALTH INFO. & ANALYSIS, HOSPITAL DATA ON GROSS PATIENT SERVICE REVENUE, FY10-FY12 (HPC Analysis).

When examined by PSA,⁷² the above patterns in payer mix become even more pronounced. A review of payer mix by PSA is instructive because it focuses on a fixed population (the residents of a hospital’s PSA). Within that fixed population, we examine the cross-section that each hospital serves, and the payer mix of that cross-section. For example, the below table shows (in the column to the left) that the residents of SSH’s PSA “used” or “needed” 100,053 discharges in 2011. Of those 100,053 discharges, 34% (33,600 discharges) were commercial patients and 20% (20,026 discharges) were Medicaid/CHIP, Commonwealth Care, or health safety net (HSN) patients. The table then organizes the hospitals that serve residents of the PSA into four categories: (1) SSH, (2) other area community hospitals (Signature Brockton, Good Samaritan, BID-Milton, Quincy MC), (3) the two Partners AMCs (BWH, MGH), and (4) all other tertiary hospitals (those besides BWH and MGH with a case mix index of 1.1 or more, as identified in the notes to the table). The table also includes an “All Other Hospitals” category consisting of all other Massachusetts hospitals not included in one of the above four categories.

This table allows us to examine the cross-section of the PSA that each hospital category serves, and the payer mix of that cross-section. As shown, SSH has strong market share in its PSA, caring for 19%⁷³ of all PSA discharges in 2011 (19,193 SSH discharges of 100,053 total PSA discharges). Within its share of discharges, though, SSH provided a greater proportion of commercial and a lower proportion of Medicaid discharges: 42% of its discharges were commercial, compared to 34% within the general PSA population, and while 20% of the PSA discharges were Medicaid, SSH only provided 9% Medicaid discharges. By contrast, the four

⁷² As discussed in Section IV.A.3, the HPC generally defines a hospital PSA to be the contiguous area closest to a hospital from which the hospital draws 75% of its commercial discharges. See *infra* note 111.

⁷³ Nineteen percent is SSH’s share of all discharges (commercial and non-commercial) in its PSA; the previously reported 26% market share reflects SSH’s share of commercial discharges only.

other community hospitals near SSH that also service SSH's PSA had a very different payer mix. Combined, these four hospitals served 30% of the 2011 discharges from the PSA, or 30,176 discharges. Within their share of discharges, 21% were commercial, compared to 34% within the overall PSA, and 42% at SSH; and 22% were Medicaid, compared to 20% within the overall PSA, and 9% at SSH.

Residents of SSH's PSA also often traveled outside of the PSA to obtain care at Massachusetts tertiary hospitals. These eleven hospitals, which have a case mix index of 1.1 or above, cared for 29% of all PSA discharges in 2011, or 28,770 discharges. Of these 28,770 discharges, 12,747 occurred at BWH and MGH, and 16,023 occurred at nine other tertiary hospitals in the state. The payer mix of the discharges at BWH and MGH versus the discharges at other tertiary hospitals is markedly different: 54% of BWH and MGH discharges were commercial, whereas 43% of discharges at other tertiary hospitals were commercial, and 12% of discharges at MGH and BWH were Medicaid whereas 22% of discharges at other tertiary hospitals were Medicaid.⁷⁴

Inpatient Payer Mix for Residents of SSH's PSA – 2011

	All Discharges from PSA		SSH Discharges		Area Community Hospital Discharges		MGH/BWH Discharges		Other Tertiary Hospital Discharges		All Other MA Hospital Discharges	
Commercial	34%	33,600	42%	7,994	21%	6,230	54%	6,866	43%	6,860	26%	5,650
Medicare	44%	44,506	48%	9,228	55%	16,671	33%	4,249	33%	5,299	41%	9,059
Medicaid/CHIP	20%	20,026	9%	1,670	22%	6,602	12%	1,491	22%	3,543	31%	6,720
Other Gov't	1%	896	1%	103	1%	430	0.3%	40	1%	89	1%	234
Self Pay/Other	1%	1,025	1%	198	1%	243	0.8%	101	1%	232	1%	251
Total Discharges	100,053		19,193		30,176		12,747		16,023		21,914	

NOTES

- (1) Source: 2011 MHDC Discharge Data, all discharges (all hospitals, commercial and non-commercial payers).
- (2) "Area Community Hospitals" are the other hospitals located on the South Shore that serve residents of SSH's PSA: BID-Milton, Signature Brockton, Good Samaritan, Quincy MC.
- (3) Tertiary hospitals are those with an average case mix index of ≥ 1.1 in FY11 (CHIA calculation using APR DRG case weights): Baystate Medical Center, BIDMC, BWH, Children's Hospital, Dana-Farber, Lahey Hospital and Medical Center, Massachusetts Eye and Ear Infirmary, MGH, New England Baptist, Tufts MC, and UMass Memorial Medical Center. Boston Medical Center is not included because its case mix is less than 1.1.
- (4) Medicaid/CHIP includes Commonwealth Care and Health Safety Net discharges.

⁷⁴ Children's Hospital is the only tertiary hospital that, due to the nature of its services, would not be expected to serve a material number of patients of one insurance type monitored (Medicare). If Children's Hospital is excluded from this analysis, the share of each type of discharges at the "other tertiary hospitals" changes to 41% commercial, 39% Medicare, 18% Medicaid/CHIP, 0.5% other government and 2% self-pay/other.

We conducted the same analysis for six Partners hospital PSAs⁷⁵ based on 2011 discharges and found similar results for five of the six hospitals (serving a lower Medicaid mix than the overall Medicaid mix in their respective PSAs). The sixth hospital, MGH, served a slightly higher Medicaid mix than in its overall PSA (21% compared to 20% in the overall PSA).⁷⁶

2. SSH Provides A Smaller Share of Inpatient Behavioral Health Services and a Larger Share of Deliveries than Other Area Hospitals

We also examined the inpatient services that SSH provides to residents of its PSA, compared to the services provided by other area hospitals.⁷⁷ The below table again examines the 100,053 discharges from SSH's PSA in 2011. Twelve percent of the PSA's discharges, or 12,065 discharges,⁷⁸ were for deliveries and newborns, and 6% were for behavioral health services. Within SSH's share of PSA discharges (19,193), 18% were for deliveries and newborns,⁷⁹ but only 1% were for behavioral health.⁸⁰ By contrast, the other community hospitals provided a mix of services to residents of the PSA that was 6% deliveries and newborns⁸¹ and 8% behavioral health.⁸² In short, it appears that residents of SSH's PSA usually traveled to other area community hospitals, or even further, for their inpatient behavioral health needs. Similar trends were observed in 2010 and 2012.

⁷⁵ We did not examine payer mix for the PSAs of Martha's Vineyard Hospital or Nantucket Cottage Hospital, which have significantly smaller numbers of discharges as well as unique patient flow patterns resulting from their location on an island. We elected not to compare those island-based patient flow patterns to the patient flows of mainland hospitals on Cape Cod.

⁷⁶ In addition to serving a lower Medicaid mix, both Faulkner and North Shore MC served a lower commercial mix than in their respective PSAs.

⁷⁷ This analysis focuses on inpatient behavioral health services provided by SSH and other areas hospitals. SSH's mix of outpatient services may be very different than the mix of inpatient services described in this section.

⁷⁸ In analyzing discharges by service line, we excluded normal newborn discharges. Including normal newborns effectively double-counts a single obstetrics case as two discharges.

⁷⁹ Obstetrics can be a desirable service line because women drive many of the health care decisions for their families; a good labor and delivery experience can make it more likely that the entire family will return to the hospital in the future. See Rhoda Nussbaum, *Studies of Women's Health Care: Selected Results*, 4 THE PERMANENTE JOURNAL, 62 (2000); Dagmara Scalise, *Defining and Refining Women's Health*, HOSP. & HEALTH NETWORKS MAGAZINE (October 2003), available at http://www.hhnmag.com/hhnmag/jsp/articledisplay.jsp?dcrpath=AHA/PubsNewsArticle/data/0310HHN_FEA_Womens_Health&domain=HHNMAG.

⁸⁰ This finding is consistent with public data showing that, unlike three of the four other area hospitals, SSH does not have licensed inpatient psychiatry beds. See DIV. OF HEALTH CARE FIN. & POLICY, MASS. EXEC. OFFICE OF HEALTH & HUMAN SERVS., 403 HOSPITAL STATEMENT OF COSTS, REVENUES & STATISTICS files provided to CHIA (FY2012). In 2012, area hospitals with substantial inpatient psychiatry capacity included Signature Brockton (22 licensed beds), Good Samaritan, (16 licensed beds), and Quincy MC (22 licensed beds). BID-Milton also has no licensed psychiatry beds. While SSH has behavioral health discharges, the lack of designated beds limits SSH's ability to meet more complex behavioral health needs.

⁸¹ The mix of deliveries and newborns at each of the four community hospitals that comprise this category are: BID-Milton (0%), Good Samaritan (9%), Quincy MC (0%), Signature Brockton (8%). Similar trends were observed in examining just deliveries (and not newborns). In 2011, 14% of SSH's discharges from its service area were deliveries as compared to 9% for the PSA overall and 5% for area community hospitals serving residents of SSH's PSA.

⁸² The mix of behavioral health at each of the four community hospitals that comprise this category are: BID-Milton (1%), Good Samaritan (12%), Quincy MC (7%), Signature Brockton (7%).

Inpatient Service Mix for Residents of SSH's PSA – 2011

	All Discharges from PSA		SSH		Area Community Hospitals		Tertiary Hospitals		All Other MA Hospitals	
	%	Count	%	Count	%	Count	%	Count	%	Count
Medical	60%	59,771	64%	12,241	72%	21,616	46%	13,316	57%	12,598
Surgical	22%	22,273	17%	3,233	14%	4,368	34%	9,910	22%	4,762
Obstetrics	12%	12,065	18%	3,488	6%	1,792	17%	4,861	9%	2,924
Behavioral Health	6%	5,944	1%	231	8%	2,400	2%	683	12%	2,630
Total Discharges		100,053		19,193		30,176		28,770		21,914

NOTES

- (1) Source: 2011 MHDC Discharge Data, all discharges (all hospitals, commercial and non-commercial payers).
- (2) Service categories based on methodology set forth in *2012 Health Care Cost and Utilization Report*, HEALTH CARE COST INSTITUTE, available at <http://www.healthcostinstitute.org/files/HCCI%202012%20Methodology.pdf>.
- (3) "Area Community Hospitals" are the other hospitals located on the South Shore, who serve residents of SSH's PSA: BID-Milton, Signature Brockton, Good Samaritan, Quincy MC.
- (4) "Tertiary Hospitals" are those with an average case mix index of ≥ 1.1 in FY11 (CHIA calculation using APR DRG case weights): Baystate Medical Center, BIDMC, BWH, Children's Hospital, Dana Farber, Lahey Hospital and Medical Center, Massachusetts Eye and Ear Infirmary, MGH, New England Baptist, Tufts MC, and UMass Memorial Medical Center.

We did not apply a similar analysis to Partners' GAC hospitals. One principal reason is that the Partners system, unlike SSH, includes a psychiatric hospital, McLean, which provides a range of inpatient and outpatient behavioral health services. The provision of services at McLean may affect the inpatient behavioral health mix at Partners' GAC hospitals. Reliable, statewide data on utilization of services at non-GAC hospitals like McLean are not yet available.

In sum, both revenue and discharge data indicate that SSH and most Partners hospitals have a higher commercial payer mix and/or lower Medicaid mix than other area hospitals. In its service area, SSH also provides a smaller share of inpatient behavioral health services and a larger share of deliveries than other area hospitals.

IV. IMPACT PROJECTIONS (2014 ONWARD)

Chapter 224 directs the HPC to enhance the transparency of significant changes to our health care market, given that provider alignments and consolidations impact health care system performance and levels of medical spending.⁸³ On the one hand, shifting physician alignments, increases in market concentration, and changing care referral patterns can increase the prices we

⁸³ See, e.g., AGO 2013 COST TRENDS REPORT, *supra* note 43 at Part III(C) ("While a provider alignment may improve an organization's ability to bear risk or promote more efficient, coordinated care, those potential benefits should be balanced against the concerns of increasing market leverage and reducing consumer options.").

pay for health care services.⁸⁴ On the other hand, provider alignments may improve an organization's ability to promote more efficient, coordinated care.⁸⁵

The parties before us are high-quality provider organizations with a stated commitment to improving PHM on the South Shore. They have demonstrated experience in delivering high quality care, and propose to enhance accountable care in this region. At the same time, there is the prospect that the union of financially strong organizations will tend to reinforce and continue the market strength of the resulting system, with potentially negative consequences for costs and market functioning. Included in these concerns are questions as to whether these transactions will yield gains in quality and access, and savings from care delivery improvements that are commensurate with anticipated cost increases. The remainder of this report addresses these related questions. It first examines ways in which the transactions may facilitate cost increases. It then turns to how the transactions may facilitate improvements in care delivery, and thus potential spending decreases and quality improvements.

A. COST IMPACT

One of the HPC's central responsibilities is to monitor the Commonwealth's progress in meeting the health care cost growth benchmark set forth in Chapter 224.⁸⁶ Growth in total medical spending is driven by four principal factors: price, utilization, provider mix, and service mix. Provider consolidations or alignments can affect all of these factors. For example, hospital and physician alignments can result in:

- Changes in physician prices as new physicians join higher-priced physician groups;
- Changes in referral patterns (provider mix) as physicians shift utilization to their higher-priced new system;
- Increased bargaining leverage to negotiate higher commercial prices and other favorable contract terms; and
- Added facility fees when physician groups and their ancillaries are acquired by a hospital system.

⁸⁴ See generally Martin Gaynor & Robert Town, *The Impact of Hospital Consolidation – Update*, ROBERT WOOD JOHNSON FOUNDATION, 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>.

⁸⁵ See, e.g., Richard M.J. Bohmer & Thomas H. Lee, *The Shifting Mission of Health Care Delivery Organizations*, 361 N. ENGL. J. MED., 551 (suggesting that provider systems must aggressively pursue strategies of alignment, integration, and investment in order to meet market and regulatory demands for an improved value-to-price ratio).

⁸⁶ MASS. GEN. LAWS ch. 6D, § 9 (2012) (requiring the HPC to establish annually “a health care cost growth benchmark for the average growth in total health care expenditures in the commonwealth,” pegged to the growth rate of the gross state product, and to “prominently publish the annual health care cost growth benchmark on the commission’s website”).

We examined each of these mechanisms for cost impact, and found:

- As SSPHO physicians join Partners, there will be changes in physician prices that increase total medical spending. Whether and how physicians from other systems may join Partners and begin receiving PCHI prices are governed by a complex series of intersecting contractual provisions, which are continually being renegotiated.
- Changes in referral patterns are anticipated to increase utilization of Partners and SSH facilities, thereby increasing total medical spending as Partners and SSH are generally higher-priced than their competitors.
- The commercial inpatient market will become significantly more concentrated as a result of the proposed acquisitions. This will likely reduce competition and increase the ability of the resulting system to leverage higher prices (whether fee for service or alternate payment prices) and other favorable contract terms in negotiations with commercial payers.
- Total medical spending will increase if facility fees are added to Harbor's clinic or ancillary visits. Due to time and data constraints, the HPC was not able to estimate the potential cost impact of any new facility fees related to these transactions.

We report on projected increases to medical spending in two ways: (1) as a total dollar amount and (2) as a percent change to total medical spending in the South Shore region.⁸⁷ Increases in total medical spending will lead to equivalent increases in health insurance premiums. The businesses and consumers who will most directly experience premium increases are those who obtain their care from SSH and SSPHO (including Harbor), whose prices and revenue are anticipated to increase as a result of these transactions. Most of those businesses and consumers are located in the South Shore region, which is why we show increases in costs as a proportion of total medical spending in this region. However, not all of the patients who obtain care from SSH and SSPHO necessarily live in the South Shore region, so a small proportion of the impact of the parties' increased prices and revenue may be experienced outside of this region. For this reason, when we describe anticipated percent increases in total medical spending in the South Shore region, we use qualifiers such as "up to" or "approximately."

Our cost impact analysis is based on data from the three major payers, who represent 80% of the commercial market. As such, our cost projections tend to underestimate the total dollar impact to commercial spending.⁸⁸ Due to the nature of contract negotiations and bargaining leverage, we would expect to see similar trends in the 20% of the commercial market for which we did not have detailed data.

⁸⁷ Throughout this Part IV, the percent change to total medical spending in the South Shore region is based on 2011 spending by the three largest commercial payers for all members residing in the zip codes that constitute SSH's PSA. See Section IV.A.3 for a further discussion of the HPC's approach to calculating hospital PSAs.

⁸⁸ By contrast to total dollar figures, where we report on *percent impact* to spending, those figures do not necessarily underestimate impact to the commercial market. This is because those percentages reflect the dollar impact for the three major payers divided by only those three payers' total medical spending in the South Shore region.

1. Increases in Physician Prices Are Anticipated As a Result of Partners' Acquisition of Harbor Medical Associates

As described above in Section III.A.2, PCHI receives some of the highest physician prices in the state. One mechanism by which these transactions are anticipated to increase costs is that the SSPHO physicians acquired by Partners will begin receiving higher PCHI prices. When and how physicians who join Partners can receive PCHI prices are governed by complex contractual provisions.

Contract negotiations between payers and providers determine prices for health care services in the commercial market, whether fee-for-service prices, bundled prices, or global risk payments. These negotiations are confidential, and until the health care cost trends examinations of the AGO pursuant to Chapter 305 of the Acts of 2008, the public had little to no information on the results of these private deliberations.

In addition to establishing prices, negotiations between payers and providers determine other important features of our market that impact total medical spending, such as the terms of quality incentive payments and the potential for other supplemental payments from payers to providers. These contract negotiations also shape whether and how physician groups can grow. The HPC found significant variation in the presence, content, and scope of provisions that govern physician network growth in the Commonwealth. We observed this variation across provider contracts at a single payer, and across different payers. Unevenly applied growth provisions often appeared to have the effect of “freezing” certain physician groups at historic sizes, without clear relation to the group’s price or efficiency. Consistent with previous Massachusetts reports, it is not always clear that the results of these private contract negotiations reflect value for purchasers and consumers.⁸⁹

The HPC interviewed the three major commercial payers to develop a deeper understanding of their contracts with PCHI and SSPHO. Our conversations suggest that even payers may not know with certainty all of the ramifications of a transaction on physician prices. This could be due to, for example, recently added contract provisions that have not yet been tested, and thus may be open to differing interpretations by provider and payer. Contracts are also renegotiated every couple of years, so the impact over time of a transaction that closes in a given year is shaped by contract negotiations that have not yet occurred.

In each of PCHI’s contracts with the three major payers, there appears to be room for new physicians to join at PCHI’s prices,⁹⁰ which is anticipated to increase health care spending.⁹¹

⁸⁹ See AGO 2010 COST TRENDS REPORT, *supra* note 9 at 43 (stating that “[w]hile growth caps can be seen as a reasonable attempt by payers to save costs by limiting the growth of their most highly-paid provider groups, given the market dynamics and price disparities we have documented, we are concerned that growth caps may have the deleterious effect of freezing disparities in the market place.”).

⁹⁰ The HPC reviewed detailed payer contracts and confirmed its understanding of this topic with the parties and payers to the best of its ability in the time available. We found that each of the three major payers has negotiated a “growth cap” with PCHI, or a maximum number of physicians who may receive PCHI’s contracted rates at any given time. PCHI can grow its network beyond this cap, but those “above-cap” physicians will receive far lower rates based on the payer’s standard rate schedule. Some growth caps are static over the term of the contract, while others permit a pre-defined annual increase for each year of the contract.

Some contracts permit new physicians to access PCHI rates over time, paying them an increasing fraction of full PCHI rates over several years. The timing and number of physicians seeking to join will also affect the scope of price increases. We report on our work modeling the cost impact of Harbor and other SSPHO physicians joining PCHI below. Because of the above-described contract terms related to timing and “phasing-in” of full PCHI rates, we report on our results separately for two periods. During the first three years following the Harbor acquisition, the annual cost impact will be slightly lower than the cost impact beginning in Year 4, when all of the new physicians will receive full PCHI rates.

We first modeled the cost impact of Harbor’s 65 physicians joining PCHI. We reviewed information indicating Harbor will join PCHI’s contracts on January 1, 2015, likely at PCHI integrated rates.⁹² Across the three major payers, this would result in an average increase in Harbor physician prices of about 37.1% for the first three years. This equates to an additional \$7.2 million each year that the three major payers would pay for Harbor’s services (assuming no change to Harbor’s patient volume). Starting in Year 4, as full PCHI prices phase in for all Harbor physicians, the initial price increase of 37.1% for the first three years would grow to an anticipated permanent price increase of 41.5%. This equates to an additional \$8 million each year that the three major payers would pay for Harbor’s services, or a permanent increase to these payers’ total medical spending (and thus premiums) in the South Shore region of approximately 0.46%.⁹³

Not including Harbor, there are about 350 physicians remaining in SSPHO. Like Harbor, these physicians are clinically affiliated with SSH and, for many years, have jointly managed patient care with SSH pursuant to risk contracts with all three of the largest payers. Based on the

⁹¹ In the major payer contracts we reviewed, we observed that growth caps can be effective in moderating the cost impact of growth of physician networks, but have not generally been successful in preventing cost impact altogether. Like all contract terms, growth caps are negotiated, and thus subject to the exercise of bargaining leverage. As contracts are renegotiated, growth caps can increase. In fact, some growth caps explicitly provide for growth over time, providing PCHI a pre-negotiated annual increase in the number of network physicians for the term of the contract. Moreover, while other contracts maintain a fixed growth cap over the term of the contract – generally only permitting *replacement* of slots for a physician group that leaves PCHI and not *net new* slots – replacing physician groups over time can still result in cost growth for the Commonwealth. This is because different PCHI groups are paid different prices, depending on whether the group is owned or affiliated, and whether it is considered an academic or community RSO. *Infra* note 92. As Partners moves to a more tightly integrated model of ownership of most members of PCHI, groups leaving at lower “affiliated” rates may be replaced with owned groups paid at a higher “integrated” or even “academic” rate. Cambridge Health Alliance (CHA) is an example of one such group that currently receives PCHI’s lowest “affiliated” price, and is leaving PCHI at the end of 2013. If CHA is replaced by an integrated or academic RSO that receives higher prices, there is likely to be a net increase in health care spending.

⁹² PCHI physicians within a payer’s growth cap are paid one of three rates, depending on the type of physician and the classification of the physician’s RSO. Academic rates (for BWPO and MGPO physicians) are the highest, followed very close by integrated rates (generally, for PCHI’s employed physicians in the community). Non-employed PCHI affiliated community physicians receive a third rate, known as affiliated rates. All three rates are well above median rates for the three major commercial payers. Because Harbor is joining an academic RSO of PCHI, it is possible their physicians will receive PCHI’s slightly higher academic rates rather than its integrated rates. If so, the cost impact of Harbor joining PCHI will be somewhat higher than the figures we present here. *See infra* note 96.

⁹³ Payers would at some point raise premiums in an equivalent amount to cover this increase in medical spending, either for employer accounts in the South Shore area that use SSH and SSPHO services, or spread out across a broader actuarial pool across the state.

parties' own plans, which emphasize close hospital-physician alignment as key for PHM and which include an unexecuted contract for SSPHO to join PCHI,⁹⁴ the HPC expects other SSPHO physicians to join PCHI as SSH joins Partners.⁹⁵ Under current contracts with the three major payers, we found room for an additional several dozen to potentially more than 100 physicians to obtain PCHI rates (depending on the payer). We modeled the cost impact of this additional number of SSPHO physicians joining PCHI (which are considerably fewer than the actual number of physicians remaining in SSPHO), and found that for the three major payers, these physicians' prices would increase by an average of 28.3% for the first three years. This would amount to an additional \$6 million per year in spending for these payers. Beginning in Year 4, the price increase would grow to a permanent 36.6% increase in rates, resulting in a total dollar increase to spending of \$7.7 million per year, or a permanent increase to these payers' total medical spending in the South Shore region of approximately 0.44%.

Combined, these increased prices for Harbor and some additional SSPHO physicians will increase health care spending for the three major payers by an estimated \$15.8 million each year (\$13.2 million each year during the first three years). This equates to a permanent increase in total medical spending (and thus premiums) in the South Shore region of up to 0.90%.⁹⁶

	Annual Increase in Spending (Years 1 to 3)	Annual Increase in Spending (Year 4 onward)
Harbor Medical Associates (65 physicians)	\$7.2 million	\$8.0 million
Additional SSPHO Physicians (several dozen to 100+ physicians)	\$6.0 million	\$7.7 million
Total Yearly Increase in Spending	\$13.2 million	\$15.8 million

The presence and content of physician growth provisions in future Partners rate contracts will materially impact whether and by how much total medical spending increases due to changes in physician prices. If the parties obtain more favorable “physician add” terms from the

⁹⁴ See SSH Determination of Need Application, Attachment B, Affiliation Agreement *supra* note 14 at Art. 5.9.1 (stating “tighter integration” and “alignment” of physicians with SSH and the Partners hospitals is “a key component to successful implementation” of population health management) and SSH Determination of Need Application, Attachment B, Affiliation Agreement *supra* note 14 at Exh. 4.10.1 (affiliation agreement between SSPHO and PCHI).

⁹⁵ However, one SSPHO local practice group has elected not to join PCHI. We received notice in July 2013 that Healthcare South, a 26-physician pediatrics group within SSPHO, is leaving SSPHO to join NEQCA’s contracting network at the end of 2013.

⁹⁶ These calculations assume that Harbor will receive PCHI integrated rates. If Harbor instead receives the higher PCHI AMC rates, then Harbor and the additional SSPHO physicians would receive an added \$18.0 million in revenue per year, or annual growth of up to 1.03% in total medical spending in the South Shore region for the three major payers.

payers than the ones we reviewed,⁹⁷ this increase in prices could be larger than the increase we modeled. For example, if Harbor and the other approximately 350 SSPHO physicians (minus Healthcare South⁹⁸) all increased to PCHI prices, it would increase annual spending by the three major payers by \$50.9 million, which equates to a permanent increase in total medical spending (and thus premiums) in the South Shore region of approximately 2.9%.

2. These Transactions Will Likely Result in Changes in Patient Care Referral Patterns (Provider Mix) That Increase Total Medical Spending

In addition to changes in rates of reimbursement (unit price), changes in referral patterns or site of care (i.e. provider mix) also impact total medical spending. This section examines changes in care referral patterns anticipated as a result of the proposed transactions, which are expected to shift utilization from competitor providers to more expensive Partners providers.⁹⁹

There are two groups of physicians whose care referral patterns might be expected to change following the transactions:

- a. Existing physicians who are already part of SSPHO (including Harbor); and
- b. New physicians whom the parties have stated they will recruit to the new combined system

For both groups of physicians (existing and new), we examine whether the physicians are likely to change which hospitals or physician groups they refer patients to following the transactions. We had access to site of care data by physician group for HMO/POS patients. In addition, we reviewed network-wide site of care data for total HMO/POS and PPO populations, and noted they had similar distributions.¹⁰⁰ In our analysis, we examined the current care referral patterns of SSPHO/Harbor physicians, PCHI physicians, and the physicians of other provider systems operating in eastern Massachusetts. Within PCHI, we focused on the physicians at Newton-Wellesley and North Shore MC, the two Partners hospitals who are most similarly situated to SSH (all three are community hospitals of similar size and service offerings, and are located in communities surrounding metropolitan Boston). For each physician group, we examined how often physicians referred their patients to “in-system” or “preferred” hospitals, and whether those “in-system” hospitals, or rates of referral, were likely to change following the proposed transactions.

⁹⁷ See Section IV.A.3 for a discussion of how bargaining leverage with payers is anticipated to increase as a result of these transactions.

⁹⁸ Healthcare South is leaving SSPHO at the end of 2013. *See supra* note 95. For all of our calculations in which we model the effects of changes to SSPHO as a whole, we exclude Healthcare South.

⁹⁹ It is possible that, due to increased coordination of care, overall utilization levels will decrease as a result of these transactions. Potential efficiencies in reduced utilization are addressed in Section IV.B.1.

¹⁰⁰ This may be explained in part by the fact that many PPO patients – though they are not required by product design to select a PCP to direct their care – functionally have PCPs who help direct their care. *See* DIV. OF HEALTH CARE FIN. & POLICY, HEALTH CARE IN MASSACHUSETTS: KEY INDICATORS, at 18 (NOV. 2010), *available at* <http://www.mass.gov/chia/docs/r/pubs/10/key-indicators-november-2010.pdf> (reporting that 90% of Massachusetts residents identified as having a personal health care provider in 2009).

a. Existing SSPHO Physicians

We compared referral pattern data for SSPHO physicians, Newton-Wellesley physicians, and North Shore MC physicians. We examined how often SSPHO patients received care at SSH versus other area hospitals; and, when they travel to Boston, how often they received care at BWH and MGH versus the three other GAC AMCs in Boston (BIDMC, BMC, and Tufts MC). Similarly, for Newton-Wellesley and North Shore MC patients, we examined how often they used Newton-Wellesley Hospital and North Shore MC versus other area hospitals, and how often they used BWH and MGH versus competitor AMCs.

We found that SSPHO's care referral patterns look very similar to those of the PCHI physicians at Newton-Wellesley and North Shore MC. These data indicate that SSPHO patients use SSH as frequently as – and often more frequently than – Newton-Wellesley patients and North Shore MC patients use Newton-Wellesley Hospital and North Shore MC. Because SSPHO physicians are already using their “home” hospital very frequently, there is not likely to be a significant change in these physicians' rate of use of SSH following the transactions.

SSPHO's rates of referral to Partners AMCs are approaching the rates at which PCHI community physicians (particularly Newton-Wellesley and North Shore physicians) refer their patients to Partners AMCs, likely bearing out the success of SSH's longstanding clinical affiliation with Partners. There is thus unlikely to be a dramatic change in SSPHO's use of Partners AMCs following the transactions. With that said, the data show some opportunities for SSPHO physicians to increase their use of Partners AMCs – particularly for outpatient care – to be more in line with the data for Newton-Wellesley and North Shore physicians. Shifting utilization from non-Partners AMCs to BWH and MGH is also consistent with the parties' plans for implementing PHM, which include keeping more care in-system following the transactions. If Harbor and other SSPHO physicians shifted their referrals to Partners AMC providers to more closely mirror the referral rates of Newton-Wellesley and North Shore physicians, the total cost impact for the three major payers would be approximately \$1.6 million per year.¹⁰¹ This figure represents the projected impact to both HMO/POS and PPO populations.

b. New Physicians the Parties Seek to Recruit

The parties have stated they plan to recruit 27 to 42 new PCPs to their network over five years to support implementation of PHM in the South Shore region.¹⁰² As these PCPs join PCHI, we can expect their care referral patterns to shift to be more in line with SSPHO/PCHI practices (higher use of SSH and Partners hospitals).¹⁰³ Consistent with observed practices in the industry, it is reasonable to expect that a number of the new PCPs that the parties seek to recruit

¹⁰¹ This figure is based on current SSPHO physicians, minus Healthcare South, shifting their care referral patterns to mirror other PCHI physicians. *See supra* note 98.

¹⁰² *See* Section IV.B.2 for a discussion of the parties' perspective that there is a shortage of PCPs in the South Shore region to implement PHM effectively.

¹⁰³ For each physician recruited away from a low-cost system like Physician Group 1, who shifts his/her hospital referral practices to greater use of SSH/Partners instead of lower-priced alternatives, payers will pay an additional \$132,000 annually for that hospital care.

will be recruited from within Massachusetts, including physicians already practicing in or around the South Shore region.¹⁰⁴

The table below shows, for one major payer, the average price of hospital services for patients of SSPHO compared to the patients of five large physician groups serving the South Shore region. The table shows how the prices for hospital services vary significantly based on the system with which the patient’s PCP is affiliated. On average, SSPHO doctors refer their patients to the most expensive mix of hospitals for outpatient care, and the second most expensive mix of hospitals for inpatient care. Our review of available data from the two other major payers suggests that for those payers, differences between SSPHO and other area groups is even more pronounced.

Hospital Referral Prices by Physician Group (One Major Commercial Payer)

	Area Physician Group 1	Area Physician Group 2	Area Physician Group 3	Area Physician Group 4	Area Physician Group 5	Average of 5 Area Groups	SSPHO
Average Price of IP Referral Hospitals	0.97	1.10	1.14	1.14	1.20	1.11	1.18
Average Price of OP Referral Hospitals	0.90	0.97	1.01	1.04	1.00	0.98	1.15

If the parties recruit any of their desired 27 to 42 new PCPs from area physician groups, listed above, then a shift to care referral patterns in line with existing SSPHO practices will increase total medical spending. We modeled this increase in spending if the 27 to 42 new PCPs join from other area physician groups, and found that the three largest payers would pay an additional \$5.8 to \$9.0 million dollars each year for the care of these physicians’ HMO and PPO patients, due to changes in provider mix. This would increase total medical spending in the South Shore region by approximately 0.33% to 0.52% per year. Given that the parties have stated they will recruit these 27 to 42 PCPs over several years, the cost impact of this anticipated shift in care referral patterns will be experienced over time.

3. Increases in Market Concentration as a Result of these Transactions Are Anticipated to Increase the Ability of the Resulting System to Leverage Higher Reimbursement and Other Favorable Contract Terms

As discussed above, commercial prices for health care services (whether fee-for-service prices, global budgets, or other alternative payment methodologies) are established through contract negotiations between payers and providers. The results of these negotiations – both the

¹⁰⁴ The parties have emphasized that they believe 27 to 42 net new PCPs are needed in the South Shore region to successfully implement PHM; they have not indicated that the PCP Initiative is focused on recruiting physicians from competitors. Consistent with observed industry practices, however, recruitment of physicians often occurs from local provider systems, not exclusively from new graduates or out of state practitioners.

prices that payers will pay for services and other contractual terms – are influenced by the bargaining leverage of the negotiating parties.¹⁰⁵ To assess whether bargaining leverage to negotiate higher prices and other favorable contract terms is likely to increase as a result of Partners’ acquisition of South Shore Hospital, the HPC analyzed the competitive effects of the proposed transaction, focusing on the parties’ market share, anticipated changes in market concentration, and the parties’ claims regarding competitive effects.^{106, 107}

An analysis of competitive effects often begins with an assessment of relevant markets. Relevant markets are markets in which the competitive effects of a proposed transaction, if any, are likely to manifest. Defining the relevant market depends largely on the composition of services offered by the parties (product markets), the location or locations in which these services are offered (geographic market), and the preferences and alternatives of consumers. For these transactions, the HPC analyzed the competitive effects on inpatient general acute care services (the product market)¹⁰⁸ in SSH’s PSA (the geographic market).¹⁰⁹ The HPC applied two methods for defining SSH’s PSA¹¹⁰:

¹⁰⁵ Bargaining leverage impacts negotiations because a payer network that excludes “important” providers will be less marketable to purchasers (employers and consumers). If there are few or no effective substitutes for that provider in a market, the potential cost to a payer of excluding the provider from that payer’s network will be high, and that provider will have increased ability to command a higher price (or other favorable contract terms) from the payer. Previous reports by the AGO have demonstrated that market leverage is positively correlated with price differences between health care providers. Those reports also found that such price differences were not explained by differences in quality of care, complexity of services provided, or other value-based factors. *See, e.g.,* AGO 2010 COST TRENDS REPORT, *supra* note 9.

¹⁰⁶ In the context of antitrust law and economics, it is widely understood that market shares and market concentration analysis can shed light on the likely competitive effects of a proposed transaction. *See, e.g.,* F.M. Scherer, *Industrial Market Structure and Economic Performance*, Ch. 3 (2nd Ed. 1979); Dennis Carlton & Jeffrey Perloff, *Modern Industrial Organization*, 794-807 (2nd Ed. 1994); Massimo Motta, *Competition Policy: Theory and Practice*, 235-236 (2004).

¹⁰⁷ Historically, it has been the role of state and federal law enforcement agencies such as the state AGO, the DOJ, and the FTC to investigate market consolidation through enforcement of antitrust law. However, that work is often non-public. This review does not repeat all of the econometric modeling of changes in competition (e.g., “willingness-to-pay” analysis) that might be pursued in a law enforcement context. Rather, we mirror many of the initial steps that would likely be included in an antitrust investigation to provide a public analysis of the likely nature of a transaction’s competitive effects, so that transactions may be referred to appropriate agencies for further review as needed.

¹⁰⁸ This analysis focuses on hospital discharges for GAC services, excluding normal newborns (including normal newborns would effectively double-count a single delivery as two discharges), non-acute discharges (e.g., discharges with a length of stay of greater than 180 days, rehabilitation discharges), and out-of-state patients. Given the scope of the parties’ service offerings and the strength of their inpatient market share, we anticipate these transactions could result in competitive effects in other product markets as well, such as markets for outpatient and physician services in SSH’s PSA. Due to time and data limitations, we did not engage in a separate competitive effects analysis for outpatient and physician services, but given the importance of inpatient care to the health care market, competitive effects in the market for inpatient GAC services could be probative of competitive effects in these other, related health care markets.

¹⁰⁹ The definition of a “relevant geographic market” is often an important fact to establish in antitrust litigation, and can be a data and time intensive analysis. The HPC’s working definition of hospital PSAs reflects key concepts that would be considered in a full antitrust analysis of “relevant geographic markets.” For example, in defining PSAs, the HPC considered both whether the geographic area is important to the hospital (e.g., the area represents a significant proportion of the hospital’s discharges) and whether the hospital is an important provider for the geographic area (e.g., the hospital is a short drive from the zip codes in question, and discharges from the hospital exceed a minimum proportion of the zip code’s total discharges). While a PSA may not align precisely with a “relevant geographic market” defined in a law enforcement investigation, it is one of the best available measures to

1. The HPC's general method for defining a hospital PSA,¹¹¹ which focuses on the contiguous zip codes closest¹¹² to the hospital from which the hospital draws 75% of its commercial discharges; and
2. SSH's own method for defining its primary and secondary service areas, with the primary and secondary service areas respectively representing about 75% and 90% of SSH's total commercial and non-commercial discharges.¹¹³

provide the type of rapid, focused analysis that the General Court intended in limiting CMIRs to a small fraction of the time that antitrust reviews can take. As described *supra* note 106, market concentration analysis is an effective tool to shed light on the likely competitive effects of a transaction, which makes it an efficient tool to determine which transactions this Commission should refer on to other agencies for potential further review.

¹¹⁰ Both methods were implemented using 2011 MHDC inpatient discharge data purchased directly from MHDC.

¹¹¹ Chapter 224 requires the HPC to promulgate a standard methodology for calculating PSAs in the Massachusetts health care market. MASS. GEN. LAWS ch. 6D, § 13(j) (2012). We have surveyed (and continue to survey) how different providers in Massachusetts determine their service areas, and the latest empirical methods used by leading health care researchers. Our review has uncovered some modest differences in the various ways Massachusetts providers define their service areas (usually driven by unique characteristics of a provider or specific knowledge of the surrounding market), but similarities in approach far exceeded the differences. All methods in use assessed a hospital's PSA based on the volume of discharges sent to the hospital from different towns or zip codes, and sought to identify a compact, contiguous area that is responsible for a significant proportion of the hospital's discharges (and for which the hospital is an important provider). Some of the methods reviewed by the HPC explicitly considered the proximity of a given town or zip code to the hospital, while others did not. In seeking to identify a compact area that is responsible for a significant proportion of the hospital's discharges, most methodologies resulted in a PSA comprising about 75% of the hospital's discharges, which mirrors federal FTC/DOJ ACO guidelines. Statement of Antitrust Enforcement Policy Regarding Accountable Care Organizations (ACO), 76 FED. REG. 67026, 67028 (Oct. 28, 2011), available at <http://www.gpo.gov/fdsys/pkg/FR-2011-10-28/pdf/2011-27944.pdf>. Based on this exhaustive review, and on extensive modeling of variations in methodologies across a spectrum of Massachusetts hospitals, the HPC has developed a working definition of PSA that yields coherent results for many different types of hospitals (e.g., quaternary/tertiary, community, urban, rural, high volume, low volume), whose service areas can be expected to be shaped by the hospital's unique characteristics. The HPC's methodology yields more consistently reliable results for a range of hospitals than other methods that may be used by individual hospitals to define their service area for business purposes. This methodology generally defines a PSA by focusing on the contiguous zip codes closest to a hospital by drive time, from which the hospital draws 75% of its commercial discharges, and for which the hospital represents a minimum proportion of the zip code's total discharges.

¹¹² Specifically, we measured the drive time from the centroid (or approximate center) of a zip code to the hospital. Although we reviewed some methods for defining a service area that do not explicitly consider geographic proximity, both the leading economic research and recent decisions by agencies that monitor health care markets have emphasized the importance of patient travel time in assessing a hospital's market. See, e.g., *In the Matter of ProMedica Health System, Inc.*, FED. TRADE COMM'N, Docket no. 9346, at 26 (June 25, 2012); Katherine Ho, *The Welfare Effects of Restricted Hospital Choice in the US Medical Care Market*, 21 J. Applied Econ. 1039, 1051 (Nov. 7, 2006); Cory Capps et al., *Competition and Market Power in Option Demand Markets*, 34 RAND J. OF ECON. 737, 752 (2003); Robert Town & Gregory Vistnes, *Hospital Competition in HMO Networks*, 20 J. HEALTH ECON. 733, 746-47 (2001).

¹¹³ We included both methodologies to ensure that our findings are robust, but we observe two limitations with SSH's methodology for the purpose of assessing competitive impact. First, it appears that SSH uses all discharges, and does not examine commercial discharges separately. For the purpose of assessing competitive impact, it is more relevant to focus on commercially insured patients, as hospitals negotiate with private payers, not government payers. Second, SSH's methodology does not assess geographic proximity of hospitals to patients, because it does not consider drive times. While their approach may be appropriate for internal business assessments, the HPC's methodology is more appropriate in these dimensions for the purpose of assessing competitive impact.

While the geographic areas defined by these two methods are not identical, they yield very consistent results for market shares and market concentration.

a. Market Shares

We found that in SSH’s PSA, as calculated using HPC methodology, Partners and SSH are each other’s closest competitors and the providers with the two highest market shares. Combined, Partners and SSH account for approximately 50% of the commercial discharges for residents of SSH’s PSA. To test whether these findings are consistent across different types of inpatient services, we also analyzed market shares for “tertiary/quaternary” discharges, and for “non-tertiary” discharges.¹¹⁴ When discharges are separated between tertiary and non-tertiary care, Partners and SSH remain the top two providers by market share in both service categories and together continue to account for 50% of the market.¹¹⁵

Market Shares in South Shore Hospital’s Primary Service Area¹¹⁶

Hospital System	Number of Commercial Discharges	Share of Commercial Discharges	Share of Non-Tertiary Commercial Discharges	Share of Tertiary Commercial Discharges
South Shore Hospital	7,927	26%	26%	16%
Partners	7,586	24%	24%	35%
Beth Israel Deaconess	4,155	13%	13%	15%
Steward	3,988	13%	13%	9%
Signature Healthcare	2,091	7%	7%	3%
Other	5,225	17%	16%	23%

These data show that Partners and SSH already have significant (50%) market share in the region,¹¹⁷ and that they are respectively the number 1 and number 2 providers of inpatient

¹¹⁴ “Tertiary or quaternary discharges” refer to those discharges of a higher intensity which are often less likely to occur at a secondary or community hospital. For the purposes of this report, “tertiary or quaternary discharges” are defined as those (1) within the top 10% of DRGs by case weight and (2) where at least 50% of services were rendered at hospitals with an average case mix index of 1 or greater.

¹¹⁵ Applying SSH’s methodology for defining a PSA yields even higher market share in the PSA – 62% combined, or 49% for SSH and 13% for Partners (51% and 12% for non-tertiary services, 28% and 30% for tertiary services). In all scenarios, SSH and Partners represent the two highest market shares in SSH’s PSA.

¹¹⁶ Assumes Jordan Hospital is part of the Beth Israel system; Beth Israel’s acquisition of Jordan is anticipated to go into effect on January 1, 2014.

¹¹⁷ It is worth noting that these high market shares, combined with a history of high prices at both the Partners hospitals and at SSH suggest that the parties may already be exerting considerable market power.

hospital services in that region. In health care markets, the merger of close competitors can reduce choices available to payers and employers building desirable provider networks and, as such, enhance the ability of the merging parties to negotiate higher prices and more favorable contract terms. Thus, the merger of these top two providers is anticipated to lessen competition and could have substantial implications for health care costs.

b. Market Concentration

The HPC also calculated market concentration before and after the proposed transaction in SSH's PSA¹¹⁸ using the Herfindahl–Hirschman Index (HHI), a commonly used measure of market concentration and an indicator of the amount of competition among systems.¹¹⁹ The change in concentration associated with a transaction can be indicative of the likely impact of the transaction on market power and the ability to negotiate higher prices. For example, the Federal Trade Commission (FTC) and the Department of Justice (DOJ) have noted that “[m]ost studies of the relationship between competition and hospital prices generally find increased hospital concentration is associated with increased price.”¹²⁰

The DOJ and the FTC use HHIs as initial screens for determining whether a given transaction raises competitive concerns and warrants further scrutiny. The highest level of scrutiny is reserved for transactions that result in a “highly concentrated market” (defined as an HHI of greater than 2,500) where the increase in HHI resulting from the transaction is greater than 200. Such transactions are presumed likely to enhance market power.¹²¹

¹¹⁸ A merger that increases concentration in a PSA is likely to also do so in a relevant geographic market identified for antitrust law enforcement purposes. *See supra* note 109.

¹¹⁹ The HHI is calculated by squaring the market share of each firm competing in the market and then summing the resulting numbers. For example, for a market consisting of four firms with shares of 30, 30, 20, and 20 percent, the HHI is 2,600 (900 + 900 + 400 + 400 = 2,600). HHIs range from near 0 (perfect competition) to 10,000 (one firm with a monopoly). When firms are equally sized, the HHI is equal to 100 times the per-firm market share. For example, two firms with a 50% share each give rise to an HHI of 5,000. Three firms with 33.3% share each give rise to an HHI of 3,333 and so on.

¹²⁰ FED. TRADE COMM'N & U.S. DEPT. OF JUST. IMPROVING HEALTHCARE: A DOSE OF COMPETITION, 1, 15 (July 2004), available at <http://www.ftc.gov/reports/healthcare/040723healthcarerpt.pdf>.

¹²¹ This is a rebuttable presumption. Persuasive evidence that the merger is unlikely to enhance market power, including evidence of potential merger-specific efficiency gains, can rebut the presumption. This is important to note, as consolidation can produce benefits. *See, e.g.,* David Dranove & Richard Lindrooth, *Hospital Consolidation and Costs: Another Look at the Evidence*, 22 J. OF HEALTH ECON. 6, 983-997 (2003) (finding that mergers in which hospitals consolidate financial reporting and licenses can generate savings several years after the merger. However, this study did not find significant cost savings in non-license-combining mergers).

DOJ/FTC Horizontal Merger Guideline HHI Thresholds¹²²

Post-Merger Market	HHI	Δ in HHI	Presumption
Highly Concentrated	> 2,500	100 to 200	Potentially raises significant competitive concerns and often warrants scrutiny
		> 200	Presumed to be likely to enhance market power

Under the HPC’s methodology and SSH’s methodology for defining a PSA, as well as under SSH’s methodology for determining a secondary service area, market concentration is anticipated to increase substantially as a result of the transaction. Under all scenarios we analyzed, the increase in HHI in SSH’s PSA would be well over DOJ/FTC thresholds at which mergers are presumed likely to enhance market power.^{123, 124}

HHI Calculations Based on HPC and SSH Definitions of Primary Service Area

	HPC PSA	SSH-Primary	SSH-Secondary
Pre-Merger HHI	1,726	2,847	1,866
Post-Merger HHI	2,979	4,131	2,655
HHI Change	+1,254	+1,284	+789

Econometric studies of health care transactions and market models indicate that significant HHI increases, particularly in concentrated markets, increase providers’ ability to leverage higher prices and other favorable contract terms from commercial payers. For example, a leading 2012 analysis noted that “[h]ospital mergers in concentrated markets generally lead to significant price increases” and that “[t]he magnitude of price increases when hospitals merge in concentrated markets is typically quite large, most exceeding 20 percent”¹²⁵ We reviewed a

¹²² See U.S. DEPT. OF JUST. & FED. TRADE COMM’N: HORIZONTAL MERGER GUIDELINES (Aug. 19, 2010), available at <http://www.justice.gov/atr/public/guidelines/hmg-2010.pdf>.

¹²³ The HHIs for the tertiary and non-tertiary markets are similarly above the DOJ/FTC thresholds. Using the HPC PSA, the post-merger HHI and change in HHI are 2,979 and 1,246 respectively for non-tertiary care, and the post-merger HHI and change in HHI are 3,073 and 1,113, respectively, for tertiary care.

¹²⁴ This is only the effect in the market for inpatient general acute care services. Similar effects could be seen in other markets (outpatient care, physician services) and, if Partners succeeds in aligning physician incentives and recruiting area physicians away from competitors, market concentration could increase even further.

¹²⁵ Gaynor & Town, *supra* note 84 at 2.. An extensive review of published papers also found that an HHI increase of 800 points within a metropolitan statistical area (a generally larger geographic area than a PSA) led to an average price increase of 5%. William Vogt & Robert Town, *How Has Hospital Consolidation Affected the Price and Quality of Hospital Care?* ROBERT WOOD JOHNSON FOUNDATION, SYNTHESIS PROJECT REPORT NO. 9 (2006), available at http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2006/rwjf12056/subassets/rwjf12056_1, or as others have put it, “each 160-point increase in HHI leads, on average, to price increases of about 1 percent.” Cory Capps, *Price Implications of Hospital Consolidation*, in *THE HEALTHCARE IMPERATIVE: LOWERING COSTS AND IMPROVING OUTCOMES* 177, 182 (2010). See also Cory Capps & David Dranove, *Hospital Consolidation and Negotiated PPO Prices*, 23 *HEALTH AFFAIRS*, 175-181 (2004) (conducting a before-and-after study of 12 hospitals

“willingness-to-pay”¹²⁶ analysis of the SSH acquisition produced by a competitor provider using public data that indicated increases to SSH’s prices could be similarly large. Based on SSH’s commercial revenue for 2012, each 1% increase to SSH’s prices would equal an additional \$1.7 million in payments from the three largest payers (or, across all commercial payers, an additional \$2 million to \$2.3 million). This equates to about a 0.1% increase in medical spending for those three payers in the South Shore region. The cumulative cost impact resulting from this enhanced bargaining leverage may also be amplified by other favorable contract terms that the provider negotiates with payers (such as favorable physician network growth terms, which can impact total medical spending).

c. Partners’ and SSH’s Claims That There Are Unlikely to Be Negative Competitive Effects Are Unpersuasive

Despite the significant increase in HHI as a result of this transaction, Partners and SSH have suggested that the transaction will not, in fact, enhance their market power. The HPC finds these statements to be unsupported and contrary to our own evidence. Specifically, the parties claim that the following factors will prevent Partners and SSH from obtaining additional bargaining leverage as a result of the transaction:

- SSH faces many competitors in the South Shore region;
- Competitor hospitals have excess capacity that would constrain the parties’ market power; and
- Payers have the ability to market limited and tiered network products.

We address each of these points in turn.

in various markets that participated in consolidations between 1998 and 2000 in which HHI increased by more than 500; finding that prices at all consolidating hospitals increased at a rate at least equal to the median rate of increase by other providers in the same market over the same time period; and finding that nine of the 12 consolidating hospitals increased prices by more than the median percentage); Steven Tenn, *The Price Effects of Hospital Mergers: A Case Study of the Sutter-Summit Transaction*, FED. TRADE COMM’N, BUREAU OF ECON., WORKING PAPER NO. 293, at 18-20 (2011) (conducting a retrospective review of the 1999 acquisition of Summit Hospital by Sutter medical system where the merger was estimated to result in about a 50% market share and finding that, controlling for hospital characteristics, Summit’s price growth was 23% to 50% higher than other California hospitals, depending on the payer).

¹²⁶ A willingness-to-pay (WTP) analysis uses statistical modeling to predict how much customers of an insurance payer would be willing to pay to have (or keep) a particular health care provider in its network. In essence, it measures the value that consumers place on having the option of going to a particular provider. This value is assessed by determining a provider’s market share across hundreds of “micromarkets” defined by patient demographics and diagnoses. For example, one provider might be attractive to elderly people living in a particular town who are diagnosed with glaucoma, while another might be attractive to middle-aged people in different town who are diagnosed with arrhythmia. If two competing hospitals merge and negotiate payer contracts together, their joint WTP will depend on the extent to which they are viewed by customers as competitors for the same micromarkets. If the two hospitals serve different micromarkets, or if there are many other competitors for those micromarkets, the hospitals’ combined WTP will be close to the sum of their individual WTP. However, if the two hospitals are competitors in the same micromarkets, a merger will leave consumers with fewer alternatives for needed services, and the providers’ joint WTP will be much higher. See Capps et al., *Antitrust Policy and Hospital Mergers: Recommendations for a New Approach*, 47 ANTITRUST BULL. 677, 693, 706-09 (2002); Dranove & Sfekas, *The Revolution in Health Care Antitrust: New Methods and Provocative Implications*, 87 MILBANK QUARTERLY 607, 616-17 (2009).

First, contrary to their claims, SSH and Partners are the primary competitors in SSH's PSA. Other hospital systems each account for only a small percent of market share. In claiming that there is strong competition in the South Shore region, the parties significantly underestimate their market share both by calculating based on number of hospital beds (claiming a combined market share of beds as 28.5%)¹²⁷ and by citing market shares for only the region SSH defines as a "secondary service area" (claiming a combined market share of 38.2%). Unlike the discharge data HPC used to calculate PSA, bed counts do not reflect the degree to which the local community relies on SSH, and thus misrepresent the importance of SSH and understate the degree to which SSH and Partners are viewed as close substitutes by commercially insured patients in SSH's PSA. Moreover, the secondary service area for which the parties provide market shares will, as a larger geographic region, dilute the market share of SSH. Based on our calculations, using SSH's own methodology for calculating market share, the combined share of Partners and SSH in SSH's *primary* service area is over 62%.

The parties also highlight that there are several community hospitals located immediately south of Boston, referring specifically to Quincy MC, BID-Milton, Jordan Hospital,¹²⁸ Good Samaritan, and Signature Brockton. However, they do not describe the extent to which these hospitals are able to attract commercially insured patients from SSH's PSA. Based on our analysis, we find that, combined, these facilities account for a minority (19%) of commercial discharges for patients living in SSH's PSA.

Second, excess capacity at competitor hospitals is unlikely to be effective in constraining market power here. Even without the acquisition, Partners and SSH are among the highest priced hospitals in the state (as shown in Section III.A.2). Arguably, excess capacity may have kept prices from rising even higher, but it has not effectively constrained Partners' and SSH's prices from becoming among the highest in the state. With the additional bargaining leverage that will likely result from this transaction, it is unlikely that excess capacity at other area hospitals will function as a significant constraint on price increases post-merger when it has not effectively constrained the growth of historic prices. To the extent that Partners succeeds in its plans for physician alignment and recruiting, the excess capacity problem could become more severe as physicians refer patients to SSH and other Partners facilities instead of competitor hospitals.¹²⁹

Finally, there is evidence that limited and tiered networks are unlikely to be effective in constraining market power for these transactions. First, approximately 18% of the members of the four largest commercial payers in Massachusetts are currently in limited or tiered plans,¹³⁰ suggesting that the majority of commercially insured patients in the state still prefer broad networks. Second and more specifically, tiered and limited networks may not have the same success on the South Shore as in other regions of the state. For example, the largest limited

¹²⁷ The parties state that SSH's market share is 3.3% and Partners' market share is 25.2% using a count of beds.

¹²⁸ Throughout this report we have not listed Jordan Hospital as a comparator hospital for SSH due to patient discharge data which shows Jordan only accounts for 1% of discharges from the SSH PSA, compared to 7%, 5%, 3% and 3% for Signature Brockton, Good Samaritan, BID-Milton and Quincy MC, respectively.

¹²⁹ In the extreme, physician alignment and recruiting by Partners could weaken competition by jeopardizing the viability of some systems.

¹³⁰ Calculated from data in the AGO 2013 COST TRENDS REPORT, *supra* note 43 at 12.

network plan in the state (Fallon) is not available in the South Shore region. Moreover, since these transactions will result in the Partners-South Shore Hospital system having 50% of commercial inpatient market share in SSH's service area, if Partners and SSH were to elect not to participate in a tiered network product, that non-participation alone would likely impair the product's appeal. Even with Partners' and SSH's participation in a tiered network product, employers may be reluctant to shift to a tiered plan that substantially increases their employees' out of pocket costs for popular hospitals that local patients use about 50% of the time.¹³¹

For all of these reasons, we find Partners' and SSH's arguments that this transaction will not lead to negative competitive effects unconvincing. To the contrary, the combined market share of 50% in SSH's PSA, the merger of direct competitors, and the dramatic increase in HHIs raise significant concerns that this transaction will substantially reduce competition in SSH's PSA and confer market leverage to the parties. As a result, we anticipate that the parties will be able to leverage higher prices during future contract negotiations with payers.

4. Facility Fees May Further Increase Costs

A fourth mechanism for increases in health care costs as the result of an acquisition is the potential addition of "facility fees" for routine office visits and ancillary procedures. Facility fees are payments assessed by hospitals to cover their overhead costs, such as medical records, medical equipment, facility upkeep, and salaries of nurses and other staff. Facility fees are routinely included in hospital outpatient department visits, but can also apply to care delivered at off-campus sites—such as a physician's office or an ambulatory care center (ACC)—if that site is considered an outpatient clinic that bills through the hospital.

The acquisition of physicians with freestanding offices or ACCs, like Harbor, can result in added facility fees if the acquiring entity decides to treat those sites as outpatient clinics that bill through the hospital. Facility fees may be added without any change to the name or physical location of the office. This is, in effect, an immediate (and difficult to discern) site of care shift from a freestanding office visit to an outpatient hospital visit. Patients will begin receiving two bills for their usual office visits: a bill from their physician for his or her professional services and a second bill from the associated hospital.

When professional services are combined with a facility fee, the total bill is often much higher than it would be at a freestanding practice, even though the physician's professional fee may be lower than it would be in a freestanding practice. Facility fees can be added both for commercially insured patients and patients insured through government programs like Medicare. According to the Medicare Payment Advisory Commission (MedPAC) in its 2012 Report to Congress, the combined Medicare facility and professional payment to a practice billing as a

¹³¹ Our review is consistent with information provided by one major payer, who noted that membership growth in tiered and limited networks has been modest so far, having little influence on market dynamics in eastern Massachusetts. This payer noted that if Partners and South Shore, which are in a higher tier than other network providers, were to merge, even fewer members who are tied to these providers would opt for tiered and limited network products.

hospital outpatient clinic can be 80 percent more than the equivalent professional payment to a freestanding practice.¹³²

In recent years there has been rapid growth in the acquisition of physician practices by hospitals or hospital systems, which raise the potential for added facility fees. Concurrently, MedPAC has noted that visits to outpatient-based practices, which can bill a facility fee, are increasing at a faster rate than visits to freestanding practices.¹³³ This shift in site of care can substantially increase costs,¹³⁴ and is currently not well-monitored in the Commonwealth.

Due to time and data limitations, we were unable to estimate the potential cost impact of added facility fees as a result of the proposed transactions. These transactions have the potential to increase facility fees, as Harbor provides a range of physician services at its freestanding sites, from primary care and urgent care to imaging and laboratory. Harbor also owns an ambulatory surgery center, South Shore Endoscopy Center, which provides colonoscopies and other outpatient gastrointestinal procedures. While Partners has not yet made a final determination as to how Harbor's freestanding facilities will be integrated into its operations, once Partners owns SSH and Harbor, there is the potential for these Harbor services to be considered SSH outpatient services, with corresponding facility fees. As with many of the other cost impact mechanisms analyzed in this Part IV, the precise scope of potential added facility fees will be influenced by complex contractual provisions that govern if, when, and how facility fees may be added to Harbor's practice sites.

Of the four mechanisms for cost impact described in this section—changes in physician prices, changes in referral patterns, increased bargaining leverage to negotiate higher prices and other favorable contract terms, and added facility fees—we modeled in detail increases in spending due to the first two mechanisms. As described above, we found that anticipated increases in physician prices, based on current contract terms for the three largest commercial payers, will increase total medical spending for those payers by about \$15.8 million annually.¹³⁵ We also found that changes in referral patterns will likely increase spending by an additional \$7.4 million to \$10.6 million annually: \$1.6 million for changes in care referral practices by existing SSPHO physicians, and \$5.8 to \$9.0 million for changes in the referral practices of newly-recruited physicians (depending on the number of PCPs the parties ultimately recruit). Thus, for changes in price and referral patterns alone, we anticipate an annual increase in total medical spending of \$23 to \$26 million for the three largest commercial payers, or a 1.3% to 1.5% increase to total medical spending in the South Shore region. While we did not model the price impact of increased market concentration, it is worth noting that each additional 1% increase in SSH's price would equal an additional \$1.7 million in annual spending for the three

¹³² MEDICARE PAYMENT ADVISORY COMMISSION, REPORT TO THE CONGRESS: MEDICARE PAYMENT POLICY (MAR. 2012), available at http://www.medpac.gov/documents/Mar12_EntireReport.pdf.

¹³³ See *id.* at 51 (“In 2010, the volume of visits to the higher paid outpatient-based practices owned by hospitals grew by 6.7 percent, while visits to the lower paid freestanding practices grew by less than 1 percent.”).

¹³⁴ MedPAC predicted that if the percentage of office visits billing as hospital outpatient visits were to increase at the rate they increased in 2010, Medicare spending would increase by \$2 billion a year and patient cost sharing would increase by an additional \$500 million per year nationally by 2020. *Id.* at 73.

¹³⁵ After a three-year ramp up period during which the added spending will average \$13.2 million annually. The precise amount of this increase will depend on exactly how many, when, and at what rates SSPHO physicians are able to join PCHI's contracts.

largest commercial payers. Thus, the additional spending impact of any such price increases may be substantial.

B. CARE DELIVERY IMPACT: POTENTIAL FOR COST SAVINGS AND QUALITY IMPROVEMENT

The parties describe their goal in undertaking these transactions as developing a “population health management (PHM) system of the future for patients in Southeastern Massachusetts.”¹³⁶ The parties expect successful implementation of PHM to result in significant quality and cost benefits in the region, including improved health outcomes, the provision of care “in a more patient centered manner,” and moderation of “the rate of growth of health care expenditures in Southeastern Massachusetts.”¹³⁷ The parties’ strategies for implementing PHM include:

- Implementing “medical neighborhoods” to align primary care and specialist physicians and encompass a full spectrum of care including community-based prevention and post-acute services;
- Expanding Partners’ high-risk management program, the Integrated Care Management Program (iCMP), to support cross-continuum management of complex patients with chronic diseases;
- Keeping care in the community setting, focusing on a strategic priority of “right care, right time, right place”;
- Expanding information technology resources, including Partners’ Epic EMR infrastructure enhancements;
- Building upon Partners’ prior success in accountable care initiatives.

This section examines potential cost and quality benefits for the South Shore region resulting from implementation of these care delivery improvements. We first examine potential savings, based on data provided by the parties regarding their previous success with accountable care initiatives. We then examine the role of these transactions in facilitating the parties’ plans for PHM and quality improvement. We found:

- Partners’ experience in accountable care initiatives demonstrates potential for improving quality and efficiency through more integrated, accountable care. However, the anticipated cost increases described in Section IV.A far exceed the potential savings from expanding these initiatives into the South Shore region.
- The parties’ position that a corporate acquisition of SSH and Harbor is necessary to achieve the quality and efficiency benefits of PHM is not consistently supported by the experience of the parties and other Massachusetts providers.

¹³⁶ See SOUTH SHORE HOSP., NOTICE OF MATERIAL CHANGE TO THE HEALTH POLICY COMM’N, (Apr. 3, 2013), AS REQUIRED UNDER MASS. GEN. LAWS CH. 6D § 13 (2012); PARTNERS HEALTHCARE SYSTEM, NOTICE OF MATERIAL CHANGE TO THE HEALTH POLICY COMM’N (Apr. 22, 2013), AS REQUIRED UNDER MASS. GEN. LAWS CH. 6D § 13 (2012).

¹³⁷ *Id.*

1. Partners' Experience in Accountable Care Initiatives Demonstrates Potential for Improving Quality and Efficiency, But Anticipated Costs from These Transactions Far Exceed the Potential Savings

a. *Partners' Experience in Accountable Care Initiatives Demonstrates Potential for Improving Quality and Efficiency*

Partners has implemented innovative delivery models focused on PHM. Its activities to promote PHM across its system include implementation of medical neighborhoods to enhance alignment across the care continuum, increasing the number of accredited PCMHs, expanding its high-risk care management program (iCMP), as well as investing in health information technology (HIT). In materials to the HPC, Partners highlighted three examples of its historic experience in PHM:

- A two-phase CMS Demonstration from 2006 to 2011, in which successive Partners providers (MGH, followed by BWH and North Shore MC) managed the care of certain high-risk Medicare beneficiaries (about 3,400 patients in Phase I and about 6,990 in Phase II¹³⁸);
- Partners' first year of performance in CMS's Pioneer ACO program, which encompassed 52,000 Medicare beneficiaries;
- Partners' first year of performance in the Alternative Quality Contract (AQC)

For the two recent initiatives, the Pioneer ACO and AQC, Partners has only completed one year of performance, so it is challenging to make meaningful projections and we are not yet able to study trends. Partners' results in the CMS high-risk demonstration were positive.¹³⁹ The first pilot, implemented at MGH, improved quality performance across multiple domains. For example, primary care providers supported the program with 67% agreeing that the demonstration improved their quality of practice; admissions and emergency department visits rose more slowly for the demonstration cohort compared with peers, suggesting both cost and quality benefit; and adjusted mortality rates were lower for the MGH populations.¹⁴⁰ Later pilots at BWH and North Shore MC also demonstrated benefits to patient care, though on a smaller scale.¹⁴¹

Partners has recently implemented an internal performance framework that pools risk at the system level and establishes consistent financial and quality performance benchmarks for its physicians. Partners states that, by insulating physicians from the variation in payer-specific

¹³⁸ The total number of participants over both phases may be somewhat fewer than these figures reflect due to some patients continuing on from Phase I to Phase II, and some patients opting out.

¹³⁹ Lyle Nelson, *Lessons from Medicare's Demonstration Projects on Disease Management and Care Coordination*, CONGRESSIONAL BUDGET OFFICE, Working Paper 2012-01 (Jan. 18, 2012), available at http://www.cbo.gov/sites/default/files/cbofiles/attachments/WP2012-01_Nelson_Medicare_DMCC_Demonstrations.pdf.

¹⁴⁰ Nancy McCall et al., RTI INTERNATIONAL, *Evaluation of Medicare Care Management for High-Cost Beneficiaries (CMHCB) Demonstration: Massachusetts General Hospital and Massachusetts General Physicians Organization (MGH)*, CTR. FOR MEDICARE & MEDICAID SERVICES (Sept. 2010).

¹⁴¹ The total number of beneficiary months engaged in the demonstration at MGH was more than twice the respective beneficiary months at BWH and at North Shore MC.

performance requirements, this uniform structure creates an opportunity to focus day-to-day provider activities on a consistent set of PHM-related aims. The HPC was unable to make any findings regarding the impact of this framework on the parties' cost and quality performance as a result of these transactions.

b. The Cost Increases Anticipated from the Proposed Transactions Far Exceed Savings Achieved from Partners' Accountable Care Initiatives to Date

Partners provided information on the savings it generated from each of the above initiatives. The HPC applied those savings to its best estimates of the applicable population on the South Shore to model potential cost savings from the proposed transactions.¹⁴² In this section, we present our estimates of cost savings. In the next section, we examine whether a corporate acquisition is necessary to attain these savings.

For the CMS high-risk demonstration, the HPC reviewed three evaluation reports that CMS commissioned¹⁴³ to estimate potential decreases in total medical spending if the parties achieved similar rates of savings for a comparable patient cohort on the South Shore. The reports indicate that over different phases of the demonstration, MGH, BWH, and North Shore MC achieved different rates of savings (or losses) for the intervention cohort compared to similarly situated control groups. "Losses" are possible under the program because CMS paid Partners certain care management fees to manage the care of the demonstration cohorts, which were payments CMS did not make for the care of the control groups. Where the medical spend of the intervention cohort *combined* with the additional care management fees exceeded the medical spend of the control groups, the intervention is characterized as resulting in a net "loss."

For most cohorts, Partners achieved some meaningful level of net savings, though the experience of North Shore MC, the one community provider that participated, resulted in a net loss.¹⁴⁴ If SSH's performance in managing the care of high-risk Medicare patients were to mirror that of the most successful provider in the demonstration, MGH, annual savings in the

¹⁴² While the HPC received some information on Partners' historic savings from these three initiatives, we did not receive requested documentation of corresponding savings on the South Shore as a result of the proposed transactions.

¹⁴³ Wrightson et al., ACTUARIAL RESEARCH CORPORATION, *Massachusetts General Hospital Phase 1: Care Management for High Cost Beneficiaries Demonstration* (July 21, 2010); Nancy McCall et al., RTI INTERNATIONAL, *Evaluation of Medicare Care Management for High-Cost Beneficiaries (CMHCB) Demonstration: Massachusetts General Hospital and Massachusetts General Physicians Organization (MGH)*, CTR. FOR MEDICARE & MEDICAID SERVICES (Sept. 2010); Nancy McCall et al., RTI INTERNATIONAL, *Evaluation of Medicare Care Management for High-Cost Beneficiaries (CMHCB) Demonstration: Final Reconciliation Draft Report*, CTR. FOR MEDICARE & MEDICAID SERVICES (June 4, 2013) [hereinafter Final Reconciliation Draft Report].

¹⁴⁴ In Phase I of the program, MGH achieved net savings of \$4.3 million over three years (but returned a portion of care management fees to CMS as a result of falling short of targets). In Phase II, across MGH, BWH, and North Shore MC, the program netted annual savings of \$6.01 million (a 4.1% savings rate) from August 1, 2009 to December 31, 2011 in comparison to control populations. The vast majority of these savings derived from MGH cohorts during later years of the demonstration. The original MGH cohort and the BWH cohorts each achieved net savings of less than \$500,000 annually, while the experience of North Shore MC resulted in a net loss of \$2.1 million over this provider's 29-month participation period (-3.2%). Under two different methods, ARC and RTI calculated different results, and neither method appears inherently superior to the other. The variability in cohort results under either method raises some questions about the generalizability of these findings to other Partners or non-Partners institutions. See Final Reconciliation Draft Report, *supra* note 142.

South Shore region of up to \$6.4 million could be possible¹⁴⁵ (not accounting for the cost of additional upfront infrastructure investments that Partners made to implement the demonstration¹⁴⁶). Alternatively, should SSH's experience align more closely with that of North Shore MC, "losses" (higher spending than would otherwise be projected) could reach \$1.6 million annually.

Regarding CMS's Pioneer ACO program, Partners is one of five Pioneer ACOs in Massachusetts and 32 nationwide. In its first year, 2012, Partners reported early returns for the management of 52,000 Medicare patients, decreasing the rate of growth of their health care costs by approximately 2.4% as compared to the Medicare reference trend. Based upon Partners' 2012 Pioneer ACO Settlement Report, and publicly available information on the performance of three of the other four Massachusetts Pioneer ACOs,¹⁴⁷ the HPC developed estimates of potential cost savings if the parties achieved similar trends for Medicare patients on the South Shore.

The HPC examined available information on three of the other four Massachusetts Pioneer ACOs. We averaged the performance of these three ACOs, and found that Partners' performance was better than this average. Overall, two of these ACOs (BIDCO and Mount Auburn Cambridge Independent Practice Association (MACIPA))¹⁴⁸ outperformed Partners, while Partners outperformed the third ACO. Should a potential Pioneer ACO in the South Shore region perform similarly to the Partners Pioneer ACO, annual savings on the order of \$150,000 to \$240,000 could be achieved for the Medicare population in this region.

Finally, the HPC obtained information on the parties' performance under BCBS's AQC risk contract. Under a commercial global risk contract, providers negotiate a "global budget" for the total cost of care of the commercial members in the risk contract. The budget is a targeted maximum amount the payer will pay for the cost of all of the care these members receive in a given year (including the cost of care the members receive from other providers). At the end of the year, if the total cost of care is less than the negotiated budget, the provider may receive a surplus payment from the payer. If the total cost of care exceeds the budget, the provider may owe a deficit payment to the payer. The AQC is a multiyear contract, so providers negotiate not only a global budget for the first year, but also a target "trend" to apply to this budget year over year, to determine the spending trend the provider must "beat" to earn a surplus. Risk budgets, like other aspects of commercial contracts, are negotiated, and subject to the exercise of bargaining leverage. As previous Massachusetts reports have noted, there is significant variation

¹⁴⁵ We cannot infer savings for a commercial population based on savings achieved for a high-risk Medicare population. See *infra* note 151.

¹⁴⁶ Partners invested significantly in the demonstration, including a pilot study and more than two years of planning, in addition to personnel and logistics (e.g., 11 nurse case managers, a project manager, administrative assistant, community resources specialist, patient financial counselor, clinical team leader, medical director, discharge case manager, data analytics team, mental health team leader, clinical social worker, two psychiatric social workers, forensic clinical specialist, Health Dialog, EMR, and an IT based assessment tool). We were unable to estimate "all-in" savings to apply to the South Shore region (savings net of upfront investments), because Partners' program costs are not known.

¹⁴⁷ Data were unavailable for Steward.

¹⁴⁸ BIDCO achieved 4.2% savings and MACIPA achieved 3.4% savings.

in the size of budgets that different providers receive to care for comparable patient populations.¹⁴⁹

In 2012, Partners' first year in the AQC, both Partners and SSPHO (including Harbor) beat the negotiated trend against their respective negotiated budgets. However, we did not see evidence that Partners had superior efficiency performance compared to SSPHO.¹⁵⁰ Here, where both parties achieved surpluses against their target budgets, and there is no evidence that Partners' performance was superior to that of SSPHO, we would not anticipate SSPHO to achieve superior savings in the AQC as a result of the transactions. Besides citing AQC performance, the parties did not provide any other data on savings that could result for commercially insured populations as a result of the transactions.¹⁵¹

In summary, we considered each of the three initiatives the parties presented to us. We applied the same rate of savings Partners achieved for its patient population to a corresponding population in the South Shore region, and found the potential for savings. However, these potential savings amount to a small fraction of the anticipated increases in spending from the proposed transactions, as well as compared to the parties' initial \$200 million investment (described in Part II). These spending increases, described in Section IV.A, include increased spending due to changes in physician prices (\$15.8 million annually), and changes in the mix of hospitals and specialists used by new and existing SSPHO physicians (\$7.4 million to \$10.6 million annually). Even before considering the cost impact of increased market leverage, these spending increases totaling \$23 million to \$26 million exceed the highest range of potential cost savings from expanding Partners' PHM initiatives into the South Shore region (approximately \$6.6 million for expansion of the 2006 Medicare Demonstration and Pioneer ACO results combined).

2. The Parties' Position that Partners' Ownership of SSH and Harbor Is Necessary to Achieve the Benefits of PHM Is Not Consistently Supported by the Experience of the Parties and Other Providers

The parties have stated that the corporate acquisition of SSH and new "docking" models for the parties to manage and align physicians are necessary for delivery system transformation on the South Shore. These "docking" models include shifting to employed and other tightly

¹⁴⁹ See AGO 2013 COST TRENDS REPORT, *supra* note 43 at 24.

¹⁵⁰ To the contrary, in comparing PCHI's effective budget with SSPHO's (by effective budget, we mean we adjusted both budgets to account for differences in health status and covered services, so they may be validly compared), we found that PCHI received a higher budget than SSPHO to care for a comparable patient population. Notwithstanding that PCHI's budget was 8.7% larger than SSPHO's, SSPHO outperformed PCHI, coming under its smaller budget by 7.1%, while PCHI came in under its larger budget by 0.7%.

¹⁵¹ We cannot infer savings for a commercial population based on savings achieved for a Medicare population. Medicare populations differ from commercially insured populations based on age, medical complexity, health status, and other important factors. Due to these differences, the scope of opportunity for savings and the types of interventions necessary to achieve savings are likely to be very different between these populations, with potentially more dollars available for savings for Medicare populations, which have on average higher TME.

integrated models of physician alignment where the provider system can effectively establish uniform payment incentives and quality benchmarks across all its physicians.¹⁵²

The parties make two principal claims why a corporate acquisition, by contrast to another form of alignment, is necessary to achieve the benefits of PHM:

1. Partners has essential expertise and resources to support development of PHM on the South Shore, which are only reasonably accessible through a corporate acquisition; and
2. Corporate integration facilitates a degree of structural alignment and stability that is critical for implementation of PHM, and which is not achievable through clinical or contractual alignment.

We review each of these claims below, comparing them with available information on the experience of the parties and of other Massachusetts providers.

a. The Parties' First Claim: Partners' Expertise and Resources Are Necessary for Residents of the South Shore to Access PHM Services

The parties describe Partners' care delivery expertise and financial resources to invest in infrastructure as instrumental to supporting PHM on the South Shore. We examined the parties' experience to date with care delivery improvement and did not find clear evidence that PHM on the South Shore is contingent on expertise that is uniquely Partners'.

As previously described, Partners has pursued innovative strategies focused on PHM and has a stated commitment to expanding those strategies in southeastern Massachusetts. At the same time, a broad spectrum of measures do not indicate that Partners' performance in this area is superior to SSH or Harbor. As detailed in Section III.B, all three of the parties have consistently high quality performance. Partners hospitals generally outperform SSH on readmissions, suggesting an opportunity for improvement, yet on many clinical process measures related to PHM,¹⁵³ SSPHO (including Harbor) outperforms the PCHI network average. The similarity of Partners' and SSPHO's care delivery performance suggests that developing PHM is not uniquely contingent on accessing Partners' expertise.¹⁵⁴

¹⁵² “[Achieving the goals of Chapter 224] will require the redesign of care across the full care continuum, including redirection of resources to community based care and the development of new capability to deliver population health . . . such a redesign of care cannot be achieved by either [SSHEC or Partners] independently . . . The continuation of the limited and non-integrated collaborations that exist under [current] clinical affiliations will not lead to the achievement of [integrated population health management.]”

¹⁵³ Certain elements of clinical quality, especially those related to management of chronic diseases, communication to facilitate care coordination and patient engagement, and readmissions, are particularly relevant as clinical signals of patient-centered care and PHM.

¹⁵⁴ There is some evidence that the proposed transactions, by reducing competition, could result in a market structure that actually has negative ramifications for quality performance. See, e.g., Martin Gaynor & Robert Town, *Competition in Health Care Markets*, in HANDBOOK OF HEALTH ECONOMICS. VOL. 2, 559-97 (Pedro Barros et al., eds., 2012).

Similarly, when we examine strategies the parties have identified to facilitate PHM – such as managing the cost and quality of care for a patient population through global risk contracts – we do not find that Partners has had superior experience to SSH/SSPHO (including Harbor). To the contrary, while Partners entered risk budgeted contracts with the commercial payers and CMS in 2012, SSH and SSPHO have been jointly participating in risk contracts with all three major commercial payers for over a decade. In addition, Harbor has participated in a risk ACO with CMS since 2012.¹⁵⁵ The risk contracts of SSH/SSPHO are large, and they include significant quality payments at risk. For example, the proportion of commercial lives covered by SSH and SSPHO’s risk contracts exceeds Partners’; among all provider organizations in Massachusetts, SSH/SSPHO has the second highest proportion of their commercial lives in risk contracts.¹⁵⁶ The HPC’s review of the parties’ 2012 participation in the AQC also indicates that SSH and SSPHO assumed materially higher risk than Partners for their quality performance.¹⁵⁷

The parties further describe Partners’ financial support as critical to enable investment in needed infrastructure, including recruitment of new primary care physicians, alignment of specialists, and upgrades in health information technology. The parties estimate this trio of necessary initiatives (PCP, SCP, and IT) will total more than \$200 million over five years. Partners has indicated that it would only make this level of investment in a corporate affiliate.

An in-depth analysis of whether each element of this \$200 million investment is integral for PHM to succeed on the South Shore is beyond the scope of this review. While expansion of primary care and specialty services may benefit residents of the South Shore, the parties did not provide information indicating a shortage of PCPs or specialists in the South Shore region. The HPC also examined available measures of computerized physician order entry utilization, which is informative of hospital-based electronic health record implementation, and found that Partners hospitals and SSH performed above state and national benchmarks.¹⁵⁸ Ultimately, the stated

¹⁵⁵ Harbor was an early entrant into the CMS Advance Payment ACO Model, and began to bear Medicare risk in July 2012. The Advance Payment ACO is targeted at entities, such as smaller and rural providers, with insufficient capital to enter the Medicare Shared Savings Program. No results are yet available for this program. See CTR. FOR MEDICARE & MEDICAID SERVICES, *Advanced Payment Accountable Care Organization (ACO) Model*, <http://innovation.cms.gov/Files/fact-sheet/Advanced-Payment-ACO-Model-Fact-Sheet.pdf> (last accessed Dec. 16, 2013).

¹⁵⁶ In an analysis of the HMO/POS lives cared for by the ten largest provider organizations in Massachusetts, SSPHO had the second highest proportion of HMO/POS member months under risk (83%). PCHI had 79% of its HMO/POS member months under risk. CTR. FOR HEALTH INFO. & ANALYSIS, *ALTERNATIVE PAYMENT METHODS IN THE MASS. COMMERCIAL MARKET: BASELINE REPORT (2012 DATA)* (DEC. 2013), available at <http://www.mass.gov/chia/docs/r/pubs/13/alternative-payment-methods-report-2012-data.pdf>.

¹⁵⁷ The HPC found material differences in the quality standards for Partners and South Shore in their respective AQC contracts, with differences in outpatient performance benchmarks favoring Partners (i.e., Partners’ benchmarks were easier to achieve). SSH/SSPHO also generally had steeper quality incentives than Partners (i.e., greater dollars at risk). Through a combination of more dollars at risk and higher overall quality performance, South Shore earned \$24.62 per member per month (PMPM) in quality payments in 2012, or 19 times Partners’ payout. SSPHO’s outpatient performance in the AQC also exceeded PCHI’s in a substantial majority of measures; performance was generally comparable between the parties on inpatient measures.

¹⁵⁸ No similar metrics of outpatient implementation of electronic health records are available. Our review suggests that implementation of health information technology (HIT) can facilitate as well as raise challenges for care coordination and health care competition. HIT tools that facilitate interoperability, both within a provider organization and between different provider organizations, can enhance coordinated, effective care delivery. Tools

benefits of this \$200 million investment should be carefully considered by employers and consumers – the health care purchasers who ultimately fund such investments – as they seek to balance health care spending with other priorities in their communities.

b. The Parties' Second Claim: Corporate Integration Enables a Unique Level of Structural Alignment and Stability That Is Critical for Implementation of PHM

The parties have stated that only “full integration – in this case acquisition of SSH by Partners – will enable the appropriate alignment of incentives and distribution of resources to facilitate success.” The parties describe this level of corporate control as necessary to achieve clinical and financial integration, assess and make financial tradeoffs across the care continuum, allow for delivery of the right care in the right place, and share in economic incentives, including effectively managing risk payments for the care of patient populations. According to the parties, alignment short of corporate control leaves gaps in important services, like primary care, behavioral health, and long-term care, and permits independent providers to continue to act in their own interest to maximize volume in a fee for service environment.

We examined the parties' own experience and that of other Massachusetts providers. We found that these experiences raise some questions as to whether a corporate acquisition by Partners is necessary to achieve the level of clinical and financial integration the parties describe as necessary to support risk contracting and other strategies to implement PHM.

First, SSH and SSPHO (including Harbor) are already clinically and financially aligned as the largest provider system in the South Shore region. SSPHO physicians refer their patients to SSH very frequently (at rates comparable to those of corporately integrated systems, such as the rates at which Newton-Wellesley and North Shore MC physicians refer to their respective community hospitals).¹⁵⁹ As discussed in the previous section, SSH and SSPHO have shared participation in global risk contracts for significant books of business for more than a decade, with self-described success in managing the cost and quality of care in the South Shore region.¹⁶⁰ Since SSH and Harbor are already engaged in strategies for PHM such as risk-based contracting, it is not clear that corporate affiliation with Partners is critical for PHM to succeed on the South Shore. The previous section discusses our findings that SSH and Harbor have more experience than Partners in risk contracting, and comparable performance in care delivery, suggesting that the success of PHM on the South Shore is not contingent on accessing Partners' expertise.

that lack interoperability can create silos, with challenges both for care coordination and access to competitors. See Katherine Baicker & Helen Levy, *Coordination versus Competition in Health Care Reform*, 369 NEW ENGL. J. MED. 789-91 (Aug. 29, 2013), available at <http://www.nejm.org/doi/pdf/10.1056/NEJMp1306268>.

¹⁵⁹ In fact, South Shore physicians already admit their patients to Partners hospitals, particularly BWH, at rates comparable to those of current PCHI physicians, suggesting the effectiveness of SSH's and Partners' longstanding clinical affiliation. See Section IV.A.2.

¹⁶⁰ “For the 3 commercial payers that SSPHO contracts with, SSPHO has always been in a surplus condition. [SSPHO] has not had to rely on the standard risk mitigation strategies of withholds offsets, caps on maximum liability per patient, or risk reserves. However, withholds have been in place to offer protection and liquidity to the providers in the event of a deficit. SSPHO has recently reduced or eliminated withholds since they had never been called upon to satisfy a deficit.” MASS. HEALTH POLICY COMM'N, Annual Cost Trends Hearing (2013), Pre-Filed Written Testimony of SSPHO, at 6, available at <http://www.mass.gov/anf/docs/hpc/south-shore-pho-hpc-pre-filed-testimony-9-27-2013.pdf>.

If we assume that access to Partners *is* critical to developing PHM in the South Shore region, the experience of other Massachusetts providers raises questions as to whether full corporate ownership is necessary for effectively aligning incentives and distributing resources. In addition to the parties' own longstanding clinical affiliation, which care referral data suggest has generated significant clinical alignment,¹⁶¹ there are examples of other provider models in the Commonwealth that offer alternative approaches to effectively coordinating care delivery.¹⁶² These approaches include a variety of physician-based models that offer high quality, coordinated care without ownership by a hospital or hospital system.¹⁶³ Where hospitals align with one another, and with physicians, there are also alternative approaches to corporate ownership, including contractual alignments around shared PHM goals.¹⁶⁴ In sum, it is unclear how corporate ownership of the parties is instrumental to raising quality performance in the South Shore region.

C. ACCESS IMPACT

As discussed in Section III.C, data on the parties' hospital payer mix and service mix show:

- SSH and most Partners hospitals care for a higher mix of commercially insured patients and a lower mix of Medicaid patients than other area hospitals; and
- SSH provides a smaller share of behavioral health services and a greater share of deliveries than other area hospitals.

Because SSH and the Partners hospitals have similar payer mix patterns (low government payer mix, especially Medicaid), the HPC anticipates that a combined system will reflect similar payer mix patterns at its hospitals. One factor that could change this pattern of low Medicaid mix is if the parties actively seek to increase their proportion of government payer patients.¹⁶⁵

¹⁶¹ See *supra* note 159.

¹⁶² Previous analysis in the Commonwealth reinforces the relevance of considering plural organizational models. 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, at 39-44 (June 22, 2011), *available at* <http://www.mass.gov/ago/docs/healthcare/2011-hcctd-full.pdf>. (finding that “a variety of provider organizations can successfully deliver high quality, efficient care” and finding “no evidence that corporately integrated health systems perform better than other groups”).

¹⁶³ See generally MASS. HEALTH POLICY COMM'N, Annual Cost Trends Hearing (2013), Pre-Filed Written Testimony of Acton Medical Associates Response to Exh. B, <http://www.mass.gov/anf/budget-taxes-and-procurement/oversight-agencies/health-policy-commission/annual-cost-trends-hearing/testimony-and-presentations/pre-filed-testimony-from-witnesses.html> (describing Acton's approach to PHM and risk management in a relatively small, PCP-based organization); MASS. HEALTH POLICY COMM'N, Annual Cost Trends Hearing (2013), Pre-Filed Written Testimony of Atrius Health Response to Exh. B, <http://www.mass.gov/anf/docs/hpc/pre-filed-testimony-response-from-atruius.pdf>.

¹⁶⁴ See, e.g., MASS. HEALTH POLICY COMM'N, Annual Cost Trends Hearing (2013), Pre-Filed Written Testimony of BIDCO Response to Exh. B, <http://www.mass.gov/anf/docs/hpc/bidco-written-testimony-response-exhibit-c-9-27-13.pdf>; MASS. HEALTH POLICY COMM'N, Annual Cost Trends Hearing (2013), Pre-Filed Written Testimony of NEQCA Response to Exh. B, <http://www.mass.gov/anf/docs/hpc/neqca-exhibit-b.pdf>.

¹⁶⁵ Harbor provided information to the HPC indicating plans to begin accepting new Medicaid primary care patients following the transactions.

The parties have generally described plans for PHM that include increased access to primary care and other services, including behavioral health. However, they have not specified any plans to make service line changes, or to specifically increase SSH's mix of behavioral health services. Accordingly, the HPC did not review information indicating that hospital service mix will change as a result of these transactions.

Contrasting trends in payer mix and service mix across different providers can contribute to, or exacerbate, financial distress at providers that care for the highest mix of government payer patients, or provide the greatest proportion of low-margin services – with potential long-term consequences for access for such patients and to such services. Combining providers with similar profiles of high commercial payer mix may reinforce the resulting system's financial strength vis-à-vis area competitors.

V. CONCLUSION

We estimate the impact of these transactions on total medical spending, based solely on increases in physician prices and anticipated changes in referral practices, will be \$23 million to \$26 million annually for the top 3 commercial payers. Based on our modeling, the possible savings in the South Shore region based on expanding Partners' historic performance in the CMS high risk Medicare beneficiary demonstration and Pioneer ACO are in the range of costs *increasing* by \$1.4 million¹⁶⁶ to cost *savings* of \$6.6 million annually. Below, we summarize our findings.

- **Cost Impact:** Over time, for the three major commercial payers studied, these transactions are anticipated to increase total medical spending by \$23 million to \$26 million each year as a result of increases in Harbor/SSPHO physician prices and increased utilization of Partners and SSH facilities. Total spending will also increase if facility fees are added to Harbor's clinic or ancillary visits following the transactions. The resulting system is anticipated to have increased ability to leverage higher prices and other favorable contract terms in negotiations with commercial payers. The cost impact of this increased leverage is not included in the above projection, and will be substantial if payers are unable to prevent the exercise of the parties' leverage in future contract negotiations. Overall, increases in spending are anticipated to far exceed potential cost savings from expanding Partners' PHM initiatives into the South Shore region.
- **Care Delivery Impact:** Partners' work on PHM demonstrates potential for improving care delivery and health outcomes. However, given SSH and SSPHO's historically strong quality performance, and their own experience managing populations through risk-based payments, it is unclear how corporate integration of the parties is instrumental to raising quality performance in the South Shore region.

¹⁶⁶ An intervention can result in costs increasing if the total medical expenses for the intervention group (including spending on care management interventions) exceed the total medical expenses for the control group. See Section IV.B.1.b.

- **Access Impact:** Partners and SSH have not proposed specific changes in services that would cause the HPC to anticipate changes to their existing hospital service mix and payer mix trends. Combining providers with similar profiles of high commercial payer mix may reinforce the resulting system’s financial strength vis-à-vis area competitors.

RECOMMENDATION FOR FURTHER REVIEW

Section 13 of Chapter 6D provides that the Health Policy Commission “shall identify any provider or provider organization that...has a dominant market share for the services it provides...charges prices for services that are materially higher than the median prices charged by all other providers for the same services in the same market...[and that] has a health status adjusted total medical expense that is materially higher than the median total medical expense for all other providers for the same service in the same market.”

As described in Section III.A.4, the HPC found that SSH and Partners respectively have the first and second largest market shares for commercial inpatient services provided in SSH’s PSA. Combined, these two systems command a 50% commercial inpatient market share in SSH’s PSA. The HPC also found that both Partners and SSH are paid hospital prices that are well above median in each market in which they operate, and that PCHI is generally paid physician prices that are in the 80th to 95th percentile of the 30 largest Massachusetts providers reported by CHIA. Finally, the HPC found that PCHI and SSPHO have health status adjusted TME that is well above the median TME for area providers.

In summary, we find that the proposed transactions will increase health care spending, likely reduce market competition, and result in increased premiums for employers and consumers. We find the projected benefits from care delivery efficiencies and quality improvement to be limited in comparison to known spending increases.

The HPC therefore concludes that the transactions warrant further review and refers our report to the AGO pursuant to MASS. GEN. LAWS c. 6D, § 13(f).



COMMONWEALTH OF MASSACHUSETTS HEALTH POLICY COMMISSION

COMMISSIONERS

Dr. Stuart Altman, Chair
Dr. Wendy Everett, Vice Chair
Dr. Carole Allen
Dr. David Cutler
Dr. Paul Hattis
Mr. Rick Lord
Mr. John Polanowicz, Secretary of Health and Human Services
Mr. Glen Shor, Secretary of Administration and Finance
Ms. Marylou Sudders
Ms. Veronica Turner
Ms. Jean Yang

EXECUTIVE DIRECTOR

Mr. David Seltz

ACKNOWLEDGEMENTS

Primary HPC staff for this report:

Karen Tseng, Policy Director for Market Performance
Kate Scarborough, Project Manager for Cost and Market Impact Reviews
Megan Wulff, Senior Policy Associate for Market Performance
Monica Chu, Policy Associate for Market Performance
Sasha Hayes-Rusnov, Policy Associate for Market Performance
Iyah Romm, Director for System Performance and Strategic Investment
Lois Johnson, General Counsel

The HPC wishes to acknowledge the expert analytic support provided by Gorman Actuarial, LLC, Analysis Group, Inc., Freedman Healthcare, LLC, and Health Strategies & Solutions, Inc.

The HPC would also like to thank the health insurers and providers who provided information for this report

Health Policy Commission
Two Boylston Street, 6th Floor
Boston, MA 02116

www.mass.gov/HPC

(617) 979-1400
HPC-INFO@state.ma.us

