MASSACHUSETTS
HEALTH POLICY COMMISSION

Health Policy Commission Board Meeting – CMIR Presentation

July 18, 2018

Overview of Cost and Market Impact Reviews

Market structure and new provider changes, including consolidations and alignments, have been shown to impact health care system performance and total medical spending.

The HPC tracks proposed **material changes** to the structure or operations of provider organizations and conducts **cost and market impact reviews (CMIRs)** of transactions anticipated to have a significant impact on health care costs or market functioning.

CMIR INPUTS

- Data and documents:
  - Party production
  - Publicly available information
  - Data from payers, providers, and other market participants
- Support from expert consultants
- Feedback from Commissioners
- Information gathered is exempt from public records law, but the HPC may engage in a balancing test and disclose information in a CMIR report

CMIR OUTPUTS

- Issuance of a preliminary report with factual findings
- Feedback from parties and other market participants
- Final report issued 30 or more days after preliminary report
- Proposed material change may be completed 30 days after issuance of final report
- Potential referral to Massachusetts Attorney General's Office

Proposed Transaction: Creation of the "Beth Israel Lahey Health" System

Proposed **corporate affiliation** between the hospitals and owned physician groups of the Beth Israel Deaconess and Lahey systems, as well as three hospitals that are currently corporately independent.

Currently BID-owned	Currently Lahey-owned	Currently Independent*
Beth Israel Deaconess Medical Center	Lahey Hospital & Medical Center	Anna Jaques Hospital
Beth Israel Deaconess Hospital *Needham*	Beverly Hospital A member of Lahey Health	New England Baptist Hospital
Beth Israel Deaconess Hospital *Plymouth*	Winchester Hospital A member of Lahey Health	Mount Auburn Hospital
Beth Israel Deaconess Hospital *Milton*		

*Though corporately independent, Anna Jaques and NE Baptist contract through the Beth Israel Deaconess Care Organization (BIDCO). BIDMC, Mt. Auburn, and NE Baptist also are members of CareGroup, which jointly borrows funds and purchases services, but does not contract with payers or provide centralized operations.

Proposed Transaction: Creation of the "Beth Israel Lahey Health" System

The new system would own the parties' current contracting entities, and the parties expect to continue contracting on behalf of non-owned contracting affiliates. The parties additionally propose a new **contracting affiliation** with the **Mount Auburn Cambridge Independent Practice Association** (MACIPA).

Current Contracting Entities
(would become Beth Israel Lahey Health (BILH) corporate affiliates)

Beth Israel Deaconess | CARE ORGANIZATION

Lahey Health℠
- Lahey Clinical Performance Network
- Lahey Clinical Performance ACO

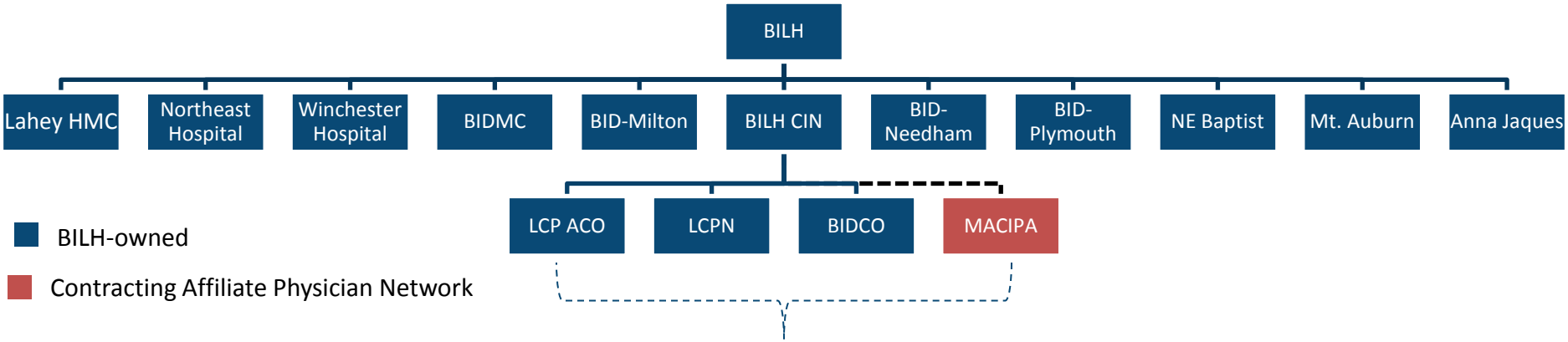
Existing Non-Owned Contracting Affiliates
(*not included in corporate merger*)

- Cambridge Health Alliance (CHA)
- Lawrence General
- *MetroWest*

New Contracting Affiliate

MACIPA

Summary of the Proposed "Beth Israel Lahey Health" System



BILH CIN is anticipated to contract on behalf of all entities that are current members of or contract through LCP ACO, LCPN, BIDCO, and MACIPA, including all BILH-owned hospitals, contracting affiliate hospitals (CHA, Lawrence General, MetroWest), and employed and affiliated physicians.

Summary of the Proposed "Beth Israel Lahey Health" System

<table>
<tr><th>Entity Name</th><th colspan="2">Current Corporate Affiliation</th><th>Current Contracting Affiliation</th><th>Post-Transaction Corporate and Contracting Relationship</th></tr>
<tr><td>Lahey HMC</td><td colspan="2" rowspan="5">Lahey</td><td rowspan="5">Lahey</td><td rowspan="13">BILH owned</td></tr>
<tr><td>Northeast</td></tr>
<tr><td>Winchester</td></tr>
<tr><td>LCP ACO</td></tr>
<tr><td>LCPN</td></tr>
<tr><td>Mt. Auburn</td><td rowspan="2">Independent</td><td rowspan="6">CareGroup</td><td>Independent</td></tr>
<tr><td>NE Baptist</td><td rowspan="8">BIDCO</td></tr>
<tr><td>BIDMC</td><td rowspan="4">BID-owned</td></tr>
<tr><td>BID-Milton</td></tr>
<tr><td>BID-Needham</td></tr>
<tr><td>BID-Plymouth</td></tr>
<tr><td>BIDCO</td><td colspan="2" rowspan="3">Independent</td></tr>
<tr><td>Anna Jaques</td><td rowspan="3">BILH contracting affiliates; no change to corporate affiliation</td></tr>
<tr><td>CHA</td></tr>
<tr><td>Lawrence General</td><td colspan="2">Tenet Healthcare Corporation</td></tr>
<tr><td>MetroWest</td><td colspan="2">Independent</td><td>Independent</td></tr>
<tr><td>MACIPA</td></tr>
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Note: For simplicity, this chart omits corporate subsidiaries of the parties, and does not show physician groups that contract through the LCPN, LCP ACO, and BIDCO contracting networks, some of which are owned by the parties and some of which are corporately independent.

Beth Israel Deaconess Medical Center (BIDMC)

Beth Israel Deaconess Medical Center

Beth Israel Deaconess Hospital *Needham*

Beth Israel Deaconess Hospital *Plymouth*

Beth Israel Deaconess Hospital *Milton*

HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

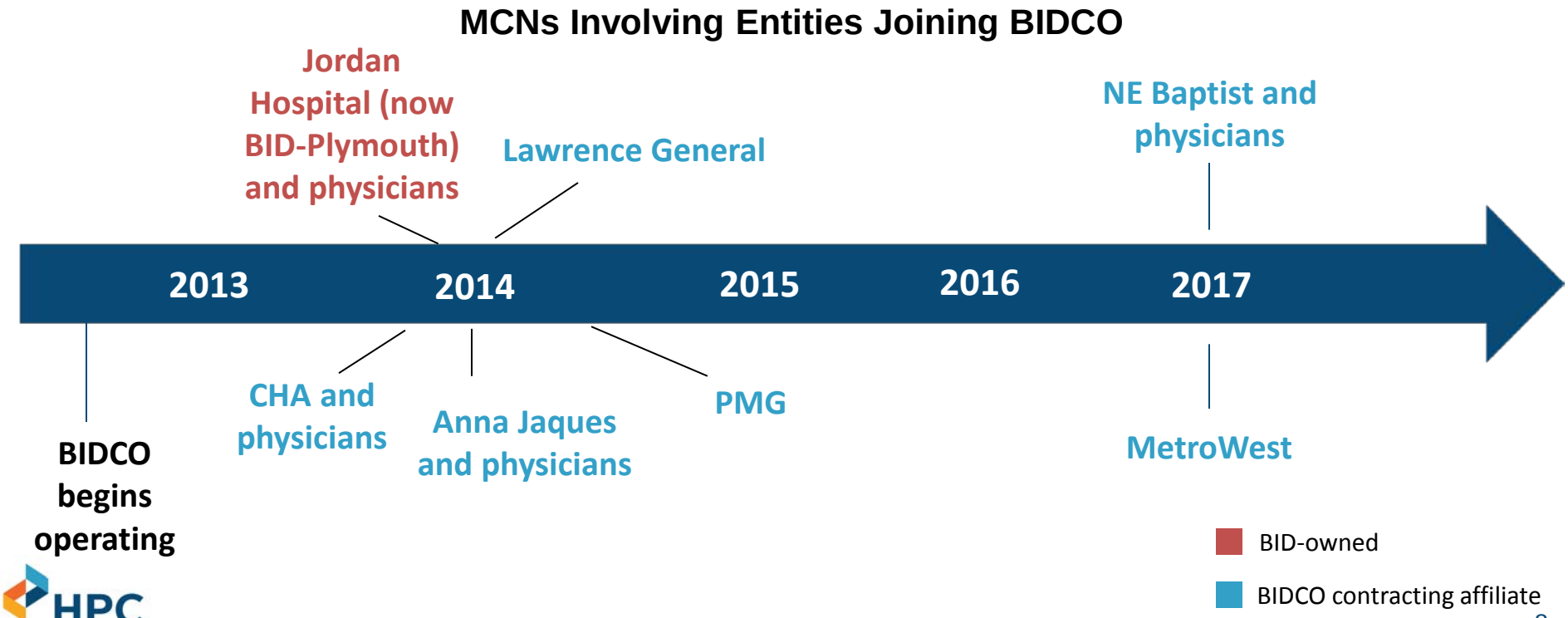
- BIDMC is a non-profit provider organization that is the 3rd largest in MA by net patient service revenue (2nd by total net assets).
- In addition to its 669-bed AMC, it owns three community hospitals with an additional 278 beds: BID-Milton, BID-Needham, and BID-Plymouth**,** and two physician practices totaling ~197 physicians.
- BIDMC has a strong financial balance sheet, with above-average cash reserves and high current ratio. It has had positive margins since FY12. However, it has an older age of plant than competitor systems.
- The BID-owned hospitals and physician groups contract through BIDCO.
- The BID-owned hospitals, along with NE Baptist and Mt. Auburn, are part of CareGroup.
- All of the BID-owned hospitals and physician groups would become corporate affiliates of BILH.

Beth Israel Deaconess Care Organization (BIDCO)

The four BID-owned hospitals and their affiliated physicians (e.g., Harvard Medical Faculty Physicians or HMFP) contract through the BIDCO network, which has grown substantially in recent years.

BIDCO now also contracts on behalf of four contracting affiliate hospitals: **NE Baptist**, **Anna Jaques**, **CHA**, and **Lawrence General**, as well as more than 2,500 physicians. **MetroWest** joined BIDCO in 2017, but has not yet begun contracting through BIDCO.

Of these, all but CHA, Lawrence General, and MetroWest would become corporate affiliates of BILH, and BIDCO itself would become a corporate affiliate of BILH.



Anna Jaques Hospital and Seacoast Regional Health Systems (SRHS)

- SRHS would become a corporate affiliate of BILH, including:
  - Anna Jaques, a 140-bed general acute care hospital located in Newburyport, MA
  - Seacoast Affiliated Group Practice, a 34-physician multi-specialty practice, which includes 8 PCPs
- Anna Jaques and its affiliated physicians in the Whittier IPA contract through BIDCO and have been clinically affiliated with BIDMC since 2010.
- SRHS is a small provider organization and has experienced financial difficulties in recent years, with small negative operating margins in FY15 and FY16. It has a strong current ratio, but a high debt-to-capital ratio and a high average age of plant. Its net assets decreased 29% from FY14 to FY16.

New England Baptist Hospital (NE Baptist)

- NE Baptist is a non-profit, 100-bed orthopedic hospital in Boston, and the only specialty orthopedic hospital in Massachusetts.
- It includes licensed outpatient orthopedic facilities in Brookline, Chestnut Hill, and Dedham.
- Its owned physician group, New England Baptist Clinical Integration Organization (NEBCIO), includes ~125 physicians (14 PCPs).
- NE Baptist is part of CareGroup, currently contracts through BIDCO, and is clinically affiliated with BIDMC.
- NE Baptist has had small positive margins for the last several years, despite a small downturn in NPSR in FY16. NEBH has increased its cash reserves and current ratio from FY14 to FY16.
- NE Baptist would become a corporate affiliate of BILH.

Lahey Health

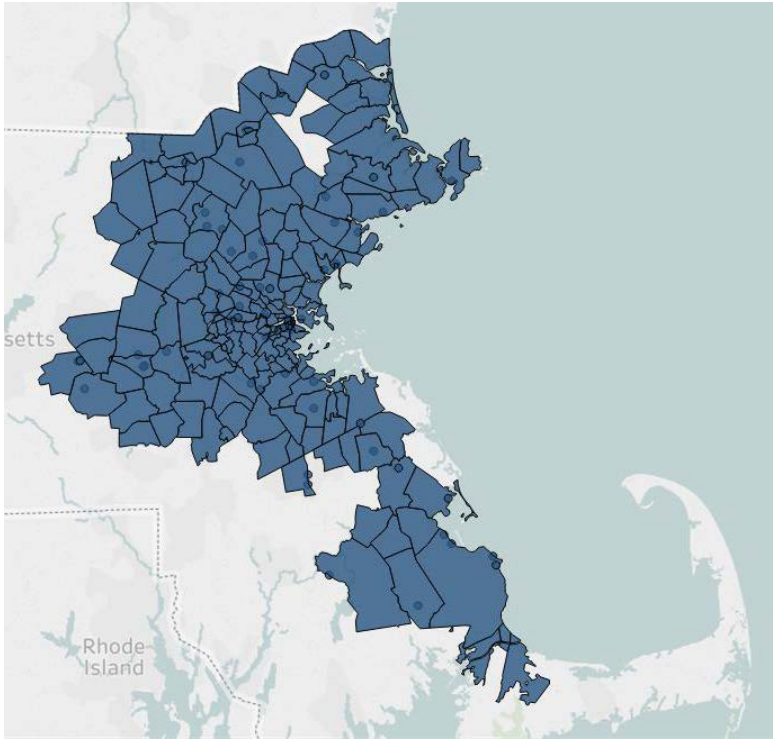
- Lahey Health System (Lahey) is the 5th largest provider system in MA by net patient service revenue (3rd by total net assets). It was formed in May 2012 by the merger of Northeast Health System and the Lahey Clinic Foundation. Lahey acquired Winchester Hospital in 2014.
- It now owns three hospitals:
  - Lahey Hospital and Medical Center (including Lahey's Peabody campus)
  - Northeast Hospital (Beverly and Addison Gilbert campuses, as well as BayRidge Hospital, which provides psychiatric services)
  - Winchester Hospital
- Lahey also owns the Lahey Clinical Performance Network (LCPN), which contracts on behalf of approximately 1,227 physicians (~217 PCPs and ~1,010 specialists).
- Lahey had positive total margins from FY12 through FY16, but has had declining performance in recent years, including negative operating margins in FY15 and FY17. However, Lahey expects to return to at least break even performance by FY19.

Mount Auburn Hospital and Mount Auburn Cambridge Independent Practice Association (MACIPA)

- Mt. Auburn is a 233-bed non-profit, teaching hospital located in Cambridge that currently contracts independently.
- Mt. Auburn currently contracts with payers independently and is part of CareGroup.
- Mt. Auburn had positive margins from FY13 through FY16, but a negative operating margin in FY17; it expects to return to at least break-even performance by FY19. Mt. Auburn has relatively large cash reserves and a high current ratio, although its age of plant is also high.
- Mt. Auburn would become a corporate affiliate of BILH.

- MACIPA is an independent practice association comprised of approximately 470 physicians (~93 PCPs and ~377 specialists), including employed doctors at Mt. Auburn, CHA, and small private practices.
- MACIPA currently establishes payer contracts independently on behalf of its physicians.
- MACIPA would become a contracting affiliate of BILH.

“Beth Israel Lahey Health” System Post-Transaction



Map reflects the inpatient general acute care primary service areas for all hospitals that would be owned by or which are anticipated to contract with payers through BILH

Post-transaction, the BILH system would serve nearly all of eastern Massachusetts, and would include:

- **10 hospitals** in the owned system, and **13 hospitals** in the BILH contracting network:
  - 9 owned + 3 contracting affiliate general acute care hospitals, many of which have multiple campuses*
  - 1 specialty hospital
- Nearly **2,400 acute care beds** in the owned system (about 2,850 beds when contracting affiliate hospitals are included)
- More than **4,200 physicians**, including approximately **850 PCPs**

*E.g., Northeast Hospital includes two general acute care hospital campuses (Beverly Hospital and Addison Gilbert Hospital), as well one campus that focuses entirely on behavioral health (BayRidge Hospital).

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The Parties' Plans for Clinical and Administrative Integration

- The parties are **engaged in a robust planning process** and have formed approximately 30 working groups (consisting of representatives from each of the parties) to explore how they might integrate clinical and administrative services. Each group has a specific focus, for example:
  - clinical collaboration;
  - information technology;
  - clinical support services;
  - care continuum;
  - finance;
  - population health management;
  - contracted services; and
  - shared services.

- Some of the groups' proposals are relatively detailed while others are still early in development, but in all cases, **the parties have emphasized that this planning process is ongoing**.

- Final decisions regarding specific plans, including key details like funding commitments, specific targets, and timelines cannot be approved until a BILH board exists which can approve such plans. The parties have also stated that, in some cases, they cannot legally share information that they would need to develop more detailed plans while they are corporately independent.

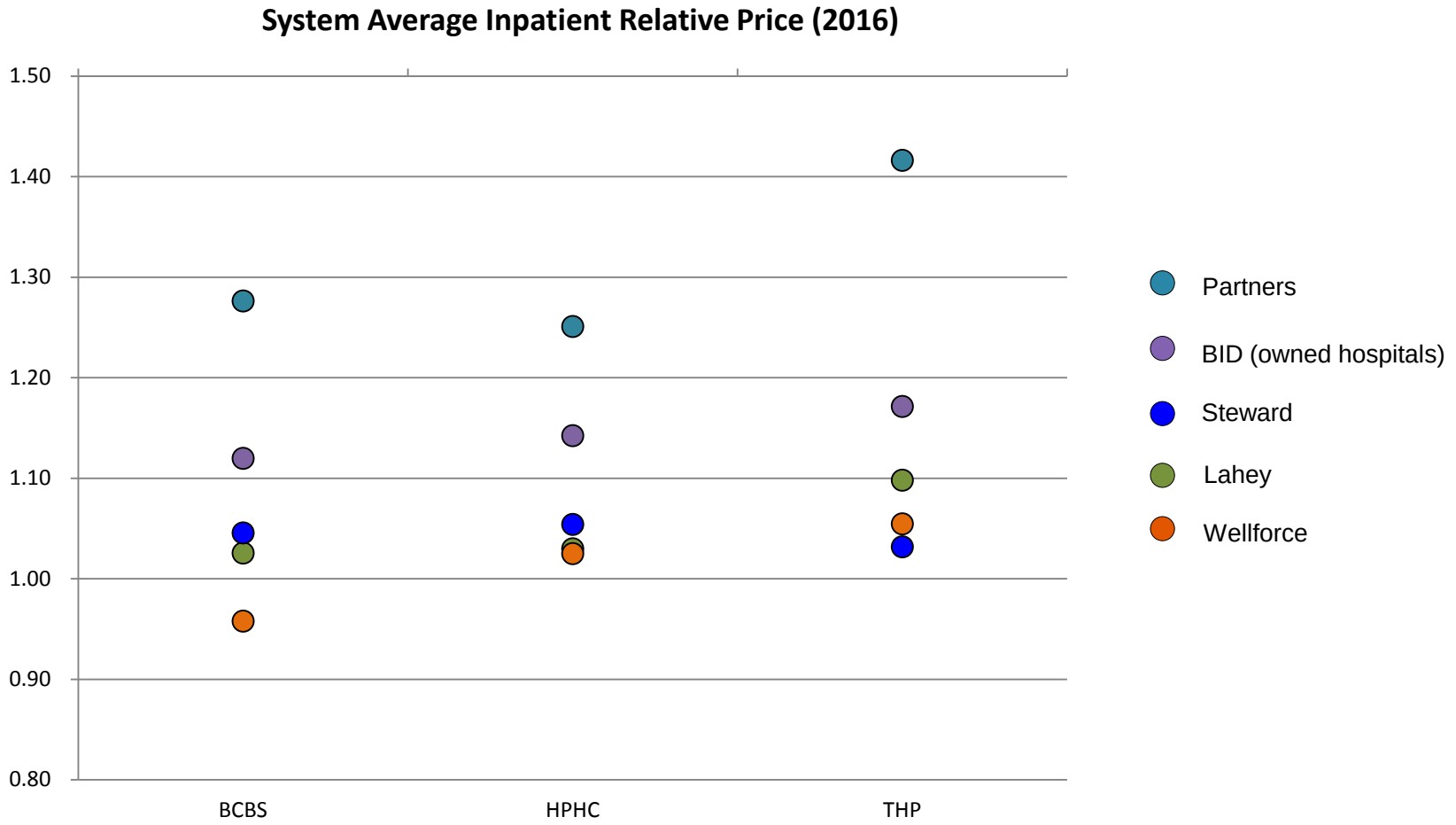
Transaction Claims

The parties claim that the proposed affiliation is necessary to effectuate the economic and clinical integration that would allow BILH to:

- Expand their geographic coverage and scope of services in order to be a more attractive network to payers and self-insured employers
- Shift care away from high-cost providers and achieve savings over time for consumers in the form of reduced premiums and reduced cost-sharing amounts
- Work with insurers to create innovative insurance products, including new tiered and limited networks
- Build upon individual quality improvement strategies through improved access to patient information and sharing of best practices, evidence-based medicine, and quality improvement infrastructure
- Expand access to community-based services, and convenient, low-cost care

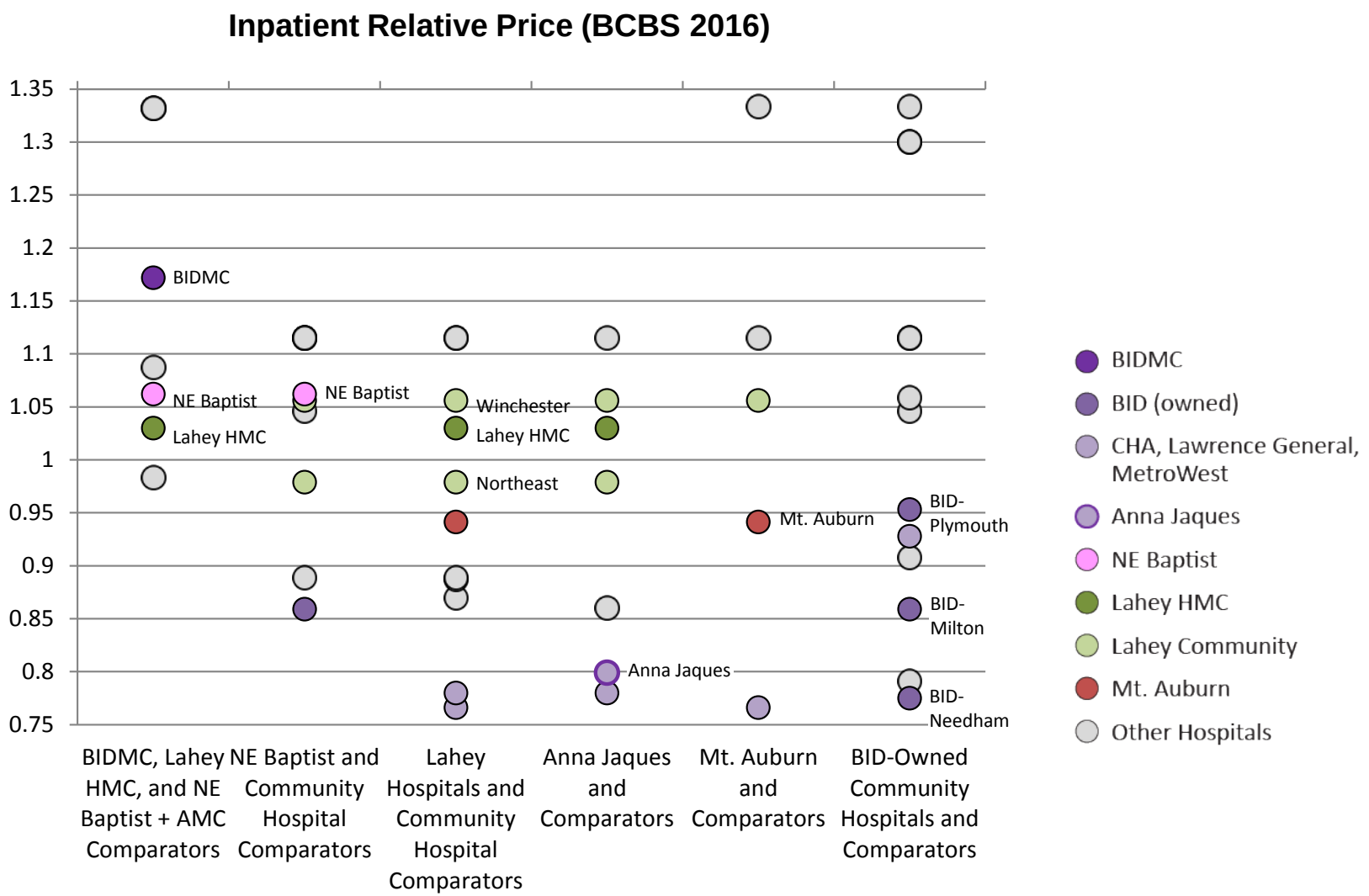
	Baseline Review and Impact Analysis
Costs and Market	✓
Care Delivery and Quality	
Access	

Prices across the Lahey and BID-owned hospital systems are moderate compared to other systems.



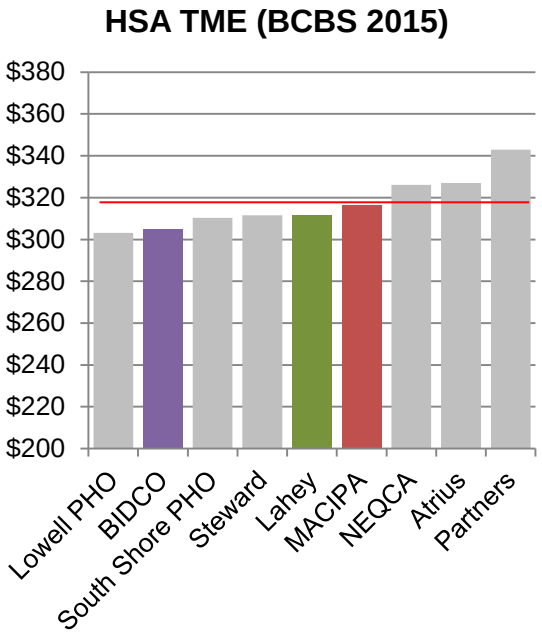
- Partners hospitals are significantly higher-priced than other systems, but the BID-owned hospitals have the second-highest inpatient prices. Lahey hospitals are generally priced comparably to Steward and Wellforce, with some variation by payer.
- BID and Lahey system-wide prices have not risen relative to comparators, even as the systems have grown, based on the most recent available data.

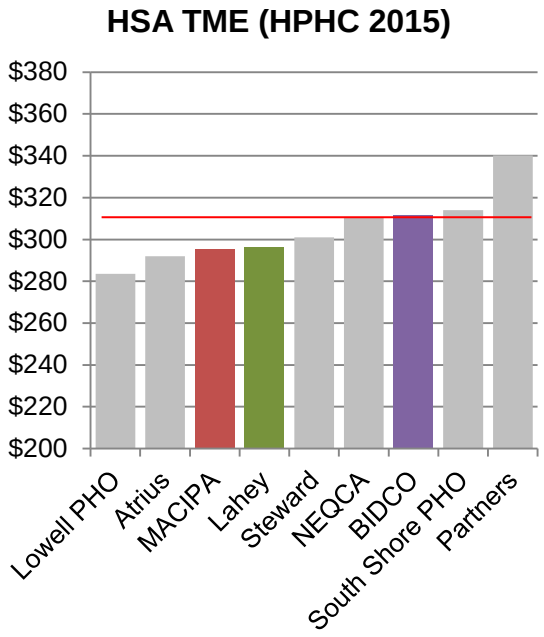
Individually, the parties' hospitals have low to moderate prices.

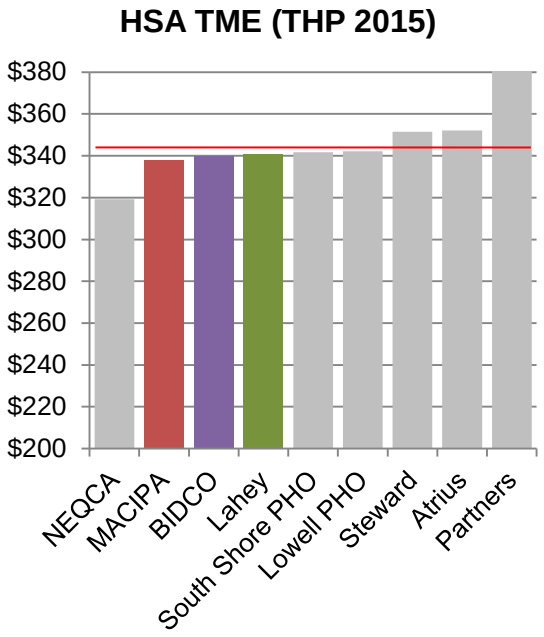


- Prices of recently acquired BID and Lahey hospitals have not increased relative to comparators after acquisition, based on the most recent available data.

The parties have moderate spending levels.







- BIDCO, Lahey, and MACIPA generally have moderate health-status-adjusted total medical expenses (HSA TME) compared to other eastern MA physician groups.
- Over time, BIDCO and Lahey's growth in HSA TME has been generally in line with changes in payer network averages.

As the parties have acquired or affiliated with new community hospitals, they have had some limited success in retaining care locally.

- One of the parties' core claims is that the transaction will allow them to "Reduc[e] outmigration to costlier sites of care when equivalent or better quality care is accessible in the local community (e.g., reducing 'community appropriate' inpatient volume at academic medical centers and teaching hospitals) resulting in more patients treated closer to home at a reduced cost".*

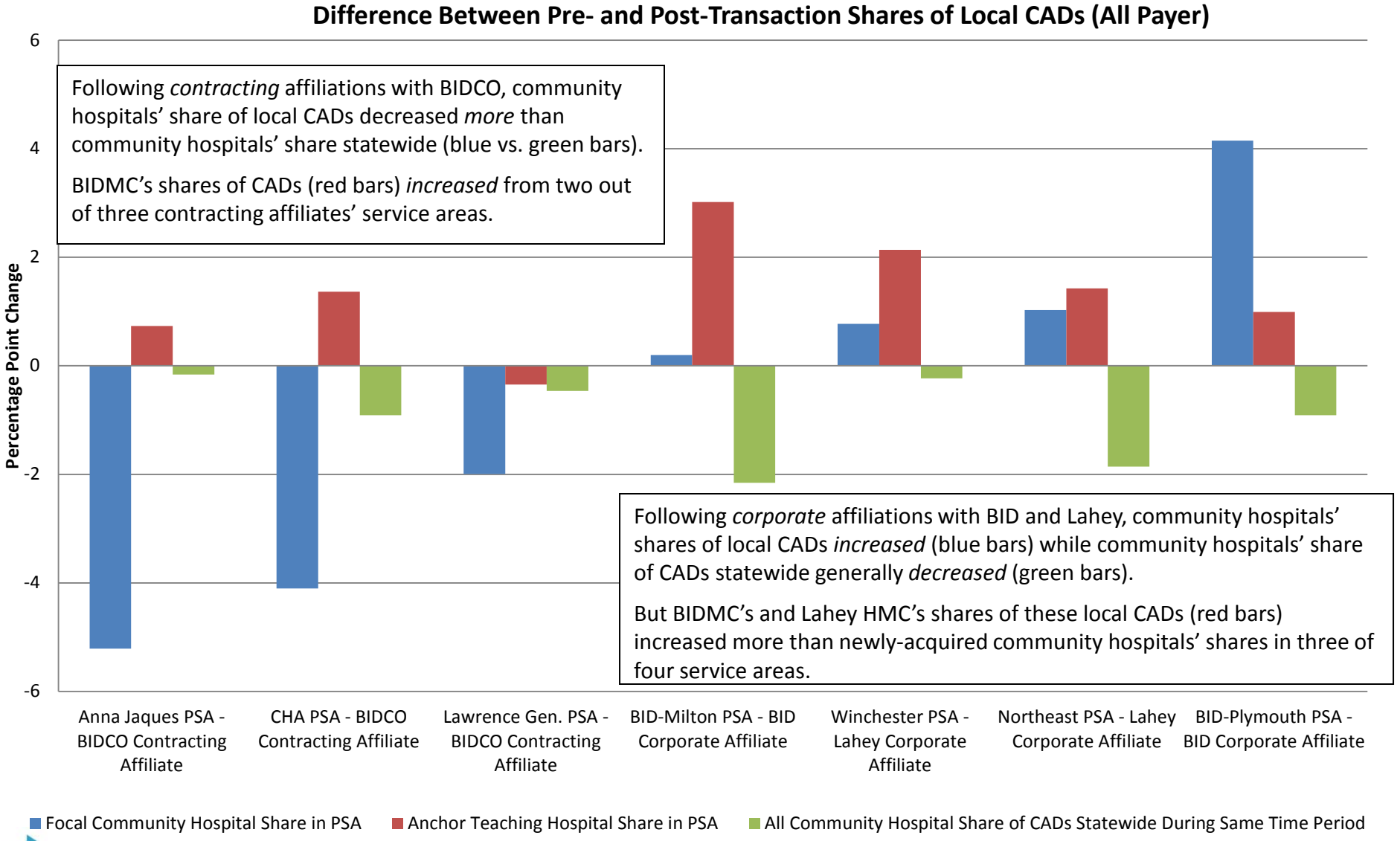
- Both Lahey and BIDMC/BIDCO have stated a similar goal of keeping low-acuity care in the community, thereby achieving savings, in connection with past transactions.

- To understand the extent to which the parties have achieved such goals in the past, the HPC examined where patients living in PSAs of newly acquired or affiliated community hospitals received inpatient care before and after the community hospital's affiliation with BIDMC, BIDCO, or Lahey.

- As shown in more detail on the following slide, the HPC found that the parties have had some limited success in retaining care locally at recently acquired community hospitals, but in many cases the anchor teaching hospital has seen a greater increase in its share of community-appropriate volume.

*Application by Lahey Health System, CareGroup, and Seacost Regional Health Systems for Determination of Need for Transfer of Ownership, Response to Questions 2.1, 6.5, 6.6, and 13, Factor 1 at 17 (Sept. 7, 2017) at 4.

The parties' newly-*owned* community hospitals somewhat increased their share of local community-appropriate discharges (CADs), but the anchor teaching hospitals' shares generally increased more.



Increases to BIDCO's and Lahey's shares of commercial inpatient care after community hospital acquisitions and affiliations have not always resulted in care being delivered in lower-priced settings.

- In each PSA where BIDMC/BIDCO or Lahey hospitals gained shares of discharges after a transaction, volume ***shifted from*** both higher- and lower-priced hospitals.
- As shown on the previous slide, new volume ***also shifted to*** both lower-priced community hospitals and to higher-priced anchor hospitals.
- As a result, shifts to BIDCO and Lahey providers* have not always resulted in a lower average price for commercial payers:
  - In three PSAs, volume shifts resulted in commercial payers paying, on average, a somewhat reduced price: BID-Milton, Northeast and Winchester; and
  - In two PSAs, volume shifts resulted in commercial payers paying, on average, a somewhat increased price: CHA and BID-Plymouth.

*In two PSAs, Anna Jaques and Lawrence General, BIDCO shares of commercial patients from the PSA did not increase after the transaction, and thus we did not model whether shifts to BIDCO reduced prices.

Spending trends for patients living in affiliated or acquired community hospitals' service areas have also not generally improved.

- Given the fact that both the overall volume of shifts and the price differentials were small we do not find evidence that spending trends generally improved for patients living near community hospitals that were acquired by or affiliated with BIDMC/BIDCO or Lahey.

- Only in Northeast's PSA did spending increase less than relevant averages across all three major payers.

- Spending for patients living in other community hospital PSAs increased somewhat more than average across payers (BID-Milton, Winchester, and Lawrence General).

- Spending increases in other community hospital PSAs varied across payers and generally did not differ substantially from state and eastern Massachusetts averages (Anna Jaques, CHA, BID-Plymouth).

BIDCO and Lahey have the second- and third-largest shares of inpatient and outpatient care statewide; post-transaction, BILH's share would nearly match that of Partners.

Commercial inpatient and outpatient market share for all discharges
2016 CHIA hospital discharge data, all commercial payers; 2015 APCD, three largest commercial payers

Hospital System/Network	Inpatient Statewide Share (2016)	Outpatient Facility Statewide Share (2015)
Partners	27.0%	26.9%
BIDCO, Lahey, Mt. Auburn combined	**23.8%** (13.1% + 8.1% + 2.7%)	**24.9%** (12.3% + 10.2% + 2.4%)
UMass	7.0%	5.2%
Wellforce	6.2%	6.8%
Steward	5.9%	4.6%

- BIDCO and Lahey are currently the 2nd and 3rd largest providers of inpatient and outpatient services statewide.
- Combined, the parties' shares would be nearly as high as that of Partners, and more than three times that of their next largest competitor.

The parties are important providers of adult primary care services statewide; post-transaction, their share of adult PCP services would *exceed* Partners.

Commercial adult primary care visit market share
2015 APCD data for the three largest commercial payers

Physician Network	Share of Statewide Primary Care Visits
BIDCO, Lahey, MACIPA combined	**17.7%*** (9.6% + 5.6% + 2.3%)
Partners	14.1%
Atrius	13.2%
Steward	12.6%
Wellforce	7.3%
UMass	6.0%

- BIDCO, Lahey, and MACIPA are currently the 4th, 7th, and 10th largest providers of adult primary care services statewide.
- After the transaction, the parties would have the *largest* share of adult primary care visits statewide, surpassing Partners.

*Note: Combined total includes visits to PCPs that are in more than one BILH network (0.2% of visits statewide).

Potential Market Impact: DOJ/FTC Merger Guidelines

Post-Merger Market	HHI	Change in HHI	Presumption
Moderately concentrated	1,500 to 2,500	> 100	Potentially raises significant competitive concerns and often warrants scrutiny
Highly concentrated	**> 2,500**	100 to 200	Potentially raises significant competitive concerns and often warrants scrutiny
		> 200	**Presumed likely to enhance market power**

Many of the parties' inpatient primary service areas would become significantly more concentrated as a result of the transaction.

- Six of the primary service areas (PSAs) for BILH-owned hospitals would experience HHI increases of more than 200, resulting in HHI totals over 2,500: BIDMC, Anna Jaques, Lahey HMC, Winchester, Northeast, and Mt. Auburn.

- Two PSAs of hospitals that currently contract through BIDCO (CHA and Lawrence General), and which are anticipated to contract with payers through BILH, would also see increases in concentration above this threshold.

Current Network/ System Affiliation	PSA	Pre-Transaction HHI	Post-Transaction HHI	HHI change
Lahey-owned	Lahey HMC	2,217	3,164	947
Lahey-owned	Winchester	2,316	3,556	1,240
Lahey-owned	Northeast	3,504	4,031	527
BID-owned	BIDMC	2,030	2,711	681
BID-owned	BID-Milton	1,902	1,976	73
BID-owned	BID-Needham	3,522	3,608	86
BID-owned	BID-Plymouth	2,384	2,422	38
BID-contracting	Anna Jaques	2,886	4,482	1,597
BID-contracting	CHA	2,239	3,493	1,254
BID-contracting	Lawrence General	2,082	3,118	1,036
BID-contracting	NE Baptist	1,598	2,115	518
Independent	Mt. Auburn	2,490	3,450	960

Estimating Price Increases: Willingness to Pay Analysis

- Over the last decade, researchers, antitrust agencies, and courts have increasingly relied on merger simulations and analyses of bargaining leverage—called "willingness-to-pay" analyses—to predict the likely outcome of proposed health care mergers, rather than relying solely on market share and related statistics.

- **Willingness to pay (WTP)** measures the value a hospital or system adds to a payer's network.

    - WTP of a hospital (or system) is equal to the difference between the value of a payer's network with and without the hospital (or system).

    - Economic research shows that hospitals/systems with higher WTP are able to negotiate higher prices and earn higher profits.

    - Combining hospitals that are substitutes for one another increases payers' willingness to pay for these hospitals because payers can no longer exclude one and keep the other in network.

Estimating Price Increases: Willingness to Pay Analysis

- Consistent with many recent antitrust cases, our economic consultants calculated **inpatient WTP** for the parties pre- and post-merger using a "hospital choice model", estimating the importance of each hospital to patients based on factors such as diagnosis, severity, and drive time.

- For **outpatient and physician services,** WTP for the parties was calculated consistent with the FTC's approach in *Saint Alphonsus Med. Ctr. – Nampa Inc. v. St. Luke's Health Sys., Ltd.*

- **Inpatient, outpatient, and primary care price increases** were then estimated based on regression models that identified the relationship between WTP and price for providers in MA.

After the transaction, BILH would have enhanced bargaining leverage with commercial payers, enabling BILH to obtain inpatient and outpatient price increases.

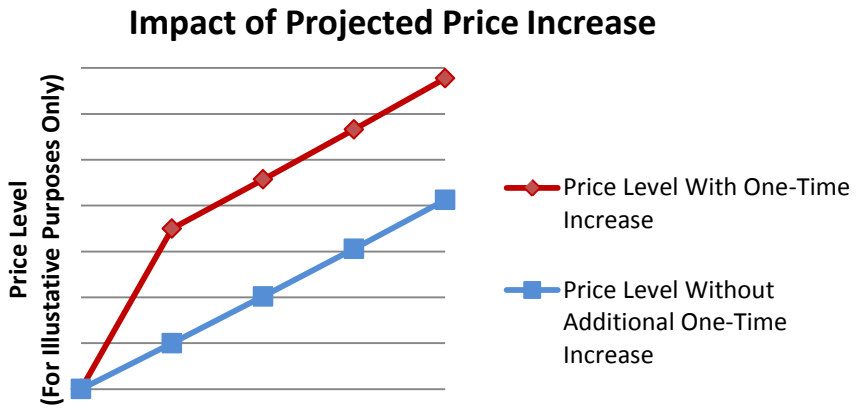
Inpatient WTP

- The model estimates an increase in the parties' inpatient WTP that yields a projected one-time **5% to 6.7% inpatient price increase** across the BILH system as a whole.
- This would result in an annual spending increase of **$38.3 million to $51.4 million** across commercial payers.

Outpatient WTP

- For the outpatient market, the model projects a one-time **8.4% to 12.2% outpatient price increase** across the BILH system as a whole.
- This would result in an annual spending increase of **$88.4 million to $128.4 million** across commercial payers.

These projected one-time price increases are *in addition to* the annual incremental price increases the parties would have otherwise received.



HPC

The parties would also be able to obtain higher physician prices.

- We also used a WTP analysis to estimate the impact on competition for adult primary care services performed in a clinic setting.
- This analysis yielded a projected one-time **9% price increase** (in addition to annual incremental price increases) for adult primary care services delivered by BILH physicians.
- To the extent that increased primary care prices are not offset by savings from better care management, this could yield a spending increase of **$11.5 million** annually for *adult primary care services*.
- If the parties receive similar one-time price increases for specialty physician services as we modeled for inpatient, outpatient, and adult primary care services (5%-10%), spending for specialty physician services would increase by **$29.8 million to $59.7 million** annually.

The parties could obtain these price increases, substantially increasing health care spending, while remaining lower-priced than Partners.

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Achieving the parties' care redirection goals would result in savings, but there is no reasonable scenario in which such savings would offset projected price increases.

- The parties claim that the transaction will result in savings by redirecting care to lower-cost settings. Many of the parties' care redirection plans are still under development, and thus we cannot opine on the likelihood that the parties will achieve care redirection consistent with their estimates.
- However, we modeled the likely scope of savings if the parties achieved care redirection in the following ways that align with their stated goals:
  - **Increased retention (decreased leakage)** of current BILH patients
  - **Intra-system shifts** from higher to lower cost BILH hospitals
  - Increased volume at BILH hospitals due to enhanced **consumer awareness** or brand
  - Recruitment of **new patients** (or physicians) to BILH
- We found that redirecting care to the parties' hospitals from competitors would, on balance, be cost-saving. Similarly, redirecting care from higher-priced to lower-priced settings within BILH would be cost-saving.
- However, even if the parties redirected care in line with their projections, there is no reasonable scenario in which the savings from shifts in care would be sufficient to offset projected price increases.

HPC

If successful, increased retention of current BILH patients and redirection of current BILH patients to lower-cost settings may result in modest savings.

- The parties seek to attract more patients to BILH hospitals primarily by reducing "leakage" (retaining at BILH hospitals a portion of current primary care patients who receive hospital care from non-BILH providers).
    - Reducing leakage would result in shifts from both higher-priced and lower-priced hospitals.
    - If BILH recaptures the proportions of leakage the parties project, we expect that commercial spending would decrease by about **$4.8 million to $6.9 million** annually (**$2.4 million to $4.5 million** annually with projected price increases).
    - Even if all current BILH patients used *only* BILH facilities for elective inpatient and outpatient services (i.e., there was zero leakage of BILH PCP patients to facilities affiliated with other systems), it would save approximately **$25.8 million** annually at current prices (**$13 million to $16.7 million** annually with projected price increases).
- In addition, the parties have plans to shift some inpatient care from BIDMC and Lahey HMC to Mt. Auburn and Anna Jaques.
    - If the parties achieve these goals, spending would be reduced by approximately **$2.1 to $3.1 million** annually at current prices (**$1.8 to $2.8 million** annually with projected price increases).

HPC

“Consumer Awareness” Analysis Using the Hospital Choice Model

- The parties expect to receive modest additional inpatient and outpatient volume from greater **consumer awareness** as a result of the transaction.
- In order to estimate which patients would shift to BILH if BILH received increased ***inpatient*** volume due to enhanced brand or otherwise improved consumer awareness, we used the **hospital choice model** employed in the WTP analysis.
- The **hospital choice model** predicts which hospital a patient would choose based on various characteristics including:
    - Patient zip code, diagnosis/severity, demographic characteristics, hospital location, and so-called “hospital fixed effects” reflecting the brand, services offered, and other characteristics unique to a given hospital.
- We used this model to estimate, if the fixed effects for BILH hospitals were changed to make these hospitals a more appealing choice generally, which patients they would be most likely to attract, and from which competing hospitals.
    - We used the model’s predictions and provider price data to calculate the impact on spending for patients switching to BILH hospitals from competing hospitals.

HPC

If successful, increased volume at BILH hospitals from "consumer awareness" or brand enhancement may also result in modest savings.

- Using the **hospital choice model**, we estimate that approximately 56% of inpatient volume shifted to BILH would come from **Partners** hospitals (which are generally higher-priced), while approximately 13.5% would come from **Wellforce**, 9.7% from **Steward**, and the remainder from other systems (which are often, but not always, lower-priced).

- If the parties achieve their predicted levels of new inpatient volume from the hospitals identified above, we would expect approximately **$970K to $1.8 million** in savings annually at current prices (**$594K to $1.3 million** annually with projected price increases).

- If the parties achieve similar percent savings from shifts in volume for outpatient services, we would expect approximately **$870K to $1.7 million** in savings annually at current prices (**$380K to $1 million** annually with projected price increases).

Recruitment of primary care patients or physicians may also result in modest savings at current price and utilization levels.

- We understand that the parties will seek to recruit new primary care physicians and attract new primary care patients, in addition to encouraging current patients to use BILH hospitals.

- For **each new commercial patient** who switches to a BIDCO, LCPN, or MACIPA PCP, we estimate a risk-adjusted savings of **$32 per member per month**, on average, *at current price and utilization levels*.

- In order to achieve a savings figures that would approximate the increased spending from projected price increases for inpatient, outpatient, and primary care services, the parties would need to attract **350,000 to 500,000** new commercially insured primary care patients to BILH practices.

Source: HPC analysis of CHIA 2015 HSA TME by physician group.

These projected price increases are conservative, and other factors could further increase spending.

Cross-Market Effects

- Even where providers are not direct competitors in an overlapping service area, they may serve complementary geographies that are needed by payers whose plans are marketed to employers with workforces spanning these areas.
- While not historically part of antitrust litigation, and currently not part of our modeling, this is an emerging area of academic research, relevant in cases particularly like this one.
- This suggests that our WTP analyses, which only look at substitutability for *patients*, may underestimate the importance of the parties to *payers*, and therefore may underestimate the price increases the parties would be able to achieve.

Changes to BILH's Negotiating Leverage

- Increases to BILH volume would further increase BILH's bargaining leverage and further increase BILH's ability to obtain higher prices.
- Such further price increases would diminish the value of shifting care to BILH.
- For inpatient services, our models indicate that the scope for savings from care redirection is already quite limited; such further BILH price increases could eliminate savings altogether.

HPC

Current evidence does not support the parties' argument that the merger will reduce spending by increasing competition.

Weakened Negotiating Leverage for Partners

- The merger alone will not change Partners' "must-have" status or bargaining leverage.
- If the BILH system becomes more attractive and increases its volume, it could reduce Partners' negotiating leverage and lead to lower prices (or price growth) for Partners. However, the increased volume at BILH will allow it to further increase prices, likely canceling out most savings.

Innovative Limited Network Products

- The parties expect to attract volume, particularly from higher-priced providers, through new innovative insurance products.
    - However, many limited network plans today include the parties and exclude Partners; BILH-only products may differ only in their exclusion of lower-priced providers.
- If the parties offered lower prices in these products, it could reduce spending for these products and encourage other providers to lower their prices to compete. However, it is unclear how such products would reduce spending or enhance competition if the parties did not offer lower prices.

HPC

The parties have identified potential efficiencies, and their financial projections indicate that they would be profitable without significant price increases.

- The parties have identified **potential efficiencies of 1.5% to 3%** they may achieve as a corporately integrated system, based on conservative assumptions. The identified efficiencies are in **non-clinical** areas, including combined corporate functions, and joint purchasing. They also anticipate achieving more favorable debt financing rates as a combined system, which could result in additional efficiencies.

- The parties have indicated that they **expect to retain any operational efficiencies** achieved within the system to fund health IT systems, clinician recruitment, capital improvements, and expanded care delivery programs.

- The parties' financial projections indicate that they expect to achieve positive financial margins **even without changes in their prices as a result of the proposed transaction**.

Key Findings: Prices, Spending, and Market Shares

Prices

- Historically, the parties have had low to moderate prices compared to other Massachusetts providers. BIDCO and Lahey prices have not generally risen relative to comparators even as their systems have grown.

Spending

- Historically, the parties have had moderate spending levels compared to other Massachusetts providers. As BIDCO and Lahey have grown, their spending has also grown at generally the same rate as the rest of the market.
- As the parties' systems have grown, they have not substantially reduced spending, though they have had some limited success in retaining care locally at recently *acquired* community hospitals.

Market Shares

- The parties have significant market shares across inpatient, outpatient, and physician services.
- BILH's statewide share of inpatient and outpatient services would be second only to Partners and would surpass Partners' share of adult primary care services.

Key Findings: Spending Impacts from Projected Price Increases and Shifts in Care

Price Increases

- The increase in the parties' importance to payers post-merger would likely allow them to substantially increase prices across inpatient, outpatient, and physician services, *in addition to* the incremental price increases they would achieve absent the transaction.
- Projected one-time price increases for inpatient, outpatient, and adult primary care services would increase commercial health care spending by **$138.3 million to $191.3M million** annually.
- If we applied similar (5% to 10%) one-time price increases to all other physician services (e.g., specialists), spending for these services would increase by an additional **$29.8 million to $59.7 million** annually.

Shifts in Care

- If the parties achieve all of their care redirection goals, they could save approximately **$8.7 million to $13.6 million** annually at current price levels, or **$5.2 million to $9.5 million** annually with the projected price increases, offsetting approximately **3% to 7%** of the projected price increases.

	Baseline Review and Impact Analysis
Costs and Market	
Care Delivery and Quality	✓
Access to Care	

The party hospitals perform comparably to the MA average on clinical quality measures.

- We examined party hospital performance on 53 clinical quality measures across the domains of processes, outcomes, and patient experience. The **party hospitals performed comparably to Massachusetts average** performance on most of the measures we examined, with some variation on certain measures.
- In some cases, a party's performance in a **specific domain** was notable:

Party	Domain	Performance
Mt. Auburn	Process Measures	Better than average on 8 measures
NE Baptist	Outcomes Measures	Better than average on 4 measures
Lahey HMC*	Outcomes Measures	Below average on 3 measures
BIDMC*	Outcomes Measures	Below average on 4 measures

- Several of the party hospitals performed notably **better than average on patient experience measures**, and none performed worse than average on the measures we examined.
- Examining party performance over time on certain measures, we found that the party hospitals generally **improved over time in line with state average improvements**, with a few exceptions.

* Both Lahey HMC and BIDMC performed worse than average on the 30-day all-cause readmissions measure. Several Massachusetts academic medical centers and teaching hospitals performed worse than average on this measure.

HPC

The party physician groups perform comparably to the state average on clinical quality measures, with some variation.

- We examined **BIDCO, MACIPA, and LCPN performance** on ambulatory care measures of process, outcomes, and patient experience.

  - On select HEDIS process and outcome measures, each group met or exceeded the NCQA **75th percentile for at least 75%** of measures and the **90th percentile for at least 50%** of measures.
  - Several other large physician groups in Eastern MA exceeded the 75th and 90th percentiles for a **similar or greater number of measures** than either BIDCO or LCPN. Few other groups met these benchmarks as consistently as MACIPA.

CGCAHPS

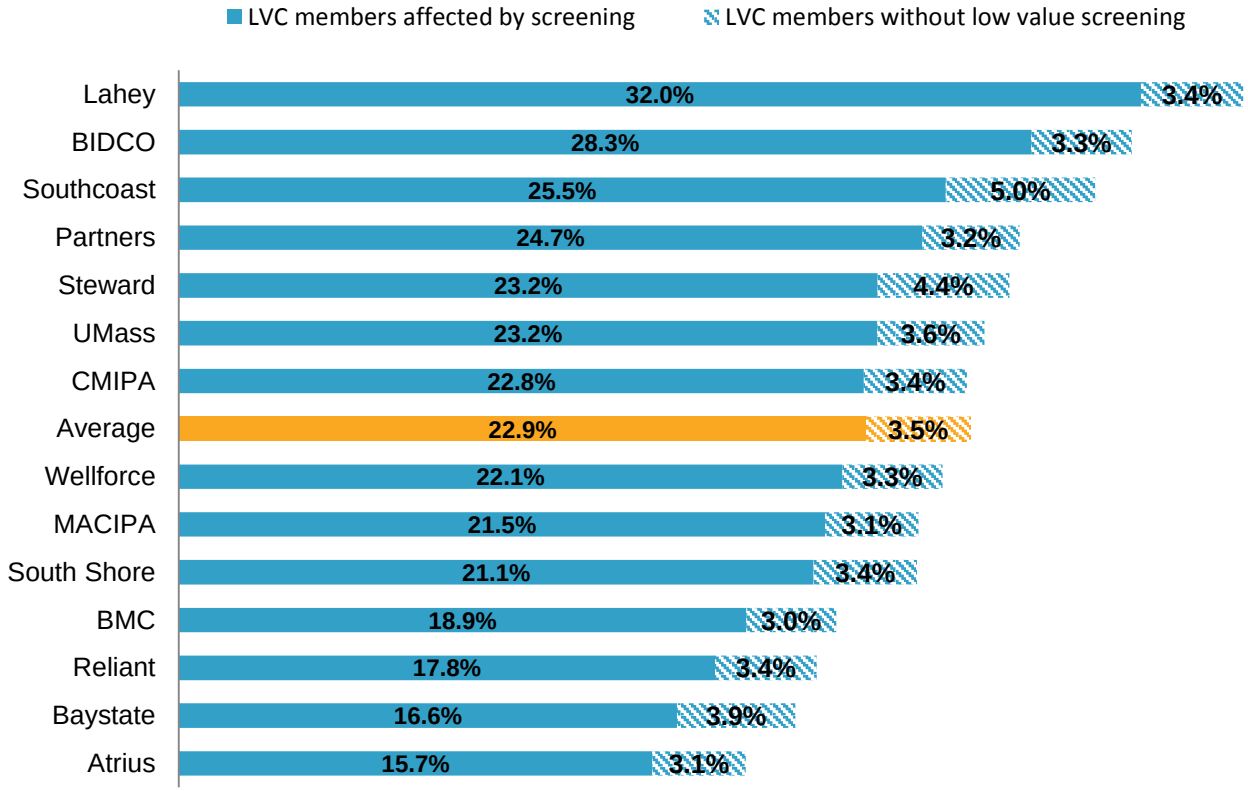
  - We also reviewed four composite measures of **patient experience** in the following domains: ability to get timely appointments, care, and information; integration of care; patient-provider communication; overall willingness to recommend the doctor.
  - LCPN and MACIPA performed comparably to the state average on these measures; BIDCO's performance was average on three measures, and below average on one.

HPC

The parties' patients have high rates of potentially low-value care.

Of the 14 largest physician networks, Lahey and BIDCO had the highest and second highest percentage of members who received any **potentially low-value care**. MACIPA's rate was slightly better than average.

Percentage of Attributed Primary Care Patients Exposed to Any Low-Value Care (Oct. 2013 – Oct. 2015)



Note: BIDCO figures include patients attributed to physicians that are part of groups affiliated with CHA and Lawrence General.
Source: HPC analysis of 2014 and 2015 APCD Claims Data; *see* the HPC's June 2018 MOAT Committee presentation.

The parties have identified some quality measures for monitoring, and would identify goals for improving specific quality measures after the transaction is completed.

- The parties have **identified measures** the DoN program would monitor to assess the impacts of the transaction, some of which overlap with the clinical quality measures we examined.

- The measures identified by the parties are either required components of the **MassHealth ACOs contracts** or measures identified by Lahey for the purpose of measuring MassHealth ACO performance, all of which BIDCO and Lahey would monitor even in the absence of the transaction. It is not yet clear how they expect the transaction to impact their performance on these measures.

- The parties plan to provide additional information on their quality goals **after the transaction is completed**, including:

    - Baseline performance data
    - Benchmarks for improvement
    - Timelines for improvement

- Some of the parties' clinical integration planning teams have discussed quality measures related to their areas of focus, but specific targets for improvement are still under development.

The parties have systems and initiatives in place to promote quality improvement.

- The parties generally performed well on seven measures related to **structures designed to promote health care quality**.
- The parties regularly **track and share information on quality of care internally**; some publish their results and plans for improvement on their websites.
- The party hospitals **currently use several different electronic health record (EHR) systems**, with some variation within their organizations.

The parties are considering potential structures for integrating their distinct quality oversight and management systems.

- The parties are engaging in an extensive **integration planning process** that is evaluating structural and clinical considerations across multiple domains. These integration planning efforts include a design team devoted to quality oversight.
  - This team has proposed creating a **system-wide quality oversight and management structure**.
  - The planning process seems to reflect an interest in building strong quality structures in the BILH system.
  - The quality integration planning team's recommendations are **focused on structures that would support future quality improvement efforts**; the potential for eventual improvements would depend on successful implementation of these new structures.
- The parties have identified investing in interoperability among their various EHRs and data systems as a priority, and are discussing plans for how this might occur.

The parties are engaged in a variety of care delivery and quality improvement initiatives

- The parties are individually implementing a number of **care delivery initiatives**, including:
  - Behavioral health integration initiatives
  - Chronic disease management programs
  - Initiatives to reduce unnecessary ED utilization
  - Improving post-acute care programs
- The parties participate in **healthcare transformation initiatives** funded through the HPC, including:
  - CHART Phase 2
  - HCII Awards

The parties are considering which initiatives would be continued or expanded under the new system.

- The parties have stated a general intent to “leverage existing expertise across sites to further improve outcomes and patient experience in the future” as a combined system, including potentially:
    - Expanding the **NE Baptist brand and model of care** across the new system through the creation of NE Baptist managed and operated Care Centers, clinical affiliations with other BILH members, and a system-wide quality collaborative.
    - Developing a program to **address behavioral health needs**, including through utilizing coordinated care teams to integrate BH services with primary care and improving the ED and admissions experience for patients with a BH diagnosis.
- The proposals being developed by the parties could have the potential to positively impact clinical quality. The extent to which this potential is realized would depend on BILH further developing these plans, adopting them, and providing adequate resources for their success.

The parties have experience participating in APMs, though their participation varies by payer category.

Party	2016 Commercial Global Payment Participation		2018 Medicare ACO Status	2018 MassHealth ACO Status
	HMO (BCBS, HPHC, THP)	PPO (BCBS)		
BIDCO	Yes	No	MSSP – Track 3	Model A*
Lahey	Yes	Yes	MSSP – Track 1	Model C
MACIPA	Yes	Yes	MSSP – Track 3	No

Commercial

- Unlike MACIPA and Lahey, BIDCO was not participating in global payment arrangements for its BCBS PPO population as of 2016.

Medicare

- BIDCO and MACIPA were part of Pioneer ACO;
  - BIDCO remained in the Pioneer ACO model for four-and-a-half years of the five year program
  - MACIPA participated for three years.
- Lahey is in its sixth year participating in MSSP – Track 1, which does not include downside risk.

MassHealth

- BIDCO and Lahey are both participating in the MassHealth ACO program, while MACIPA is not currently part of a MassHealth ACO.
- *The CHA and Lawrence General physicians elected to form their own MassHealth ACOs and are therefore not part of the BIDCO MassHealth ACO.

The parties are considering plans for coordinating their various APM structures

- The parties' planning process includes discussion of the development of a **unified approach** to claims data integration, data management and analytics, and system-wide risk coding and care management practices.

- These plans may help to integrate care management systems across BILH's various entities and contracts.

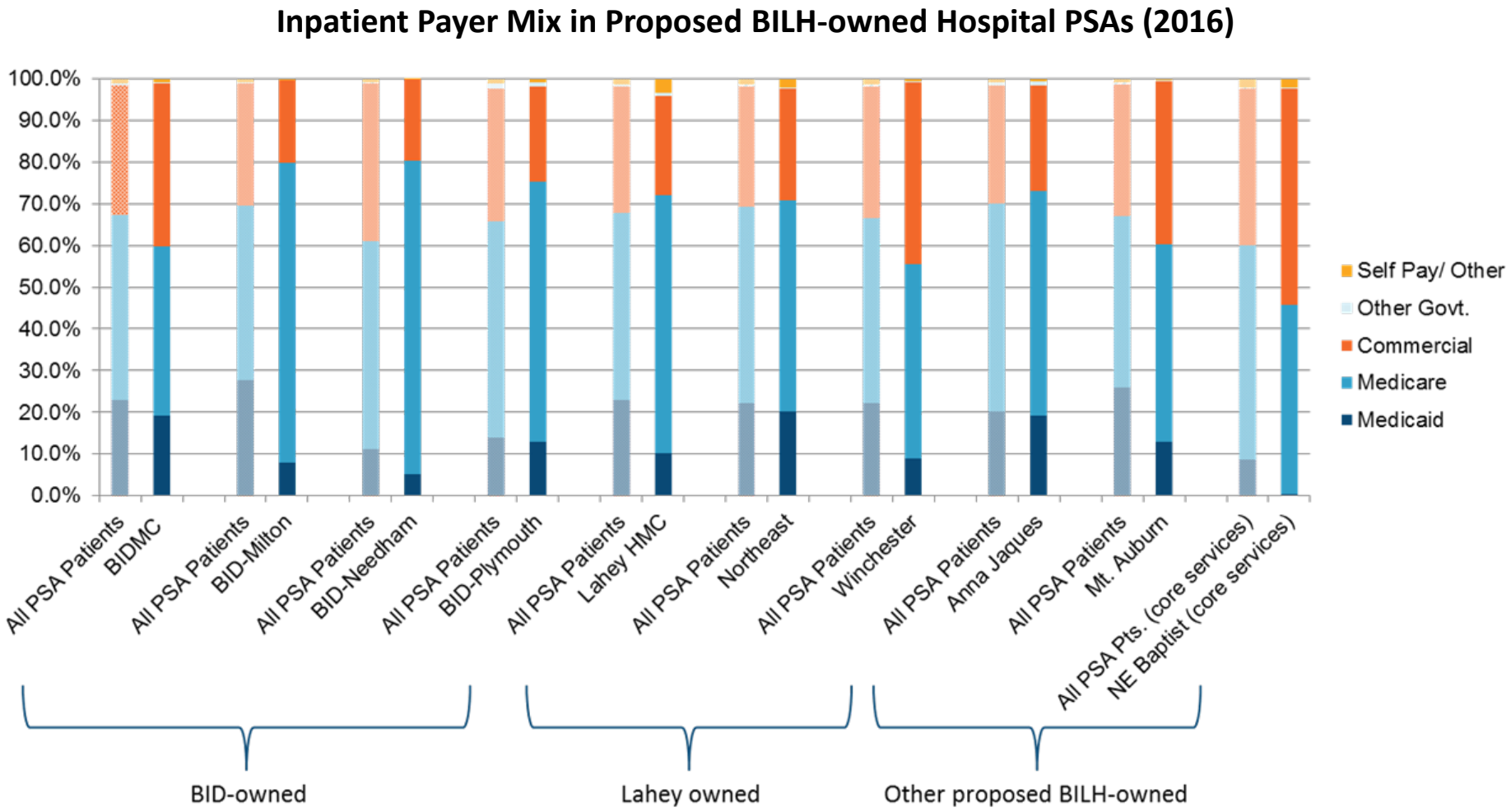
- The parties have stated a goal of improving their performance in risk contracts as a result of the transaction. It is not yet clear whether they expect to expand their participation in APMs that include a higher level of risk sharing and quality-based performance incentives.

Quality and Care Delivery: Summary of Key Findings

- The party hospitals and physician networks **generally perform comparably to statewide average performance** on process, outcome, and patient experience measures, with some variation on specific measures.
- The parties **have systems in place** to promote and improve the delivery of high-quality health care and are engaged in a variety of **quality improvement initiatives**.
- The parties **have experience participating in APMs**, though their participation varies by payer category.
- The parties emphasize their **current quality performance** and the robust **integration planning process** underway.
- Because the parties' plans are still in development, and would need to be considered by BILH after the transaction is finalized, it is **not yet clear to what extent the proposed transaction would result in specific quality improvements**.

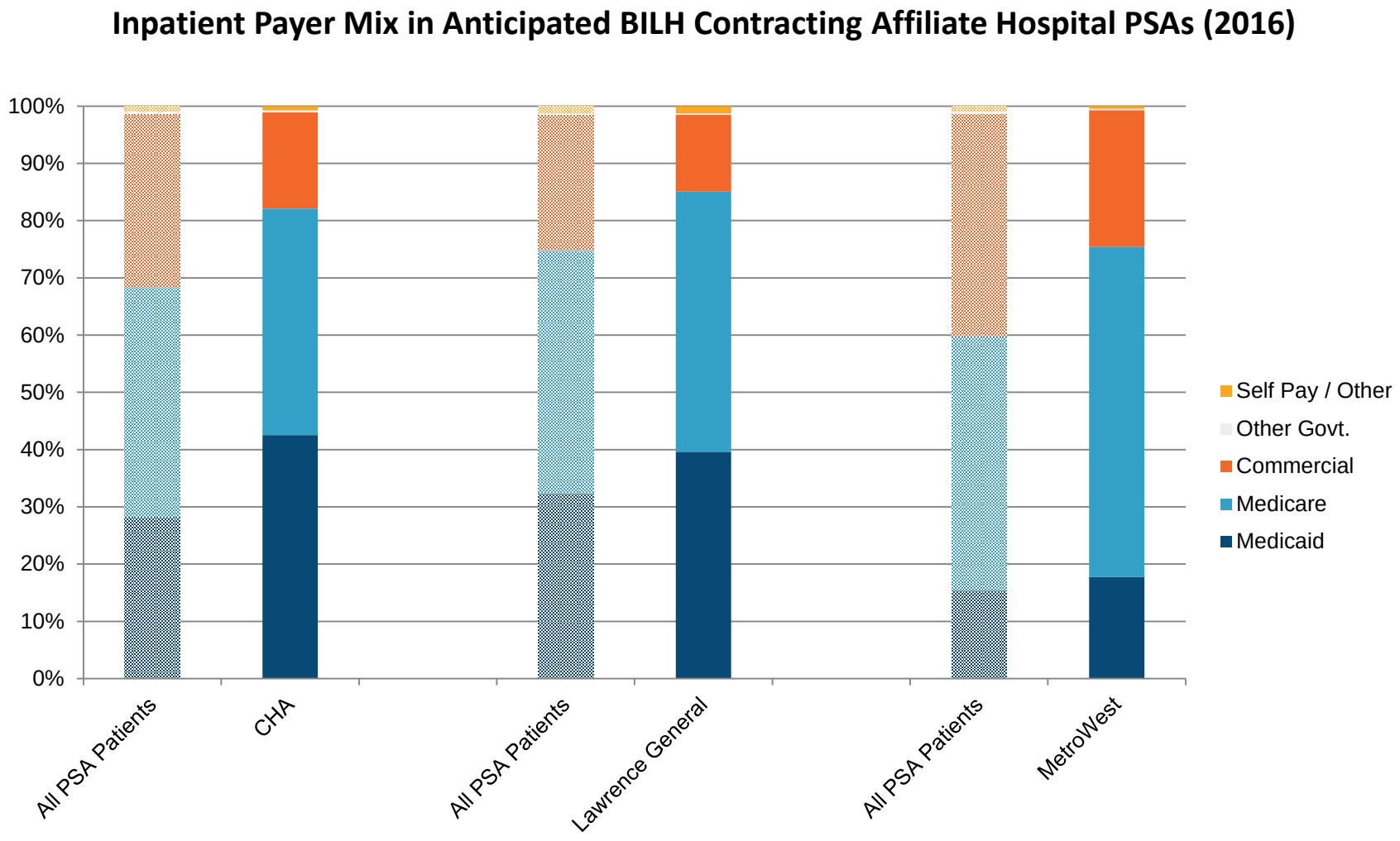
	Baseline Review and Impact Analysis
Costs and Market	
Care Delivery and Quality	
Access to Care	✓

The party hospitals have lower inpatient Medicaid payer mix compared to their PSAs, although some have higher Medicare mix.



Source: 2016 hospital discharge data; NE Baptist payer mix is based on NE Baptist core orthopedic services, compared to discharges for these services in its core services PSA..

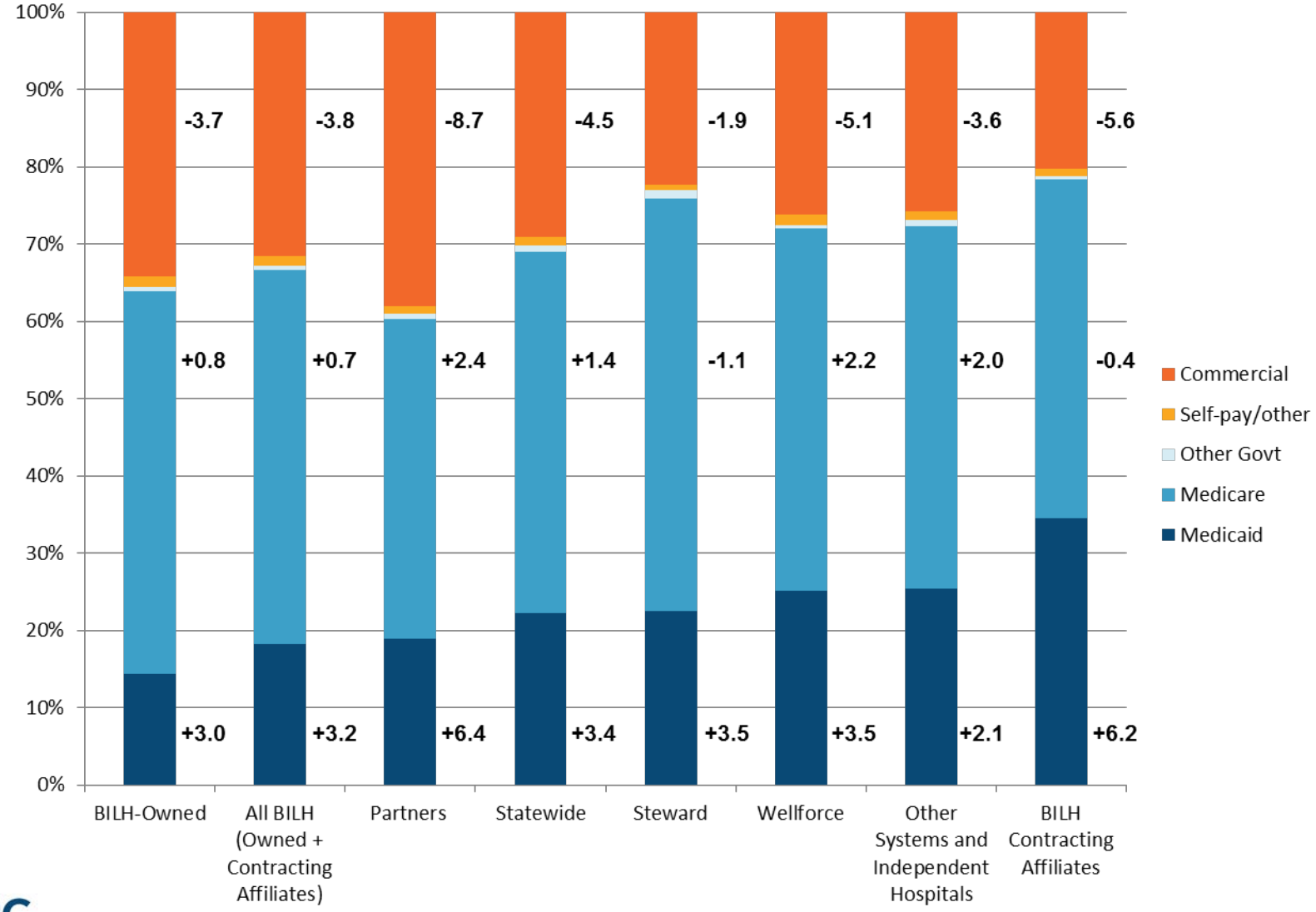
BIDCO hospitals that are not parties to the corporate merger have lower inpatient commercial payer mix and higher Medicaid payer mix.



Source: 2016 hospital discharge data.

When initially formed, the BILH owned system would serve the lowest mix of Medicaid discharges of the major systems in Eastern Massachusetts.

Inpatient Payer Mix of BILH and Comparator Systems (2016 with change since 2010)



Source: 2016 hospital discharge data; includes all hospital discharges, not only those in PSAs.

Based on the parties' current patients, BILH's primary care patients would come from relatively affluent communities on average.

Average Income and Area Deprivation Index of Commercially Insured Population Attributed to Provider Organizations (2015)

	Zip-code income	Average area deprivation index
Partners	$88,340	76.8
All BILH (BIDCO + LCPN + MACIPA)	$86,507	76.2
Atrius	$86,091	77.0
South Shore	$85,507	82.5
Wellforce	$82,086	84.9
Reliant Medical Group	$80,265	89.9
UMass	$74,609	93.7
Steward	$71,796	90.3
CMIPA	$70,164	95.9
Boston Medical Center	$65,518	88.5
Baystate	$62,560	99.1
Southcoast	$61,679	97.6

- The area deprivation index is a proxy for socioeconomic deprivation in a community that combines a number of measures including home values and amenities, employment, poverty, and education levels. A ***higher*** area deprivation index number represents ***greater*** socioeconomic deprivation.
- The statistics shown for BILH include some physicians affiliated with anticipated BILH contracting affiliates CHA and Lawrence General. Excluding patients of these physicians would increase BILH's zip-code income by approximately $1,000 and decrease its average area deprivation index by 0.6.

HPC

Source: 2017 Annual Health Care Cost Trends Report

Based on the parties' current patients, BILH's inpatient and emergency patients would also come from relatively affluent communities on average.

Average Income and Area Deprivation Index of Hospital Patients of BILH and Comparator Systems (2016)

Inpatient Care		
System	Zip-code income	Average area deprivation index
BILH-Owned	$82,291	80
All BILH (owned + contracting affiliates)	$79,821	82
Partners	$79,117	81
Wellforce	$70,283	90
BILH contracting affiliates	$69,749	88
Steward	$67,886	91

ED Visits		
System	Zip-code income	Average area deprivation index
BILH-Owned	$81,745	80
Partners	$75,165	81
All BILH (owned + contracting affiliates)	$73,989	81
Wellforce	$65,276	92
BILH contracting affiliates	$63,274	91
Steward	$61,229	94

Source: HPC analysis of 2016 CHIA hospital discharge and ED visit data. Partners data includes contracting affiliate Emerson Hospital.

- Based on the parties' current patients, the BILH-owned system would also provide a lower proportion of discharges and emergency department visits to non-white patients and Hispanic patients compared to the mix of patients in their service areas and to most other large eastern MA hospital systems.

It is unclear whether or how the parties' patient mix may change as a result of the proposed transaction.

- The parties have stated that they **do not expect their payer mix to substantially change as a result of the proposed transaction**, but that they expect to see slightly larger proportions of Medicare patients over time in line with the aging population.

- The parties' have primarily referenced BIDCO and Lahey's current participation in the MassHealth ACO program and other current efforts, but **it is not yet clear what new steps BILH would take** to serve patients who have traditionally faced barriers to accessing care.

- The parties have a stated goal of attracting patients away from competing systems. BILH's marketing activities and decisions about where to invest in developing services across a broad geographic region may influence which patients are attracted to the system.

- Given the parties' expectation that BILH will expand its patient population, it is important for the parties to articulate how they will enhance access for underserved patient populations as part of the proposed transaction.

The parties are important providers of inpatient and outpatient behavioral health services in eastern MA.

Count of DMH-Licensed Psychiatric Beds in Eastern MA by Bed Type and Percent of Total Eastern MA Psychiatric Beds by System (2017)

Hospital	Psychiatric Bed Type			
	Adult (% of Total)	Child/Adolescent* (% of Total)	Geriatric (% of Total)	Total (% of Total)
BID-owned system	**25 (1.4%)**	**0 (0%)**	**19 (4.5%)**	**44 (1.8%)**
BID-Milton	-	-	-	-
BID-Needham	-	-	-	-
BID-Plymouth	-	-	19 (4.5%)	19 (0.8%)
BIDMC	25 (1.4%)	-	-	25 (1.0%)
Lahey system	**80 (4.6%)**	**0 (0%)**	**-**	**80 (3.3%)**
Lahey HMC	-	-	-	-
Northeast (Incl. BayRidge)	80 (4.6%)	-	-	80 (3.3%)
Winchester	-	-	-	-
Other Party Hospitals	**20 (1.1%)**	**0 (0%)**	**15 (3.5%)**	**35 (1.4%)**
Anna Jaques	20 (1.1%)	-	-	20 (0.8%)
Mt. Auburn	-	-	15 (3.5%)	15 (0.6%)
NE Baptist	-	-	-	-
Contracting affiliate hospitals	**88 (5.0%)**	**41 (16.2%)**	**46 (10.8%)**	**175 (7.2%)**
CHA	40 (2.3%)	27 (10.7%)	22 (5.2%)	89 (3.7%)
Lawrence General	-	-	-	-
MetroWest	48 (2.7%)	14 (5.5%)	24 (5.6%)	86 (3.5%)
BILH Total (Corporate + Contracting Affiliates)	**213 (12.2%)**	**41 (16.2%)**	**80 (18.8%)**	**334 (13.8%)**
Partners	**331 (18.9%)**	**20 (7.9%)**	**69 (16.2%)**	**420 (17.3%)**
Steward	**166 (9.5%)**	**14 (5.5%)**	**155 (36.4%)**	**335 (13.8%)**
Wellforce	**42 (2.4%)**	**0 (0%)**	**18 (4.2%)**	**60 (2.5%)**
All Other	**996 (57.0%)**	**178 (70.4%)**	**104 (24.4%)**	**1,278 (52.7%)**

Source: DMH licensed facilities list.

HPC

The parties' plans to expand some services are still under development.

- The parties have stated that BILH would **undertake a number of activities to increase the accessibility of care within the BILH service area**, including:
  - Expanding behavioral health care and behavioral health integration with primary care
  - Enhancing primary care and urgent care offerings
  - Expanding musculoskeletal care and other specialty services at community hospitals
  - Streamlining patient scheduling and referrals

- Some of the parties' proposals, if further developed and enacted, may lead to improvements in access to care that align with identified community needs, although in other cases the parties have not provided evidence that the services they are considering expanding are not already otherwise available to patients.

- The **parties are developing plans for service expansions**, but details are not yet finalized that would allow the HPC to determine whether the plans would result in improvements to access, including:
  - Locations where expansions would occur
  - The number and type of clinicians that would be needed to support new services
  - Other resource commitments that would be necessary to support any expansions

Access to Care: Summary of Key Findings

- The party hospitals have **lower inpatient Medicaid payer mix compared to their service areas**, although some have higher Medicare mix. The hospitals that are anticipated to be BILH contracting affiliates have higher Medicaid mix.
- When initially formed, **BILH would have a lower mix of Medicaid discharges** compared to other eastern Massachusetts hospital systems.
- Based on the parties' current patients, BILH would serve patients who come from **relatively affluent communities** on average.
- The parties **do not expect their payer mix to substantially change** as a result of the proposed transaction.
- The parties are **key providers of behavioral health services** in their communities, and are considering plans to expand behavioral health services.
- The parties are developing plans to expand some services, some of which align with identified community needs, but **the extent to which access to needed services would be improved is not yet clear**.

Next Steps

- Per M.G.L. ch. 6D, § 13, the HPC issues a Preliminary Report
- The parties and others may respond to the Preliminary Report within 30 days
- The Commission will issue a final report thereafter, including any referrals or recommendations to other state agencies
- The parties may not close the transactions until at least 30 days following the issuance of the final report