

# Assessing the Financial Health of Massachusetts Hospitals



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## Executive Summary

**Background.** Massachusetts is among the highest spenders on hospitals and health care in the US. Further, studies have shown that Massachusetts hospitals vary greatly in how much they are paid. As was first documented by the Massachusetts attorney general's office (AGO) in its 2010 cost trends report,<sup>1</sup> the price of medical services, not utilization, remains the biggest cost drivers. Even more, the wide variation in provider prices are not explained by quality, patient complexity, or acuity of patients. Significant variation in hospital rates continues today, and the Massachusetts Center for Health Information and Analysis (CHIA) reports a nearly threefold difference in commercial inpatient prices between the state's highest- and lowest-paid hospitals. This price gap between hospitals is among the largest in the country.<sup>2</sup> The Massachusetts Health Policy Commission (HPC) has shown that hospital use in Massachusetts continues to be higher than the national average and a larger share of inpatient care is delivered by higher-cost academic medical centers (AMCs).<sup>3</sup> The high cost of health care in Massachusetts is a product of high volume in high-priced settings.

Since the release of the 2010 AGO report, hospitals that have historically received lower reimbursement rates have sought legislation to increase their rates, such as through the establishment of a mandatory minimum rate.

Governor Baker and legislative leaders have proposed addressing rate disparities in hospital payments and providing increased funding for community hospitals and/or hospitals paid below 90 percent of the statewide average relative price (RP). In 2017, Baker proposed a cap on hospital reimbursement rates, whereby hospitals with the highest reimbursement rates would receive 0 percent increases, hospitals in the middle would receive 1 percent increases, and hospitals at the bottom would have no limits on their annual growth. The proposal further included a provision that would enable a provider to receive an increase of up to 1 percent higher than it would otherwise receive, if the provider and a carrier entered into an alternative payment contract that included both significant downside risk and significant participation from the carrier's enrollees, based on minimum standards established by the Division of Insurance.

In 2018's comprehensive health care bill, the Senate proposed increasing hospital rates so that all hospitals were paid a minimum rate, set at 90 percent of the statewide RP with no adjustments to hospital reimbursement rates above the 90 percent threshold. The House proposal imposed an assessment on health plans and hospitals to provide funding for community hospitals being paid below 90 percent of the statewide RP. Under the House plan,

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<sup>1</sup> *Examination of Health Care Cost Trends and Cost Drivers Pursuant to G.L. c. 118G, § 6½(b) Report for Annual Public Hearing*, Massachusetts Office of the Attorney General, March 16, 2010.

<sup>2</sup> *Provider Price Variation and Health Costs in MA—an Analysis of State and National Data*. Freedman HealthCare on behalf of Associated Industries of Massachusetts, Massachusetts Association of Health Plans, National Federation of Independent Business, Retailers Association of Massachusetts, January 17, 2017.

<sup>3</sup> Health Policy Commission, *2018 Annual Health Care Cost Trends Report*, February 20, 2019.

27 hospitals, including hospitals owned by large, highly paid hospital systems and hospitals owned by out-of-state companies, would have benefited.

Some officials and stakeholders, including the Massachusetts Association of Health Plans (MAHP), have called for a reduction in payments to top-paid hospitals to offset any rate increases given to hospitals paid below 90 percent of the statewide RP, to ensure that overall costs are not increased for employers and individuals purchasing insurance.

After the legislation failed in July 2018 due to differences between the chambers' approaches to addressing provider price variation, MAHP engaged Freedman HealthCare to evaluate the financial health of Massachusetts hospitals to determine (1) which hospitals had the least financial stability and (2) whether hospitals' payment levels correlated with hospitals' financial status.

**Methods.** Freedman examined publicly available data from CHIA on hospital pricing, costs, and financial status, focusing on select measures of hospital profitability and solvency and the hospitals' costs of providing care.

**Results.** Based on available data, the 27 hospitals that have an RP below 90 percent are not significantly less profitable or less financially stable than hospitals with an RP above 90 percent. Among both groups of hospitals, financial position varies considerably. Financial position shows no correlation with RP.

**Conclusions:**

- The financial differences between hospitals with an RP below 90 percent and hospitals with an RP above 90 percent are not statistically significant, and financial position has minimal correlation with RP. Some hospitals with an RP below 90 percent are financially healthy, while others are quite weak. Furthermore, both market circumstances (like geography and the existence of integrated health care systems) and current data constraints complicate any analysis of hospital finances and payments.
- Hospitals with an RP above 90 percent had a 17 percent higher cost per discharge than those with an RP under 90 percent did, suggesting an inverse relationship between economic efficiency and RP.
- Limitations of the data preclude us from being able to answer whether those hospitals that are financially weaker are so due to comparatively lower reimbursement rates alone or whether other factors such as operating inefficiencies or payer mix are at play.
- Therefore, we suggest that prior to enacting any policies relating to increased funding for hospitals, policymakers improve the breadth and standardization of hospital financial data collected to ensure that data are collected in a more complete and consistent manner across hospitals.

## Background

The high costs of Massachusetts health care and the large variation in prices paid to different providers, notably hospitals, have been extensively documented.<sup>4</sup> Policymakers have considered ways to address these problems. During this past decade, hearings have focused on price trends, and new legislation has intended to control the commonwealth's health care costs. These efforts have achieved modest success in total spending; by one measure, Massachusetts is no longer the state with the highest health care costs, now having the second-highest instead.<sup>5</sup> Unfortunately, no discernable progress has been made on provider price disparities, which in fact may be worse now than when first reported by the AGO in 2010.<sup>6</sup>

Community hospitals in Massachusetts struggle in this environment. They suffer, in part, because an unusually large portion of health care — including services appropriately provided in the community setting — are provided in Massachusetts AMCs. AMCs have strategically purchased or contracted with community-based primary care physicians, and their flagship hospitals can capture this referral business. Likewise, some community hospitals struggle because they serve poor communities and have high Medicaid volume and lower commercial patient volume. As a result of this high percentage of Medicaid volume and low commercial volume, community hospitals may have less capital to invest in making improvements in hopes of attracting commercial patients. Hospital mergers have enabled some community hospitals to obtain more resources, notably in the form of investment from the acquirer and from higher negotiated rates that the parent system can then demand from commercial insurers. Independent community hospitals often struggle to prevent their patients from moving to an AMC or its affiliate.

Last year, the Legislature debated a bill that would reduce hospital price disparities either by raising the minimum payment levels for hospitals or through a one-time assessment on hospitals and health plans, to fund community hospitals. Placing a floor at 90 percent of current average statewide hospital RP, the proposal would be an immediate financial boost to 27 hospitals. Setting aside the question of funding (we estimate the payments begin at nearly \$160 million in the first year, eventually rising to \$325 million annually), we examined the financial status of Massachusetts acute care hospitals and how it relates to their commercial RP.

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<sup>4</sup> See, for example, *Examination of Health Care Cost Trends and Cost Drivers*, Office of the Attorney General, March 16, 2010; *Examination of Health Care Cost Trends and Cost Drivers*, Office of the Attorney General, September 18, 2015; *2017 Annual Health Care Cost Trends Report*, Health Policy Commission, February 2017, *inter alia*.

<sup>5</sup> Total per capita health care spending by state, *2017 Annual Health Care Cost Trends Report*, Massachusetts Health Policy Commission, March 28, 2017, page 8.

<sup>6</sup> *Examination of Health Care Cost Trends and Cost Drivers Pursuant to G.L. c. 12, § 11N Report for Annual Public Hearing Under G.L. c. 6D, § 8*, Massachusetts Office of the Attorney General, September 18, 2015, pages 19ff.

## Methods

We used public data on hospital finances, including hospitals' audited financial statements and Medicare cost reports, obtained from the Massachusetts CHIA. We found hospital RP data for calendar year 2016 in the CHIA 2018 RP report.<sup>7</sup> From these data sources, we obtained or calculated commonly used financial indicators, including (1) debt ratio (total liabilities divided by total assets), (2) current ratio (current assets divided by current liabilities), (3) days of cash on hand, (4) return on equity, (5) operating margin, and (6) total margin. Statistical comparisons of means were made using a two-tailed Student's t-test or chi-square test and an alpha of 0.05. Correlations were assessed with the R-squared value. We ranked hospitals by their performance on each of these six measures, calculated each hospital's average rank, and ranked hospitals in order of average rank to create an overall average financial position measure. We calculated each hospital's average cost per case-mix adjusted discharge (cost/CMAD) using cost data from Medicare (obtained via CHIA) and discharge and case-mix data from CHIA.

As a sensitivity analysis, we calculated the financial performance of MA hospitals for FYs 2014, 2015, and 2016. We compared those results to those of FY 2017, and we explored the association of financial position of those years with RP for 2016. We examined the consistency of hospital RP over time, first, by comparing the Statewide (Cross-Payer) RP for 2015 with 2016, and, second, by examining the degree of variation of RP with MA's largest commercial payer, Blue Cross and Blue Shield of Massachusetts, from FYs 2014 through 2017. The results of these analyses showed relative consistency of hospital financial ranking over time; the typical lack of association between RP and financial performance; and relative consistency of RP for individual hospitals over time. As one example, hospital Cross-Payer RPs for 2015 and 2016 were highly correlated, with an R-squared value of 0.95. The sensitivity analyses support the findings shown below and suggest these findings are robust across the four years studied.

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<sup>7</sup> Data from Massachusetts Center for Health Information and Analysis, *Relative Price Report*, April 2018, and associated data products. Accessed at <http://www.chiamass.gov/relative-price-and-provider-price-variation/>. This analysis uses the values for Statewide (Cross-Payer) Relative Price.

## Results

**Hospital Financial Performance.** Based on the available data, we found that the hospitals with an RP below 90 percent performed similarly to hospitals with an RP above 90 percent on most measures of financial strength. As seen in Table 1, hospitals with RP below 90 percent modestly lagged in operating margin, total margin, debt ratio, current ratio, and return on equity, and only one of the differences, debt ratio, was statistically significant. Unexpectedly, hospitals with RP below 90 percent report more days of cash on hand — 18 versus 13 — though this difference was not significant.

Table 1. Median Financial Performance, FY17						
Hospital Type <sup>a</sup>	Debt Ratio <sup>b</sup>	Current Ratio	Days Cash on Hand	Return on Equity	Operating Margin	Total Margin
RP Below 90%	52%	1.5	18	7.3%	0.9%	3.4%
RP Above 90%	42%	1.7	13	8.9%	1.8%	4.2%
Significance <sup>c</sup>	<b>0.04</b>	NS (0.09)	NS (>0.2)	NS (0.07)	NS (>0.2)	NS (>0.2)

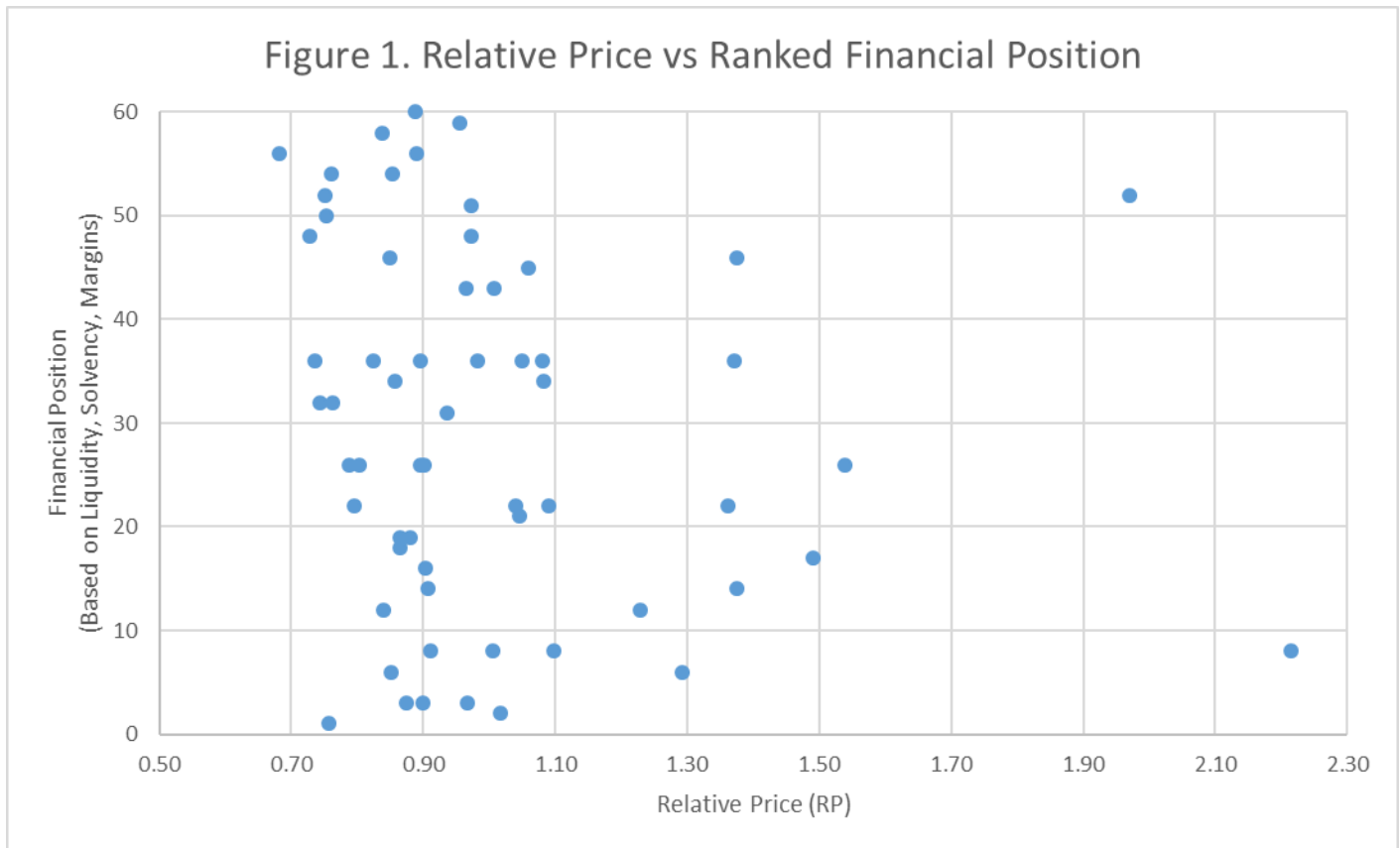
<sup>a</sup>Low-priced hospitals have an inpatient RP below 90 percent (n=27). Non-low-priced hospitals have an inpatient RP of 90 percent or greater (n=33).

<sup>b</sup>For debt ratio, lower value is better. For all others, higher is better.

<sup>c</sup>P-value. Statistical significance was tested using a threshold of P<0.05; only debt ratio difference (boldface) is significant.

The weak significance of the findings relates to the very large performance variation in these measures. For example, two hospitals with RP below 90 percent have operating margins above 10 percent (second- and third-best among all hospitals), while three are below 10 percent (worst, third-worst, and fifth-worst among all hospitals), a range encompassing from very strong to very weak financial performance.

RP has minimal association with the financial performance of the hospitals. As shown in Figure 1, hospitals are widely scattered in their financial performance as compared to their RP. The near-zero (0.03) R-squared value confirms that any association is minimal at best. The correlation between RP and each of the six measures of financial performance individually was also weak or nonexistent (not shown). Similar results were seen for FYs 2014-2016 (not shown).



Detailed information on the RP of, the ranked financial position of, and the six financial performance measures for each hospital is shown in Table 2.

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Table 2. Relative Price, Selected Financial Data, and Ranked Performance<sup>a</sup>

Hospital	Relative Price	Ranked Financial Position	Debt Ratio	Current Ratio	Days Cash on Hand	Return on Equity	Total Margin	Operating Margin
Baystate Noble	0.682	56	88%	0.7	10	-4.8%	-0.6%	-0.7%
Holyoke Med Ctr	0.728	48	112%	1.4	14		2.0%	0.9%
Lawrence General	0.736	36	50%	1.6	29	2.7%	1.2%	0.0%
Anna Jaques	0.743	32	71%	2.5	20	8.5%	1.7%	0.4%
Baystate Wing	0.752	52	52%	1.0	18	-17.8%	-10.3%	-11.7%
Cambridge Health	0.754	50	72%	1.4	17	6.7%	0.9%	-1.9%
BI Milton	0.757	1	43%	2.7	34	17.4%	11.9%	10.4%
Mass Eye & Ear	0.760	54	62%	1.1	2	-0.4%	-0.4%	-2.1%
Heywood	0.763	32	43%	1.1	14	7.7%	3.6%	1.6%
Signature Brockton	0.787	26	71%	1.1	5	24.2%	6.0%	5.2%
Mercy Med Ctr	0.796	22	44%	4.3	1	6.8%	3.8%	2.9%
Health Alliance	0.804	26	26%	1.4	22	3.9%	3.4%	1.6%
Emerson	0.824	36	77%	1.5	33	7.8%	1.5%	0.0%
Morton	0.837	58	64%	0.2	0	-10.9%	-2.9%	-2.9%
Milford Regional	0.840	12	52%	3.5	60	8.5%	4.7%	3.8%
Lowell General	0.850	46	68%	1.2	37	1.4%	0.5%	0.9%
Northeast	0.851	6	52%	1.8	58	16.1%	9.0%	4.0%
MetroWest	0.853	54	64%	1.6	0	-8.4%	-1.3%	-1.4%
Steward Holy Family	0.857	34	59%	1.4	0	19.9%	3.4%	3.4%
BI Plymouth	0.865	18	55%	1.8	6	18.3%	6.1%	4.6%
Lahey Winchester	0.865	19	37%	1.7	58	5.7%	5.4%	-1.5%
Marlborough	0.875	3	44%	1.9	75	13.5%	7.5%	4.8%
Southcoast	0.880	19	42%	1.5	9	9.4%	6.2%	4.5%
Steward Carney	0.888	60	175%	0.1	0		-20.0%	-20.0%
Clinton Hospital	0.889	56	69%	0.8	23	-40.9%	-17.1%	-18.2%
Melrose Wakefield	0.895	36	51%	1.3	25	5.0%	2.9%	-1.4%
St Vincent	0.896	26		1.6	-10	12.5%	11.3%	11.2%
Steward Good Sam.	0.900	3	29%	2.7	0	26.7%	9.3%	9.3%
Steward Norwood	0.902	26	41%	0.7	0	20.1%	5.1%	5.0%
Harrington Memorial	0.903	16	47%	3.1	11	12.5%	6.5%	3.2%
NE Baptist	0.907	14	41%	3.6	35	7.2%	4.1%	2.0%
Athol Memorial	0.911	8	38%	1.1	30	22.9%	7.1%	7.2%
Mount Auburn	0.936	31	45%	3.3	34	1.5%	1.2%	-2.5%
Nashoba Valley	0.956	59	102%	0.4	0		-6.6%	-6.6%
Newton-Wellesley	0.965	43	49%	1.7	25	0.7%	0.4%	-0.2%
Baystate Med Ctr	0.966	3	43%	3.2	22	14.3%	8.6%	5.3%
North Shore Med Ctr	0.972	51	112%	2.6	19		-13.9%	-14.0%
Baystate Franklin	0.973	48	47%	1.7	13	-0.4%	-0.2%	-1.2%
BI Needham	0.982	36	58%	2.0	1	4.7%	2.5%	1.4%
BW Faulkner	1.006	8	32%	1.6	17	16.9%	6.2%	6.2%
Cooley Dickinson	1.007	43	94%	0.8	13	77.8%	2.6%	0.3%
Steward St Anne's	1.017	2	11%	7.4	0	18.3%	12.6%	12.4%
Lahey	1.041	22	80%	2.5	29	12.0%	2.0%	2.7%
Beth Israel	1.046	21	42%	3.1	4	7.8%	4.3%	1.7%
Tufts Med Ctr	1.049	36	84%	1.5	11	11.2%	1.6%	1.8%
UMass Med Ctr	1.059	45	93%	1.1	13	24.6%	1.3%	0.3%
South Shore	1.081	36	57%	1.5	26	3.3%	1.6%	0.3%
Steward St. E's	1.082	34	57%	0.5	0	20.7%	5.0%	5.1%
Boston Med Ctr	1.091	22	44%	1.9	37	2.3%	2.1%	1.0%
Sturdy Memorial	1.098	8	7%	18.1	9	4.6%	9.9%	4.4%
Berkshire Med Ctr	1.229	12	30%	1.2	24	8.9%	7.3%	5.5%
Cape Cod	1.292	6	31%	2.0	9	11.8%	8.7%	7.9%
Falmouth	1.362	22	18%	1.4	9	4.2%	5.9%	2.3%
Dana Farber	1.371	36	41%	1.3	32	2.0%	1.9%	-7.1%
Mass General	1.376	14	38%	1.7	14	9.1%	5.7%	5.5%
Brigham and Women's	1.376	46	77%	1.3	8	7.9%	1.9%	1.8%
Fairview	1.490	17	22%	1.6	1	9.5%	6.3%	4.6%
Children's	1.539	26	35%	8.3	0	2.0%	4.2%	1.2%
Nantucket	1.970	52	11%	1.2	-16	-7.8%	-19.7%	-25.4%
Martha's Vineyard	2.215	8	21%	1.8	99	5.4%	7.0%	1.8%

<sup>a</sup>Rank calculated as the average of each hospital's rank for the six financial measures shown. Where data were missing for a hospital, its rank was the average rank of the remaining measures.



**Cost of Providing Care.** Hospitals with RP below 90 percent have lower costs of care than other hospitals have. Using the Medicare cost report and hospital discharge data, we calculated each hospital's average cost/CMAD. Hospitals with RP below 90 percent had 17 percent lower cost/CMAD (\$10,668) than hospitals with RP above 90 percent had (\$12,827), which is statistically significant ( $p=0.03$ ). Greater economic efficiency is associated with lower reimbursement rates.

**Other Findings.** In compiling the data for these analyses, we found inconsistencies in financial reporting among hospitals. We also found some reported results that were unexpected. Of the 60 hospitals we studied, CHIA provided financial data on all, but apparently did not have audited financial data for 10. The financial statements that were available reported information at a high level (e.g., hospitalwide and with broad categories), making it impossible to do a detailed examination of important aspects of hospital operations (inpatient versus outpatient, ancillary services, types and uses of labor and capital expenditures, profitability by payer, etc.).

Some hospitals reported data that were unexpected. Nine hospitals, including one of the largest and highest-paid hospitals in the commonwealth, reported zero days of cash on hand. Two hospitals reported *negative* cash on hand. Many hospitals have a number of related business entities (holding company, physician group, other operations, etc.) reported within their financial statements. The flow of funds among these entities is not clear based on publicly reported data.

## Conclusions and Recommendations

Massachusetts has a serious problem with wide hospital price variation that is unwarranted and harmful to the overall health care economy and our citizens. Policy efforts to address price variation are welcome and may result in improved financial performance, and therefore improved prospects, for many hospitals. Our results suggest that drafting an intervention is not simple and the most recent proposals considered by the legislature may have adverse and unintended consequences. Moreover, **Massachusetts does not have comprehensive, standardized, and detailed data on hospital financial performance that will help identify those hospitals that need relief.**

Having an RP below 90 percent does not imply poor fiscal health. Financial strength varies greatly among hospitals and is minimally tied to their RP as measured by CHIA. **Hospitals with an RP below 90 percent are not necessarily worse off than hospitals with an RP above 90 percent.** Further, the data that are currently available to the public and policymakers are insufficient to enable a full understanding of the financial health of Massachusetts hospitals. Some factors other than RP may account for much of the variability and may help explain contributors to fiscal health. These include the following:

- Geography. Lower-price hospitals are often located in central and western Massachusetts, locations that may offer both real estate costs and wage levels that are lower than those in metropolitan Boston. Labor and real estate costs need to be better understood and detailed to assess overall hospital financial performance.
- Relationship between a community hospital and its parent system. More than half the lower-priced hospitals belong to a larger, higher-priced hospital system. Being part of a system may afford relief to a lower-priced hospital in several ways, including by enabling it to take advantage of the parent's negotiating clout with payers, leverage the parent's purchasing power, and leverage administrative efficiency through the system.
- Changing marketplace. Health policy often focuses on inpatient care. However, outpatient care is rapidly growing and is at least as important to consider. Hospitals that are low-price and even losing money on inpatient care may earn sufficient margins on outpatient care, and vice versa. A new policy on pricing should comprehensively consider both inpatient and outpatient care. Systems that include physicians or other providers and services must be considered holistically.

**Better data are needed.** Good policy requires robust understanding of hospital finances. CHIA, along with the HPC, the AGO, and other state agencies, has provided invaluable service to the commonwealth in the data it has collected, compiled, analyzed, and published. Despite these collective efforts, the hospital financial data should be improved. For example, apparently not all Massachusetts hospitals have submitted their audited financial statements as required. The commonwealth should strengthen enforcement efforts to obtain all required data. CHIA should work to ensure that reporting is complete and consistent across all hospitals. For another, financial performance can be obscured, intentionally or unintentionally, when finances are

consolidated across multiple entities or when reporting categories are broad. This happens in hospital systems and also for individual hospitals that operate other significant business units such as owned medical practices. For example, one individual hospital reported zero days of cash on hand, while its separately organized parent corporation had a sizable cash balance. Such accounting arrangements may be legal yet are also challenging to interpret.

The commonwealth should develop clear and transparent data and reporting practices for hospitals and their systems so that policymakers and others can thoroughly and accurately assess the financial health of our health care delivery system and the providers that compose it, down to a granular level of hospitals, physicians, and services. Clear definitions and rules for submission can improve the submitted data and eliminate uninterpretable findings like negative cash. Requiring more granular financial information will improve transparency. Such technical fixes are feasible and could be expeditiously made following good economic and accounting practices. Similarly, CHIA's relative price methodology should be modified, for example, to better reflect the mix of commercial payers.

In summary, we find that hospitals paid less than 90 percent RP are not necessarily worse off than their higher-price peers. Financial performance varies among hospitals, and current data are insufficient to tell us whether those hospitals that are financially weaker are so due to lower reimbursement rates alone or whether other factors are at play. We therefore recommend that prior to enacting any policies relating to increased funding for hospitals, policymakers improve the collection of hospital financial data to ensure that data are collected in a complete and consistent manner across hospitals.