

Why Policymakers Should Use Audited Financial Statements to Assess Health Systems' Financial Health

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Abstract

Policymakers often rely on income-related metrics of the hospital facility alone as reported in the Medicare Cost Report to inform policy decisions. Yet, this approach provides only a limited view of a hospital's financial health. This paper presents a replicable method for a comprehensive analysis of the financial performance of hospitals in the context of their membership in health systems. It identifies a broader range of policy-relevant financial indicators of hospital financial health than those reported in an income statement. Finally, it derives these indicators by standardizing information provided in audited financial statements, the gold standard source of financial data for all organizations. A national data base of AFSs with standardized reporting would be an important tool for more informed and socially beneficial policymaking.

Introduction

Policymakers need credible, comparable, and comprehensive financial information about health systems⁷ to inform range of policy issues. Currently, however, policy making is hampered because: 1) most health policy analyses focus on income statement-related metrics such as the size of revenues and/or profit margins^{8 9 10} – rather than a more comprehensive view of hospital financial position, i.e., hospitals’ underlying liquidity, solvency, and capital adequacy¹¹; 2) analysis is focused on the facility rather than the health system entity, despite the fact that 92% of all hospital beds are in health systems¹², and the system can have a major impact on member facility financial condition; and 3) the only national source of financial information about hospitals is the Medicare Cost Report, which is widely acknowledged to have inaccurate, incomparable, unaudited financial accounting data.^{13 14 15 16}

Some of the policy issues for which better financial data is needed include identifying which health systems lack the financial resilience to absorb losses caused by commercial rate caps or a public insurance option, overseeing the financial impact of mergers and acquisitions, predicting hospital closures, and identifying how nonprofit systems are retaining and re-investing profits as a consideration in setting tax or rate-setting policies.

A recent example of what some consider flawed public policy relates to the distribution of \$175 billion to health care providers under the Provider Relief Fund (PRF) of the Cares Act. Although the CARES Act specifically established financial “need” as the core criterion on which to base PFR distribution,¹⁷ the Centers for Medicare and Medicaid Services (CMS) distributed much of the PRF based on estimates of lost revenue, without explicitly considering need. As a result, the PRF has been criticized as overly generous to large health systems despite their owning billions of dollars of cash and investments, while short-changing the urgent liquidity needs of health

⁷ Because virtually all hospitals employ physicians and own practices and other health care facilities, we use the term “health system” for any entity that includes at least one hospital. Our use of the term differs from that of the AHA as described in the text.

⁸ Bazzoli G J, Fareed N, Waters TM. Hospital financial performance in the recent recession and implications for institutions that remain financially weak. *Health Affairs*, 2014; 33(5):739-745.

⁹ Bai G, & Anderson GF (2016). A more detailed understanding of factors associated with hospital profitability. *Health Affairs*, 2016; 35(5):889-897.

¹⁰ Medicare Payment Review Commission, Report to the Congress, March 2020.

¹¹ Kane NM, “Hospital profits, a misleading measure of financial health. *Journal of American Health Policy*, 1991; 27-35.1(1): 27-35.

¹² Furakawa M, et al, Consolidation of providers into health systems increased substantially, 2016-2018, *Health Affairs*, 2020; 39 (8):1321-25.

¹³ Kane NM and Magnus SA. The Medicare cost report and the limits of hospital accountability: improving financial accounting data. *Journal of Health Policy, Politics, and Legislation* 2001; 26(1):81-105.

¹⁴ Osmeral, AB, Reiter, KL, Holmes, GM, Pink, GH. A comparative study of financial data sources for critical access hospitals: audited financial statements, the Medicare cost report, and the internal revenue service form 990. *Journal of Rural Health*, 2012; 28(4):416-424.

¹⁵ Kane NM, Fair value accounting for health care entities: impact on hospital performance reporting. *Journal of Health Care Finance*. 2016, Fall; 43(2):158-170.

¹⁶ Medicare Payment Advisory Commission. “Report to the Congress. Sources of Financial Data on Medicare Providers.” June 2004.

¹⁷ Pub. L. 116–136, §1, Mar. 27, 2020, 134 Stat. 281

systems serving low-income communities.^{18 19 20} PRF allocation criteria were not based on liquidity, solvency, adequacy of capital investment, or even on overall financial health, in part because there is no national data base that reliably measures these critical components of financial health. Instead, most funds were allocated based on the size of Medicare FFS billings and total revenues of individual hospitals – as reported in Medicare Cost Reports.

Identifying the financial resources of health systems is also critical to understanding the health of its related entities. Many health systems retain significant income/losses and assets/liabilities at the parent level, not the hospital facility level. For instance, some very wealthy systems report their multi-billion-dollar investment portfolios and related income at the parent level; it is also common to find most of a system's long-term debt reported within the parent entity.

This paper has two complementary objectives: to present a replicable method, relying on accounting expertise, for analyzing the financial performance of health systems and to identify a broad range of policy-relevant financial indicators of hospital financial health derived from audited financial statements (AFS). We demonstrate that a national data base using information that is standardized by the reporting entities and based on health systems' audited financial statements would be an important tool to inform policy makers about health systems' financial health and illustrate how such information could influence policy judgments, such as on CARES Act distributions. We also show that even in the absence of a comprehensive data base, analysis of AFSs from a sample of health systems can provide important, real-time information to inform urgent policy decisions.

Background on Data Sources

Policy analysts and researchers have historically relied on CMS's Medicare Cost Reports (MCRs) and the Internal Revenue Service Form 990 that hospitals use to submit annual financial data. The MCR is nationally available in electronic form for every hospital with a Medicare identification number; however, they are not available until a year or more after the fiscal year closes and the unaudited financial data reported lacks essential accounting details needed for accurate comparison of financial performance. Further, the MCR reporting entity is at the facility level, not the system level. Finally, the accounting elements are unreliable, poorly defined, and lacking in critical detail.^{21 22 23 24}

¹⁸ Scheffler RM, Arnold RM, Khurana S, Fulton BD. "The Distribution of Provider Relief Payments Among California Health Systems" Petris Center on Health Care Markets and Consumer Welfare, University of California School of Public Health, Berkeley: 2020 available at <https://sourceonhealthcare.org/wp-content/uploads/2020/07/The-Distribution-of-Provider-Relief-Payments-Among-California-Health-Systems-FINAL.pdf>. (accessed June 21, 2021)

¹⁹ Drucker, J, Silver-Greenberg J, and Kliff, S, "Wealthiest Hospitals Got Billions in Bailout for Struggling Health Providers" New York Times, May 25, 2020, page 1

²⁰ Chatterjee, P, Sommers, BD, Joint Maddox, KE, Essential but undefined – reimaging how policymakers identify safety-net hospitals, N Engl J Med, 2020; 383(27):2593-2595.

²¹ Bazzoli G J, Fareed N, Waters TM 2014.

²² Osmeral AB, Reiter, KL, Holmes, GM, Pink GH 2012.

²³ Kane NM 1991.

²⁴ Medicare Payment Advisory Commission 2004.

Form 990 is filed by nonprofit organizations only; the reporting entity is represented by its tax identification number and may or may not be at the health system level. Financial data reported is neither timely, comparable across reporting organizations, or consistently reported. The 990 reports information relevant to tax-exemption, such as fund-raising expense, community benefits, and director/management remuneration, rather than on comprehensive assessment of financial performance.

AFSs, however, are the gold standard of financial data because of the depth of meaningful disclosure, certification by outside auditors, and creditors' ability to sue if financial disclosures are misleading. AFSs describe financial performance of all entities making up the health system, which is the combined entity under control of a parent that has governance, financial and managerial control over member hospitals, affiliates, and subsidiaries. AFSs are made public within three to six months of the close of a system's fiscal year and are required of most health systems.

AFSs are composed of four statements- the Balance Sheet, Income Statement, Statement of Changes in Net Assets and the Statement of Cash Flows- as well as extensive footnotes explaining accounting policies and details of elements presented in statements. AFSs are publicly available through the municipal repository website Electronic Municipal Market Access (EMMA) for nonprofit systems, from the U.S. Security and Exchange Commission's EDGAR website for publicly owned for-profit systems, and from some states that require health systems to provide their AFS to a state agency. Some government-owned systems post AFSs on their own web sites. A few states, including California and Florida, publish standardized AFSs at the hospital entity level.

Study Data and Methods

Audited Financial Statement (AFS) Standardization

Although Generally Accepted Accounting Principles (GAAP) guide the presentation of the AFS, managerial discretion applying GAAP, such as variation in accounting estimates and practices across ownership types, significantly affect comparability of financial metrics across hospitals and health systems, particularly those describing profitability and liquidity. For instance, reported profitability may or may not include significant fluctuations in the market value of investment portfolios; operating profits may or may not include local government operating subsidies; the availability of cash and investments for general operating purposes can be difficult to determine because of the way restrictions on such assets are worded or reported. Some financial information may be presented with a self-interested, strategic focus. As a result, AFSs need to be standardized before undertaking comparative analyses.

Using a glossary of terms, as well as frequent review of each other's work to ensure reliability, two co-authors entered elements from the AFS into a spreadsheet template²⁵ to standardize

²⁵ The template, later modified somewhat, was downloaded from the National Association of State Health Policymaker web site, with permission:
<https://www.nashp.org/policy/health-system-costs/model-legislation-and-resources/#toggle-id-1>.

financial data and generate financial ratios that would be comparable across health systems. Standardization included ensuring that operating and non-operating performance was reported similarly across all health systems and included similar data elements, and restricted cash and investments were reported as restricted and pulled out from unrestricted. Unrealized gains and losses from investments were also removed from total performance indicators and included in the Statement of Changes in Net Assets (“Other”) for all health systems, ensuring total margins were comparable across systems.

Sample selection and development of the 5 subcategories

We used the 2018 American Hospital Association (AHA) Annual Survey to select a sample of 50 health systems with at least one hospital each, representing diverse characteristics of US hospitals, in order to identify systems whose AFS data we analyzed. The AHA Annual Survey Database is a voluntary survey of the American Hospital Association that yields consistent, comprehensive data about hospital facilities. The survey is completed annually by nearly 6,300 hospitals, many of which are in more than 400 health care systems.

To create our sample, we first limited the AHA data to nonfederal, general and surgical hospitals, excluding hospitals in territories. From here, we created five categories of health systems using structural measures (i.e., ownership type and size) and allocated the sample to be roughly proportional to each group’s share of total adjusted admissions. These five categories include small non-profits (<100,000 adjusted admissions), medium nonprofits (100,000-300,000), large non-profits (>300,000), for-profits, and nonfederal government-owned. The AFSs report the consolidated financial results for all the entities in the health system. We chose these categories because we expected that ownership status and size would yield variation in the most informative financial metrics and demonstrate whether particular metrics apply differently based on ownership.

We did not create size categories for for-profit systems because they are larger and have many fewer health system entities to pick from, compared to nonprofits. Within each category, we also selected a diverse group of health systems based on size, state and region, rural status (defined by core-based statistical area), and convenience. We did not select on characteristics that can be viewed as outcomes, such as revenues and profitability.

Where applicable, we aggregated individual hospitals in the AHA into systems to be consistent with the hospitals represented in the AFSs. The AHA system definition is an entity with two or more hospitals owned, leased, sponsored, or contract managed by a central organization. In contrast, the health systems as presented in AFSs may include a single hospital or more than one hospital, with multiple other provider entities (physicians, post-acute care, diversified ventures, etc.). We retained key identifiers from the AHA (e.g., hospital and system, address, ownership status, etc.) to identify the AFS data for these same systems.

All systems in our sample reported three consecutive years of AFS data (2017-2019) and retained the same organizational name over the 3-year lookback period; mergers of two legacy systems that created a new, third system during the period were excluded. If a sampled health system did not meet these two criteria upon review, we selected another health system from its

respective AHA category. Given the year-to-year volatility of some financial metrics, three years of financial data were used to identify financial trends, consistent with common financial analysis practice.

The AHA system designation was used to combine hospital records and create the sample characteristics. Key descriptive characteristics for each entity include total number of hospitals (i.e., one for stand-alone hospitals and greater than one for AHA systems) and adjusted admissions, share of adjusted admissions at a rural hospital, predominant state and region based on adjusted admissions, and payer mix. In five instances, we used contextual information from the financial statements to override AHA multi-hospital system designations (Dartmouth-Hitchcock Health System and Yale New Haven Health) or hospital ownership status (Regional One, Cape Fear, and Opelousas). We also compiled hospitals' Medicaid share of gross patient service revenue from FY 2018 data in the Healthcare Cost Report Information System (HCRIS) as an additional system characteristic expected to be associated with financial metrics, but we did not select our sample based on this information.

Our final sample consisted of 12 small non-profit, 11 medium non-profit, 9 large non-profit, 4 for-profit, and 14 government-owned health systems spanning all regions of the country. Even though our sample was not nationally representative, it accounted for 24.6 percent of adjusted admissions nationally in 2018. The 4 for-profit health systems accounted for 66.1 percent of all for-profit adjusted admissions, while the non-profit and government owned systems accounted for 19.8 percent and 12.5 percent of total adjusted admissions within each category, respectively (data not shown). Most of the entities in our sample were multi-hospital systems based on the AHA definition, with some single hospitals in the small non-profit and government-owned categories.

Selection of Financial Metrics

Based on literature, conversations with policymakers, bond rating criteria from Moody's, Standard and Poor's, and Fitch rating systems, and team expertise, we initially calculated 28 ratios using the standardized financial statements in the spreadsheet template (Figure 1). The selection process prioritized metrics that could be easily interpreted by policymakers and other general users to understand the financial position of health systems. The 28 metrics describe financial characteristics of profitability, liquidity, debt capacity and solvency, and adequacy of capital investment of each health system.

Figure 1. 28 Financial Metrics Used to Assess Financial Condition of Sampled Health Systems

Definition/Calculation	
Profitability	
Total Margin*	$\text{Excess Revenue Over Expense} / \text{Total Operating Revenue} + \text{Total Non-operating Revenue}$
Operating Margin*	$(\text{Total Operating Revenue} - \text{Total Operating Expense}) / \text{Total Operating Revenue}$
EBITDA Margin	$(\text{Excess Revenue Over Expense} + \text{Interest Expense} + \text{Depreciation Expense} + \text{Income Tax Expense}) / (\text{Total Operating Revenue} + \text{Total Non-operating Revenue})$
Markup	$\text{Gross Patient Service Revenue} + \text{Premium Revenue} + \text{All Other Operating Revenue} / \text{Total Operating Expense}$
Deductible	$\text{Deductions from Gross Revenue} / \text{Total Operating Revenue}$
Govt Operating Support	$\text{Local Govt Operating subsidy (from local property and sales taxes)} / \text{Total Operating Revenue}$
Liquidity	
Current Ratio	$\text{Current Assets} / \text{Current Liabilities}$
Current Days Cash on Hand	$\text{All Cash, Cash Equivalents, Money Market, Short-term Investments, Marketable Securities Designated as "Current"} / ((\text{Total Operating Expenses} - \text{Depreciation and Amortization}) / 365)$
Days Cash on Hand* Including Board Designated	Calculation is the same as Days Cash on Hand but includes non-current Board Designated and undesignated Cash and Investments
Days In Patient Accounts Receivable	$\text{Net Patient Accounts Receivable} / (\text{Net Patient Revenue} / 365)$
Cash and Investments, All Sources*	All Cash, cash equivalents, money market, short-term investments, marketable securities (financial assets) designated as "Current" + Noncurrent financial assets whose use is designated by the Board of Trustees, and undesignated investments. Excludes financial assets held in reserve for debt service and other third-party-contractually required reserves.

Cash and Investments
per Adjusted Discharge

Cash and Investments, All Sources / Adjusted Discharges. Discharges are adjusted for outpatient activities by multiplying inpatient discharges by ratio of Gross Patient Revenue/Gross Inpatient Revenue

Debt Capacity & Solvency

Long-term Debt / Total
Capitalization*

Non-current long-term debt / Non-current long-term debt + Unrestricted Net Assets

Pension-adjusted LTD /
Total Capitalization*

Non-current long-term debt, + Non-current accrued pension liabilities / Non-current long-term debt
+ Non-current accrued pension liabilities + Unrestricted Net Assets

Cash Flow to Total Debt

Excess Revenue Over Expenses + Depreciation and Amortization / Total Liabilities

Debt Service Coverage*

Excess Revenue Over Expenses + Depreciation and Amortization + Interest Expense / Interest Expense
+ Prior Year Current Long-term Debt

Cash and Investments /
Total Debt

All current and noncurrent financial assets not restricted by donors or outside third parties / Total
Liabilities

Cash and Investments /
LTD only*

All current and noncurrent financial assets not restricted by donors or outside third parties /
Non-current long-term debt

Funded Status of Defined
Benefit Pension (% Funded)

Fair value of pension plan assets / Pension plan benefit obligations (from notes to AFS)

Adequacy of Capital Investment

Average Age of Plant*

Accumulated Depreciation/Annual Depreciation Expense

Capital Expenditure as
% of Depreciation Expense*

Annual Purchases of Property, Plant & Equipment PP&E) / Annual Depreciation Expense

Free Care as % of Total
Operating Expense

Charity Care as reported at cost or estimated by dividing Charity Care reported at charges by the
markup ratio, divided by Total Operating Expense

Bad Debt as a % of Total Operating Expense	Provision for Bad Debt, reported at amounts charged to patients, divided by the Markup Ratio)/ Total Operating Expense.
Gross PP&E as % of Adjusted Admissions	Gross value PP&E including construction in progress, and capitalized leases (reported in Notes) / Adjusted Admissions per AHA
Net PP&E as % of Adjusted Admissions	Net PP&E / Adjusted Admissions per AHA
Financial Burden	
Medicaid Supplemental Payments as % Net Patient Service Revenue (NPSR)	Medicaid supplemental payments (state and local distributions of lump sum payments under Disproportionate Payments, Upper Payment Limit, and other Medicaid supplemental programs) / NPSR
Medicaid Supplemental Payments as % Total Operating Revenue	Medicaid supplemental payments / Total Operating Revenue
Provider Tax as % NPSR	Provider payments made to states and/or counties to raise the state's share of Medicaid matching funds / NPSR

Combined Metrics to Measure Financial Burden

Govt Operating Subsidy as % Total Operating Revenue*	(Local Government Support + Medicaid supp. payments less Provider taxes)/Total Operating Revenue.
Uncompensated Care Burden*	Bad Debt and Charity Care at Cost / Total Operating Expense

*Selected as one of the final 12 recommended financial metrics

Using the 28 metrics, our two analysts provided an overall assessment of financial health of each health system, using three categories – Advantaged, Sustainable, and Red Flag/Distressed – guided by bond rating criteria for highly rated health system bonds. Any single metric might indicate a positive or negative value or trend but did not by itself dictate financial condition of a health system. These metrics must be used in combination to assess overall financial performance, as a health system may perform well in one area but poorly in another. For example, days cash on hand might indicate healthy liquidity, but the age of plant and capital expenditure to depreciation expense might reveal an aging plant that could undermine the long-term ability of the health system to compete for patients and/or manpower. Thus, our overall assessments represented patterns of several metrics, not any one metric.

With the goal of identifying a manageable list of key financial metrics that would inform policy, we reviewed correlations among the metrics and our overall financial health assessments. The team discussed the independent policy contribution of each metric referencing the list of issues based on suggestions from policymakers that would benefit from better financial data (Figure 2). From that process, we narrowed our analysis to the twelve key metrics presented in Figure 3; criteria for exclusion included redundancy, incomplete data, high variability in management reporting discretion, and little variability in results. Additional details on our approach to standardizing the metrics can also be found in Figure 3.

Figure 2: Potential Policy Applications of Standardized Audited Financial Statement Data

Non-profit tax policy, including adequacy of community benefits
The desirability of setting limits on negotiated rates for hospital services, and targeting such limits
Whether/how to implement all-payer rate or budget setting for hospitals
Supplemental support for safety net hospitals and modifying criteria for disproportionate share hospitals
Priorities for distribution of government supplemental support during emergencies, such as epidemics and severe recessions
Transparency of hospital finances for many parties, including information on financial metrics that predict successful and unsuccessful performance
Early surveillance of potential or impending hospital bankruptcies
A range of state-based oversight responsibilities of individual entities, e.g., antitrust enforcement and proposed merger analysis, insurer premium rate setting, certificate of need analysis, adequacy of community benefits, etc.
Orderly state-overseen hospital closure policy, including rural hospitals

Note. Authors drafted an initial list of policies issues based upon literature review and received and shared them with members of the Urban Institute Health Policy Center and a few outside policy experts reflecting various areas of health policy. The final version reflects their feedback.

Figure 3: Definitions and Descriptions of Financial Metrics

Financial Metric	Description of Financial Characteristic & Why it is Assessed	Standardization Considerations
Profitability		
Total Margin	Total Margin reflects profitability from all activities, both operating and nonoperating. Operating Margin measures profitability from operating activities including: delivery of health care services, research, education and other operating activities management deems central to its mission. Nonoperating activities include realized investment returns, gains/losses on sales of joint ventures and other healthcare entities, unrestricted donations.	Total Margins exclude unrealized gains/losses on investments, change in value of interest rate swaps. Most systems disclose unrealized gains and losses in footnotes or the income statement. Standardization removes unrealized gains and losses from the income statement so that the margin is not impacted by changes in capital markets. However, the necessary information to remove unrealized gains/losses is not always disclosed.
Operating Margin		Operating Margins exclude unrealized gains/losses as above; also excludes gains/losses on sale of assets (facilities, operating entities), equity in earnings of affiliates, losses on retirement of debt. Only operating activities are included in revenue and expense accounts to calculate net operating income.
Liquidity		
Days Cash on Hand Including Board-designated and Undesignated investments	Liquidity measures the ability of the organization to pay its liabilities due within one year with assets convertible to cash within one year. Strong liquidity ratios are associated with cash and investments and generally indicate prior profitability. Strong liquidity can be a positive financial indicator that will ensure the hospitals' competitive edge and longer-term financial health and profitability.	Restricted cash and investments, which are restricted by donors or third-party contracts are excluded from these metrics. Only unrestricted cash and investments are used including unrestricted cash that is designated as "board restricted".
Cash and Investments, all sources, \$000		
Debt Capacity & Solvency		
Long-term Debt/Total Capitalization	Solvency measures the ability to pay long-term liabilities. Two types of metrics: those measuring debt	Long-term debt includes long-term debt and capital leases but excludes other types of noncurrent liabilities

Pension-adjusted LTD/Capitalization	relative to total capital, and those measuring the ability to pay debt obligations on time. Long term debt is generally incurred to finance capital projects; other noncurrent liabilities include pension, self-insurance, post-retirement health benefit liabilities, and other non-capital-related amounts owed by the organization.	such as pension, self-insurance, and estimated third party settlements.
Cash and Investments/LTD only		Only unrestricted cash and investments are used in the cash and investments numerator. It excludes donor restricted and third-party contractually restricted financial assets.
Debt Service Coverage		Debt service coverage uses excess revenues over expenses adjusted for depreciation and interest
Adequacy of Capital Investment		
Average Age of Plant	Health Systems need to invest in facilities and innovation to stay competitive and profitable in the current health care market.	Only capital expenditures for plant and equipment that are purchased and owned are included in this ratio. Ratio excludes expenditures to acquire additional facilities or operating entities.
Capital Expenditure / Depreciation Expense		
Financial Burden Due to Insurance Status and Dependence on State & Local Assistance		
Govt Operating Subsidy/Total Operating Revenue	Financial dependence on local and state government assesses how vulnerable the health system is on government support that is discretionary but sometimes critical to hospital financial sustainability. Financial burden due to uninsured and underinsured is assessed to understand vulnerability imposed by the payer status of patients being served.	Medicaid supplemental funding and provider taxes are generally, but not always disclosed in footnotes.
Uncompensated Care Burden		Due to a change in GAAP, since 2018 health systems are required to report the value of bad debt at the amount expected to be collected, less amount actually collected. Before 2018, systems valued bad debt at the amount they charged the patient, which may have been full or discounted charges, less the amount actually collected. Footnotes sometimes disclose the difference in what was charged from what was expected as an "implicit price concession" but many systems did not disclose this. Without this disclosure, bad debt expense is not comparable to years prior to 2018.

Note.. We created two metrics by combining existing ratios -- Free Care and Bad Debt ratios, Local Government Subsidies and Net Medicaid Supplemental Payment ratios

Analytic approach

We calculated three-year averages for each financial metric, excluding metrics that were missing values for any of the three years. We then calculated the mean and median of the system averages for each of three subgroups: ownership and size categories, Medicaid payer mix terciles, and system size terciles.

Limitations

We used ownership, size, and geographic region to select a sample of health systems, but other considerations prevented strict adherence to a sampling allocation formula to assure strict representativeness. Although the sample represent a quarter of adjusted admissions nationally, data from only fifty systems, with commensurately fewer in the 5 subgroups limit generalizability of the findings. We were unable to sample privately held, for-profit health systems; the majority of publicly traded hospitals were owned by the few large systems that we included in the sample.

Analysis at the system level, which AFSs facilitate, does not permit focusing on certain policy issues of interest, for example, the financial status of rural hospitals. Many rural hospitals were members of larger health systems, whose system-wide financial performance may not reflect their rural members' financial status.

Finally, we relied on expert judgment in interpreting numerous AFS footnotes to produce comparable data across the sample. In some instances, footnotes were inadequate for fully standardizing all AFS elements. For example, some lacked full disclosure of where unrealized gains and losses from investments were reported in an income statement or statement of changes in net assets; systems implemented GAAP accounting changes in different years, such as those affecting bad debt, that prevented comparable analysis of bad debt over time or across systems; and some systems did not quantify their Medicaid supplemental payments and provider taxes.

RESULTS

Description of sample and subcategories

Figure 4 summarizes the characteristics of the 50 entities in our sample. Average size of the health systems entities in our sample was 18 hospitals and 351,112 adjusted admissions as of 2018 (medians: 5 hospitals and 145,157 adjusted admissions). The sampled entities cover at least 28 different states; 17 systems were multistate. In addition, 17 entities were rural hospitals or had at least one rural hospital in their system. The average payer mix for our sample was 20 percent, 25 percent, and 55 percent for Medicaid, Medicare Traditional (excluding Medicare Advantage), and other payers (primarily commercial insurance and Medicare Advantage), respectively. This varied considerably across types of health systems.

Figure 4: 2018 Sample Characteristics by Selection Criteria

	<u>Size</u>		<u>Predominant Geography</u>				<u>Payer mix (%) 2018</u>		
	Number of hospitals	Adjusted admissions	Rural%	State	Region	Multi-state	Medi-caid	Medi-care	Other
Small non-profit hospitals and systems									
Northern Maine Medical Center	1	4748	100%	ME	Northeast	No	7%	30%	62%
Garrett Regional Medical Center	1	6148	100%	MD	South	No	17%	44%	39%
San Juan Regional Medical Center	1	23215	0%	NM	West	No	27%	31%	42%
Olathe Medical Center	1	23529	0%	KS	Midwest	No	6%	31%	64%
Yavapai Regional Medical Center	1	28639	0%	AZ	West	No	14%	41%	46%
Hendrick Health System	1	35338	0%	TX	South	No	11%	38%	51%
Denver Health Medical Center	1	54810	0%	CO	West	No	45%	6%	49%
Truman Medical Centers	2	58716	0%	MO	Midwest	No	28%	10%	62%
Phoebe Putney Health System	4	64388	6%	GA	South	No	15%	25%	60%
North Memorial Health Care	2	70545	0%	MN	Midwest	No	15%	22%	64%
Boston Medical Center	1	72005	0%	MA	Northeast	No	34%	17%	50%
Dartmouth-Hitchcock Health System	5	98232	0%	NH	Northeast	Yes	13%	36%	52%
Medium Non-profit hospitals and systems									
Sharp HealthCare	6	135230	0%	CA	West	No	25%	22%	53%
Franciscan Missionaries of Our Lady Health System, Inc.	5	155084	0%	LA	South	No	26%	26%	48%
Houston Methodist	8	220116	0%	TX	South	No	5%	28%	67%
McLaren Health Care Corporation	12	227510	14%	MI	Midwest	No	16%	31%	54%
Montefiore Health System	7	232367	0%	NY	Northeast	No	31%	20%	49%
WellStar Health System	10	234592	0%	GA	South	No	12%	23%	65%
Henry Ford Health System	7	241105	0%	MI	Midwest	No	15%	21%	64%
Yale New Haven Health	5	242903	0%	CT	Northeast	Yes	22%	26%	53%
Baptist Memorial Health Care Corporation	19	265870	8%	MS	South	Yes	12%	39%	50%
Geisinger Health System	8	270647	0%	PA	Northeast	Yes	18%	26%	56%
University of Pennsylvania Health System	6	286163	0%	PA	Northeast	Yes	15%	28%	58%
Large non-profit hospitals and systems									
Intermountain Healthcare, Inc.	23	372989	3%	UT	West	Yes	12%	20%	68%
Baylor Scott & White Health	20	417353	4%	TX	South	No	7%	26%	68%
Sutter Health	27	456476	2%	CA	West	Yes	23%	32%	45%
Banner Health	28	458350	2%	AZ	West	Yes	25%	23%	52%
Cleveland Clinic Health System	17	528858	0%	OH	Midwest	Yes	10%	22%	68%
AdventHealth	38	859519	0%	FL	South	Yes	13%	26%	62%

Providence St. Joseph Health	47	882440	1%	CA	West	Yes	19%	30%	51%
Trinity Health	72	1527580	3%	FL	South	Yes	17%	25%	58%
Ascension Healthcare	111	1831873	2%	MI	Midwest	Yes	15%	27%	58%
For-profits									
Quorum Health	26	175045	20%	IL	Midwest	Yes	31%	28%	43%
Community Health Systems, Inc.	101	1164256	3%	FL	South	Yes	14%	31%	55%
TENET Healthcare Corporation	58	1195014	0%	TX	South	Yes	21%	23%	56%
HCA Healthcare	160	3392687	1%	FL	South	Yes	15%	26%	59%
Government hospitals									
Logansport Memorial Hospital	1	10530	0%	IN	Midwest	No	12%	27%	62%
Delta Regional Medical Center	1	16543	100%	MS	South	No	19%	35%	46%
Opelousas General Health System	1	20178	0%	LA	South	No	25%	36%	39%
Regional One Health	1	20975	0%	TN	South	No	23%	8%	68%
UW Medicine/Harborview Medical Center	1	25965	0%	WA	West	No			
Alameda Health System	3	32678	0%	CA	West	No	52%	21%	27%
Eskenazi Health	1	33939	0%	IN	Midwest	No	37%	16%	47%
Norman Regional Health System	1	39548	0%	OK	South	No	9%	35%	56%
Cook County Health and Hospitals System	2	45997	0%	IL	Midwest	No	20%	8%	72%
Jackson Health System	1	90947	0%	FL	South	No	29%	12%	59%
Cape Fear Valley Health System	5	91903	0%	NC	South	No	19%	26%	55%
Parkland Health & Hospital System	1	106971	0%	TX	South	No	27%	9%	64%
NYC Health + Hospitals	12	302600	0%	NY	Northeast	No	43%	7%	49%
Atrium Health	16	402503	4%	NC	South	No	15%	25%	59%
Overall Mean	18	351112					17%	26%	57%
Overall Median	5	145157					17%	26%	56%

Notes: Payer mix data from the HCRIS cost reports are defined using total gross patient service revenue and gross patient service revenue from Medicare and Medicaid.

There were some differences across hospital categories to note. First, on average, for-profit systems were significantly larger in terms of number of hospitals and adjusted admissions than health systems in the other categories. In addition, three out of four of these for-profit systems were predominantly located in the south, whereas the entities in the other categories had more geographic diversity. Finally, the government-owned hospitals in our sample had the highest Medicaid payer mix, on average, followed by for-profits, small non-profits, medium non-profits, and large non-profits.

Subgroup Analysis

Figure 5 reports mean financial metrics overall and by subgroup. The key findings and patterns discussed below are consistent when we use the median estimates (Data not shown²⁶). Health system-specific financial metrics are displayed in Figure 6 and are selectively discussed in this section.

Profitability. Mean operating margins rose with size for nonprofit systems. Government hospitals in our sample were not profitable from operations on average, despite Medicaid supplemental revenues and local government operating subsidies. For-profit health systems averaged relatively low operating margins and averaged the lowest total margins of all groups. Two of the four for-profit health systems sustained losses when they sold off hospitals at amounts below acquisition cost in order to repay debt. Average profits were positively associated with overall system size and negatively associated with Medicaid revenue share.

However, size and ownership were not destiny - the most profitable operating margin of the nonprofit systems was a medium-size nonprofit, Houston Methodist, with an average of 8.9 percent. Yavapai, a small nonprofit averaged a 12 percent total margin, one of the highest in our sample. Seven of the 12 government hospitals averaged positive total margins, and one for-profit, HCA, averaged 6.6 percent total margin (Figure 6).

Liquidity. Again, size was related to nonprofits' ability to accumulate cash and investments on their balance sheets: average days cash on hand increased from 185 days in the smallest nonprofits to 207 in the medium nonprofits to 259 for the largest nonprofit systems (Figure 5). The nine large nonprofit systems collectively reported over \$79 billion in unrestricted cash and investments, while the 11 medium-sized nonprofit systems reported \$28 billion, and the 14 small nonprofit systems, \$4.9 billion (Calculated from Figure 6). All but one nonprofit system and all government systems with long-term debt had enough unrestricted cash and investments (excluding debt service reserves) to repay all of their long-term debt. None of the for-profit systems did.

Despite the association with size, a small health system in Kansas, Olathe Medical Center, had the highest days cash on hand, with an average 464 days cash on hand over the period, despite averaging negative operating margins in recent years. Olathe's investment portfolio generated significant excess revenue (over \$50 million in 2018 alone, while losing \$15 million on operations), while it also had considerable philanthropic support for its size. As can be

²⁶ Table showing medians available from authors.

Figure 5: Mean Financial Measures, by Sample Group

	<u>Profitability</u>		<u>Liquidity</u>	<u>Debt capacity and solvency</u>					<u>Adequacy of Capital Investment</u>		<u>Financial burden due to insurance status</u>	
	Total Margin	Operating Margin	Days Cash on Hand including Board-designated and Undesig. investments	Cash and Investment, all sources, \$000	Longterm debt/total capitalization	Pension-adjusted LTD/total capital.	Cash and Investments/ LTD only	Debt Service Coverage	Avg Age of Plant	Capital expenditure / deprec. expense	Govt Operating subsidy/ Operating Revenue	Uncomp. Care Burden
Overall	0.026	0.012	170	\$2,460,021	0.33	0.46	2.00	4.86	11.87	1.269	0.024	0.059
Sample selection criteria												
Small non-profit	0.034	0.017	185	\$406,150	0.30	0.35	2.29	4.85	12.97	1.263	0.008	0.057
Medium non-profit	0.052	0.023	207	\$2,544,601	0.33	0.37	2.13	6.69	9.96	1.524	0.000	0.034
Large non-profit	0.050	0.031	259	\$8,832,177	0.29	0.31	2.25	4.43	9.46	1.376	0.000	0.020
For-profit system	-0.034	0.014	6	\$459,418	0.97	0.98	0.10	1.72	8.09	0.955	0.000	0.035
Government	0.000	-0.014	118	\$629,240	0.19	0.57	2.03	4.46	15.07	1.094	0.077	0.112
Medicaid payer mix												
Low (n)	0.052	0.035	236	\$3,256,753	0.32	0.34	2.19	5.34	11.06	1.302	0.000	0.044
Medium	0.018	0.005	160	\$2,990,020	0.35	0.41	2.01	5.20	12.16	1.194	0.006	0.053
High	-0.001	-0.012	88	\$561,721	0.30	0.69	1.57	3.19	12.65	1.324	0.082	0.087
Hospital size (using adj admissions)												
Small	0.016	0.000	150	\$307,115	0.23	0.44	2.21	4.90	14.33	1.205	0.033	0.081
Medium	0.039	0.016	182	\$2,191,792	0.36	0.41	1.98	6.15	10.01	1.385	0.024	0.046
Large	0.030	0.028	192	\$6,246,007	0.44	0.53	1.72	3.70	9.56	1.266	0.008	0.034

seen in Figure 5, for-profit health systems averaged 6 days cash on hand. They are subject to shareholder pressure and the threat of hostile takeover if they do not distribute cash as dividends when it cannot be productively invested in business assets.

Differences in borrowing sources may influence some of the variation in system liquidity between ownership classes. Tax-exempt revenue bonds issued by nonprofit systems generally require debt service reserve funds for collateral, while for-profit debt sources generally do not. However, our standardized ratio of days cash on hand from all unrestricted sources excluded debt service reserve funds, so the much higher days of cash and investments of nonprofits cannot be attributed to debt service reserves. As with profit margins, liquidity metrics were negatively associated with higher Medicaid share.

Debt Capacity and Solvency: Solvency metrics differ notably among ownership types; nonprofits issued long-term debt (LTD) for about a third of their total capitalization on average, and all nonprofit groups averaged strong debt service coverage ratios. Government health systems had much lower LTD/Capitalization rates, averaging 19 percent. Four had zero LTD because their affiliated public entity kept the system's long-term debt on their balance sheets, which enabled the government owners to raise capital on their own financial strength rather than that of the health system. However, over half of the government health systems and several of the smaller nonprofits had substantial pension liabilities on their balance sheets, as indicated by higher pension-adjusted LTD/capitalization ratios. The inability to fund benefit pension obligations as the workforce ages has caused serious financial problems that in the past have caused systems to seek to be acquired by larger, better financed systems, and should represent a red flag when policymakers seek to minimize health system financial distress.

The for-profit systems' long-term debt represented their entire capitalization; three of the four systems ended 2019 with negative net assets (equity), so their only source of long-term financing was debt. Their low debt service coverage ratios reflected weak profitability (on average), and indeed, two of the four health systems declared bankruptcy in 2020. While one might think that for-profits can issue stock at any time, they have strong incentives to borrow rather than to dilute the value of existing shares; issuing stock when operating results are not good is most dilutive to current ownership because the stock prices are relatively low.

Capital Adequacy

Size and ownership systematically related to plant age and adequacy of capital expenditures. Within the nonprofit systems, smaller systems averaged older plant age than larger systems. The data demonstrates that while there were only a few small nonprofits with plant ages under 11 (which represents the median for highly rated bonds by rating agencies), all of the large nonprofits had average plant ages below 11. Government systems were the oldest, at 14.3 years; four had plant age below 11, but two of those (Alameda and Eskenazi) did not own their own buildings. Atrium and Parkland averaged plant age below 11 (Figure 6).

Generally, health systems must spend 120 percent or more of their depreciation expense during a capital cycle of 5-7 years to replace existing capital assets; a higher number is required when significantly upgrading facilities and/or adding information systems infrastructure. While all the

nonprofit size categories averaged above 120 percent for capital expenditures over depreciation expense, government and for-profit systems averaged capital expenditure/depreciation ratios below 120 percent. In competitive markets, inadequate capital investment may reduce the attractiveness of these facilities to physicians and to patients, particularly commercially insured patients, which can lead to a downward financial spiral.

The for-profit systems showed a confounding combination of young plant age but inadequate capital expenditures. It is possibly related to the fact that these systems lease many of the hospitals they operate, and so assets are owned by other entities. They may also have divested older facilities and/or acquired younger ones. Thus, traditional metrics on the adequacy of capital spending may not be as informative when applied to for-profit systems.

Financial Burden and Dependence on Assistance

Overall, systems' uncompensated care as a percent operating expense declined with increasing size. The large and medium-sized nonprofit systems had relatively less uncompensated care as a percentage of operating cost than did the for-profits, although that was because the for-profits had higher bad debt as a percent operating expense; the nonprofits had higher charity care percentages.

Government hospitals reported the highest uncompensated care percent - higher in both charity care and bad debt expense than all other size and ownership categories. Not surprisingly, Medicaid share is positively associated with higher uncompensated care percentages.

Local government subsidies as well as Medicaid supplemental payments as a percentage of operating revenue increased with Medicaid Share and uncompensated care. This suggests that states and local governments were targeting their subsidies appropriately, mostly to government hospitals. However, the subsidies were not enough to bring the government hospitals to operating profitability on average.

Figure 6: Mean Financial Measures, by Hospital System

	<u>Profitability</u>		<u>Liquidity</u>	<u>Debt capacity and solvency</u>					<u>Adequacy of Capital Investment</u>	<u>Financial burden due to insurance status</u>		
	Total Margin	Operating Margin	Days Cash on Hand including Board-designated and undesignated investments	Cash and Investments, all sources, \$000	Longterm debt/total capitalization	Pension-adjusted LTD/Capitalization	Cash and Investments/LTD only	Debt Service Coverage	Average Age of Plant	Capital expenditure / depreciation expense	Govt Operating subsidy/Total Operating Revenue	Uncompensated care burden
Small non-profits												
Northern Maine Medical Center	0.053	0.049	110	\$17,690	0.162	0.162	2.58	6.14	12.36	0.971	0.000	0.01
Garrett Regional Medical Center	0.010	0.006	224	\$31,825	0.272	0.511	2.35	3.44	8.83	1.185	0.000	0.03
San Juan Regional Medical Center	-0.026	-0.051	110	\$176,814	0.141	0.141	3.76	1.47	16.08	1.141	0.000	0.01
Olathe Medical Center	0.047	-0.021	464	\$433,225	0.185	0.185	3.31	4.33	10.81	1.588	0.000	0.12
Yavapai Regional Medical Center	0.120	0.110	279	\$259,287	0.231	0.231	2.51	9.02	13.93	1.631	0.000	0.02
Hendrick Health System	0.057	0.052	305	\$378,208	0.179	0.179	3.26	5.69	9.80	1.105	0.000	0.06
Denver Health	0.031	0.019	129	\$405,727	0.386	0.470	1.47	4.56	11.68	1.989	0.028	0.09
Truman Medical Centers	0.014	0.012	23	\$102,696	0.522	0.641	1.18	5.98	17.66	1.148	0.063	0.20
Phoebe Putney Health System	0.047	0.017	302	\$638,654	0.263	0.326	2.37	5.27	16.10	0.912	0.000	0.10
North Memorial Health Care	0.016	0.002	139	\$357,094	0.318	0.318	1.62	3.58	12.90	0.794	0.000	0.01
Boston Medical Center	0.007	-0.002	114	\$1,200,206	0.338	0.345	1.83	3.82	11.57	1.772	0.000	0.03
Dartmouth-Hitchcock Health System	0.027	0.017	25	\$872,373	0.585	0.655	1.23	4.95	13.87	0.920	0.000	0.00
Total				\$4,873,800								
Medium Non-profit hospitals and systems												
Sharp HealthCare	0.081	0.047	315	\$3,029,716	0.156	0.161	4.31	11.34	10.42	1.763	0.000	0.01
Franciscan Missionaries of Our Lady Health System, Inc.	0.013	0.004	225	\$1,295,424	0.361	0.482	1.73	3.84	9.83	1.395	0.000	0.02
Houston Methodist	0.132	0.089	366	\$3,837,257	0.199	0.199	2.42	11.31	10.52	2.039	0.000	0.06
McLaren Health Care Corporation	0.041	-0.032	167	\$2,295,615	0.372	0.410	2.10	1.52	13.44	1.845	0.000	0.01
Montefiore Health System	0.016	0.007	110	\$1,807,575	0.520	0.575	1.42	2.41	11.70	1.154	0.000	0.02

WellStar Health System	0.058	0.047	131	\$1,233,262	0.452	0.526	0.94	6.44	8.53	1.579	0.000	0.11
Henry Ford Health System	0.033	0.018	125	\$2,154,387	0.355	0.388	1.98	8.26	9.29	1.298	0.000	0.01
Yale New Haven Health	0.063	0.041	202	\$2,515,574	0.246	0.306	2.73	8.22	9.79	1.314	0.000	0.02
Baptist Memorial Health												
Care Corporation	-0.014	-0.042	141	\$1,053,239	0.344	0.344	1.13	1.98	10.79	0.902	0.000	0.06
Geisinger	0.047	0.015	241	\$4,196,430	0.307	0.307	2.37	8.44	6.51	1.266	0.000	0.05
University of Pennsylvania												
Health System	0.098	0.057	249	\$4,572,134	0.291	0.391	2.34	9.78	8.79	2.205	0.000	0.00
Total				\$27,990,613								
Large non-profits												
Intermountain Healthcare,												
Inc.	0.051	0.060	403	\$7,753,333	0.185	0.213	4.36	1.40	8.12	1.749	0.000	0.02
Baylor Scott & White Health	0.068	0.060	215	\$5,069,568	0.363	0.363	1.64	3.58	9.60	1.252	0.000	0.04
Sutter Health	0.012	-0.003	180	\$6,004,667	0.331	0.356	1.38	3.96	9.59	1.222	0.000	0.01
Banner Health	0.046	0.026	235	\$5,239,984	0.345	0.345	1.69	2.73	10.58	1.619	0.000	0.01
Cleveland Clinic Health												
System	0.093	0.035	373	\$8,645,473	0.289	0.289	2.34	4.87	9.56	1.461	0.000	0.02
AdventHealth	0.085	0.068	263	\$7,147,583	0.216	0.217	2.52	8.47	9.94	1.639	0.000	0.04
Providence St. Joseph												
Health	0.011	0.005	167	\$10,914,333	0.317	0.352	1.71	3.60	8.42	0.950	0.000	0.01
Trinity Health	0.036	0.016	189	\$9,712,866	0.318	0.353	1.67	4.54	10.57	1.358	0.000	0.01
Ascension Healthcare	0.046	0.013	304	\$19,001,785	0.232	0.263	2.92	6.76	8.77	1.133	0.000	0.02
Total				\$79,489,593								
For-profits												
Quorum Health	-0.090	-0.049	1	\$22,005	0.693	0.734	0.32	0.25	10.28	0.791	0.000	0.02
Community Health												
Systems, Inc.	-0.098	-0.024	8	\$325,000	1.122	1.122	0.02	0.41	5.92	0.709	0.000	0.03
TENET Healthcare												
Corporation	-0.015	0.026	11	\$507,333	0.963	0.964	0.03	1.92	6.14	0.790	0.000	0.04
HCA Healthcare	0.066	0.103	6	\$983,333	1.099	1.099	0.03	4.30	10.02	1.528	0.000	0.04
Total				\$1,837,671								
Government hospitals												
Logansport Memorial												
Hospital	0.038	0.037	180	\$46,746	0.191	0.191	2.59	3.46	15.38	1.415	0.000	0.05
Delta Regional Medical												
Center	-0.057	-0.070	93	\$29,326	0.333	0.410	1.28	0.96	17.60	0.979	0.000	0.09
Opelousas General Health												
System	0.007	-0.002	79	\$35,417	0.163	0.163	1.74	2.14	18.76	0.559	0.000	0.04
Regional One Health	-0.021	-0.028	94	\$123,685	0.128	0.128	4.09	14.23	22.14	0.809	0.071	0.23
UW Medicine/Harborview												
Medical Center	0.013	0.009	114	\$309,804	0.000	0.000	.	.	16.64	0.800	0.000	0.04

Alameda Health System	-0.018	-0.019	5	\$38,433	-0.073	3.259	.	.	9.81	2.621	0.119	0.03
Eskenazi Health	0.020	-0.046	110	\$207,866	0.000	0.126	.	.	5.65	0.225	0.197	0.20
Norman Regional Health System	0.058	0.032	224	\$236,387	0.349	0.353	1.42	4.10	14.54	0.740	0.000	0.08
Cook County Health and Hospitals System	-0.140	-0.140	37	\$290,718	0.000	0.453	.	.	19.11	0.533	0.038	0.20
Jackson Health System	0.016	-0.003	70	\$390,406	0.377	0.485	1.30	5.48	16.49	2.643	0.236	0.16
Cape Fear Valley Health System	0.047	0.022	210	\$481,055	0.302	0.349	2.11	4.51	17.99	1.231	0.000	0.05
Parkland Health & Hospital System	0.027	0.001	90	\$480,676	0.425	0.545	.	.	10.28	0.449	0.311	0.20
NYC Health + Hospitals	-0.034	-0.034	35	\$864,744	0.161	1.188	1.13	0.94	16.80	1.079	0.112	0.11
Atrium Health	0.050	0.040	306	\$5,274,092	0.262	0.292	2.57	4.30	9.78	1.239	0.000	0.07
Total				\$8,809,354								

Source: Audited financial statements, 2017-19.

Discussion

Using a sample of several categories of health systems, we demonstrate that analysis of AFSs provides comprehensive information about systems' financial positions that is more policy relevant than hospital-level profit margins alone. We confirm the findings from numerous quantitative and qualitative studies demonstrating that these systems are made up of the “haves” and “have nots.” The results also demonstrate the policy value of examining financial performance at the health system level, rather than only the individual facility level.

Many nonprofit health systems have accumulated substantial amounts of available cash, raising questions about the linkage to the high and rising payment rates that consolidated health systems have been able to negotiate with commercial insurers over the past two decades.²⁷ Further work is warranted to explore relationships among health system financial position, negotiated rates, and payer mix.

The aggregate AFS results suggest that many health systems with high Medicare revenues and total revenues – the primary basis for allocating PRF - did not have urgent need for federal support during the early stages of the COVID pandemic despite reduced revenues and margins reported early in the pandemic. Our findings show that higher revenues were associated with much higher liquidity; even the smaller nonprofits averaged 185 days of cash on hand, which means they could keep paying daily operating expenses without collecting a single dollar of revenue for six months.

The health systems most in need of emergency infusions of cash to maintain their current levels of care delivery were systems like Jackson Health, which averaged only 70 days cash on hand over our period of analysis. Yet, Jackson Health received CARES Act general funding in Phase 1 of \$75 million, or roughly 14 days additional cash on hand; whereas Ascension, averaging 301 days cash on hand, received CARES Act general funding (Phase 1) of \$811 million, or 13 days additional cash on hand, nearly the same as Jackson Health. Further, Ascension's demonstrable financial strength placed it in a better position to obtain a short-term line of credit. However, when distributing CARES Act funds, policymakers did not have comparable data on days cash on hand by health system.

Our findings confirm the importance of payer mix on the financial performance of health systems. Systems with high Medicaid share had substantially lower total and operating margins, lower cash on hand, greater pension obligations, and modestly older physical plant age and lower capital expenditure ratios than other systems. Our findings contribute to a growing literature

²⁷ Whaley CM., “Nationwide Evaluation of Health Care Prices Paid by Private Health Plan. 2020. Nationwide Evaluation of Health Care Prices Paid by Private Health Plans: Findings from Round 3 of an Employer-Led Transparency Initiative” The RAND Corporation, Sept 18, 2020 available at <https://employerptp.org/wp-content/uploads/2020/09/RAND-3.0-Hospital-Price-Transparency-Study-Findings-by-Chris-Whaley-9-18-2020.pdf>. (accessed June 21, 2021)

demonstrating that health systems serving a high share of Medicaid patients are in weaker financial position than those with lower Medicaid shares.^{28 29}

Another finding was the high debt levels of the for-profits, coupled with low debt service coverage ratios. Too much debt can push for-profits into a divestment strategy that can destabilize local community hospitals involved; our AFS review revealed that CHS and Quorum, over the three-year period of our analysis, divested 61 hospitals and closed 5, many in small communities in the South and Midwest. Policymakers concerned with hospital closures and high ownership turnover may want to discourage both public and private equity's highly leveraged acquisitions of small community hospitals.^{30 31}

The substantial level of days cash on hand, solid profits, and low levels of uncompensated care of many nonprofit systems raises questions about the purpose of favorable tax treatment of this class of hospitals. Under this exemption, nonprofit hospitals do not pay federal and state corporate income taxes, and state and local sales and property taxes. They also benefit from favorable treatment for charitable contributions and tax-exempt bond financing. The value of the exemption relying on analysis of HCRIS cost reports was estimated at \$24.6 billion in 2011,³² but likely was an underestimate because MCRs do not reliably identify non-operating income, including investment income, as AFSs do. Policymakers may want to consider whether non-profit health systems should be required to re-invest profits into needed community services or lower their prices rather than building large investment portfolios or expanding to compete for more commercial patients in affluent markets. The size of investment portfolios and other types of business investments as well as expansionary strategies to capture commercial market share may be considered in challenges to federal or state tax-exempt status.

High liquidity, profitability, and solvency also lends support to growing interest in capping the payment rates that well-off systems are able to negotiate and/or limiting the annual updates in their rates.³³ Additional research is warranted to establish the relationship between financial health and commercial insurance payment rates. The data also supports potential policy initiatives to strengthen federal and state antitrust enforcement to promote greater provider

²⁸ Bai and Anderson 2016.

²⁹ Chatterjee et al.2020.

³⁰ Pomorski C, "The Death of Hahnemann Hospital" The New Yorker May 31, 2021 available at <https://www.newyorker.com/magazine/2021/06/07/the-death-of-hahnemann-hospital> (accessed June 20, 2021)

³¹ Elkind P and Burke D. "Investors Extracted \$400 million From a Hospital Chain That Sometimes Couldn't Pay for Medical Supplies or Gas For Ambulances" available at <https://www.propublica.org/article/investors-extracted-400-million-from-a-hospital-chain-that-sometimes-couldnt-pay-for-medical-supplies-or-gas-for-ambulances> (accessed June 20, 2021)

³² Sara Rosenbaum et al, The value of the nonprofit hospital tax exemption was \$24.6 Billion in 2011. Health Affairs 2015; 34(7):1225-33.

³³ Chernew ME, Dafny LS, Pany MJ. "A Proposal to Cap Provider Prices and Price Growth in the Commercial Health-Care Market." March 2020. The Hamilton Project, Brookings Institution: Washington DC available at <https://www.brookings.edu/research/a-proposal-to-cap-provider-prices-and-price-growth-in-the-commercial-health-care-market/>. (accessed June 21, 2021)

competition,³⁴ while also providing information useful to assessing the merits of particular hospital mergers and acquisitions and monitoring the post-acquisition behavior of health systems and the impact of that acquisition on other health systems competing in the acquired hospital service area.

CONCLUSION

Creating A National Data Base. The methodology described here can be replicated for health systems data at the national level. A new “Medicare Schedule G-X” could be updated to include system-level financial data with an extensive glossary and more detailed templates similar to those used for this research and described in the NASHP toolkit for financial transparency cited earlier. Some states already require health system as well as hospital standardized reporting. Elements from the statements and footnotes that are needed for calculating meaningful ratios would need to be entered into the template by the health systems. Data reporting should be required within 3-6 months of the close of a system fiscal year so the data can be timely and can be accompanied by an audited financial statement that can be reconciled to the template.

Some states require quarterly and annual submissions of data standardized into a template as a way to generate even more timely data, although quarterly data is unaudited and subject to considerable estimation by management. It is time to make this kind of data available for all states. Standardized reporting would produce robust national data on a timely basis that can be used for a variety of policy-making purposes.

³⁴ Gaynor M, “What to Do about Health-Care Markets? Policies to Make Health-Care Markets Work,” March 2020. The Hamilton Project, Brookings Institution: Washington DC available at https://www.brookings.edu/wp-content/uploads/2020/03/Gaynor_PP_FINAL.pdf. (accessed June 21, 2021)