

## SECTOR PROFILE

7 September 2023



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## Not-for-Profit and Public Healthcare – US

# Medians – Operating performance weakens as tough expense environment persists

Operating results in the US not-for-profit healthcare sector fell sharply after a 2021 pandemic rebound, according to our 2022 medians data. Heightened expenses, due particularly to labor shortages that necessitated prolonged use of expensive contract labor, drove cash flow down. Repayment of Medicare loans and the depletion of Coronavirus Aid, Relief and Economic Security (CARES) Act grants contributed to liquidity falling below 2021, though it was still in line with pre-pandemic levels. Overall, speculative-grade credits had a sharper falloff in operating performance than investment-grade credits, widening the credit quality gap between them. While the industry shows signs of stabilizing in 2023, the labor environment will remain challenging. Data in this report is derived from the performance of 218 health systems, of which 61% have fiscal years that ended after July 1, 2022.

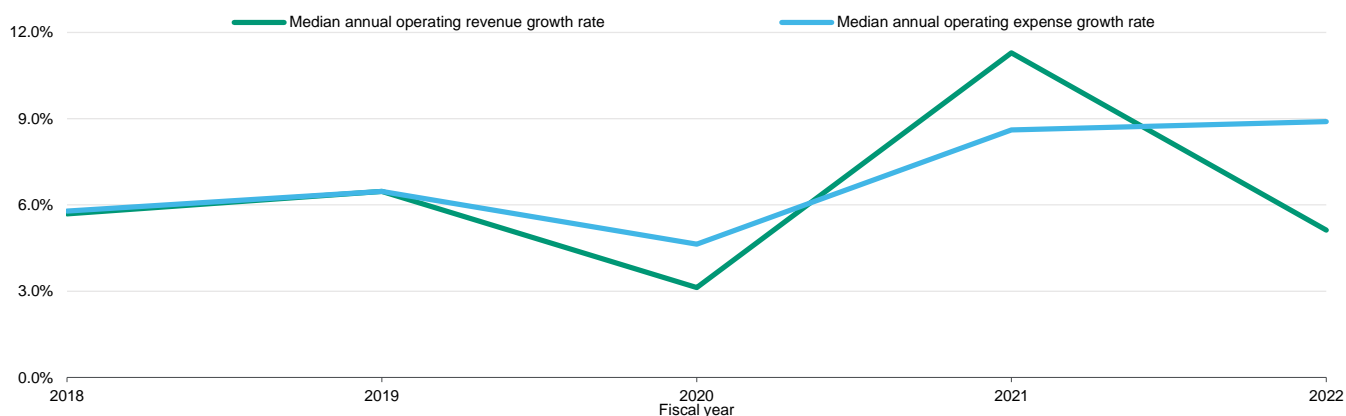
- » **Expense growth remained high while revenue growth fell to around pre-pandemic rates.** The median expense growth rate was 8.9% in 2022, a continued rise from 8.6% in 2021 as hospitals continued to face rising labor costs. Median revenue growth fell to 5.1% in 2022 as pandemic recovery slowed, down from a recent peak of 11.3% in 2021 that was buoyed by volume recovery and federal relief. Median revenue growth in 2022 was comparable to, though below, 2018 and 2019.
- » **Operating margins fell to unsustainable levels.** The median operating cash flow (OCF) margin for 2022 was 4.9% while the median operating margin was -0.3%, illustrating the immense operating pressures the industry is contending with in the face of labor shortages and uneven recovery across patient volumes.
- » **Liquidity fell to pre-pandemic levels.** Median days cash on hand dropped to 206 from 264 amid cash losses and demanding expenses. The investment market downturn in 2022 weighed on hospitals' cash reserves, as did repayment of Medicare advances.
- » **Leverage increased with cash flow and liquidity losses.** Median debt to cash flow reached a five-year high of 3.6x in 2022 as operating performance weakened. Median cash to debt fell below 200% for the first time since 2019.
- » **Inpatient volumes recovered slower than outpatient volumes.** Median inpatient admissions declined by a median rate of -0.7% and the median total admissions growth rate was similarly low at 0.4%. Key outpatient levels were at a five-year high, continuing the industry shift from inpatient to outpatient.

## Expense growth surpassed 2021; revenue growth fell

- » Median revenue growth fell to 5.1% in fiscal 2022, from 11.3% in 2021, as the pandemic recovery subsided. While lower than in 2018 (5.7%) and 2019 (6.5%), revenue growth was closer to those years than to the 2020-21 period.
- » Median expense growth increased to a five-year high of 8.9%, continuing the growth seen in 2021 of 8.6%. Median salary and benefit expenses grew by 9.7%, illustrating the impact of labor shortages on the industry.
- » Median percentage of total revenue from Medicare and Medicaid were both at five-year highs of 47.1% and 16.6% respectively, a continued increase in government payor sources. However, Medicaid use will likely decline following the end of the public health emergency in 2023.

Exhibit 1

### Expense growth remained high while revenue growth fell in 2022



Source: Moody's Investors Service

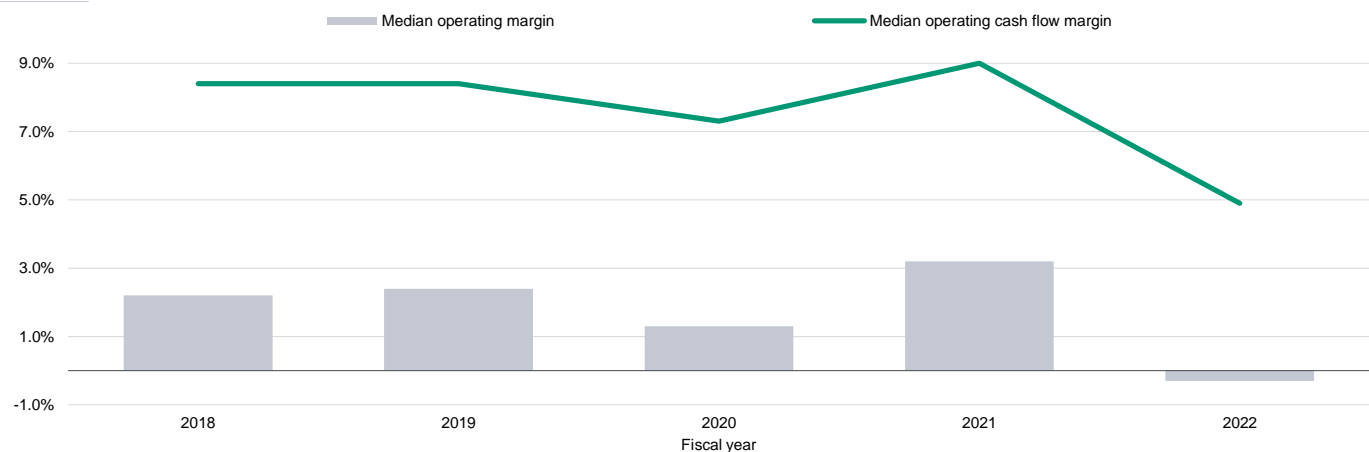
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## Operating performance plummeted in 2022, with cash flow at a five-year low

- » The median OCF margin was 4.9% in fiscal 2022, below sustainable levels for many credits. Median operating margin was negative at -0.3%, illustrating the expense and volume pressures weighing on the sector nationwide.
- » Cash flow losses hit speculative-grade credits the hardest, with credits rated below Baa at a median 0.3% OCF margin compared with a range of 6.1%-3.6% across Aa-Baa categories.
- » Operating income was negative for more than twice as many credits across rating categories in our fiscal 2022 sample compared with our fiscal 2021 sample. Among Aa credits, 36% had negative operating income in 2022 compared with 4% in 2021. Hardest hit were speculative-grade credits, with 88% posting negative operating income in 2022 versus 33% in 2021.

Exhibit 2

### Operating performance fell to a five-year low in 2022



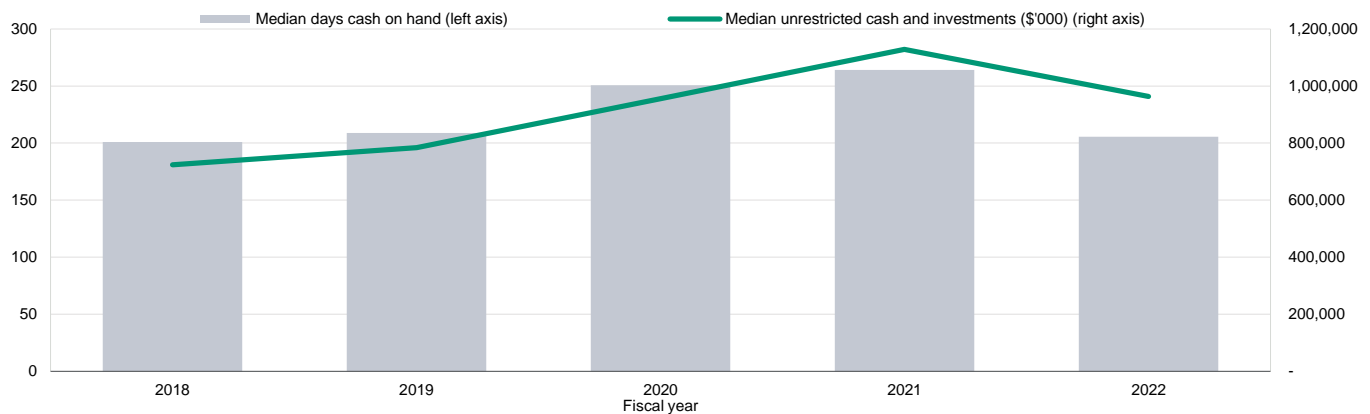
Source: Moody's Investors Service

## Liquidity returned to pre-pandemic levels following end of government relief

- » Cash reserves were weakened by 2022's volatile investment market and the repayment of federal Medicare advances, with a median rate of -17.1%. While the drop was severe in magnitude, it followed an all-time high for liquidity metrics like days cash on hand in 2021, bringing 2022 back to 2018-19 levels.
- » Liquidity relative to operating performance fell in fiscal 2022, with median days cash on hand at 206 days compared with 264 the previous year. For credits rated below Baa, days cash fell below 100 for the first time in five years.
- » Hospitals returned to capital plans in fiscal 2022 after some deferred them during 2020 and 2021. Median capital spending levels grew to 1.1x depreciation from 2021's lower 1.0x. The median age of plant was also at a five-year high of 12.7 years, reflecting the recent deferrals.

Exhibit 3

### Liquidity fell to pre-pandemic levels in 2022



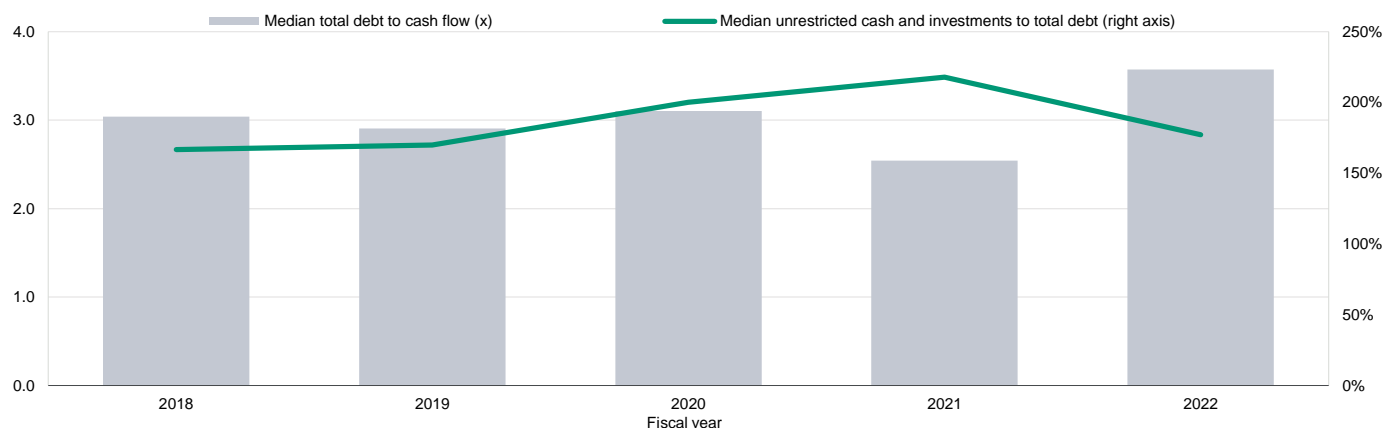
Source: Moody's Investors Service

## Increase in leverage driven by cash flow losses and lower liquidity

- » Median debt to cash flow rose to a five-year high of 3.6x in fiscal 2022, up from 2.5x in 2021. Median cash to debt also weakened to 177% from 218% in 2021, although it remains higher than 2018-19, when it was between 167% and 170%.
- » The median growth rate for total debt remained negative for the second year in a row at -1.4%, indicating many hospitals' deferred plans for issuing new debt in the current interest rate and operating environments.
- » Median net revenue available for debt service (NRADS) fell to \$135M in fiscal 2022, a five-year low. Uncertainty in 2022 over some debt service covenants in the sector was worse for lower-rated credits than for higher, with a median NRADS of only \$6.7M for credits below Baa compared with \$42M for Baa credits and higher for those in the A-Aa ranges.

Exhibit 4

### Leverage increased following cash flow losses and lower liquidity



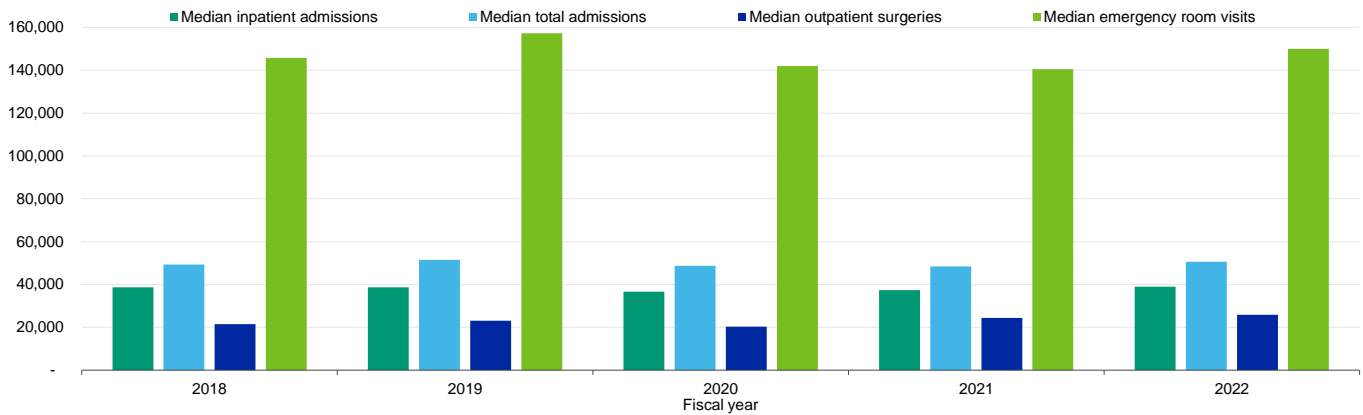
Source: Moody's Investors Service

### Most volumes moderated following the 2021 pandemic rebound

- » Inpatient admissions declined by a median rate of -0.7% in fiscal 2022. Pre-pandemic measures indicated this service line was slowing, and while 2021 recovered with a growth rate of 2.4%, the momentum did not hold.
- » Total admissions were relatively flat for hospitals in fiscal 2022 with a median growth rate of 0.4%. Payor trends are leaning toward increased observation stays, underscoring an industry shift to outpatient services. Five-year highs for both outpatient visits and outpatient surgeries further highlights this trend.
- » Emergency room visits, which lagged other outpatient metrics in fiscal 2021, rebounded significantly in fiscal 2022. Median ER visits were 149,944 in 2022, a median growth rate of 7.7% on the previous year.

Exhibit 5

#### Volumes moderated in 2022



Total admissions include inpatient admissions and observation stays.

Source: Moody's Investors Service

**Basis for medians**

Our medians data is based on an analysis of audited fiscal 2022 financial statements for 218 free-standing hospitals, single-state health systems and multistate healthcare systems, representing 77% of our rated not-for-profit and public healthcare entities. Entities not eligible for inclusion in the medians include children's hospitals, hospitals for which five years of data are not available and certain specialty hospitals (for example, cancer centers). We currently rate 282 unique not-for-profit hospitals (excluding guarantees) with approximately \$215 billion of rated debt outstanding. The median rating for the sector is A2.

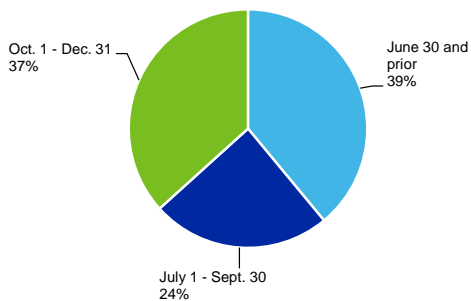
Moody's ratings are the outcome of a ratings process that incorporates a broad variety of quantitative and qualitative factors. Medians are a useful quantitative tool for benchmarking purposes. However, there is a wide range of values for individuals ratios within each rating category. We do not assign an organization's precise rating level simply by comparing its ratios to medians, but rather weigh a broad set of core credit variables over time as well as in relation to broad variables in the industry.

Each year, the entire five-year range of medians is newly computed from a unique set of healthcare entities. The exact set of hospitals used to calculate the medians in any particular year changes from year to year. Changes to the organizations comprising the data are because of a number of factors, including:

- » addition of new ratings
- » mergers and acquisitions
- » withdrawal of ratings
- » events that cause an organization's results to be unusual
- » absence of five years of consistent data

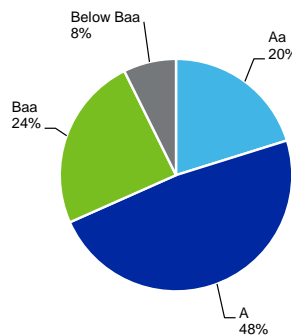
For these reasons, historical median results are likely to change somewhat from year to year. In the appendices below, we present the medians in several formats including by analytical indicators (Appendix 1); by year for five years, 2018-22 (Appendix 2); by broad rating category for 2022 (Appendix 3); and by alphanumeric rating category for 2022 (Appendix 4). The 218 organizations represented in the medians have a variety of fiscal year-end (FYE) dates (see Exhibit 6) that, in a year of changing economic conditions, affected the medians. For example, hospitals with fiscal year-ends near the beginning of the calendar year would have been less impacted by changes in market values of investments held than those with later fiscal year-ends.

**Exhibit 6**  
**Distribution of organizations' fiscal year-ends included in the medians sample**



Source: Moody's Investors Service

**Exhibit 7**  
**Distribution of ratings for organizations in the medians sample**



Source: Moody's Investors Service

## Appendices

### Appendix 1: Analytical indicators

Exhibit 8

	2018	2019	2020	2021	2022
<b>Reimbursement methods (% of net patient revenue)<sup>[1]</sup></b>					
Traditional capitation (per member per month) (%)	1.9	2.5	2.3	2.3	2.3
DRG (%)	40.7	39.4	40.0	39.1	38.7
Percent of charges (%)	17.0	16.6	15.9	14.9	15.0
Fee schedule (%)	29.5	30.5	31.4	32.7	33.7
Per diem (%)	2.0	2.0	2.0	2.0	1.7
Risk based (%)	1.3	1.5	1.0	1.2	1.1
Other (%)	3.3	3.9	3.7	3.8	2.7
<b>Sources of revenue (% of net patient revenue)<sup>[1]</sup></b>					
Inpatient revenue (% of net patient revenue)	47.8	46.7	47.8	46.3	46.0
Outpatient revenue (% of net patient revenue)	52.0	52.9	52.0	53.4	53.7
<b>Other payor mix data (% of gross revenue)</b>					
Single largest payor, excluding Medicare and Medicaid (% of gross revenue)	15.1	14.7	14.5	14.3	14.5
<b>Number of covered lives</b>					
Medicare (number of covered lives)	32,661	38,529	41,000	48,063	47,792
Medicaid (number of covered lives)	57,800	58,343	51,309	64,496	74,011
Commercial (number of covered lives)	64,147	69,908	67,273	68,000	72,696
<b>Hospital utilization data</b>					
Unique patients	254,201	262,405	258,771	278,124	297,760
Total case mix index	1.6	1.6	1.7	1.7	1.7
Number of employed physicians	350	417	419	458	476
Active medical staff (independent and employed)	888	973	972	1,095	1,115

[1] Data do not sum to 100% because each entry is a separately calculated median.

Source: Moody's Investors Service



Appendix 2: Freestanding hospitals, single-state and multistate healthcare systems, medians fiscal years 2018-22<sup>[1]</sup>

Exhibit 9

All ratings	2018	2019	2020	2021	2022
Sample size	218	218	218	218	218
<b>Utilization <sup>[2]</sup></b>					
Maintained beds	758	799	840	857	829
Admissions	38,733	38,677	36,608	37,401	38,936
Observation stays	11,349	12,496	11,955	12,039	12,983
Combined admissions and observation stays <sup>[3]</sup>	49,359	51,437	48,751	48,491	50,605
Patient days	203,979	210,854	200,952	220,118	224,494
Medicare case mix index	1.8	1.8	1.9	1.9	1.9
Average length of stay (days)	4.8	4.8	5.0	5.2	5.4
Maintained bed occupancy (%)	67.4	67.4	62.9	67.0	68.7
Emergency room visits	145,673	157,173	142,010	140,540	149,944
Outpatient visits	616,182	642,987	666,289	744,638	790,561
Outpatient surgeries	21,546	23,130	20,371	24,369	25,796
<b>Financial performance (\$000)</b>					
Net patient revenues	1,171,618	1,273,161	1,302,812	1,531,180	1,646,822
Total operating revenue	1,338,613	1,443,299	1,626,503	1,823,050	1,945,999
Interest expense	16,158	16,644	17,369	17,875	19,292
Depreciation and amortization expense	61,482	65,864	73,972	70,539	72,975
Total operating expenses	1,304,298	1,406,902	1,563,186	1,756,731	1,909,884
Income from operations	24,457	24,034	14,607	46,879	-3,483
Operating cash flow	112,401	112,704	105,176	143,872	78,719
Excess of revenue over expense	59,811	56,278	62,410	103,000	32,552
Net revenue available for debt service	151,342	148,081	160,765	205,485	135,027
Debt service	30,400	30,520	29,741	31,053	33,231
Additions to property, plant, & equipment	97,843	98,198	89,887	80,878	89,552
<b>Balance sheet (\$000)</b>					
Unrestricted cash and investments	723,980	783,934	956,183	1,128,554	963,239
Total debt	456,902	473,083	508,423	542,872	578,610
Total adjusted debt	603,296	633,465	677,611	672,301	722,279
Net property, plant and equipment	658,456	723,824	729,066	781,913	798,057
Unrestricted net assets	885,106	970,027	1,049,749	1,241,980	1,166,253
Monthly liquidity <sup>[4]</sup>	675,191	754,068	956,183	1,089,448	898,260
Annual liquidity <sup>[4]</sup>	731,010	799,045	1,005,497	1,144,139	994,191

All ratings	2018	2019	2020	2021	2022
Sample size	218	218	218	218	218
<b>Key ratios</b>					
Operating margin (%)	2.2	2.4	1.3	3.2	-0.3
Excess margin (%)	4.6	4.7	4.5	6.6	2.4
Operating cash flow margin (%)	8.4	8.4	7.3	9.0	4.9
Cash on hand (days)	201.0	209.0	250.8	264.3	205.6
Unrestricted cash and investments-to-total debt (%)	166.7	169.8	200.1	217.9	177.1
Unrestricted cash and investments-to-total adjusted debt (%)	125.5	131.5	153.3	174.9	142.1
Maximum annual debt service coverage (x)	4.7	4.6	4.4	5.5	3.6
Annual debt service coverage (x)	5.2	5.3	5.0	6.2	4.0
Total debt-to-cash flow (x)	3.0	2.9	3.1	2.5	3.6
Total debt-to-operating revenue (%)	33.3	31.8	33.2	30.2	31.0
Annual operating revenue growth rate (%)	5.7	6.5	3.1	11.3	5.1
Annual operating expense growth rate (%)	5.8	6.5	4.6	8.6	8.9
3 year operating revenue CAGR (%)	6.1	6.2	5.5	7.5	6.5
3 year operating expense CAGR (%)	6.7	6.4	6.1	6.9	7.7
Total debt-to-capitalization (%)	33.6	32.3	33.5	29.7	31.9
Current ratio (x)	1.9	1.9	1.7	1.6	1.7
Cushion ratio (x)	22.6	23.1	28.6	31.1	24.9
Return on assets (%)	3.9	4.1	3.8	4.9	1.7
Accounts receivable (days)	46.9	47.2	46.1	48.1	48.0
Average payment period (days)	63.7	64.4	94.9	88.6	69.4
Capital spending ratio (x)	1.3	1.2	1.2	1.0	1.1
Average age of plant (years)	11.6	11.4	11.7	12.3	12.7
Monthly liquidity-to-demand debt (%) <sup>[5]</sup>	511.6	593.9	854.8	958.4	782.8
Annual liquidity-to-demand debt (%) <sup>[5]</sup>	606.7	673.8	886.5	1,109.1	892.6
Demand debt as a % of total direct debt (%)	19.4	19.1	18.2	14.4	13.9
Cash-to-demand debt (%)	612.8	708.3	927.1	1,150.0	971.5
Monthly liquidity-to-total cash and investments (%)	96.6	97.0	96.9	96.8	94.0
<b>Patient revenue sources by gross revenue (%) <sup>[6]</sup></b>					
Total Medicare	45.7	46.2	46.5	46.6	47.1
Total Medicaid	15.6	15.2	15.7	16.2	16.6
Total Commercial	32.2	31.9	31.7	31.6	31.5
Self-pay + other	5.2	5.2	5.0	5.0	5.0

[1] Financial data are based on 218 freestanding hospitals, single-state, and multistate healthcare systems. Data are as of 7/21/2023.

[2] Utilization based on smaller sample size where five years of consistent data are available.

[3] Combined Admissions and Observation Stays is a separately calculated median and does not equal the sum of median Admissions and median Observation Stays.

[4] Monthly and Annual Liquidity statistics are based on smaller sample sizes where five years of consistent data are available.

[5] Median values for monthly and annual liquidity to demand debt are derived from only those freestanding hospitals and single-state healthcare systems that have at least \$1 of demand debt outstanding.

[6] Payor Mix columns do not sum to 100% because each entry is a separately calculated median.

Source: Moody's Investors Service

### Appendix 3: Freestanding hospitals, single-state and multistate healthcare systems, medians by broad rating category, fiscal year 2022<sup>[1]</sup>

Exhibit 10

All ratings	2022	Aa	A	Baa	Below Baa
Sample size	218	44	105	53	16
<b>Utilization <sup>[2]</sup></b>					
Maintained beds	829	2,359	829	382	432
Admissions	38,936	101,597	42,735	20,413	14,889
Observation stays	12,983	36,838	13,876	6,632	3,038
Combined admissions and observation stays <sup>[3]</sup>	50,605	141,859	56,861	26,679	17,927
Patient days	224,494	557,837	226,647	98,952	77,161
Medicare case mix index	1.9	2.0	1.9	1.9	1.8
Average length of stay (days)	5.4	5.7	5.4	4.9	5.0
Maintained bed occupancy (%)	68.7	72.3	68.3	64.3	61.9
Emergency room visits	149,944	408,553	167,299	88,951	60,613
Outpatient visits	790,561	2,089,074	840,207	409,009	356,504
Outpatient surgeries	25,796	63,074	27,329	11,814	6,664
<b>Financial performance (\$000)</b>					
Net patient revenues	1,646,822	5,013,874	1,815,586	776,761	378,185
Total operating revenue	1,945,999	6,314,564	2,014,537	834,953	430,243
Interest expense	19,292	49,347	19,609	10,388	5,843
Depreciation and amortization expense	72,975	284,227	87,986	36,990	20,079
Total operating expenses	1,909,884	6,149,492	2,028,511	817,115	454,336
Income from operations	-3,483	87,298	1,369	-14,591	-25,849
Operating cash flow	78,719	451,321	96,205	24,990	1,024
Excess of revenue over expense	32,552	343,342	41,912	-1,772	-16,541
Net revenue available for debt service	135,027	729,844	166,106	42,093	6,737
Debt service	33,231	80,949	36,783	17,227	11,368
Additions to property, plant, & equipment	89,552	374,750	101,177	39,819	17,523
<b>Balance sheet (\$000)</b>					
Unrestricted cash and investments	963,239	4,943,203	1,116,447	340,998	132,234
Total debt	578,610	1,781,305	619,675	266,137	132,709
Total adjusted debt	722,279	2,318,301	767,981	359,317	216,943
Net property, plant and equipment	798,057	2,852,367	813,923	358,939	158,286
Unrestricted net assets	1,166,253	5,872,065	1,306,212	388,560	125,353
Monthly liquidity <sup>[4]</sup>	898,260	3,848,606	964,802	322,420	129,570
Annual liquidity <sup>[4]</sup>	994,191	4,600,848	1,033,273	347,066	129,570

All ratings	2022	Aa	A	Baa	Below Baa
Sample size	218	44	105	53	16
<b>Key ratios</b>					
Operating margin (%)	-0.3	1.5	0.1	-2.1	-6.8
Excess margin (%)	2.4	4.8	2.7	-0.3	-5.3
Operating cash flow margin (%)	4.9	6.1	5.6	3.6	0.3
Cash on hand (days)	205.6	276.5	206.5	157.6	98.1
Unrestricted cash and investments-to-total debt (%)	177.1	259.9	173.7	128.6	86.4
Unrestricted cash and investments-to-total adjusted debt (%)	142.1	213.4	146.1	100.1	56.0
Maximum annual debt service coverage (x)	3.6	5.9	3.8	2.4	0.5
Annual debt service coverage (x)	4.0	6.1	4.5	2.8	0.6
Total debt-to-cash flow (x)	3.6	2.8	3.6	5.0	3.2
Total debt-to-operating revenue (%)	31.0	30.1	30.6	31.4	34.5
Annual operating revenue growth rate (%)	5.1	6.1	5.1	5.1	0.5
Annual operating expense growth rate (%)	8.9	10.3	9.2	8.3	7.1
3 year operating revenue CAGR (%)	6.5	8.3	7.3	5.6	3.8
3 year operating expense CAGR (%)	7.7	9.1	7.9	6.5	5.8
Total debt-to-capitalization (%)	31.9	23.4	31.8	37.5	48.0
Current ratio (x)	1.7	1.5	1.8	1.7	1.6
Cushion ratio (x)	24.9	44.3	24.9	17.3	11.2
Return on assets (%)	1.7	3.3	1.9	-0.3	-5.1
Accounts receivable (days)	48.0	48.7	48.0	43.8	52.7
Average payment period (days)	69.4	79.0	66.7	68.1	66.3
Capital spending ratio (x)	1.1	1.3	1.2	0.9	0.8
Average age of plant (years)	12.7	11.4	12.8	13.7	13.7
Monthly liquidity-to-demand debt (%) <sup>[5]</sup>	782.8	620.1	870.8	876.8	194.3
Annual liquidity-to-demand debt (%) <sup>[5]</sup>	892.6	894.2	931.3	932.4	194.3
Demand debt as a % of total direct debt (%)	13.9	27.3	14.7	1.1	0.0
Cash-to-demand debt (%)	971.5	1,074.5	931.3	786.2	194.3
Monthly liquidity-to-total cash and investments (%)	94.0	72.1	93.5	98.4	100.0
<b>Patient revenue sources by gross revenue (%) <sup>[6]</sup></b>					
Total Medicare	47.1	43.5	47.8	48.9	47.0
Total Medicaid	16.6	16.6	16.4	19.5	17.4
Total Commercial	31.5	33.5	30.6	28.3	31.4
Self-pay + other	5.0	5.1	5.0	4.9	4.9

[1] Financial data are based on 218 freestanding hospitals, single-state, and multistate healthcare systems. Data are as of 7/21/2023.

[2] Utilization based on smaller sample size where five years of consistent data are available.

[3] Combined Admissions and Observation Stays is a separately calculated median and does not equal the sum of median Admissions and median Observation Stays.

[4] Monthly and Annual Liquidity statistics are based on smaller sample sizes where five years of consistent data are available.

[5] Median values for monthly and annual liquidity to demand debt are derived from only those freestanding hospitals and single-state healthcare systems that have at least \$1 of demand debt outstanding.

[6] Payor Mix columns do not sum to 100% because each entry is a separately calculated median.

Source: Moody's Investors Service

## Appendix 4: Freestanding hospitals, single-state and multi-state healthcare systems, medians by numerical rating category, fiscal year 2022<sup>[1]</sup>

Exhibit 11

All ratings	2022	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Below Baa
Sample size	218	16	27	35	40	30	20	19	14	16
<b>Utilization <sup>[2]</sup></b>										
Maintained beds	829	2,609	1,651	1130	934	624	494	385	345	432
Admissions	38,936	122,255	75,446	44,288	51,480	30,143	22,481	20,258	19,869	14,889
Observation stays	12,983	49,702	24,377	16,296	15,221	8,824	7,176	6,933	5,415	3,038
Combined admissions and observation stays <sup>[3]</sup>	50,605	160,402	104,019	58,239	78,007	38,967	30,042	25,680	23,374	17,927
Patient days	224,494	685,729	474,477	248,912	280,966	189,153	123,376	98,385	90,566	77,161
Medicare case mix index	1.9	2.0	1.9	1.9	1.9	1.9	2.0	1.9	1.8	1.8
Average length of stay (days)	5.4	5.8	5.7	5.4	5.3	5.6	4.8	4.9	5.5	5.0
Maintained bed occupancy (%)	68.7	71.8	74.3	67.7	70.0	69.3	65.6	64.1	66.6	61.9
Emergency room visits	149,944	475,912	308,157	174,602	208,202	123,578	102,753	88,662	56,616	60,613
Outpatient visits	790,561	2,574,290	1,406,652	1,135,706	837,627	598,915	434,207	416,018	401,999	356,504
Outpatient surgeries	25,796	69,467	44,961	32,660	31,892	16,982	16,916	12,144	8,449	6,664
<b>Financial performance (\$000)</b>										
Net patient revenues	1,646,822	6,108,871	3,951,733	2,089,575	1,960,010	1,102,485	791,403	776,761	686,177	378,185
Total operating revenue	1,945,999	8,035,736	4,480,174	2,185,845	2,286,593	1,199,221	865,321	804,230	802,343	430,243
Interest expense	19,292	55,019	40,715	19,589	22,398	13,708	8,955	10,246	13,963	5,843
Depreciation and amortization expense	72,975	309,182	198,855	104,306	88,642	61,155	37,731	39,225	31,165	20,079
Total operating expenses	1,909,884	7,842,194	4,646,202	2,266,124	2,205,884	1,224,828	813,514	817,115	800,245	454,336
Income from operations	-3,483	214,939	48,786	10,531	3,551	-7,270	-20,619	-10,016	-8,186	-25,849
Operating cash flow	78,719	581,817	276,397	127,201	85,469	52,560	15,313	34,822	47,483	1,024
Excess of revenue over expense	32,552	525,774	194,844	76,644	45,394	9,717	-3,256	674	-2,269	-16,541
Net revenue available for debt service	135,027	947,599	426,406	196,257	170,400	77,020	34,758	46,890	65,855	6,737
Debt service	33,231	111,164	72,224	42,557	45,912	25,091	17,072	16,928	29,001	11,368
Additions to property, plant, & equipment	89,552	429,321	266,842	139,320	87,253	59,248	40,122	31,018	36,849	17,523
<b>Balance sheet (\$000)</b>										
Unrestricted cash and investments	963,239	7,057,580	3,754,414	1,441,266	1,129,410	638,444	399,244	346,143	261,759	132,234
Total debt	578,610	1,969,963	1,431,095	650,881	701,311	391,712	245,540	231,594	359,048	132,709
Total adjusted debt	722,279	2,428,993	2,056,938	791,371	872,638	462,744	310,037	359,317	436,315	216,943
Net property, plant and equipment	798,057	3,087,219	1,988,892	978,118	826,430	603,224	361,977	468,021	321,301	158,286
Unrestricted net assets	1,166,253	8,224,187	4,609,662	1,930,783	1,432,587	706,853	536,019	375,802	260,174	125,353
Monthly liquidity <sup>[4]</sup>	898,260	4,635,553	2,402,694	1,282,352	989,976	445,031	474,602	310,076	253,940	129,570
Annual liquidity <sup>[4]</sup>	994,191	5,924,325	2,982,363	1,337,457	1,116,447	521,800	474,602	328,009	253,940	129,570

All ratings	2022	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Below Baa
Sample size	218	16	27	35	40	30	20	19	14	16
<b>Key ratios</b>										
Operating margin (%)	-0.3	1.7	1.1	0.8	0.2	-1.2	-3.2	-1.4	-1.4	-6.8
Excess margin (%)	2.4	5.1	3.8	3.4	2.9	1.3	-0.3	0.1	-0.5	-5.3
Operating cash flow margin (%)	4.9	7.3	4.9	6.1	5.3	4.1	2.9	4.4	5.2	0.3
Cash on hand (days)	205.6	333.5	262.4	234.3	194.2	172.7	175.9	157.6	110.8	98.1
Unrestricted cash and investments-to-total debt (%)	177.1	323.3	241.0	206.7	169.5	142.2	143.0	116.8	98.2	86.4
Unrestricted cash and investments-to-total adjusted debt (%)	142.1	251.2	191.8	180.2	134.6	111.1	122.1	98.2	77.7	56.0
Maximum annual debt service coverage (x)	3.6	6.7	5.7	5.0	4.9	3.2	2.4	2.7	1.9	0.5
Annual debt service coverage (x)	4.0	7.8	5.5	5.6	4.2	3.2	2.9	2.9	2.0	0.6
Total debt-to-cash flow (x)	3.6	2.4	3.0	3.4	3.7	4.5	4.8	4.7	6.4	3.2
Total debt-to-operating revenue (%)	31.0	25.7	31.1	30.2	30.9	33.5	38.9	26.4	32.1	34.5
Annual operating revenue growth rate (%)	5.1	5.5	6.2	5.2	4.8	5.3	4.6	5.9	5.3	0.5
Annual operating expense growth rate (%)	8.9	10.1	10.3	8.5	9.2	9.7	8.7	8.5	6.8	7.1
3 year operating revenue CAGR (%)	6.5	7.5	8.9	6.6	7.3	7.5	5.1	6.1	5.7	3.8
3 year operating expense CAGR (%)	7.7	9.1	8.9	7.8	8.3	7.9	6.5	6.7	5.9	5.8
Total debt-to-capitalization (%)	31.9	21.1	25.2	27.5	33.3	36.2	37.8	33.2	48.5	48.0
Current ratio (x)	1.7	1.3	1.7	2.0	1.8	1.5	1.7	1.8	1.6	1.6
Cushion ratio (x)	24.9	57.8	41.0	30.6	23.2	20.7	20.8	17.9	14.7	11.2
Return on assets (%)	1.7	3.2	3.1	2.4	2.0	1.0	-0.3	0.1	-0.5	-5.1
Accounts receivable (days)	48.0	48.8	47.9	48.6	49.2	46.9	44.2	46.8	42.4	52.7
Average payment period (days)	69.4	87.5	71.4	69.2	63.2	74.5	64.1	68.2	74.5	66.3
Capital spending ratio (x)	1.1	1.3	1.4	1.3	1.2	1.0	0.9	0.9	0.9	0.8
Average age of plant (years)	12.7	10.8	11.6	12.4	12.0	13.6	13.5	13.2	15.6	13.7
Monthly liquidity-to-demand debt (%) <sup>[5]</sup>	782.8	630.1	568.8	1,022.1	867.6	744.4	782.8	1,298.2	1,907.7	194.3
Annual liquidity-to-demand debt (%) <sup>[5]</sup>	892.6	1,030.9	892.0	1,047.8	929.9	744.4	885.1	1,298.2	2,099.5	194.3
Demand debt as a % of total direct debt (%)	13.9	26.5	27.1	17.6	14.2	10.4	7.6	0.0	3.2	0.0
Cash-to-demand debt (%)	971.5	1,246.8	1,064.6	1,077.5	1,022.8	738.5	780.0	1,298.2	671.4	194.3
Monthly liquidity-to-total cash and investments (%)	94.0	70.5	75.7	91.7	93.1	100.0	95.7	100.0	98.5	100.0
<b>Patient revenue sources by gross revenue (%)<sup>[6]</sup></b>										
Total Medicare	47.1	43.0	44.0	48.4	47.1	47.7	49.9	49.5	44.8	47.0
Total Medicaid	16.6	17.1	16.4	15.1	17.0	16.1	19.9	15.1	21.6	17.4
Total Commercial	31.5	33.0	33.7	30.9	29.7	31.4	26.3	31.3	26.6	31.4
Self-pay + other	5.0	5.3	4.9	4.9	5.6	4.7	3.0	5.3	6.1	4.9

[1] Financial data are based on 218 freestanding hospitals, single-state, and multistate healthcare systems. Data are as of 7/21/2023.

[2] Utilization based on smaller sample size where five years of consistent data are available.

[3] Combined Admissions and Observation Stays is a separately calculated median and does not equal the sum of median Admissions and median Observation Stays.

[4] Monthly and Annual Liquidity statistics are based on smaller sample sizes where five years of consistent data are available.

[5] Median values for monthly and annual liquidity to demand debt are derived from only those freestanding hospitals and single-state healthcare systems that have at least \$1 of demand debt outstanding.

[6] Payor Mix columns do not sum to 100% because each entry is a separately calculated median.

Source: Moody's Investors Service

## Moody's healthcare ratio definitions

Exhibit 12

Ratio	Computation
3 year operating revenue CAGR (%)	$(\text{Operating revenue current year} / \text{operating revenue three years ago})^{(1/3)} - 1$
Accounts receivable (days)	$(\text{Net patient accounts receivable} \times 365) / \text{net patient service revenue}$
Annual debt service coverage (x)	$\text{Net revenue available for debt service} / (\text{principal payments} + \text{interest expense})$
Annual liquidity (\$000)	The dollar amount of total cash and investments that can be liquidated in one year or less. Annual liquidity is inclusive of monthly liquidity.
Annual liquidity-to-demand debt (%)	$\text{Annual liquidity} / \text{demand debt}$
Average age of plant (years)	$\text{Accumulated depreciation} / \text{depreciation expense}$
Average payment period (days)	$(\text{Total current liabilities} \times 365) / (\text{total operating expenses} - \text{depreciation and amortization expenses})$
Capital spending ratio (x)	$\text{Additions to PP\&E} / \text{depreciation expense}$
Cash on hand (days)	$(\text{Unrestricted cash and investments} \times 365) / (\text{total operating expenses} - \text{depreciation and amortization expenses})$
Cash-to-demand debt (%)	$\text{Unrestricted cash and investments} / \text{demand debt}$
Current ratio (x)	$\text{Total current assets} / \text{total current liabilities}$
Cushion ratio (x)	$\text{Unrestricted cash and investments} / \text{estimated future peak debt service}$
Excess margin (%)	$(\text{Total operating revenue} - \text{total operating expenses} + \text{nonoperating income}) / (\text{total operating revenue} + \text{non-operating income})$
Maximum annual debt service coverage (x)	$\text{Net revenue available for debt service} / \text{estimated future peak principal payments and interest expense}$
Medicare case mix index	Measurements comparing acuity of Medicare patients among hospitals
Monthly liquidity (\$000)	The dollar amount of total cash and investments that can be liquidated in one month or less
Monthly liquidity-to-demand debt (%)	$\text{Monthly liquidity} / \text{demand debt}$
Monthly liquidity-to-total cash and investments (%)	$\text{Monthly liquidity} / \text{total cash and investments}$
Net debt (\$000)	Direct debt - CP of Trusteed fund for debt service - bond trustee held DSRF
Net revenue available for debt service (\$000)	$\text{Total operating revenue} - \text{total operating expenses} + \text{nonoperating income} + \text{depreciation and amortization expenses} + \text{interest expense}$
Operating cash flow margin (%)	$(\text{Total operating revenue} - \text{total operating expenses} + \text{interest expense} + \text{depreciation and amortization expenses} + \text{pension imputed interest expense}) / \text{total operating revenue}$
Operating margin (%)	$(\text{Total operating revenue} - \text{total operating expenses}) / \text{total operating revenue}$
Return on assets (%)	$\text{Excess of revenues over expenses} / \text{total assets from prior year}$
Total adjusted debt (\$000)	Direct debt + operating leases, and pension obligation, if applicable.
Total debt-to-capitalization (%)	$(\text{Long-term debt} + \text{short-term debt}) / (\text{long-term debt} + \text{short-term debt} + \text{unrestricted fund balance})$
Total debt-to-cash flow (x)	$(\text{Long-term debt} + \text{short-term debt}) / (\text{excess of revenues over expenses} + \text{depreciation and amortization expenses} + \text{interest expense} + \text{pension imputed interest expense})$
Total debt-to-total operating revenue (%)	$(\text{Long-term debt} + \text{short-term debt}) / \text{total operating revenue}$
Unrestricted cash and investments (\$000)	Unrestricted cash + short-term investments + board-designated cash and investments
Unrestricted cash and investments-to-total adjusted debt (%)	$\text{Unrestricted cash and investments} / \text{total adjusted debt}$
Unrestricted cash and investments-to-total debt (%)	$\text{Unrestricted cash and investments} / (\text{long term debt} + \text{short term debt})$

Source: Moody's Investors Service

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