MOODY'S INVESTORS SERVICE

RATING METHODOLOGY

# Not-For-Profit Healthcare

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Analyst Contacts:


SAN FRANCISCO +1.415.274.1708

Daniel Steingart +1.949.429.5355
*Vice President - Senior Credit Officer*
daniel.steingart@moodys.com

NEW YORK +1.212.553.1653

Lisa Martin +1.212.553.1423
*Senior Vice President*
lisa.martin@moodys.com

Lisa Goldstein +1.212.553.4431
*Associate Managing Director*
lisa.goldstein@moodys.com

Kendra M. Smith +1.212.553.4807
*Managing Director - Public Finance*
kendra.smith@moodys.com


This rating methodology replaces "Not-For-Profit Healthcare", last revised on November 1, 2017. We have removed outdated information and updated outdated links.

## Summary


This rating methodology explains our approach to assigning ratings to Not-For-Profit Hospitals and Health Systems. Our rating analysis for this sector covers credit factors that are common across all public finance sectors, such as governance and management, operating profitability and balance sheet strength as well as sector-specific factors, such as payor mix, federal regulatory reform and reimbursement trends.

This methodology provides a reference tool that can be used when evaluating credit profiles for not-for-profit hospitals and public hospitals that issue revenue-backed debt, helping investors, borrowers and other interested market participants understand how key quantitative and qualitative characteristics drive and influence rating outcomes. It provides an in depth discussion of the three main analytical factors and ratios that generally apply to all not-for-profit and public hospitals and are major drivers of hospital ratings. However, it does not include an exhaustive discussion of all factors and ratios that might be considered relevant in determining an individual hospital's unique credit attributes.

Highlights of this report include:

» An overview of the rated universe

» Summary of the rating methodology

» A description of the scorecard factors

» Comments on the rating methodology's assumptions and limitations, including a discussion of rating considerations that are not included in the scorecard

This report includes a scorecard that can be used to approximate credit profiles within the not-for-profit healthcare sector. The scorecard provides guidance for the factors we generally consider most important when assigning a credit rating. The weights for each factor in the scorecard approximate relative importance in a rating decision, but the actual importance for an individual hospital or health system may vary substantially. The scorecard is a guideline for rating committee discussion and does not determine the final rating on its own.


THIS RATING METHODOLOGY WAS UPDATED ON OCTOBER 10, 2019. WE HAVE UPDATED SOME OUTDATED REFERENCES AND ALSO MADE SOME MINOR FORMATTING CHANGES.

THIS RATING METHODOLOGY WAS UPDATED ON MARCH 17, 2021. WE HAVE CLARIFIED HOW THE SCORECARD FACTORS MAP TO THE SCORECARD INDICATED OUTCOME.

The scorecard details three broad factors that are important in our assessment of hospital ratings:

1. Market Position
2. Operating Performance and Liquidity
3. Leverage

Our analysis may also be guided by additional methodologies describing our approach for analytical considerations that are not specific to a single sector. Examples of such considerations include, but are not limited to, the assignment of short-term ratings, the relative ranking of different classes of debt, and the assessment of credit support from other entities.[1]

## About the Rated Universe

We rate US not-for-profit and public hospitals and health systems.

## Applying This Rating Methodology

The scorecard in this methodology is the starting point for the consideration of a rating. It is neither a rating calculator nor a comprehensive list of all factors affecting the rating. We incorporate other ratios and other credit-specific considerations into our analysis that are not otherwise captured in the scorecard. These considerations can account for variation between the final rating and the scorecard-indicated outcome.

### Identification and Discussion of the Scorecard Factors

The scorecard provides guidance for the elements that are generally most important in assigning ratings to not-for-profit hospitals and health systems in the US. In the scorecard, each sub-factor is assigned a weight and a value. The sub-factor weights are the same for all not-for-profit hospitals and are intended to approximate their typical importance for a rating decision. The values are hospital-specific and incorporate our adjustments to a hospital's balance sheet, income statement, and cash flow statement.



[1] A link to an index of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

EXHIBIT 1

**Not-For-Profit Healthcare Scorecard**

| Broad Factors | Factor Weighting | Sub-Factors | Sub-Factor Weighting |
|---|---|---|---|
| Market Position | 45% | **Scope of Operations**<br>Operating Revenue ($000) | 25% |
| | | **Market Demand**<br>Three-year Operating Revenue CAGR (%) | 10% |
| | | **Market Landscape** | 10% |
| Operating Performance & Liquidity | 35% | **Operating Performance**<br>Operating Cash Flow Margin (%) | 10% |
| | | **Payor Concentration**<br>Gross Revenue of Combined Medicare and Medicaid (%) | 10% |
| | | **Financial Reserves**<br>Cash on Hand (days) | 10% |
| | | **Financial Management and Reinvestment** | 5% |
| Leverage | 20% | **Financial Leverage**<br>Unrestricted Cash & Investments to Total Debt (%) | 10% |
| | | **Debt Affordability**<br>Total Debt to Cash Flow (x) | 10% |
| | | Total Scorecard-Indicated Outcome | 100% |

## Mapping Scorecard Factors to Rating Categories

After estimating or calculating each sub-factor, the outcomes are mapped to a broad Moody's rating category (Aaa, Aa, A, Baa, Ba, B, Caa, or Ca and below, also called alpha categories).

## Determining the Overall Scorecard-Indicated Outcome

To determine the overall scorecard-indicated outcome, we convert each of the sub-factor scores into an alphanumeric value based upon a continuum along the scale below.

| Aaa | Aa | A | Baa | Ba | B | Caa | Ca & below |
|---|---|---|---|---|---|---|---|
| 1 | 3 | 6 | 9 | 12 | 15 | 18 | ≥20 |

The alphanumeric score for each sub-factor is multiplied by its relative importance, or weight, with the results then summed to produce an aggregate weighted factor score. The aggregate weighted factor score is then mapped back to an alphanumeric score based on the ranges in the table below (Exhibit 2).

EXHIBIT 2

**Scorecard-Indicated Outcome**

| Scorecard-Indicated Outcome | Aggregate Weighted Factor Score |
|---|---|
| Aaa | x ≤ 1.5 |
| Aa1 | 1.5 < x ≤ 2.5 |
| Aa2 | 2.5 < x ≤ 3.5 |
| Aa3 | 3.5 < x ≤ 4.5 |
| A1 | 4.5 < x ≤ 5.5 |
| A2 | 5.5 < x ≤ 6.5 |
| A3 | 6.5 < x ≤ 7.5 |
| Baa1 | 7.5 < x ≤ 8.5 |
| Baa2 | 8.5 < x ≤ 9.5 |
| Baa3 | 9.5 < x ≤ 10.5 |
| Ba1 | 10.5 < x ≤ 11.5 |
| Ba2 | 11.5 < x ≤ 12.5 |
| Ba3 | 12.5 < x ≤ 13.5 |
| B1 | 13.5 < x ≤ 14.5 |
| B2 | 14.5 < x ≤ 15.5 |
| B3 | 15.5 < x ≤ 16.5 |
| Caa1 | 16.5 < x ≤ 17.5 |
| Caa2 | 17.5 < x ≤ 18.5 |
| Caa3 | 18.5 < x ≤ 19.5 |
| Ca & below | x > 19.5 |

## Assumptions, Limitations and Rating Considerations Not Included in the Scorecard

The scorecard in this rating methodology represents a decision to favor simplicity that enhances transparency over greater complexity that would enable the scorecard-indicated outcome to map more closely to actual ratings. The total scorecard-indicated outcome will not match the actual rating in every case for a number of reasons, including the following:

» Our ratings incorporate expectations of future performance while the mapping for the scorecard is based on historical financial statements.

» The scorecard is not an exhaustive list of every rating consideration.

» In some circumstances, the importance of one factor may exceed its prescribed weight in this methodology.

Variance between the scorecard-indicated outcome and actual ratings reflects the importance of forecasts of financial performance and our analysis of qualitative rating factors. These elements are of particular importance for the highest and lowest rating categories (e.g. Aaa and Caa and below), as illustrated by the lower correlation of scorecard-indicated outcomes to ratings at these rating extremes. For example, for speculative grade rated entities, performance inconsistent with historical trends, more rapid rates of change due to higher risk profiles, or the outsized importance of a particular rating factor can contribute to variance from the scorecard-indicated outcome.

Management and governance are intrinsic in each of the scorecard factors as a hospital's board and senior leadership greatly influence and inform strategy, financial goals and performance and transparency with creditors. Our updated scorecard integrates the role of management and governance and is specifically addressed in the sub factor: Financial Management and Reinvestment.

The scorecard is meant to be used as a tool within the context of the broader methodology. The broader methodology incorporates the qualitative elements that distinguish each individual hospital or health system. Again, we have favored simplicity in the scorecard rather than comprehensiveness. Final ratings in many cases will not match the scorecard-indicated outcome because of various other credit considerations.

In this methodology, we have also limited our detailed discussion of other credit considerations to those most likely to result in a final rating differing from the scorecard-indicated outcome. These can include multi-year trends, our forward analysis of the impact of key initiatives or trends, governmental and other support, and debt structure considerations. Other factors will continue to be important for certain credits, but may not be broadly applicable across the portfolio.

## Scorecard Factors

The scorecard is comprised of nine sub-factors capturing key elements of a hospital's market position, operating performance and liquidity, and leverage. Each sub-factor is assigned a weight, totaling 45% for market position, 35% for operating performance and liquidity, and 20% for leverage.

### Factor 1: Market Position

#### Why it Matters

A hospital, or health system, with a strong market position has a greater ability to attract patients and physicians to its facilities, creating greater leverage with commercial payors and supporting growth and profitability. Market position, therefore, provides the foundation for a hospital's long-term financial health.

A hospital's market position refers not only to the general environment a hospital operates in but also describes the hospital itself. Our analysis of market position takes into account quantitative factors such as revenue base, revenue growth rate, and qualitative factors such as regulatory environment, competition, and service area demographics. In addition, we may consider other quantitative and qualitative sub-factors, which are described in the "Other Credit Considerations" section.

The three relevant sub-factors are:

A. Scope of Operations

B. Market Demand

C. Market Landscape

#### A. Scope of Operations

The size and breadth, or scope of operations, of a hospital is a general gauge of its significance in its region. A greater scope of operations typically indicates stability, diversification of product lines and revenue sources, and the ability to take advantage of economies of scale and generate sufficient cash flow for capital investment. The broader the geographic reach, the better insulated a hospital will be from regional economic or demographic conditions.

While a large scope of operations is generally an indicator of credit strength, increase in scale through mergers and acquisitions add challenges of integration. Realizing the benefits of size and scope is

fundamental to a hospital's credit profile. Inability to achieve economies of scale and generate sufficient cash flow can lead to a lower credit rating.

*Relevant Metric*

» Operating Revenue indicates the scale of a hospital's operations. A larger operating base generally reflects greater stability, diversity, and ability to withstand market disruptions. Typically, a larger revenue base is associated with a higher rating.

### B. Market Demand

The willingness of patients to seek a hospital's services determines its potential to grow revenue. This willingness can be affected by the breadth of services offered, the number and convenience of access points, a hospital's relationship with its physicians, and the relative ability of patients to pay for services, among other things. High demand can translate into leverage with commercial health insurance payors, better reimbursement, and consistent revenue growth. Healthcare inflation and the cost of supplies, drugs and capital inflation typically grow faster than the general rate of inflation. Therefore, a hospital's ability to generate increasing revenue is a key indicator of financial strength.

*Relevant Metric*

» Three-year Operating Revenue Compound Average Growth Rate (CAGR) reflects the ability of a hospital to consistently generate increasing revenue over the long term. The pace of revenue growth reflects the ability of the hospital to grow patient volumes and generate reimbursement increases from commercial healthcare insurance companies. We use the three-year operating revenue CAGR to smooth the volatility in annual revenue growth rates that can be due to the occurrence of mergers and acquisitions or divestitures.

### C. Market Landscape

The environment in which a hospital operates has substantial influence on its growth and financial well-being. A higher level of regulation (certificate of need) creates barriers to entry and limits competition which is viewed positively, all other factors being equal. High population growth rates, low unemployment rates and high wealth indices are viewed favorably as they increase demand for services and signify an individual's ability to pay. A larger number of different providers in a service area is viewed as a challenge, but the ability of a particular hospital to draw a greater share of admissions can increase bargaining power and reflect essentiality of services.

Market share measures are a consideration but have several significant limitations: 1) market share is typically calculated based on inpatient admissions whereas an increasing share of patient services are provided in an outpatient setting; 2) there is no accepted definition of how to calculate market share, therefore the geography over which market share is calculated often varies; and 3) market share is measured at the hospital level and may not capture strong share in particular service lines, or reflect the delivery of unique services. Increasingly, we examine a hospital's position within its market relative to other providers, rather than market share data.

*Relevant Metric*

» We assess Market Landscape on a qualitative basis. The broad criteria are included in Appendix C.

**Factor 1: Market Position - Not-For-Profit Healthcare (45% Weight)**

| | Sub-factor Weight | Aaa | Aa | A | Baa | Ba | B | Caa | Ca & below |
|---|---|---|---|---|---|---|---|---|---|
| Scope of Operations Operating Revenue ($000) | 25% | ≥ 10,000,000 | < 10,000,000 ≥ 1,500,000 | < 1,500,000 ≥ 500,000 | < 500,000 ≥ 250,000 | < 250,000 ≥ 150,000 | < 150,000 ≥ 80,000 | < 80,000 ≥ 40,000 | < 40,000 |
| Market Demand Three-year Operating Revenue CAGR (%) | 10% | ≥ 14 | < 14 ≥ 8 | < 8 ≥ 3.5 | < 3.5 ≥ 2 | < 2 ≥ 0 | < 0 ≥ -1.5 | < -1.5 ≥ -3 | < -3 |
| Market Landscape | 10% | Exceptional | Excellent | Very Good | Good | Fair | Poor | Very Poor | Extremely Poor |

## Factor 2: Operating Performance and Liquidity

### Why it Matters

Strong operating performance enables a hospital to repay debt from regular operating cash flow while providing funds for strategic investment in facilities and clinical services. Liquidity or financial reserves enable a hospital to withstand periods of volatility in its operating performance.

Hospitals face the challenge of balancing spending to support the mission, clinical services and capital reinvestment with sustaining long-term financial viability. The ability to achieve surplus operating performance is important for the long-run financial health of all hospitals, but is especially critical for those that do not have significant financial reserves.

Hospitals with higher levels of liquidity are better positioned to weather prolonged periods of economic and market volatility, helping to ensure that bondholders will be repaid on time.

The four relevant sub-factors are:

A. Operating Performance

B. Payor Concentration

C. Financial Reserves

D. Financial Management and Reinvestment

### A. Operating Performance

Trends in operating performance provide insight into a hospital's financial policies and management's ability to manage expenses and grow revenue. A hospital's ability to consistently generate strong cash from operations helps ensure a sustainable business model. A financially healthy hospital will generate sufficient cash flow to support strategic financial and capital investments. In an era of reduced government spending on healthcare, it is ever more important for hospitals to control expenses to match the limited revenue growth.

In addition to single year performance, we also consider trends in operating performance when assigning a rating. Steady, consistent, and predictable operating results or improving financial results indicate the strength of management's budgeting, financial planning and ability and willingness to make expense reductions during challenging cycles. Operating performance that varies significantly year to year or consecutive years of weak financial performance usually indicate competitive or management problems. Inability to generate adequate cash flow to support operations and strategic investments can indicate weak financial planning or a poor competitive or regulatory environment.

Our analysis begins with a hospital's audited financial results, and includes a review of budgets and projections. We also regularly review quarterly financial performance and may make rating decisions based on interim performance.

*Relevant Metric*

» Operating Cash Flow Margin compares operating cash flow (operating income before depreciation, amortization and interest expense) relative to operating revenue to indicate the ability of a hospital to generate cash flow from operations and support strategic and capital investments.

### B. Payor Concentration

Concentration of government revenue sources adds pressure to operating performance because Medicare and Medicaid generally reimburse hospitals at a rate far lower than commercial insurance. Highly concentrated revenue sources make a hospital vulnerable to reimbursement fluctuation and risks related to the payor which can affect revenue growth and profitability. Increases in government reimbursement are expected to be narrow as federal and state governments limit growth in healthcare spending. The hospital industry compensates for the lower reimbursement by "cost shifting" or charging higher rates to commercial insurers to protect profitability.

*Relevant Metric*

» Percent of Gross Revenue from Combined Medicare and Medicaid captures a hospital's reliance on government payors (Medicare and Medicaid, including Medicare and Medicaid managed care plans) to indicate the level of exposure to changes in reimbursement. Generally, a lower share of gross revenue attributable to Medicare and Medicaid is credit positive, reducing a hospital's vulnerability to the fluctuations in government reimbursement.

### C. Financial Reserves

A hospital's unrestricted cash and investments provide a snapshot of how long it can fund operating expenses with financial reserves. Unrestricted liquidity is critical for a hospital's near-term ability to meet operating, capital, and debt service requirements. Greater unrestricted cash and investments, absent externally imposed restrictions on investments, indicates greater financial flexibility and ability to meet short-term, emergency needs.

*Relevant Metric*

» Days Cash on Hand measures the number of days a hospital could continue to fund operating expenses from existing unrestricted cash and investments in the absence of cash flow, assuming equal daily expenditures. Generally, a higher number of days is credit positive, indicating greater financial flexibility and ability to withstand disruption.

### D. Financial Management and Reinvestment

Strategy and financial health are all fundamentally driven by decisions made by a hospital's board members and leadership team and affect credit position. In addition to the assessment of quantitative measures, our analysis of governance and management focuses on the ability to develop and execute short- and long-range plans; customization of enterprise risk management and oversight based on business complexity; and the discipline to measure performance and implement change based on internal objectives or shifts in the competitive landscape.

Management's ability to evaluate a hospital's areas of strength and weakness relative to key competitors and to track progress against established goals is an integral part of determining strategic direction. Determining the appropriate level of investment in capital to support strategies is fundamental to a hospital's credit quality. Too little investment can result in a gradual loss of market demand, if patients feel

that facilities and equipment are in decline. On the other hand, overinvesting in clinical services or facilities can create an unsustainable business model, with revenue unable to support high fixed costs and debt service.

The weight of governance and management assessment in our analysis is particularly important when a hospital is facing strategic change, including: embarking on a major capital expansion program, initiating a significant new borrowing, undergoing financial stress or facing a weakening market position, or experiencing high turnover in senior management. The analysis of governance and management relies on a comparative analysis across our rated portfolio of hospitals and health systems, as well as a number of the qualitative factors included in the scorecard.

*Relevant Metric*

» We assess Financial Management and Reinvestment on a qualitative basis. The broad criteria are included in Appendix D.

**Factor 2: Operating Performance and Liquidity - Not-For-Profit Healthcare (35% Weight)**

| | Sub-factor Weight | Aaa | Aa | A | Baa | Ba | B | Caa | Ca & below |
|---|---|---|---|---|---|---|---|---|---|
| Operating Results | 10% | ≥ 18 | < 18 | < 12 | < 8 | < 5 | < 2 | < -1 | < -3 |
| Operating Cash Flow Margin (%) | | | ≥ 12 | ≥ 8 | ≥ 5 | ≥ 2 | ≥ -1 | ≥ -3 | |
| Payor Concentration | 10% | ≤ 35 | > 35 | > 47 | > 59 | > 67 | > 76 | > 83 | > 93 |
| Gross Revenue of Combined Medicare and Medicaid (%) | | | ≤ 47 | ≤ 59 | ≤ 67 | ≤ 76 | ≤ 83 | ≤ 93 | |
| Financial Reserves | 10% | ≥ 400 | < 400 | < 250 | < 150 | < 80 | < 55 | < 40 | < 20 |
| Cash on Hand (days) | | | ≥ 250 | ≥ 150 | ≥ 80 | ≥ 55 | ≥ 40 | ≥ 20 | |
| Financial Management and Reinvestment | 5% | Exceptional | Excellent | Very Good | Good | Fair | Poor | Very Poor | Extremely Poor |

## Factor 3: Leverage

### Why it Matters

The examination of liquidity and profitability relative to a hospital's debt burden, or leverage, is critical to understanding its ability to repay debt while continuing to fund capital. Elevated leverage could constrain a hospital's ability to fund value-enhancing projects, improve service offerings, or pursue growth opportunities. Conversely, moderate or low leverage implies greater financial flexibility.

A hospital's financing decisions also provide insight into the strength and diversity of its capital funding sources and its risk appetite. A range of capital funding and financing strategies contribute to credit strength by reducing reliance on any single source. It is important, however, to balance a diverse debt structure with the appropriate level of financial reserves and profitability.

The two relevant sub-factors are:

A. Financial Leverage

B. Debt Affordability

### A. Financial Leverage

The level of financial reserves relative to debt is a key indicator of balance sheet flexibility. A higher degree of reserves relative to debt reduces the risk that either short- or medium-term operating weakness will

result in default. The importance of a hospital's balance sheet cushion to debt depends, in part, on its debt structure and strength and consistency of its operations.

*Relevant Metric*

» **Unrestricted Cash and Investments to Total Debt** reflects the ability of a hospital to repay bondholders from unrestricted cash and investments. This measure is of particular importance when elevated debt structure risks are present, such as demand debt, which a hospital could be forced to repay immediately.

### B. Debt Affordability

Measures of debt affordability and coverage provide a view of the degree to which a hospital is able to generate sufficient cash flow to allow for debt service repayment and fund reinvestment. We focus on debt affordability by comparing the total amount of debt outstanding relative to total annual cash flow (net income before depreciation, amortization, interest, and other non-cash expenses). We also take into account new revenue generated by financed projects. More affordable debt burden translates into greater financial flexibility.

*Relevant Metric*

» **Total Debt to Cash Flow** expresses the time in years it would take to pay down the principal amount of debt outstanding if all cash flow were directed toward debt repayment, as opposed to reserves, and is a measure of debt affordability. The measurement includes a 5% smoothing on unrestricted cash and investments and unrestricted contributions as part of net income. A lower ratio is a credit positive as it implies a lower debt burden.

**Factor 3: Leverage - Not-For-Profit Healthcare (20% Weight)**

| | Sub-factor Weight | Aaa | Aa | A | Baa | Ba | B | Caa | Ca & below |
|---|---|---|---|---|---|---|---|---|---|
| Financial Leverage | 10% | ≥ 300 | < 300 | < 180 | < 100 | < 65 | < 30 | < 9 | < 6 |
| Unrestricted Cash & Investments to Total Debt (%) | | | ≥ 180 | ≥ 100 | ≥ 65 | ≥ 30 | ≥ 9 | ≥ 6 | |
| Debt Affordability | 10% | ≤ 1 | > 1 | > 2.5 | > 4 | > 5.5 | > 7.5 | > 9 | > 10.5 |
| Total Debt to Cash Flow (x) | | | ≤ 2.5 | ≤ 4 | ≤ 5.5 | ≤ 7.5 | ≤ 9 | ≤ 10.5 | |

### Total Debt Includes Debt Guarantees and Contingent Liabilities

Hospitals often guarantee the debt of physician joint ventures, affiliated hospitals, and other organizations. These guarantees are treated as obligations of the rated entity and are included in all leverage ratios. Similarly, debt that is insured by a third party including the Federal Housing Administration or various state specific insurance programs is considered debt of the hospital because the hospital is still responsible for making debt service payments.

We include debt guarantees and contingent liabilities in our analysis under the following circumstances:

- Third-party debt is included if the hospital has explicitly and irrevocably guaranteed the debt
- Debt insured by a third party is included so long as the primary security for the debt repayment is the hospital; this includes debt insured by the Federal Housing Administration, or state agencies
- Debt backed by a Limited Tax General Obligation pledge is included in leverage ratios because if tax revenues are insufficient to make debt service, the taxing authority may not be able to raise taxes to increase revenue and the hospital must pay debt service payments
- Debt backed by an Unlimited Tax General Obligation pledge is excluded from Total Debt and leverage ratios because the issuing authority has covenanted to levy sufficient taxes to make debt service payments and has the authority to raise taxes, without limitation as to the rate or amount, in order to do so

## Other Credit Considerations

In this section, we discuss the most common other credit considerations impacting our analysis. These are illustrative considerations that serve as a guide, not an exhaustive list of considerations. We present this sample of other credit considerations as they align with the different scorecard factors.

### Market Position

#### Ownership Model

Ownership by a university or local government and the associated financial linkages may enhance oversight or financial stability of the hospital. A linkage can also detract if the university or local government limits a hospital's ability to adjust to changes in its operating environment.

Our opinion of the relative strength or weakness of a hospital's linkages to a university or local government is informed by a number of factors including: the level of authority exerted over the hospital; the degree of a hospital's dependence on funding; and the intrinsic creditworthiness of each party. Further consideration is given to the ability and demonstrated willingness of the university or government to provide extraordinary support. Since extraordinary support often occurs after severe fiscal stress, and extraordinary support is not guaranteed, a hospital's rating could deteriorate substantially prior to intervention.

#### Event Risk

A hospital's ability to respond to event risk or other atypical risks can add or subtract to a hospital's credit profile. Hospitals are vulnerable to sudden event risk, including but not limited to natural disasters or unfavorable malpractice judgments. Hospitals also face exposure to various other risks, such as changes in federal regulation, competitor consolidation or union strife. Such events and risks are not explicitly captured in the scorecard.

Mergers and acquisitions can also add to or subtract from a hospital's credit profile. M&A brings integration risk and increased leverage but can rescue small struggling hospitals that are acquired by larger, stronger systems. We evaluate M&A on an individual basis based on required approvals and timing of closing the transaction.

## Operating Performance and Liquidity

### Multi-Year Trends

The momentum and direction of credit trends are integral to our forward-looking analysis. Trend analysis helps inform our evaluation of hospital-provided assumptions and forecasts, demonstrates the outcomes of management decisions, and sometimes reveals underlying credit issues not evident in a point-in-time analysis. The pace at which a trend develops can influence the magnitude of the credit impact. Deterioration of credit quality can occur quickly, particularly if management is slow or fails to address fundamental fiscal imbalance.

### Liquidity Quality

The source and predictability of liquidity, beyond coverage metrics, can affect a hospital's ability to meet short-term needs. External sources of liquidity may not be available to a hospital when it has the greatest need due to covenants, counterparty risk, or market disruptions. Therefore, our analysis begins with the hospital's internal reserves free from external restrictions, the potential volatility of those reserves, and projections on cash flow.

A hospital's investment strategy, or asset allocation, also provides a snapshot of the level of risk a hospital is willing to take. An allocation is broadly measured by its relative weighting in equities and alternative assets, which may have more variable performance, compared with its weighting in less risky cash and short-term fixed income. We believe that an asset allocation which matches the volatility of the hospital's operating profile as well as its need to support capital projects or programs with internal funds is a credit positive. Conversely, it is often viewed as a credit negative when hospitals with weak operating performance adopt aggressive investment allocations and limit their access to liquidity.

## Leverage

### Debt Structure Considerations

A hospital's debt structure can have liquidity and cash flow implications. The priority of claims, maturity, security, and terms and conditions of a debt instrument affect the amount of and circumstances under which a hospital is expected to make payments, regularly scheduled or accelerated. Security provisions and covenants provide a source of protection to bondholders and can determine the priority of payments between creditors. In some cases, security provisions provided to creditors other than bondholders can result in effective subordination of bondholders, resulting in credit distinctions.

### Pension, Other Post-Employment Obligations and Operating Leases

Pensions, other post-employment benefits and operating leases are long-term liabilities that have immediate expense implications. We evaluate the magnitude of these obligations relative to the level of unrestricted cash and investments of the hospital. For public hospitals with defined benefit pension plans, we review whether the hospital or government is responsible for making benefit payments, the funding status for pension plans, and the potential for change through reform.[2]

[2] A link to an index of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

## Appendix A: Metric Definitions

### Market Position

*Operating Revenue* indicates the scale of a hospital's operations. A larger operating base generally reflects greater revenue diversity and ability to withstand market disruptions.

Operating Revenue includes all unrestricted revenue (including net patient revenue, net assets released from restrictions for operations, unrestricted contributions for operations, tax revenue for operations, and other operating revenue); it excludes funds to be spent on capital and investment returns.

*Three-year Operating Revenue CAGR* reflects the ability of a hospital to consistently generate increasing revenue over the long term. The pace of revenue growth reflects the ability of the hospital to grow patient volumes and generate reimbursement increases from commercial healthcare insurance companies.

(Operating Revenue Current Year divided by Operating Revenue Current Year minus 3) ^ (1/3) - 1

### Operating Performance and Liquidity

*Operating Cash Flow Margin* compares operating income before non-cash expenses relative to operating revenue to indicate the amount of cash a hospital generates from operations.

Operating income plus depreciation, amortization, and interest, divided by Operating Revenue, multiplied by 100

*Payor Concentration* captures a hospital's reliance on government payors (Medicare and Medicaid) to indicate the level of exposures to changes in reimbursement. Generally, a lower share of gross revenue attributable to Medicare and Medicaid is credit positive, reducing a hospital's vulnerability to narrow increases in government reimbursement.

Percentage of combined gross revenue derived from Medicare, Medicare managed care, Medicaid and Medicaid managed care

*Days Cash on Hand* measures the number of days a hospital could continue to fund operating expenses from existing unrestricted cash and investments in the absence of cash flow, assuming equal daily expenditures. Generally, a higher number of days is credit positive, indicating greater financial flexibility and ability to withstand disruption.

Unrestricted cash and investments, multiplied by 365, divided by operating expenses less depreciation and amortization expense

## Leverage

*Unrestricted Cash and Investments to Total Debt* reflects the ability of a hospital to repay bondholders from unrestricted liquidity. This measure is of particular importance when elevated debt structure risks are present, such as demand debt, which a hospital could be forced to repay immediately.

Unrestricted cash and investments, divided by Total Debt

*Total Debt to Cash Flow* expresses the time in years it would take to pay down the principal amount of debt outstanding if all cash flow were directed toward debt repayment, as opposed to reserves, and is a measure of debt affordability. A lower ratio is a credit positive as it implies a lower debt burden.

Total Debt divided by net income (including a 5% smoothing on unrestricted cash and investments and unrestricted contributions) plus depreciation, amortization, interest, and other large non-cash expenses

## Appendix B: Not-For-Profit Healthcare Scorecard Ranges

| | Sub-factor Weight | Aaa | Aa | A | Baa | Ba | B | Caa | Ca & below |
|---|---|---|---|---|---|---|---|---|---|
| **Factor 1: Market Position (45%)** | | | | | | | | | |
| Scope of Operations<br>Operating Revenue ($000) | 25% | ≥ 10,000,000 | < 10,000,000<br>≥ 1,500,000 | < 1,500,000<br>≥ 500,000 | < 500,000<br>≥ 250,000 | < 250,000<br>≥ 150,000 | < 150,000<br>≥ 80,000 | < 80,000<br>≥ 40,000 | < 40,000 |
| Market Demand<br>Three-year Operating Revenue CAGR (%) | 10% | ≥ 14 | < 14<br>≥ 8 | < 8<br>≥ 3.5 | < 3.5<br>≥ 2 | < 2<br>≥ 0 | < 0<br>≥ -1.5 | < -1.5<br>≥ -3 | < -3 |
| Market Landscape | 10% | Exceptional | Excellent | Very Good | Good | Fair | Poor | Very Poor | Extremely Poor |
| **Factor 2: Operating Performance and Liquidity (35%)** | | | | | | | | | |
| Operating Results<br>Operating Cash Flow Margin (%) | 10% | ≥ 18 | < 18<br>≥ 12 | < 12<br>≥ 8 | < 8<br>≥ 5 | < 5<br>≥ 2 | < 2<br>≥ -1 | < -1<br>≥ -3 | < -3 |
| Payor Concentration<br>Gross Revenue from Combined Medicare and Medicaid (%) | 10% | ≤ 35 | > 35<br>≤ 47 | > 47<br>≤ 59 | > 59<br>≤ 67 | > 67<br>≤ 76 | > 76<br>≤ 83 | > 83<br>≤ 93 | > 93 |
| Financial Reserves<br>Cash on Hand (days) | 10% | ≥ 400 | < 400<br>≥ 250 | < 250<br>≥ 150 | < 150<br>≥ 80 | < 80<br>≥ 55 | < 55<br>≥ 40 | < 40<br>≥ 20 | < 20 |
| Financial Management and Reinvestment | 5% | Exceptional | Excellent | Very Good | Good | Fair | Poor | Very Poor | Extremely Poor |
| **Factor 3: Leverage (20%)** | | | | | | | | | |
| Financial Leverage<br>Unrestricted Cash & Investments to Total Debt (%) | 10% | ≥ 300 | < 300 ≥ 180 | < 180 ≥ 100 | < 100 ≥ 65 | < 65 ≥ 30 | < 30 ≥ 9 | < 9 ≥ 6 | < 6 |
| Debt Affordability<br>Total Debt to Cash Flow (x) | 10% | ≤ 1 | > 1<br>≤ 2.5 | > 2.5<br>≤ 4 | > 4<br>≤ 5.5 | > 5.5<br>≤ 7.5 | > 7.5<br>≤ 9 | > 9<br>≤ 10.5 | > 10.5 |

## Appendix C: Market Landscape (10%): Regulatory Environment, Service Area Demographics, Competition

| | Aaa<br>Exceptional | Aa<br>Excellent | A<br>Very Good | Baa<br>Good | Ba<br>Fair | B<br>Poor | Caa<br>Very Poor | Ca & below<br>Extremely Poor |
|---|---|---|---|---|---|---|---|---|
| Market Landscape | » Decidedly favorable regulatory and reimbursement environment<br>» No competition<br>» Exceptional demographics over a broad service area | » Very favorable regulatory and reimbursement environment<br>» Minimal competition<br>» Very favorable demographics over a broad service area | » Favorable regulatory and reimbursement environment<br>» Modest competition with clear competitive advantage<br>» Favorable service area demographics | » Neutral to somewhat positive regulatory and reimbursement environment<br>» Moderate competition and some competitive advantage<br>» Modestly favorable service area demographics | » Neutral regulatory and reimbursement environment<br>» Moderate competition with limited competitive advantage<br>» Modest service area demographics | » Negative regulatory and reimbursement environment<br>» Intense competition with minimal competitive advantage<br>» Weak service area demographics | » Negative regulatory environment with considerable reimbursement pressure<br>» Intense competition with no competitive advantage<br>» Poor service area demographics | » Decidedly negative regulatory environment with pronounced reimbursement pressure<br>» Extensive competition with limited viability<br>» Very poor service area demographics |

## Appendix D: Financial Management and Reinvestment (5%): Strategy, Capital Investment, Budgeting and Forecasting

| | Aaa<br>Exceptional | Aa<br>Excellent | A<br>Very Good | Baa<br>Good | Ba<br>Fair | B<br>Poor | Caa<br>Very Poor | Ca & below<br>Extremely Poor |
|---|---|---|---|---|---|---|---|---|
| Financial Management and Reinvestment | » Extremely well-articulated business strategies and policies with associated long range forecasts and proven ability to consistently execute<br>» Annual capital investment ensures well-maintained and updated facilities | » Clearly articulated multi-year strategic, capital, and financial plans with associated forecasts<br>» Regular capital investment over a multi-year period with limited deferred maintenance | » Periodic comprehensive multi-year strategic and financial planning with associated forecasts<br>» Periodic capital investment with modest amounts of deferred maintenance | » Strategic and financial planning limited to medium-term time horizon<br>» Sporadic capital investments and moderate deferred maintenance | » Limited comprehensive operating, capital planning and forecasting<br>» Irregular capital investments with growing deferred maintenance | » Weak or ineffectual operating and capital forecasting<br>» Growing deferred maintenance of facilities and infrastructure | » Financial policies that can be major contributor to a likelihood of near term default and the absence of detailed operational and financial planning and forecasting<br>» Significant deferred maintenance | » Financial policies that can be major contributors to a high likelihood of near term default and no identifiable operational or capital planning<br>» Material deferred maintenance leading to safety concerns |

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Author
Lisa Goldstein

Senior Production Associate
Anthony Toribio



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