

CREDIT OPINION

25 April 2017

Update

Rate this Research >>

Analyst Contacts

Lisa Goldstein 212-553-4431
Associate Managing Director
 lisa.goldstein@moodys.com

Beth I. Wexler 212-553-1384
VP-Sr Credit Officer
 beth.wexler@moodys.com

Meredith Moore 212-553-4850
Analyst
 meredith.moore@moodys.com

Vanderbilt University Medical Center, TN

Update: Moody's Affirms A3 on Vanderbilt University Medical Center (TN); Outlook Stable

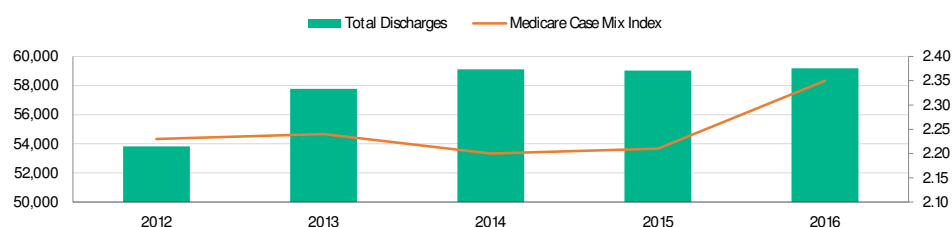
Summary Rating Rationale

Moody's Investors Service affirms the A3 rating assigned to Vanderbilt University Medical Center's (TN) outstanding bonds of approximately \$926 million, the tax-exempt portion of which is issued through the Health and Educational Facilities Board of The Metropolitan Government of Nashville and Davidson County. The outlook is stable.

The A3 rating reflects Vanderbilt University Medical Center's (VUMC) favorable, albeit modest, operating performance following the April 30, 2016 legal separation from Vanderbilt University. Operating cash flow is ahead of projections through mid-FY 2017 with expectations of similar results through the end of the fiscal year. Volume growth and rising acuity contributed to the stronger performance, reflecting VUMC's strong brand equity as the quaternary academic medical center for Vanderbilt University's School of Medicine and the extensive Vanderbilt Health Affiliated Network. Some moderation in performance is anticipated for FY 2018, however, due to the comprehensive IT installation scheduled in November 2018. Liquidity levels are unfavorable to A3 medians providing minimal financial cushion, although a line of credit is expected to remain in place. Management remains highly focused on improving liquidity over the next three to four years.

Exhibit 1

Strong Volume Growth Translates into Rising Acuity



Source: Moody's Investors Service

Credit Strengths

- » Large integrated, quaternary academic medical center and the largest comprehensive research, teaching and health system in Tennessee with \$3.7 billion in operating revenue forecasted in FY 2017

- » Maintenance of integrated relationship with Vanderbilt University (Aa2) including overlapping minority board membership and senior leadership roles at the School of Medicine
- » Large network of 65 affiliated hospitals in five states contributing to strong volume growth
- » Favorable, albeit modest, operating cash flow through the first half of FY 2017 with expectations of margin maintenance through the balance of the fiscal year
- » Multi-year managed care contracts in place and state's 1115 waiver extends through 2021; anticipated reduction in supplemental funding (\$5 million in FY 2018) absorbable

Credit Challenges

- » Upcoming IT installation that represents risk to operations, financial performance and liquidity
- » Weak liquidity metrics with cash on hand and cash-to-debt of 75 days and 56%, respectively, as of December 31, 2016; line of credit is currently being renewed
- » While planning was extensive for the legal separation from Vanderbilt University, risks still remain given infancy as a separate legal entity
- » Competitive local market with the presence of large not-for-profit and for-profit systems in this high growth service area

Rating Outlook

The stable outlook reflects expectations that financial performance will continue at its modest levels for the foreseeable future, with an anticipated margin decline in FY 2018 due to the upcoming IT installation. The outlook also assumes that management will carefully manage its cash position and reach its liquidity targets.

Factors that Could Lead to an Upgrade

- » Material improvement in financial performance, liquidity and debt coverage measures

Factors that Could Lead to a Downgrade

- » Departure from anticipated results or long-term reduction in liquidity
- » Unfavorable IT installation that impairs performance or liquidity
- » Disruption in operations from construction projects
- » Material or sustained increase in financial leverage that tempers cash flow and liquidity generation

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moody's.com for the most updated credit rating action information and rating history.

Key Indicators

Exhibit 2

Vanderbilt University Medical Center, TN

	Q1 2017	Q2 2017	2017 Budget
Operating Revenue (\$'000)	937,196	1,885,778	3,771,311
Operating Cash Flow Margin (%)	7.9	7.7	7.6
Days Cash on Hand	77	75	76
Unrestricted Cash and Investments to Total Debt (%)	57.0	56.5	57.6
Total Debt to Cash Flow (x)	3.9	3.9	3.9

Based on unaudited statements for September 30, 2016 (Q1) and December 31, 2016 (Q2); FY 2017 budget based on 6 month actual and management's 6 month projected performance ending June 30, 2017

Source: Moody's Investors Service

Detailed Rating Considerations

Market Position: Quaternary clinical reputation; extensive affiliated hospital network

On April 30, 2016, Vanderbilt University Medical Center (VUMC) legally separated from Vanderbilt University (the University), creating its own, separately incorporated entity. VUMC is comprised of three wholly-owned hospitals and various other healthcare missions and subsidiaries, including clinical research and post graduate training, the faculty practice plan and other healthcare services housed within Vanderbilt Health Services, LLC. The extensive, five state Vanderbilt Health Affiliated Network (VHAN) has increased to 61 hospitals from 54 in 2016. This network remains an active referral source into VUMC, which is nationally and regionally recognized for its tertiary and quaternary services (Medicare Case Mix Index of 2.35 in FY 2016 compared to the national median of 1.68). Volumes are solid in all categories of inpatient and outpatient care and occupancy is very high at 84.6% (adult hospital) and 83% (children's hospital).

The local and regional market is competitive with all providers seeking to capture Nashville's strong population and economic growth. Management-provided data shows increasing market share trends with 18.8% in the primary and secondary service through 2014, up from 16.5% market share in 2010. More recent data suggests flattening market share given the high occupancy levels. VUMC faces local competition from Ascension Health Alliance (Aa2) and HCA, Inc. (B1) in metro-Nashville with these systems reporting 14.4% and 10.1% market share in 2014, respectively. The system also faces regional competition from University of Kentucky, University of Tennessee Health Science Center and University of Alabama-Birmingham. Strict CON regulation is present in Tennessee.

Operating Performance, Balance Sheet and Capital Plans: Performance ahead of plan although some contraction expected in FY 2018

Financial performance since the separation indicates that VUMC is executing on its financial and operational goals as a new entity. Though the first half of FY 2017, VUMC reported an operating cash flow margin of 7.7% with expectations of 7.6% for full FY 2017, ahead of projections of 6.1% provided at the time of the Series 2016 financing. However, a reduction to 6.3% is anticipated for FY 2018 due to the upcoming IT installation and associated impact on operating expenses. Management reports that all financial and reporting systems showed no disruption with the separation from the University, owing, in part, to extensive testing well in advance of the separation date. The various academic, master services, trademark licensing and other agreements with the University are functioning as planned with funding reflected in operating performance. The level of planning for the separation bodes well for the upcoming IT installation and the ongoing campus construction projects.

Capital spending will be high compared to medians due to the additional beds that were part of the expansion plan post separation and the IT conversion. Capital spending for FY 2017 is estimated at \$191 million which translates into 1.0x capital spending ratio. The IT conversion is scheduled for November 2, 2017 with total cost of \$214 million. The IT conversion includes both EMR and revenue cycle installations. Management estimates the average age of plant at 9.5 years in FY 2017, favorable to the national median of 11.0 years.

LIQUIDITY

Liquidity levels, as measured against daily operating expenses and absolute debt levels, are unfavorable to A3 medians, and in part reflect the legal separation from the university. Days cash as of December 31, 2016 was 75.5 days while cash to debt was 56.5%, compared to A3 medians of 187 and 139%, respectively. If current working capital needs are as estimated, FY 2017 days cash should

come out slightly ahead at 76 days compared to the forecasts provided to Moody's which showed 73 days. VUMC is presently renewing its line of credit (\$100 million) which is viewed favorably as the system prepares for its IT installation. Management remains keenly focused on reaching 100 days cash on hand by FY 2020.

Fundraising remains strong with \$45 million raised in FY 2017 and \$48 million in the pipeline for FY 2018. Fundraising is separately managed from the university; the children's hospital serves as a key anchor in VUMC's fundraising strategies.

Debt Structure and Legal Covenants

VUMC has \$1.1 billion in bonded public and private debt outstanding, as well as a \$99 million subordinated promissory note to the university and a small \$14.9 million borrowing per a product financing agreement. Debt to revenue is on par at 34% by FYE 2017 with the US median at 34.5%. Debt to cash flow of 3.9 times is above the A3 median of 2.8 times.

MTI and bank covenants include: 1) long-term debt service coverage of 1.1 times requires consultant call in if falls below and 1.0 times or below is event of default; and 2) minimum cash on hand of 45 days requires consultant call in if falls below and is an event of default if below 35 days. Both are measured annually. Headroom to covenants is adequate.

DEBT STRUCTURE

Conservative debt structure with 71% fixed rate (including the subordinated note to VU) and the balance variable rate. The Series 2016B bonds (\$300 million) are taxable and structured with a 10-year bullet in 2027 and will need to be managed. The Series 2016C bonds (\$50 million) are R-FLOAT securities. Liquidity risks are present in the R-FLOATs if not remarketed. Bondholders have the option to tender the bonds weekly, but there is no liquidity support for tendered bonds. Should remarketing proceeds be insufficient to support the tendered bonds, the bondholders will be required to hold the bonds, but will receive the maximum interest rate of 12-15%. If after 180 days the bonds have still not been remarketed, VUMC will be required to redeem the bonds; the redemption in full occurs on the first January 1 or July 1 that is at least 24 months after the R-FLOATs Term-Out Event occurs. The Series 2016D (\$100 million) are floating rate notes with an initial five year tenor in 2022. When using Moody's approach of a 4 times multiplier of current rental expenses of \$43.5 million per the FY 2016 balance sheet audit, operating leases translate into a debt equivalent of \$174 million and further weaken VUMC's cash to total adjusted debt metric.

DEBT-RELATED DERIVATIVES

VUMC has two floating-to-fixed payor swaps (\$75 million each). The counterparty for the swaps is US Bank. The swaps are short-dated and expire in 2021 and 2023; the agreements includes no collateral posting requirements.

PENSIONS AND OPEB

VUMC maintains a defined contribution pension plan limiting pressure on the balance sheet.

Management and Governance

On April 30, 2016, VUMC legally separated from Vanderbilt University. VUMC is an incorporated Tennessee not-for-profit corporation with no prior activities, assets or liabilities. The Series 2016 bonds effected the purchase of the clinical assets and operations that were transferred to VUMC. VUMC is comprised of medical center clinical operations, faculty practice group, graduate medical education programs and research based in clinical departments. Vanderbilt's School of Medicine remains with the university. Several transitional service agreements and other recurring payments between VUMC and the university continue.

VUMC's board of directors is made up of 11 members including VU's Chancellor and three other VU board members. VUMC's CEO is also the Dean of the University's School of Medicine and has been in these roles since 2009. The system CFO has extensive experience with academic medicine and large IT installations.

Legal Security

The bonds are a joint and several obligation of the members of the obligated group and secured by a pledge of gross receivable of the obligated members and a leasehold. VUMC is on the only member of the obligated group. The additional debt test in the MTI is 1.10 times MADS coverage and initially 75% debt-to-capitalization, falling to 73% in FY 2018 and 70% in FY 2020 and after.

Use of Proceeds

Not applicable.

Obligor Profile

VUMC is a newly incorporated Tennessee not-for-profit corporation with no prior activities, assets or liabilities. VUMC owns and operates three hospitals located on the main campus of Vanderbilt University: Vanderbilt University Adult Hospital, Monroe Carell Junior Children's Hospital and Vanderbilt Psychiatric Hospital, and partially owns Vanderbilt Stallworth Rehabilitation Hospital (a joint venture). VUMC also includes Vanderbilt Health Services, Vanderbilt Medical Group, the Medical Center's clinical operations, post-graduate clinical training programs and clinical department research activities.

Methodology

The principal methodology used in this rating was Not-For-Profit Healthcare Rating Methodology published in November 2015. Please see the Rating Methodologies page on www.moody.com for a copy of this methodology.

© 2017 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S INVESTORS SERVICE, INC. AND ITS RATINGS AFFILIATES ("MIS") ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MOODY'S PUBLICATIONS MAY INCLUDE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL, FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS AND MOODY'S OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. CREDIT RATINGS AND MOODY'S PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. NEITHER CREDIT RATINGS NOR MOODY'S PUBLICATIONS COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS AND PUBLISHES MOODY'S PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS OR MOODY'S PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER. ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing the Moody's publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY SUCH RATING OR OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any rating, agreed to pay to Moody's Investors Service, Inc. for appraisal and rating services rendered by it fees ranging from \$1,500 to approximately \$2,500,000. MCO and MIS also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moody.com under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657 AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors. It would be reckless and inappropriate for retail investors to use MOODY'S credit ratings or publications when making an investment decision. If in doubt you should contact your financial or other professional adviser.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any rating, agreed to pay to MJKK or MSFJ (as applicable) for appraisal and rating services rendered by it fees ranging from JPY200,000 to approximately JPY350,000,000.

MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

REPORT NUMBER

1067339

Contacts

Lisa Goldstein
Associate Managing
Director
lisa.goldstein@moody's.com

212-553-4431

Beth I. Wexler
VP-Sr Credit Officer
beth.wexler@moody's.com

212-553-1384

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454