Charlotte-Mecklenburg Hospital Authority
New Issue - Moody’s Assigns Aa3 to Charlotte-Mecklenburg Hospital Authority’s (NC) Ser. 2016A; Outlook stable

Summary Rating Rationale
Moody’s Investors Service assigns a Aa3 to Charlotte Mecklenburg Hospital Authority’s (d/b/a Carolinas HealthCare System) proposed $365 million Series 2016A Health Care Refunding Revenue Bonds. The bonds are expected to mature in 2047. The rating outlook remains stable. At this time we are affirming our Aa3 long term ratings, and VMIG 1, and P-1 short term ratings on approximately $1.8 billion of rated debt.

The Aa3 long term rating is attributable to CHS’ large size, cash flow diversity among several sizeable hospitals, and good operating performance that has been sustained over multiple years. Key challenges include the system’s concentration in the Charlotte metro area, payor mix challenges including sizeable exposure to bad debt and charity care, and the presence of a large and well funded competitor in the Charlotte market.

The P-1 commercial paper rating is based on CHS’ Aa3 long-term rating and the adequacy of CHS’ internal liquidity and treasury management to meet commercial paper maturities. The VMIG 1 short term rating is based on the short term rating of the bank providing liquidity for tenders of applicable debt.

Exhibit 1
Liquidity Improving and Leverage Declining Over Multi-Year Period

Source: Moody’s Investors Service
Credit Strengths

» Large size of system with revenue diversity among several sizeable hospitals, including a children’s hospital and academic medical center

» Market share growth in Charlotte continues via organic growth and acquisition of Carolinas HealthCare System Stanly

» CHS has a built out IT system and recently achieved the highest connectivity designation (HIMSS 7). Although annual spend on IT continues to consume a large share of the capital budget, the organization does not need to pursue a major IT conversion to achieve CMS meaningful use measures

» Maintenance of strong operating performance with operating cash flow margins strengthening in each of the last two years

» Highly liquid balance sheet with approximately 84% of cash and investments liquid within a month

Credit Challenges

» Despite its presence in many markets throughout the Carolinas, CHS is concentrated in Charlotte metro area, limiting cash flow diversity by geography

» Market share gains in Charlotte metro area, while positive over the last several years, may be difficult to maintain going forward given the presence of a large and active competitor

» CHS has a large amount of underlying variable rate debt

» North Carolina does not currently have plans to expand Medicaid eligibility, which would likely benefit CHS given its high bad debt and charity care load

» Lawsuit questioning the legality of certain contracting provisions creates distraction, although no immediate financial liability

» All but one insurer have exited the North Carolina individual exchange market

» Large unfunded pension liability

Rating Outlook
The stable outlook reflects our expectation that CHS will continue to generate financial results at current levels allowing it to fund IT and other necessary strategic investments while maintaining stable leverage metrics.

Factors that Could Lead to an Upgrade

» Maintenance of cash flow margins at higher levels

» Growth in absolute and relative liquidity metrics

Factors that Could Lead to a Downgrade

» Prolonged period of lower cash flow margins

» Significant increase in debt, or capital spending plans that require significant use of debt or balance sheet reserves
Key Indicators

Exhibit 2

<table>
<thead>
<tr>
<th>Charlotte-Mecklenburg Hospital Authority, NC</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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</thead>
<tbody>
<tr>
<td>Operating Revenue ($'000)</td>
<td>3,945,756</td>
<td>4,156,187</td>
<td>4,389,014</td>
<td>4,928,711</td>
<td>5,462,485</td>
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<tr>
<td>3 Year Operating Revenue CAGR (%)</td>
<td>8.5</td>
<td>10.2</td>
<td>10.9</td>
<td>10.3</td>
<td>9.5</td>
</tr>
<tr>
<td>Operating Cash Flow Margin (%)</td>
<td>10.2</td>
<td>10.4</td>
<td>9.6</td>
<td>10.6</td>
<td>12.3</td>
</tr>
<tr>
<td>PM: Medicare (%)</td>
<td>33.8</td>
<td>34.7</td>
<td>37.0</td>
<td>37.7</td>
<td>38.0</td>
</tr>
<tr>
<td>PM: Medicaid (%)</td>
<td>15.4</td>
<td>16.1</td>
<td>16.3</td>
<td>16.2</td>
<td>16.8</td>
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<tr>
<td>Days Cash on Hand</td>
<td>226</td>
<td>246</td>
<td>258</td>
<td>263</td>
<td>263</td>
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<tr>
<td>Unrestricted Cash and Investments to Total Debt (%)</td>
<td>132.6</td>
<td>147.5</td>
<td>158.2</td>
<td>172.2</td>
<td>185.8</td>
</tr>
<tr>
<td>Total Debt to Cash Flow (x)</td>
<td>3.1</td>
<td>3.0</td>
<td>3.0</td>
<td>2.6</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Investment returns normalized at 6% prior to 2015 and 5% in 2015 and beyond
Source: Moody's Investors Service

Recent Developments
CHS is issuing the Series 2016A bonds to refinance the Series 2007A and 2008A bonds.

Detailed Rating Considerations

MARKET POSITION: Strong and Growing Market Position
CHS has a strong market position as one of two leading healthcare systems in the Charlotte metropolitan area and through the ownership or management of numerous hospitals throughout the Carolinas. CHS maintains approximately 50% market share in its primary service area of Charlotte where the primary competing system is Novant Health (A1 stable). Both systems have a similar footprint with numerous hospitals and employed physician practices throughout the service area.

CHS has steadily gained market share in its core market over the last several years among both primary and higher acuity patients. Market share growth is attributable to several multi-year strategies to increase access points including the opening of several free standing emergency department and outpatient centers, investments in physician practices, and numerous new urgent care locations. Management reports that the urgent care locations are reaching a new segment of the population and adding new patients to the system.

The local regulatory environment has generally been favorable with strong certificate of need regulations and approval to build new facilities as population growth warranted. Over the past two years there have been several proposed legislative changes that, if enacted, would have credit negative implications. One is to repeal all or part of the CON law, which would likely result in competitive healthcare facility construction, especially for outpatient surgery centers. The second is proposed repeal of sales tax refund for large not for profit organizations; if repealed, we expected it would cost CHS and other hospitals systems tens of millions of dollars annually.

OPERATING PERFORMANCE, BALANCE SHEET, AND CAPITAL PLANS: Decades of Stability Bolstered by Recent Improvement
Operating performance has been good and stable over many decades with operating cash flow margins generally near or above 10%. Performance improved significantly in FY 2015 and has been maintained through six months FY 2016 with operating cash flow margins of 12.3% and 12.2%, respectively.

Recent performance improvement is the result of several factors. Stronger patient volumes are an important factor, driving revenue growth across a large base of fixed costs. Through six months outpatient medical group visits are up 3.3% over the prior year. Most volume indicators exhibit multi-year increases, a result of both organic growth and acquisitions.

LIQUIDITY
Liquidity is good with 265 days cash at June 30, 2016, an amount that has grown somewhat over the last few years and been consistently above 200 days for many years.
The investment strategy has not changed significantly in recent years. The investment portfolio is approximately 84% liquid on a monthly basis and the asset allocation, which includes 61% equities, 24% fixed income, and 10% in various alternatives, is typical for an organization of this size.

DEBT STRUCTURE AND LEGAL COVENANTS: Declining Leverage; New Commercial Paper Program in 2015
Debt outstanding increased modestly in 2015 as CHS issued commercial paper and instituted a self-liquidity program for the first time. CHS does not currently have new money debt plans. Debt to revenue improved to 34.6% in FY 2015, from 38% the prior year. All leverage metrics exhibited improvement over the prior year given the stronger operating performance. The current offering is expected to reduce maximum annual debt service by several million dollars to approximately $113 million, contributing to modest improvement in debt service coverage.

DEBT STRUCTURE
Debt structure is 38% variable before swaps including approximately 13% in direct placements with three different banks, and the balance is fixed rate. CHS has liquidity facilities with four different banks supporting tender features on its variable rate debt. The organization actively manages and staggers renewal dates and recently extended most renewal dates with the next extended to October 2020.

CHS implemented a commercial paper program for the first time in 2015. The program is authorized for $200 million with maturities limited to $50 million over a five day period. Balances outstanding have fluctuated with as much as $125 million outstanding over the last twelve months; there was $30 million outstanding at August 31, 2016.

As of August 31, 2016, the system had $178 million in discounted daily liquidity, providing good coverage of 3.6x of $30 million in commercial paper; after excluding the largest money market fund, coverage is still adequate at 1.4x. The system’s daily assets are comprised of two money market funds, which is fairly concentrated compared to other self-liquidity programs, although each fund provides sufficient coverage on its own.

DEBT-RELATED DERIVATIVES
CHS has fourteen fixed payer swaps under six swap agreements with a total notional amount of approximately $714 million at 12/31/15 under which CHS makes fixed rate payments and receives floating rate payments based on SIFMA and LIBOR. At 6/30/16, CHS’s swap portfolio had a mark-to-market liability of $322 million. Collateral posting thresholds vary from $25 million - $50 million and are measured against each swap agreement, not the entire portfolio. No collateral posting is required unless CHS’s rating is A2/A or lower, and a portion of the swaps have a further condition, only requiring collateral posting if the insurer’s rating also falls below Baa1/BBB+. CHS is not required to post any swap collateral at this time and has not had to since the swap agreements were put in place.

PENSIONS AND OPEB
CHS maintains a defined benefit pension plan which is frozen to all employees hired after 1/1/14 and will be frozen to all employees effective 1/1/18. Using GASB accounting, the plan was approximately 70% funded. If the plan were accounted for using FASB standards and a lower discount rate, the unfunded liability would be much higher. Actuarially determined contributions have ranged from $79 million to $92 million over the last three years and CHS has consistently contributed 100% of the required annual pension cost to the plan. In addition to its annual contributions, for each of the next three years starting in 2016, CHS plans to make additional contributions to the plan of $42 million.

MANAGEMENT AND GOVERNANCE
During 2016, CHS’ CEO retired and the organization’s president and chief operating officer left during 2015 as part of a management restructuring. A new CEO has started and has been in his position for several months. The rest of the senior management team has been in place and worked together for many years.

Legal Security
The bonds are secured by a revenue pledge from the members of the Obligated Group, which is comprised essentially of the “Primary Enterprise” (primarily the four acute care hospitals located in Mecklenburg County, CHS-NorthEast, located in Cabarrus County, CHS Lincoln, located in Lincoln County, CHS Union, located in Union County, CHS Cleveland and CHS Kings Mountain, both located in
Cleveland County) and one of CHS’s discretely presented “Component Units”, The Carolinas HealthCare Foundation (CHF). CHS Stanly joined the Obligated Group in January 2015.

Throughout this report, all references to CHS and financial performance are based on the primary enterprise which includes directly owned acute care hospitals and management contract revenue, and the assets of the CHF. “Component unit” hospitals are excluded as their assets are controlled by the individual hospitals and do not roll up to the primary enterprise (applicable to 2011 - 2013 only).

**Use of Proceeds**
Bond proceeds will be used to refinance the Series 2007A and 2008A bonds and pay the costs of issuance.

**Obligor Profile**
CHS is headquartered in Charlotte, NC and owns or manages several dozen hospitals throughout the Carolinas and Georgia. System hospitals include small community hospitals, large tertiary facilities, a children’s hospital and a cancer hospital. The system also employs over 1,400 physicians.

**Methodology**
The principal methodology used in this rating was Not-For-Profit Healthcare Rating Methodology published in November 2015. An additional methodology used in the variable rate debt was Variable Rate Instruments Supported by Conditional Liquidity Facilities published in March 2015. An additional methodology used in the commercial paper rating was Rating Methodology for Municipal Bonds and Commercial Paper Supported by a Borrower’s Self-Liquidity published in January 2012. Please see the Ratings Methodologies page on www.moodys.com for a copy of these methodologies.

**Ratings**

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<td>Carolinas HealthCare System Health Care</td>
<td>Aa3</td>
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<tr>
<td>Refunding Revenue Bonds, Series 2016A</td>
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<td>Rating Type</td>
<td>Underlying LT</td>
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<tr>
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<td>Rating Description</td>
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*Source: Moody’s Investors Service*
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