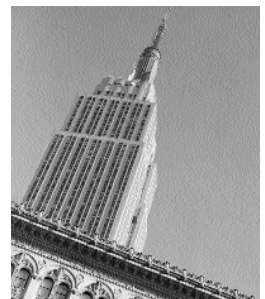
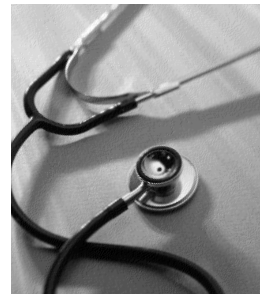
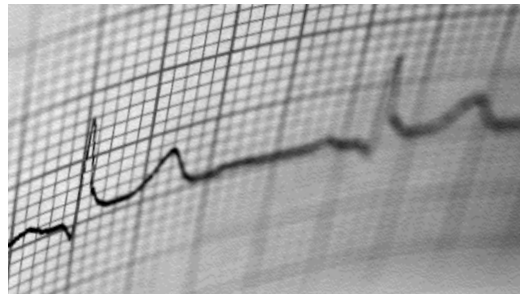


# The Financial Condition of the Leading Academic Medical Centers in New York City and the Nation



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# The Financial Condition of the Leading Academic Medical Centers in New York City and the Nation

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## Summary

As part of a series of studies examining the financial condition of New York City hospitals, we compared the financial performance and operational characteristics of four New York City academic medical centers (AMCs) to a comparable group of hospitals nationally. Although the four AMCs achieved higher margins than other New York City hospitals, their financial performance substantially trailed that of their national peers. Our findings suggest that their underperformance

is attributable to some combination of higher costs, a weaker payer mix, a less profitable service mix, and more competition from other AMCs. More research is needed on how concentrations of poverty contribute to each of these factors. We were unable to test other possible explanatory factors, such as the level of payer concentration in each market and the degree of integration between the faculty practices and the teaching hospital at each AMC.

## Introduction

The majority of New York City hospitals are in financial distress. In 2006, more than half of New York City's voluntary hospitals had serious financial problems that put their continued survival in doubt. Between 2000 and 2009, thirteen of New York City's fifty-seven acute care nonprofit hospitals closed and six more filed for bankruptcy. Another consequence of this poor financial condition has been an underinvestment in capital infrastructure by New York City hospitals, which could constrain future profitability (Fass and Cavanaugh 2008).

Until 1996, New York City's hospitals operated under a system of rate regulation that constrained margins but also provided a high level of stability and predictability.<sup>1</sup> Since the end of rate regulation, hospitals have faced many policy- and market-based challenges that have resulted in low margins and instability. Addressing the

question, "Why do New York City hospitals have such low margins?" is hard because so many factors contribute to the financial status of these hospitals, and because the relevant data are hard to gather and sometimes inconsistent. However, answering this question is essential to informing state and federal policies related to reimbursement and capital investment.

In general, New York City hospitals have poor financial performance compared with hospitals nationally (Fass and Cavanaugh 2008). In this report, we examine a particular class of hospital — the academic medical center, or AMC — to identify the many factors that make New York a challenging environment for hospitals. We focus on AMCs for three reasons. First, despite their recent improved performance — they make up the one group of New York City hospitals that improved their financial position since

<sup>1</sup> Aggregate total margin for New York City nonprofit hospitals in 1996 was 1.2 percent (United Hospital Fund 1997).

2000 through growth in inpatient admissions, market share, and case-mix intensity (Fass and Cavanaugh 2008) — they still generate margins that lag behind hospitals nationally (Ingenix 2009).<sup>2</sup> Second, the importance of the New York City’s AMCs is growing as other hospitals are seeking to merge or affiliate with them to ensure their own survival.

Finally, New York’s AMCs have a natural peer group: leading AMCs elsewhere in the

country. Of New York City’s five AMCs, three appear on the *U.S. News and World Report’s* “Honor Roll of American Hospitals” — Mount Sinai, NewYork-Presbyterian, and New York University (Comarow 2009).<sup>3</sup>

This report compares the financial performance of New York City AMCs to the financial performance of AMCs elsewhere in the country, drawn from *U.S. News and World Report’s* Honor Roll of American Hospitals.<sup>4</sup>

## Methodology

An AMC typically comprises a teaching hospital, a medical school, a faculty practice, and a significant research enterprise. Often, one or more “clinical centers of excellence” or an allied health professional school is also present (Deloitte Center for Health Solutions 2009). In compiling its Honor Roll, *U.S. News and World Report* relies on hospitals’ reputation, mortality rate, patient safety, and nursing ratio; Honor Roll hospitals rank at or near the top in at least six specialties (Comarow 2009). Among those hospitals, we included only AMCs, defined as “integrated” members of the Council of Teaching Hospitals (see appendix for details).<sup>5</sup>

For the New York hospitals in this study, we included the three AMCs on the Honor

Roll in 2008 or 2009: Mount Sinai, NewYork-Presbyterian, and New York University. We also included Montefiore Medicare Center in this study because of its size and its importance in the New York City health system, particularly in the Bronx. However, we did not include SUNY-Downstate because its financial relationship with New York State makes isolating its financial performance difficult.

For the national comparison group, we included all AMCs on the Honor Roll in 2008 or 2009 that were not in New York City; the full list includes 17 hospitals (Table 1). For the national comparison group, we ranked the hospitals by operating margin (see Figure 1 and accompanying text), then grouped

<sup>2</sup> The 2007 median total margin of all U.S. larger hospitals (greater than \$150 million revenue) was 5.3 percent, and for New York City AMCs was 4.8 percent (Ingenix 2009).

<sup>3</sup> NewYork-Presbyterian appeared on the Honor Roll in 2008 and 2009. Mount Sinai and New York University were on the list in 2009. Montefiore Medical Center was not on the list in either year.

<sup>4</sup> Our use of the *U.S. News and World Report* Honor Roll was a result of interviews with New York City hospital executives who believed these hospitals represented their peer group nationally. Our use of this list should not be construed as an endorsement of the methodology used to create the Honor Roll.

<sup>5</sup> Two “Honor Roll” hospitals on the AAMC list of “integrated” member hospitals were excluded from our study: Brigham and Women’s Hospital (Boston) and Methodist Hospital (Houston). Brigham and Women’s was excluded because it shares a common parent with Massachusetts General, which also qualified for our study, and we wanted to maintain a one-to-one relationship between health systems and hospitals. We included Massachusetts General because it is the larger teaching affiliate of the two. Methodist was excluded because it ceased being a primary teaching affiliate in 2004. Separately, one “Honor Roll” hospital — Cleveland Clinic — was not on the “integrated” list but we included it in our study because it has one of the largest graduate medical education programs in the country and an affiliation with a medical school.

them into tertiles (“tiers”); these tiers are used consistently throughout the paper. Tier 1 hospitals had the best financial performance in this group, and Tier 3 the worst. The four New York AMCs were not included in these three tiers, but instead constituted a separate comparison group in each of the analyses.

The first section of this report examines the financial performance of the AMC’s entire health system. The second section, which examines AMC operations, describes activity only at the AMC hospital. Financial performance for all hospitals is based on

an analysis of audited financial statements for the years 2005 through 2007. Hospitals’ financial ratios (with the exception of Figures 6 and 7) are the aggregations of their financial statistics for the years 2005-2007. Each tier-level financial ratio is the median of the financial ratios of the hospitals within that tier. Similarly, each tier-level operations ratio (Figures 8-16) is the median of the ratios for the hospitals within that tier; the year varies by measure. More detail on our methodology is included in the appendix.

Table 1: **Hospitals in This Study**

---

**New York City**

1. Montefiore Medical Center
2. Mount Sinai Hospital
3. NYU Hospitals Center
4. NewYork-Presbyterian Hospital

---

**National Comparison Group\***

1. Barnes-Jewish Hospital, St. Louis, Mo.
2. Cleveland Clinic, Cleveland, Ohio
3. Duke University Hospital, Durham, N.C.
4. Hospital of the Univ. of Pennsylvania, Philadelphia, Pa.
5. Johns Hopkins Hospital, Baltimore, Md.
6. Massachusetts General Hospital, Boston, Mass.
7. Ohio State University Medical Center, Columbus, Ohio
8. Ronald Reagan UCLA Medical Center, Los Angeles, Calif.
9. Saint Mary’s Hospital, Rochester, Minn.
10. Stanford Hospital, Palo Alto, Calif.
11. University of Washington Medical Center, Seattle, Wash.
12. UCSF Medical Center, San Francisco, Calif.
13. University of Chicago Hospitals, Chicago, Ill.
14. University of Michigan Hospitals, Ann Arbor, Mich.
15. UPMC Presbyterian, Pittsburgh, Pa.
16. Vanderbilt University Medical Center, Nashville, Tenn.
17. Yale-New Haven Hospital, New Haven, Conn.

\* Includes all AMC hospitals on the *U.S. News and World Report’s* Honor Roll of American Hospitals in 2008 or 2009, excluding those in New York City.



# AMC Finances

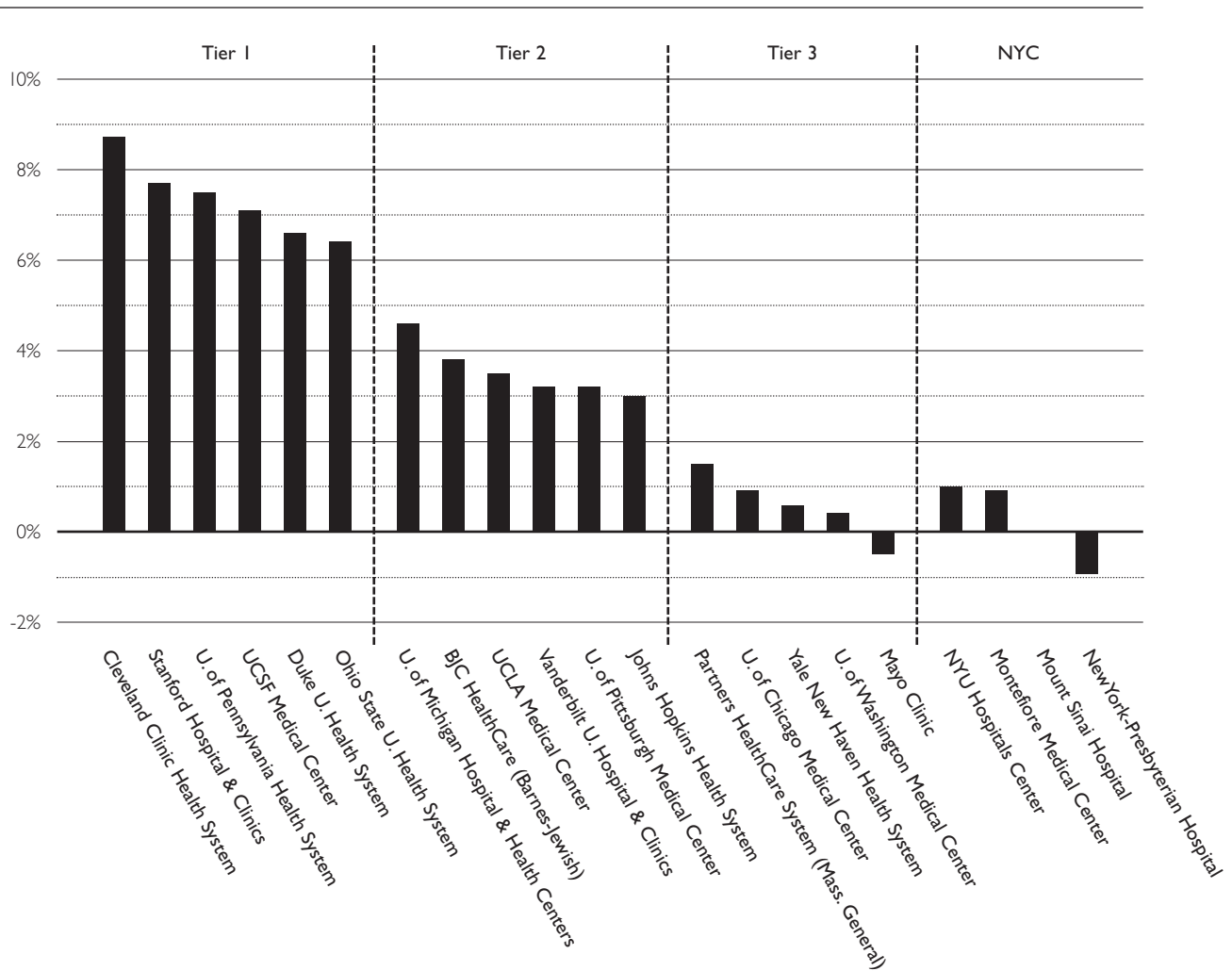
## Much Lower Margins

Most AMCs are part of larger health systems that can include other hospitals, clinics, physician practices, related businesses such as captive insurance companies, and even medical schools.<sup>6</sup> We measured the financial

performance of the entire health system because the financial success of the AMC is often inextricably linked to other elements of the system. At least one major bond rating agency does the same. Investment gains and losses are excluded from operating margins

<sup>6</sup> We were able to exclude medical schools from all AMCs except the Mayo Clinic. The Mayo Clinic's medical school accounted for only 3 percent of its total expenses.

Figure 1: **Operating Margins, U.S. and New York City Academic Medical Centers, Aggregate 2005-07**



Source: United Hospital Fund analysis of audited financial statements.

throughout this study; more detail is included in the appendix.<sup>7</sup>

Despite having the highest operating margins of New York City hospitals, the four AMC's had much lower operating margins than their national peers (Figure 1). Based on the three-year aggregate operating margin for the period 2005 to 2007, they ranked 14th, 16th, 19th and 21st among the 21 hospitals studied. Each New York City AMC's margin was less than 1 percent, and two had negative operating margins.<sup>8</sup> Of the seventeen AMC's in the national comparison group, only four had operating margins less than 1 percent, and only one had a negative operating margin.

Reviewing the median operating margin of the three tiers further illustrates the underperformance of New York City's AMC's. Their median operating margin was just 0.4

percent, less than that of Tier 3 and a fraction of the median for Tier 1 (Figure 2).

AMC total margins told a similar story (Figure 3).<sup>9</sup> New York City's AMC's performed worse than Tier 3 of the national comparison group, and had total margins that were less than half that of Tier 1.

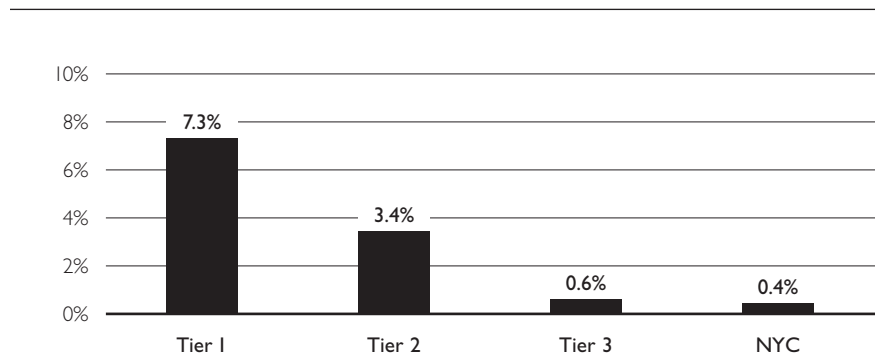
Profitability is only one measure of an organization's overall financial condition. Consistently weaker profitability should lead to less robust balance sheets; Moody's Investors Service concurs, noting that New York hospitals lag their national peers in debt service coverage, liquidity, and leverage (Moody's Investors Service 2007). We found that AMC's maintain significant assets in foundations and other related organizations that are often not included in the consolidated financial statements of the health system. Because we had an incomplete picture of

<sup>7</sup> For purposes of this study, operating margin is defined as operating gains (losses) divided by total operating revenue, excluding investment gains and losses. Investment gains and losses include all realized (e.g., interest income, dividends) and unrealized (e.g., change in market value of securities, currency and other swaps, hedge funds, and all other derivative instruments) gains and losses, and assets released from restriction for operations.

<sup>8</sup> All financial data were taken directly from audited financial statements. To smooth out year-to-year variation, each hospital's financial statistics were aggregated over three years (2005, 2006, and 2007). Financial statements were adjusted to standardize differing reporting methods. Non-recurring activities were excluded. More details on these methods are in the appendix.

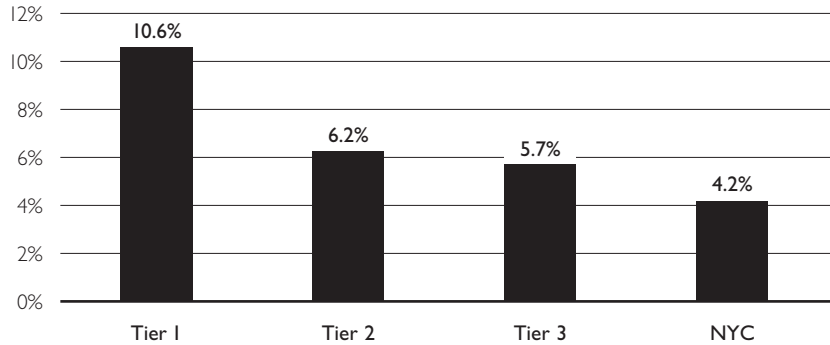
<sup>9</sup> Total margin is defined as the change in unrestricted net assets divided by total operating revenue.

Figure 2: **Operating Margins, Median Values by Tier, U.S. and New York City Academic Medical Centers, Aggregate 2005-07**



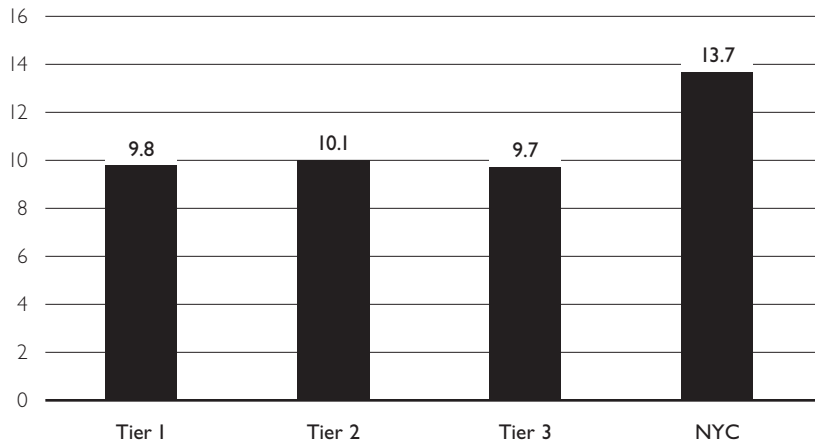
Source: United Hospital Fund analysis of audited financial statements.

Figure 3: **Total Margins, U.S. and New York City Academic Medical Centers by Tier, Aggregate 2005-07**



Source: United Hospital Fund analysis of audited financial statements.

Figure 4: **Average Age of Plant (Years), U.S. and New York City Academic Medical Centers by Tier, Aggregate 2005-07**



Source: United Hospital Fund analysis of audited financial statements.

these organizations' assets, we have not reported balance sheet ratios here; see the appendix for a more detailed explanation.

### Declining Capital Investment

In New York City, one consequence of low margins has been reduced investment in

capital assets such as buildings, medical equipment, and information technology. The average age of plant of New York City's AMCs was 40 percent older, 13.7 years compared with 9.8 years, than that of AMCs in the national comparison group (Figure 4).<sup>10</sup> This finding is consistent with earlier research by the Fund (Fass and Cavanaugh 2008).

<sup>10</sup> Average age of plant is defined as accumulated depreciation divided by depreciation expense.

There was little variation in the average age of plant among all three tiers of the national comparison group.

“Average age of plant” is an accounting measure of the rate at which hospitals invest in physical assets. Some of this gap in average age of plant could represent differences in accounting practices between New York City AMCs and AMCs elsewhere in the country.<sup>11</sup> However, we believe most of the difference is real for two reasons. First, the gap is not confined to just the AMCs; all types of New York City hospitals have significantly higher average age of plant than hospitals in other states. While it is plausible that four hospitals could differ in their accounting for capital assets, it seems less likely that all New York City hospitals share a problem in managing their plant ledgers. And, second, New York City’s age of plant has been increasing rapidly

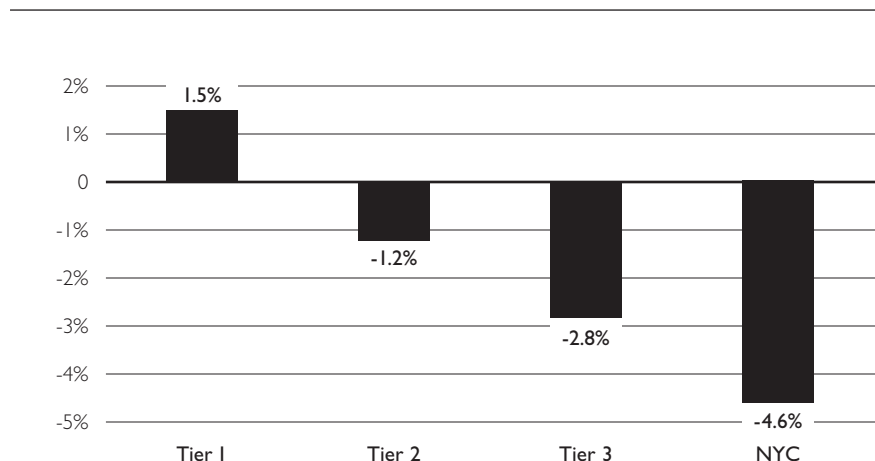
in recent years, which suggests that the measure is not driven by long-standing differences in accounting practices.

### The Gap in Patient Revenue to Expense

Patient revenues cover a lower proportion of total operating expenses at New York City AMCs than they do at hospitals in the national comparison group (Figure 5). The gap between New York City AMC patient revenues and total operating expenses was nearly 5 percentage points. In other words, these hospitals depend on significant non-patient revenues to break even. Conversely, at Tier 1 hospitals, patient revenues exceeded their total operating expenses; any non-patient revenues augmented their surplus.

<sup>11</sup> If a hospital did not routinely remove assets from its plant ledger after the assets’ useful lives were exhausted, the accumulated depreciation for those assets would be in the numerator, but there would be no corresponding annual depreciation expense in the denominator, resulting in an overstatement of the age of those assets. Some have speculated that New York City’s AMCs may have been leaving more assets on their plant ledger beyond their useful lives than other AMCs, which would drive up the calculated average age of plant.

Figure 5: **Patient Revenue/Total Operating Expenses, U.S. and New York City Academic Medical Centers by Tier, Aggregate 2005-07**



Source: United Hospital Fund analysis of audited financial statements.

The gap between patient revenue and expenses explains almost all the difference in total margin between New York City AMC's and national comparison group AMC's. The two groups perform similarly in covering their costs with other operating and non-operating revenue. For example, the difference in total margin between Tier 1 and New York City is 6.4 percentage points (Figure 3); the difference in expenses covered by patient revenues is 6.1 percentage points (Figure 5).

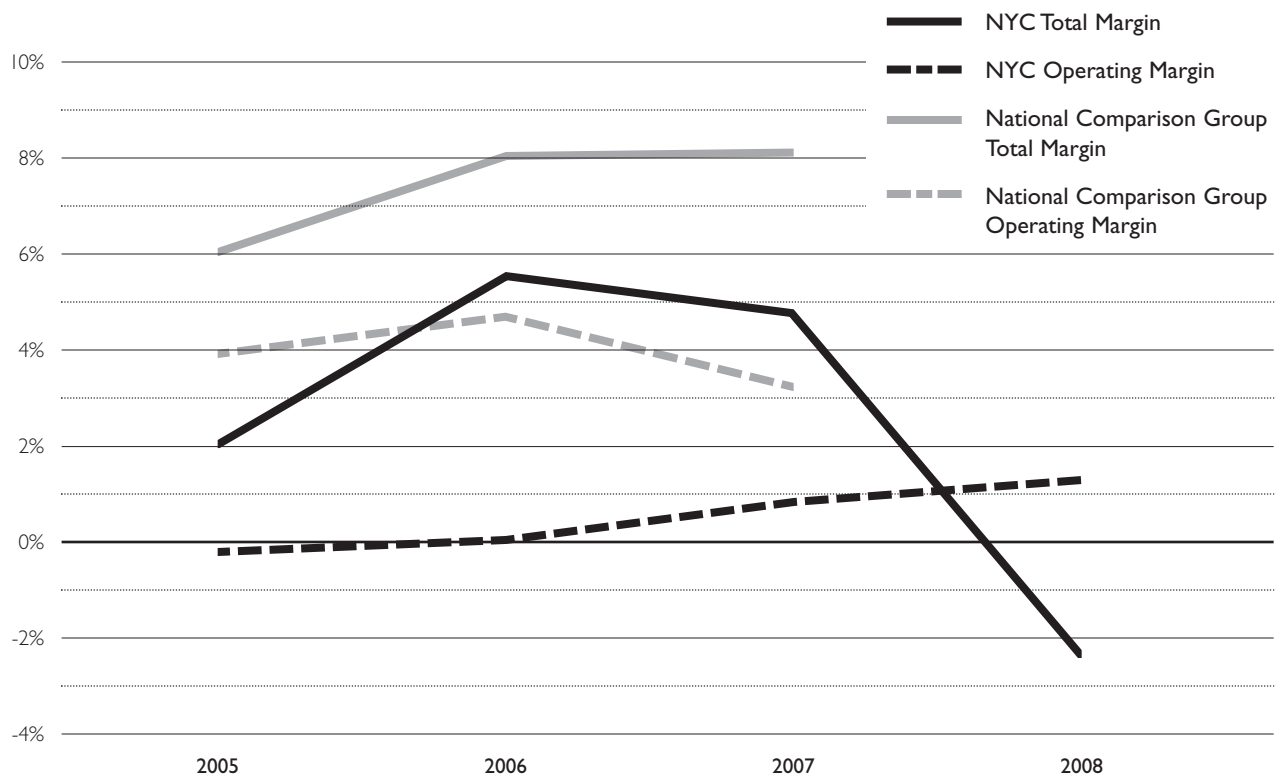
### Operating Margins Are Improving

New York City AMC operating margins, though much lower than those of most of their national peers, are improving. Median

operating margins increased by 1.0 percentage point, from -0.1 percent to 0.9 percent, between 2005 and 2007 (Figure 6). This gain was driven by improvements in their ability to cover operating expenses by patient revenue; the ratio of patient revenue to operating expenses grew by 1.1 points, an amount similar to the rise in operating margins (Figure 7). Total margins improved by a greater amount, rising by 2.7 points, from 2.1 percent to 4.8 percent, as investment income grew by 28 percent on average during this period (Figure 6).

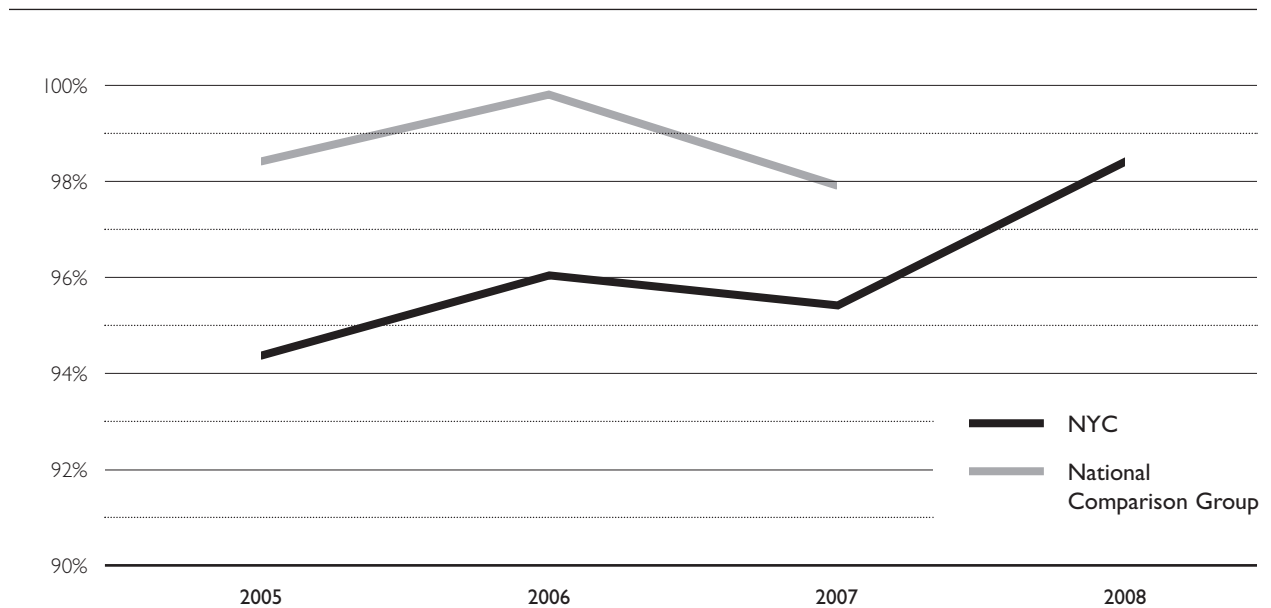
In 2008, operating margins among New York City AMC's continued to climb, rising to 1.4 percent, as the percentage of operating expenses covered by patient revenues rose to 98.5 percent. This large increase in

Figure 6: **Total and Operating Margins at Academic Medical Centers in New York City and National Comparison Group, 2005-08**



Note: At the time of publication, we did not have 2008 financial statements for all hospitals in the national comparison group.  
 Source: United Hospital Fund analysis of audited financial statements.

Figure 7: **Patient Revenue/Total Operating Expenses at Academic Medical Centers in New York City and National Comparison Group, 2005-08**



Note: At the time of publication, we did not have 2008 financial statements for all hospitals in the national comparison group. New York City patient revenue data for 2008 should be viewed with caution until more data can confirm this is not an anomaly.

Source: United Hospital Fund analysis of audited financial statements.

patient revenues in relation to operating expenses should be viewed with caution until more data can confirm this is not an anomaly. At the time of publication, we did not have 2008 financial statements for all hospitals in the national comparison group. Despite the increase in operating margins in 2008, total margins at New York City AMC's fell to -2.2 percent, largely because of financial market declines. This sudden and dramatic downturn in investment returns highlights the risks associated with New York City AMC's reliance on non-patient income to meet operating expenses.

## AMC Operations

### Explaining Poor Financial Performance

The preceding section examined the financial performance of the AMC's entire health system; this section focuses on activities only at the AMC hospital itself. It excludes operations occurring at any other institutional providers that are within its system. In many cases, the difference is small or nonexistent. In a few cases, such as Saint Mary's Hospital (Mayo Clinic), Barnes-Jewish Hospital (BJC

HealthCare), and UPMC Presbyterian (University of Pittsburgh Medical Center), the AMC hospital represents less than half the revenues of the health system.<sup>12</sup> While the AMC hospital is typically the primary economic engine of these health systems, some caution should be used in viewing the characteristics of the AMC hospital as the sole driver of the health system's financial performance. It is beyond the scope of this analysis to isolate and measure the impact of individual factors on the margins of New York City AMCs. However, there is evidence pointing to several factors that affect expenses and revenues: In comparison to their national peers, New York City AMCs had longer lengths of stay, a less profitable payer mix, a less profitable

service mix, and more competition from local academic medical centers.<sup>13</sup>

### Longer Lengths of Stay

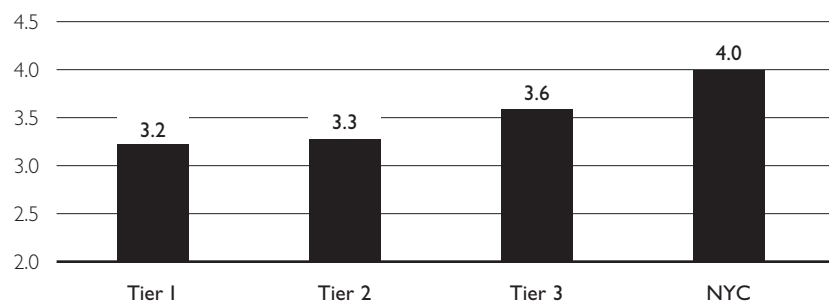
New York City AMCs have a longer average length of stay than their peers, even after adjusting for differences in case mix (Figure 8). New York City AMCs' Medicare length of stay is 26 percent higher than that seen at Tier 1 AMCs, and 11 percent higher than that seen at Tier 3 AMCs. A longer length of stay increases the cost of caring for each patient and limits the number of patients who can be treated in any given period, both of which constrain margins.

We do not know why New York City hospitals have longer lengths of stay. Some

<sup>12</sup> For all four New York City AMCs the same entity is used in both the financial and operations sections.

<sup>13</sup> The preceding section grouped AMC systems into tiers based on their financial performance. In this section, the AMC hospitals remain in the same groupings. There is more variation within tiers in this section than in the financial analysis.

Figure 8: **Case-Mix-Adjusted Medicare Average Length of Stay, U.S. and New York City Academic Medical Centers by Tier, 2007**



Source: Utilization statistics from American Hospital Association annual hospital survey, 2007; case-mix index from CMS website, 2007.

New York hospital executives have speculated that New York City has fewer post-acute care services available and more people living alone than other cities, which makes it difficult to discharge patients in a timely manner. New York City AMCs' higher proportion of poor patients may be a contributing factor (see the payer mix discussion that follows). Longer lengths of stay may also simply reflect inefficiency on the part of New York hospitals. Though New York City AMCs have dramatically reduced their length of stay over the past two decades, some view the longer length of stay as an opportunity for New York City AMCs to further improve their operational efficiency and financial performance.<sup>14</sup>

## Higher Operating Costs

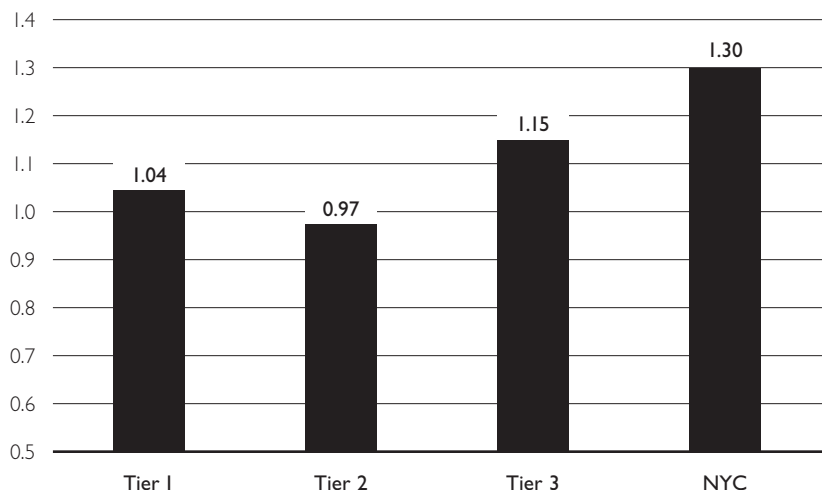
The wages New York City AMCs must pay to attract qualified employees are substantially higher than the national average and higher than most of their national peers (see Figure 9). The Medicare wage index in New York City is 25 percent higher than the Tier 1 AMCs, and 13 percent higher than Tier 3 AMCs. Medicare provides an adjustment to reimbursement for differences in wage levels, but in recent years the wage index for New York City has been diluted by the inclusion of more hospitals from outlying suburbs where wage levels are lower.<sup>15</sup> Wages represent more than half of total operating expenses for hospitals nationally (Berger 2005).<sup>16</sup>

<sup>14</sup> New York City AMCs decreased the average length of stay from 10.1 days to 6.1 days between 1997 and 2007. UHF analysis of institutional cost reports.

<sup>15</sup> An unpublished analysis by the Greater New York Hospital Association of the change in MSA boundaries affecting FY 2005 found that reimbursement declined by almost \$70 million for hospitals in the New York City wage index region.

<sup>16</sup> Berger 2005, citing Fitch ratings of August 2004. Includes fringe and contract labor, and represents 215 rated not-for-profit hospitals.

Figure 9: **Medicare Wage Index, U.S. and New York City Academic Medical Centers by Tier, 2009**



Source: CMS website, 2009.



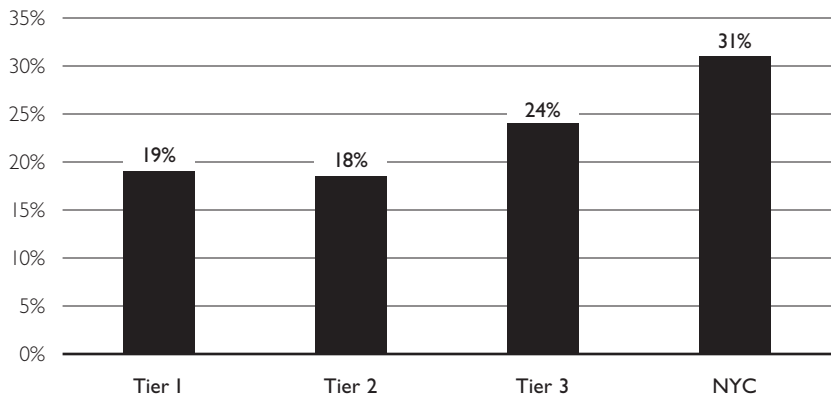
## A Less Profitable Payer Mix

New York City AMCs treat proportionately more Medicare and Medicaid patients — and fewer commercial patients — than their national peers (Figures 10 and 11). Medicaid

typically reimburses hospitals below their costs (Fox and Pickering 2008), while commercial insurers reimburse hospitals well in excess of costs (MedPAC March 2009).<sup>17</sup> MedPAC data indicate that major teaching hospitals,

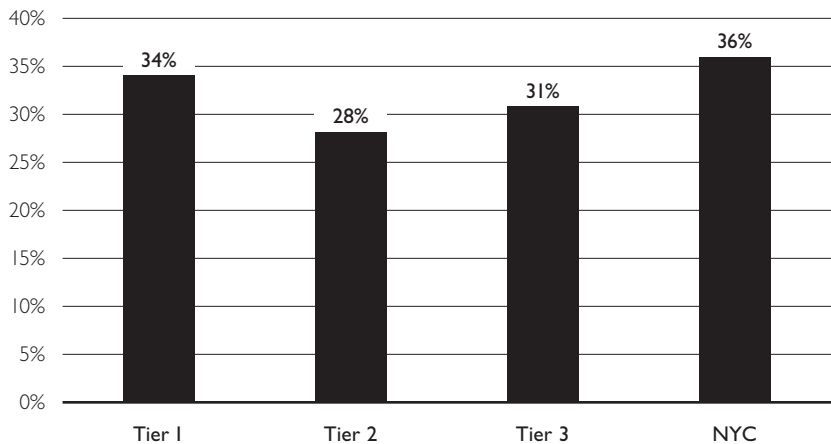
<sup>17</sup> Both sources cited use data from the AHA Annual Survey of Hospitals.

Figure 10: **Percent Medicaid Discharges, U.S. and New York City Academic Medical Centers by Tier, 2007**



Source: American Hospital Association annual hospital survey, 2007. Includes managed care. Excludes normal newborns.

Figure 11: **Percent Medicare Discharges, U.S. and New York City Academic Medical Centers by Tier, 2007**



Source: American Hospital Association annual hospital survey, 2007. Includes managed care. Excludes normal newborns.

such as the ones in this study, earned a 1.1 percent margin on Medicare patients in 2007.<sup>18</sup> However, several New York City AMCs indicated to us that they have had negative Medicare margins for the past few years.<sup>19</sup>

The operational characteristics of one of New York City's AMCs, NYU Medical Center, in some ways bore little resemblance to those of the other three AMCs in New York City and more closely resembled AMCs elsewhere in the country. NYU Medical Center resembled Tier 1 AMCs in terms of Medicaid payer mix, numbers of ED visits and surgeries, and other measures. If NYU Medical Center were excluded from the New York City AMC group, the disparity between New York City and the national comparison group on these measures would be even greater than described in this report.<sup>20</sup>

The share of Medicaid discharges at New York City AMCs is 58 percent higher than at Tier 1 AMCs and 28 percent higher than at Tier 3 AMCs. The payer mix of any hospital is a function of multiple factors, including the location and mission of the hospital.<sup>21</sup> In New York City, the high Medicaid payer mix also reflects, in part, a state policy that extends Medicaid eligibility to higher incomes than is available in most states. The differences in eligibility criteria, however, could not explain all of the differences in Medicaid payer mix.<sup>22</sup> New York City AMCs also had the largest share of Medicare discharges, but the difference from the three tiers was smaller than seen for Medicaid discharges.

There are no publicly available data to directly compare the share of uninsured patients at each hospital, but there is evidence

<sup>18</sup> Includes indirect medical education (IME) and disproportionate share (DSH) adjustments (MedPAC June 2009).

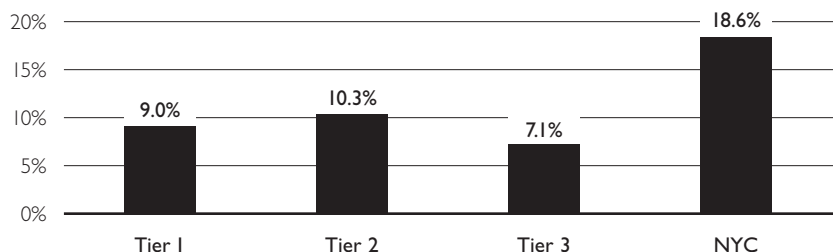
<sup>19</sup> MedPAC acknowledges that there is wide variation in Medicare margins among hospitals.

<sup>20</sup> NYU Medical Center differed from the other New York City AMCs in regard to percent Medicaid discharges, ED visits per general care discharge, Medicare SSI patient days as a proportion to total Medicare patient days, and number of surgeries per general care discharge. NYU Medical Center does, however, share New York City's high average length of stay.

<sup>21</sup> The Mayo Clinic recently announced plans to reduce its Medicaid admissions at Saint Mary's Hospital, its Honor Roll hospital, because of low reimbursement. Its share of Medicaid discharges is currently 19 percent; the median for all other Honor Roll hospitals is 21 percent (MacGillis 2009).

<sup>22</sup> According to [www.statehealthfacts.org](http://www.statehealthfacts.org), 19 percent of New York residents have Medicaid coverage, compared with 13 percent nationally — a 46 percent difference. The difference in Medicaid payer mix between New York and Tier 1 is 63 percent.

Figure 12: **Medicare SSI Days/Total Medicare Days, U.S. and New York City Academic Medical Centers by Tier, 2006**



Source: Medicare cost report, 2006.

that New York City AMCs treat a larger share of poor patients than other AMCs. Many hospital executives believe that poor patients can be more expensive to treat, even when they are insured. Although this makes intuitive sense, the literature on this question is inconclusive. In addition, poor patients are more likely to use hospital emergency department and clinic services, which on average generate large financial losses for hospitals.

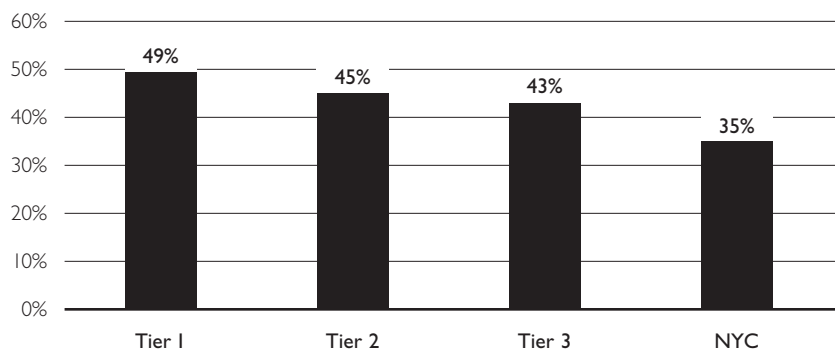
The Medicare patients at New York City AMCs are nearly twice as likely to be poor and receiving federal Supplemental Security Income (SSI) as Medicare patients in the national comparison group (Figure 12). These high SSI percentages may indicate that New York City AMCs have a higher proportion of low-income patients across all payer categories. Hospitals report more difficulties discharging poor patients for a variety of reasons (e.g., they may have fewer social supports to care for them at home), which may explain some of the difference in length of stay as well.

Normally, one would assume that hospitals with high Medicaid payer mix and SSI percentage would also have a high percentage of uninsured patients. In New York City, however, this association may be less direct because of the presence of a public hospital system that treats large numbers of the uninsured. It is also worth noting that New York State reimburses hospitals for a portion of their uncompensated care expenses for uninsured and underinsured patients.

Finally, because of their relatively large caseloads of Medicare and Medicaid patients, New York City’s AMCs treat a smaller proportion of other patients, including commercially insured patients (Figure 13).<sup>23</sup> MedPAC reports that, on average, commercial insurers pay hospitals 132 percent of the cost of treating their patients (MedPAC March 2009). Hospitals attempt to offset low or negative margins incurred by treating people with Medicaid, Medicare, or no insurance at all by increasing the rates they charge to privately insured patients. New York City AMCs have less opportunity to pursue

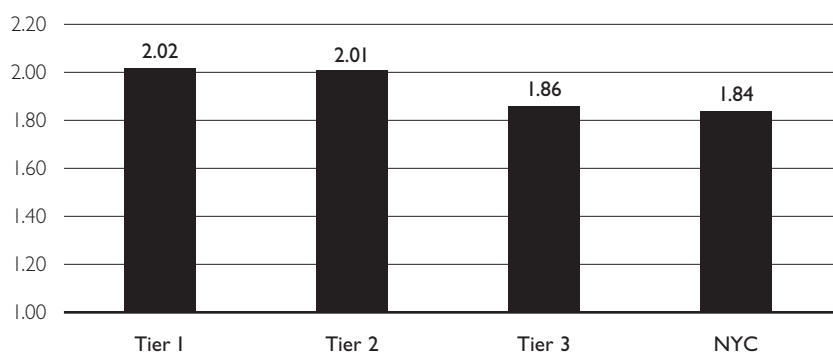
<sup>23</sup> Because commercial discharges by hospital are not publicly available this analysis used discharges from all payers excluding Medicare and Medicaid.

Figure 13: **Percent Non-Government Discharges, U.S. and New York City Academic Medical Centers by Tier, 2007**



Source: American Hospital Association annual hospital survey, 2007. Includes managed care. Excludes normal newborns.

Figure 14: **Medicare Case-Mix Index, U.S. and New York City Academic Medical Centers by Tier, 2007**



Source: CMS website, 2007.

these additional revenues in part because they see proportionately fewer privately-insured patients than their peers.

### A Less Profitable Service Mix

On average, hospitals generate higher margins from inpatient services with high case-mix intensity.<sup>24</sup> For example, surgeries tend to be more profitable than medical cases, and procedures are rewarded more than cognitive services. This disparity is a function of an imbalance within the Medicare diagnosis-related groups (DRGs) that Medicare is attempting to correct.<sup>25</sup> (In New York, Medicaid is rebalancing its DRG weightings to correct a similar imbalance.) However, the problem is not restricted to patients receiving public insurance, because most private payers also reimburse hospitals using DRG classifications.

The median Medicare case-mix index of Tier 1 and Tier 2 AMCS is almost 10 percent

greater than the case-mix index of New York City AMCs (Figure 14).<sup>26</sup> This could be the result of more competition for high case-mix cases in New York among the AMCs. Alternatively, New York City AMCs may provide proportionately more low case-mix services than their national peers.

Similarly, the proportion of surgical admissions to total admissions (excluding psychiatric, medical rehabilitation, and normal newborns) among New York City AMCs is one-third less than the proportion seen in Tier 1 AMCs, and one-quarter less than that seen in Tier 3 AMCs (Figure 15).

The average reimbursement for emergency department (ED) visits is typically below cost, as is the case for other outpatient services (except perhaps ambulatory surgeries and some diagnostic imaging services).<sup>27</sup> Additionally, ED admissions have a greater proportion of government payers (i.e., Medicaid and Medicare) than inpatient admissions do. Hospitals must treat all

<sup>24</sup> The case-mix index, or the aggregate case weight for all patients in a facility, is a measure of the level of resources needed to treat cases in a health care facility; it is used as a proxy measure of the severity of patients' illness.

<sup>25</sup> Diagnosis-related groups (DRGs) are a classification system that groups related patients with similar diagnoses and resource needs. DRGs are the basis of reimbursement for both Medicare and Medicaid.

<sup>26</sup> It is not possible to compare hospital case-mix for all payer classes. The difference in case-mix between hospitals for all payer classes may differ from that seen for Medicare only.

<sup>27</sup> There is no national data source for the number of hospital-based clinic visits.

patients who seek services in their EDs without regard to their ability to pay.<sup>28</sup> The proportion of ED visits to general care discharges (excluding psychiatric, physical rehabilitation, and normal newborns) among New York City's AMCs is 32 percent higher than Tier 1 AMCs, but 12 percent lower than Tier 3 AMCs (Figure 16).<sup>29</sup>

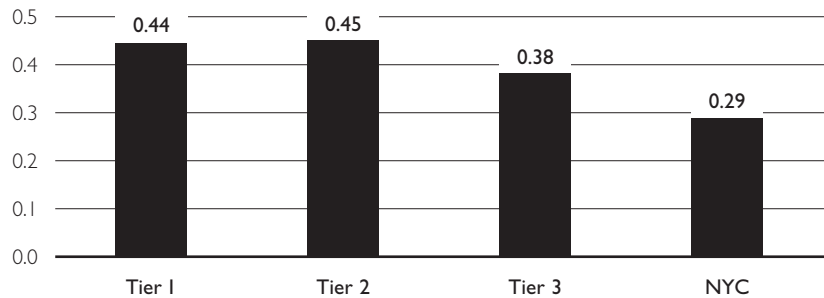
## A Highly Competitive Marketplace

Most AMCs have a near monopoly for tertiary and quaternary services in their markets. Even for the services where there is competition from community hospitals (e.g., maternity), national AMCs can usually negotiate high rates because of their name recognition and prestige.

<sup>28</sup> The Emergency Medical Treatment and Active Labor Act, Section 1867(a) of the Social Security Act.

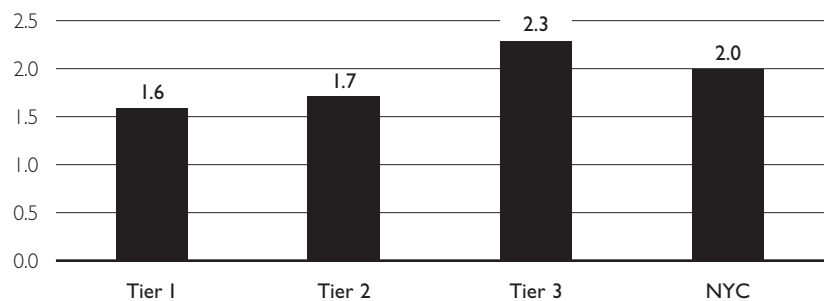
<sup>29</sup> Note that there was significant variation within each group on this measure. ED visits are stated as a proportion of discharges to compensate for AMC size differences.

Figure 15: **Inpatient Surgeries per General Care Discharge, U.S. and New York City Academic Medical Centers by Tier, 2007**



Source: Inpatient surgeries: American Hospital Association annual hospital survey, 2007. Represents number of patients; multiple procedures per patient are counted as one. Discharges: Medicare cost report, 2006; excludes psychiatric and medical rehabilitation discharges.

Figure 16: **Emergency Department Visits per General Care Discharge, U.S. and New York City Academic Medical Centers by Tier, 2007**



Source: ED visits: American Hospital Association annual hospital survey, 2007; includes visits resulting in admissions. Discharges: Medicare cost report, 2006; excludes psychiatric and medical rehabilitation discharges.

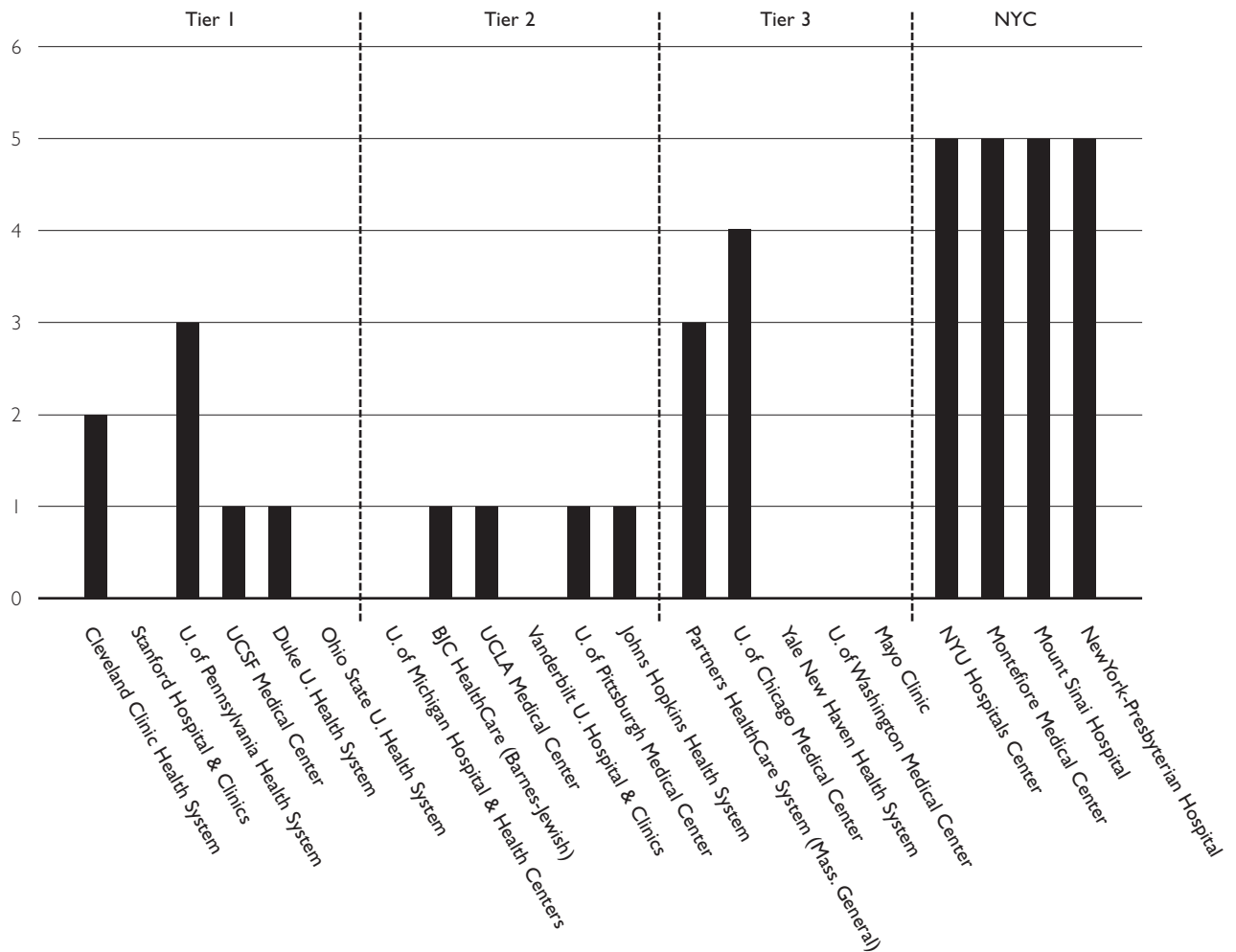
The numbers of competing AMCs for all hospitals in our study are shown in Figure 17. We defined AMCs as the 117 “integrated” members of the Council of Teaching Hospitals (see appendix for details). To identify markets, we used the primary metropolitan statistical area, which is a group of counties with a population greater than one million.

Forty percent of the national comparison group (seven of seventeen) had no competitor AMC in the same market. Of the AMCs

that did have a competitor nearby, six competed with just one other AMC and four had two or more AMCs within the same metropolitan area: Cleveland Clinic, University of Pennsylvania Health System, Partners HealthCare System, and University of Chicago Medical Center. New York City was the only market with more than one Honor Roll AMC.

The New York City metropolitan area has six AMCs: three Honor Roll AMCs (Mount Sinai Hospital, NewYork-Presbyterian

Figure 17: **Number of Academic Medical Center Competitors within Market Area**



Note: Market area defined as primary metropolitan statistical area. The list of AMCs was obtained from the AAMC and comprises the 117 integrated members of the Council of Teaching Hospitals (see appendix for details). To avoid double-counting, AMCs were excluded if they were affiliated with an Honor Roll AMC.

Source: AAMC.

Hospital, and NYU Hospitals Center), two other AMCs in the city (Montefiore Medical Center and SUNY Downstate), and one more outside the city but also serving the metropolitan area (Westchester Medical Center). In addition, it has many non-profit teaching hospitals, and just outside of the city is one soon-to-be AMC (North Shore-Long Island Jewish Medical Center). In a market with so many competitors, even highly prestigious hospitals may be subject to pricing pressures (Figure 17). We would expect to see the impact of this competition in lower commercial margins. Unfortunately, there are no publicly available data on commercial margins.

## Conclusion

In a continuation of the United Hospital Fund's body of work to understand the finances of New York City hospitals, we compared four New York City AMCs to a national peer group. These AMCs have the best financial performance of any group of New York City hospitals, but we found that they had significantly lower margins than their peers in other states because of low patient service revenue in proportion to their overall expenses. We concluded that this likely resulted from a combination of the following factors: higher costs, including those associated with a longer average length of stay; a less profitable payer mix, including a greater proportion of poor patients and a smaller proportion of commercial patients; a less profitable service mix, including patients with a lower severity of illness; and far more price competition among AMCs in New York City. Additional study is needed to determine the relative importance of these characteristics, make comparisons by payer, and assess whether these findings also hold true for other New York City hospitals.

When we discussed these findings with administrators from New York City AMCs, they stressed that the nature of New

York City's population, especially its high concentrations of poverty and immigrants in some neighborhoods, explained much of their financial performance. We concur that population characteristics could explain the payer mix and service mix issues, but the evidence on the relationship between population characteristics and longer lengths of stay is not conclusive.

We offer these findings with several caveats. We compared the finances of health systems but studied explanatory variables at the hospital level. There may be additional explanations of financial performance, such as organizational characteristics of the health systems. For example, while all AMCs have close relationships with medical schools, these relationships vary. Financial success may be driven, in part, by how well the financial incentives of the hospital, the faculty practice, and the related research activities of the AMC are aligned. These various components of an AMC can be tightly integrated or loosely affiliated; the structure they choose may affect how well their economic incentives are aligned. Some AMCs exhibit complex structures and a byzantine series of financial transactions between the various entities, with explicit and implicit subsidies flowing in multiple directions. Understanding the organization and culture of a particular AMC is essential to understanding its financial performance.

In addition, there may be other determinants of AMC profitability that are beyond the scope of this study. For instance, in markets where consolidation among payers has created just a few dominant health plans, we would expect lower commercial reimbursement. The converse would be true in markets with a higher degree of fragmentation among payers.

Stakeholders in New York's hospital industry, not just at AMCs, need to assess how the determinants of financial success may change in the future. The prospect of

change is significant for two reasons. First, other New York City hospitals are increasingly looking to merge or affiliate with AMCs to ensure their own survival. Second, the health care reform bills pending in Congress include new initiatives to reduce costs and improve quality, such as value-based purchasing, incentives to reduce readmissions, incentives to reduce geographic variations, bundled post-acute care payments, and support to develop accountable care organizations and medical homes. If these

new payment systems are adopted broadly by public and private insurers, hospitals throughout the country, including AMCs, will be challenged to transform the way they deliver care to maintain their financial viability.

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## Appendix

### Data Sources

We collected audited financial statements (AFSs) from Honor Roll and New York City AMCs for each of the three years of this study, 2005, 2006, and 2007. Many AMCs provided their AFSs upon request, but for some hospitals we needed to rely on other sources, such as municipal bond disclosure reports. Hospitals are not required by law to provide their AFSs to the public. Medicare cost reports and IRS Form 990s are publicly available, but their financial information is inadequate for this analysis. These documents often differ greatly from AFSs in how they report profitability, revenue, expenses, and operating versus non-operating income; furthermore, they do not include the notes to the financial statements, which are essential when adjusting for non-recurring events and identifying and disaggregating non-patient revenue (Kane 2004; Kane and Magnus 2001).

We collected utilization and other operating statistics from Medicare cost reports, the American Hospital Association annual hospital survey, and the website of the Centers for Medicare & Medicaid Services. For this report, we defined an AMC as a hospital that is an “integrated” member of the Association of American Medical Colleges’ (AAMC) Council of Teaching Hospitals and Health Systems, excluding those that are affiliated with an Honor Roll hospital. This category includes non-federal short-stay hospitals that have a signed affiliation agreement with a college of medicine that is accredited by the Liaison Committee on Medical Education and meets one of the following three criteria: (1) the hospital shares a common ownership with a college of medicine; (2) the majority

of college of medicine department chairs serve as a hospital chiefs of service; or (3) the majority of college of medicine department chairs are responsible for appointing the hospital chiefs of service (AAMC 2009). We obtained the list of 117 integrated hospitals from the AAMC.

### Limitations

Relying on audited financial statements created complications for this study. First, although hospitals must follow generally accepted accounting principles in preparing their audited financial statements, there is still a great deal of variability in financial reporting. For example, public hospitals record bad debt expense, interest expense, and interest income differently from nonprofit hospitals. We made adjustments to financial statements to minimize this variability, but it is unlikely we identified and corrected all reporting anomalies.

Second, the structure of AMCs varies considerably from institution to institution, which complicates efforts to make financial and operational comparisons. For example, The Mayo Clinic’s audited financial statement consolidates sixteen hospitals in three states in addition to a medical college and numerous clinics, but its Medicare cost report consists primarily of a single hospital: St Mary’s Hospital, in Rochester, Minn. By contrast, New York-Presbyterian’s audited financial statement and Medicare cost report both include Columbia University Medical Center, Weill Cornell Medical Center, and The Allen Hospital, but not other affiliated hospitals, such as New York Methodist, New York Queens, New York Community, or the

Hospital for Special Surgery.

AMCs also have varied and complex arrangements with physicians and medical schools; these relationships are not always discernible from financial statements. We attempted to exclude medical schools from our analysis; we believe that medical school financial statistics are included only for the Mayo Clinic, whose total financial commitment to the medical school is 3 percent of its total expenses.

## Measuring AMC Hospital Financial Performance

To measure financial performance and group the AMCs into tiers, we relied on one measure of profitability, operating margin excluding investment income. We found that investment income is reported inconsistently in financial statements, particularly with regard to the distinction between operating and non-operating revenue. In addition, the investment income of related organizations, such as foundations, is typically not included

in the hospital statement of operations, except when assets are transferred. Because of these problems, we decided against relying on more commonly used financial ratios (e.g., total margin, operating margin, and return on assets). Using operating margin excluding investment income helped us minimize the variability in financial reporting.

We also found problems with the reporting of assets by AMCs. Financial reporting of assets is inconsistent: they may be off balance sheet (e.g., held by a foundation), held in reserve funds (e.g., debt service), limited as to use (e.g., by board), or restricted (e.g., by donor). As a result, comparative ratio analysis can produce wildly different results. The following example, from an AMC in our study that happened to provide information about assets held in other entities, shows how an important measure (such as days of cash on hand) can change depending on which assets are included in the calculation. Because we did not have access to all of this information for all AMCs, we did not include balance sheet ratios in this study.

	<b>Net Assets</b>	<b>Cumulative Days Cash on Hand</b>
Cash and short-term investments	\$349M	57
Limited by board	\$66M	68
Long-term investments	\$179M	97
Off-balance-sheet endowment	\$507M	180
Limited by donors	\$308M	230

## Guidelines Used for Adjusting Financial Statements

We made certain adjustments to financial statements to make hospital financial performance comparable due to the flexibility provided to hospitals in how they prepare their audited financial statements, the different guidelines used by public hospitals (i.e., GASB), and unusual activities that

can create a misleading picture of financial performance. The guidelines used to make these adjustments are as follows:

**Governmental Accounting Standards Board (GASB) guidelines for public hospitals.** Provision for doubtful accounts (i.e., bad debt) was changed from an offsetting revenue to an expense. Interest

income and interest expense was moved to operating revenues and operating expenses, respectively.

**Operating revenue.** Realized investment gains (or losses), unrestricted contributions, and gifts were all included as operating revenue.

**Investment income.** Only unrestricted investment income was included. This included both realized income (e.g., interest income, dividends) and unrealized income (e.g., change in market value of securities, currency and other swaps, hedge funds, and all other derivative instruments). It also included net assets released from restriction for operations, but excluded net assets released from restriction for capital purposes.

**Non-operating gains (or losses).** This includes all changes in unrestricted net assets, unrealized investment gains

(or losses), hospital support of the university, and minimum pension liability contributions. It excludes extraordinary activities.

**Extraordinary activities.** All extraordinary activities were excluded. For example: gain on sale of assets, loss on early retirement of debt or bond financing, effect of accounting change, prior-period third-party settlements that represent multiple years, write-offs, and loss on discontinued operations were all excluded.

## AMC Hospitals and Systems

In the table on page 21, the right column lists the *U.S. News & World Report* “Honor Roll” AMC hospitals. The left column lists their corresponding health systems. See the “Methodology” section of the report for an explanation of the tiers.

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**AMC System**

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**AMC Honor Roll Hospital**

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**T I E R 1**

Cleveland Clinic Health System  
Stanford Hospital & Clinics  
University of Pennsylvania Health System  
UCSF Medical Center  
Duke U. Health System & Affiliates  
Ohio State U. Health System

Cleveland Clinic, Cleveland, Ohio  
Stanford Hospital, Palo Alto, Calif.  
Hospital of the U. of Pennsylvania, Philadelphia, Pa.  
UCSF Medical Center, San Francisco, Calif.  
Duke U. Hospital, Durham, N.C.  
Ohio State U. Medical Center, Columbus, Ohio

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**T I E R 2**

U. of Michigan Hospital & Health Centers  
BJC HealthCare  
Johns Hopkins Health System & Affiliates  
UCLA Medical Center  
Vanderbilt U. Hospital & Clinics  
U. of Pittsburgh Medical Center

U. of Michigan Hospitals, Ann Arbor, Mich.  
Barnes-Jewish Hospital, St. Louis, Mo.  
Johns Hopkins Hospital, Baltimore, Md.  
Ronald Reagan UCLA Medical Center, Los Angeles, Calif.  
Vanderbilt U. Medical Center, Nashville, Tenn.  
UPMC Presbyterian, Pittsburgh, Pa.

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**T I E R 3**

U. of Chicago Medical Center  
U. of Washington Medical Center  
Mayo Clinic  
Yale New Haven Health System  
Partners HealthCare System & Affiliates

U. of Chicago Hospitals, Chicago, Ill.  
U. of Washington Medical Center, Seattle, Wash.  
Saint Mary's Hospital, Rochester, Minn.  
Yale-New Haven Hospital, New Haven, Conn.  
Massachusetts General Hospital, Boston, Mass.

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**N E W Y O R K C I T Y \***

Mount Sinai Hospital  
NYU Hospitals Center  
NewYork-Presbyterian Hospital  
Montefiore Medical Center

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\* For all four New York City AMCs, the same entity was used in both the financial and operations sections.



Additional copies of *The Financial Condition of the Leading Academic Medical Centers in New York City and the Nation* may be downloaded, at no charge, from the United Hospital Fund website, [www.uhfny.org](http://www.uhfny.org).



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