

Hospital Care in the 100 Largest Cities and Their Suburbs, 1996-2002: Implications for the Future of the Hospital Safety Net in Metropolitan America

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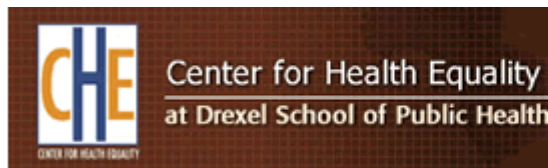
The Social and Health Landscape of Urban and Suburban
America Report Series

About the Social and Health Landscape of Urban and Suburban America Reports

This report documents the volume and capacity of hospital care in the nation's 100 largest cities and surrounding suburbs for the years 1996, 1999 and 2002, based on data from the American Hospital Association. The data are analyzed by hospital ownership and by three levels of poverty of the city or suburb of a hospital's location; limited financial data are examined as well. It is the final brief in a series of five reports that have used national sources of information—the U.S. Census Bureau, the Centers for Disease Control and Prevention, the Federal Bureau of Investigation and others—to document the social and health improvements and challenges occurring in the nation's 100 largest cities and their suburbs between 1990 and 2000. The first report documented the progress of cities and suburbs in meeting Healthy People 2000 and 2010 goals for seven health measures. The second report examined changes in poverty, income and maternal/infant health measures for racially and ethnically diverse populations. The third report addressed changes in public assistance use, family composition, and child health and well-being before and after national welfare reforms were implemented in the mid-1990s. The fourth report examined quality of life indicators and concentrated poverty. The reports and accompanying tables on individual cities and suburbs are available at the following website: <http://publichealth.drexel.edu/che/56>. The website also features a profile of each of the cities and their suburbs on topics presented in previous reports. Questions or comments may be addressed to dpa28@drexel.edu.

Acknowledgments

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The Social & Health
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Executive Summary

Over 1400 general medical/surgical hospitals located in the nation's 100 largest cities and surrounding suburbs provide inpatient, outpatient, emergency and specialty care for the 151 million residents of these metropolitan areas who require hospital care each year. This report examines patterns of hospital care in these areas using data from American Hospital Association annual surveys for the years 1996, 1999 and 2002. The hospital data were analyzed by two measures: ownership (for-profit, non-profit and public) and level of poverty (low, medium and high) for urban and suburban areas. Our review describes the volume of overall inpatient and outpatient care, including emergency department visits; hospital characteristics such as bed size, average length of stay, and occupancy rate; and three types of specialty care, including the number of level 1 or level 2 trauma centers, neonatal intensive care unit (NICU) beds, and positron emission tomography (PET) scanners. Additionally, we examined patient payer mix, net patient revenues per hospital, and the average operating and total margins of hospitals by community poverty levels.

Several themes emerged from the results of our analysis:

I. A Diminishing Role for Public Hospitals in Large Metropolitan Areas

More public hospitals were lost between 1996 and 2002 (16% in cities and 27% in suburbs) than for-profit (11% in cities and 11% in suburbs) and non-profit hospitals (11% in cities and 2% in suburbs). Urban public hospitals also provided less inpatient and emergency care in 2002 than in 1996, with for-profit hospitals now surpassing public hospitals in total admissions for the 100 largest cities.

For-profit and non-profit hospitals are playing an increasing role in the care of Medicaid patients in urban areas, while the role for public hospitals is shrinking. As a group, urban public hospitals admitted 21 percent fewer Medicaid patients between 1996 and 2002, while for-profit hospitals admitted 39 percent more Medicaid patients across the 100 largest cities and non-profit hospitals admitted 17 percent more. On average, however, Medicaid patients continue to make up a much larger percentage of total admissions (31.1% in 2002) for public hospitals, compared with for-profit (19.8%) and non-profit (18%) hospitals.

Yet, public hospitals appear to care for more seriously ill patients. Public hospitals continued to have a longer average length of stay (ALOS) overall and for Medicaid patients in both cities and suburbs, compared to for-profit and non-profit hospitals, which suggests that they are caring for relatively sicker, and thus more costly patients.

II. Relatively Small Proportion of Suburban Hospital Resources Located in High Poverty Suburban Areas

Among the metropolitan areas of the 100 largest cities, high poverty suburbs made up 44 percent of the total suburban population in 2000, but they accounted for only about one-fifth of total admissions, inpatient days, and outpatient and emergency visits in 2002. One-third of suburban NICU beds were located in high poverty suburbs, as were only 17 percent of suburban level 1 or level 2 trauma centers and PET scanners.

Low poverty suburbs comprised only 26 percent of the total suburban population in 2000, yet more than 40 percent of all suburban hospital admissions, and outpatient and emergency department visits took place in these areas in 2002. Additionally, they accounted for far more specialty care resources than high poverty suburbs: 45 percent of all NICU beds, 60 percent of all suburban level 1 and level 2 trauma centers and more than half of all PET scanners. Between 1996 and 2002, there was a 2000 percent increase in hospital PET scanners in low poverty suburbs, from 3 to 62.

The demographics of these suburban groups may explain at least part of this lopsided distribution of hospital resources and use relative to population size. On average, residents of low poverty suburbs are the most affluent residents of metropolitan America, and are likely the best insured. Low poverty suburban areas appear to be attractive markets for hospitals.

High poverty suburban areas, on average, had five times the percentage of Hispanic residents as low poverty suburbs (26.4% v. 5.3%) in 2000 and nearly twice the percentage of population that is foreign-born (13.6% v. 7.4%). Surveys have documented these groups as having among the highest uninsured rates in the country. A lack of health coverage may be a contributing factor in the relatively small proportion of hospital resources available in high poverty suburbs.

In contrast to suburban areas, the distribution of hospital resources across low, medium and high poverty cities much more closely matched each group's percentage of urban population. High poverty cities represented 42 percent of all urban residents while accounting for 46 percent to 50 percent of all inpatient, outpatient and emergency department visits. Low poverty cities comprised 35 percent of all city residents and utilized 29 percent to 31 percent of the same hospital resources.

The number of level 1 and level 2 trauma centers and PET scanners across the three urban poverty groups were distributed in proportion to their percentage of urban population. Only with NICU beds was capacity proportionally greater in low poverty cities relative to their percentage of urban population.

III. Hospitals in High Poverty Cities and Suburbs Have the Longest Hospital Stays

As measured by the average length of stay, overall, and for Medicaid patients, hospitals in high poverty cities and suburbs appear to care for a sicker patient population. For hospitals in high poverty cities the ALOS (6.2 days in 2002) was nearly a day longer than that for hospitals in low (5.3 days) and medium (5.1 days) poverty cities. Among Medicaid patients, the ALOS was also much longer (7.2 days) for hospitals in high poverty cities compared with those in low (5.7 days) and medium poverty (5.2 days) cities. Hospitals in high poverty suburbs also had the longest overall and Medicaid ALOS, but the differences by community poverty level varied less.

IV. Implications for Access to Care in High Poverty Cities and Suburbs

How will the hospital safety net adapt to meet the health care needs of the poorest and sickest residents, especially in high poverty cities and suburbs? The findings raise questions about the future of the remaining public hospitals and access to care for the medically indigent in the nation's urban centers and suburbs. As the number of public hospitals continues to decline, the concern remains as to what extent non-profit and for-profit community hospitals are taking on greater responsibilities as safety net providers and to what degree their focus is on attracting the healthiest of Medicaid patients, leaving the sickest and costliest patients to the care of public or other primary safety net hospitals.

Hospitals in high poverty cities and suburbs appear to be under more strain, as measured by their higher percentage losses, greater Medicaid patient mix, longer lengths of stay and lower operating margins, compared with hospitals in low and medium poverty areas. The results focus attention as to what extent residents of high poverty suburban areas, especially the poor and uninsured, are facing financial, transportation and other barriers to needed hospital care.

As hospitals continue to close or consolidate—in high poverty suburban areas, in particular—will their poor and uninsured residents become increasingly dependent on nearby city public hospitals, if one is available? Such trends are already creating a potential backlash among urban taxpayers in some metropolitan areas. Ultimately, regional cooperation may be required to ensure adequate financing and access to hospital care for the area's poor and uninsured, particularly in metropolitan areas with a high poverty central city or high poverty suburban area.

Introduction

The 100 largest cities and surrounding suburbs of the United States are home to over half the nation's population.¹ Hospital care for the residents of these metropolitan areas is provided by a large and often complex array of academic health centers; community non-profit, public and for-profit acute care hospitals, federally-financed veterans' hospitals and specialty care hospitals. This report focuses on the services of general medical/surgical hospitals.

Among the greatest challenges for both urban and suburban communities today is the growing difficulty these providers face in meeting the needs of the poor and uninsured as part of their community mission while surviving economically in a competitive health care environment. At the same time, federal, state and local governments are reassessing their financial commitments to safety net facilities in covering bad debt and supporting charity care as political pressure mounts to contain or reduce costs associated with Medicaid, the primary source of health care financing for low-income populations. These dynamics are occurring as demands for specialty care, emergency care and other outpatient services continue to grow.

As the fifth installment of our report series on *The Social and Health Landscape of Urban and Suburban America*, this report examines key indicators of hospital utilization and capacity that may help illuminate the political discourse on hospitals and how they interact with their communities. The analysis provides a unique comparison of urban and suburban acute care hospitals on two key dimensions: hospital ownership (for-profit, non-profit and public); and the poverty level of the area where a hospital is located. In the first part of the report, we describe how hospital characteristics and volume of care vary by ownership type across cities and suburbs. The analysis demonstrates the continued safety net role of hospitals, and public hospitals in particular, while also documenting the continued decline in the number of hospitals across metropolitan areas, with public hospitals showing the largest proportional declines.

In the second part of the report, we examine the relationship between community poverty rates, and hospital services and financial indicators. With recognition of a link between poverty and health needs as its foundation, this analysis brings to light the differential burden of care borne by hospitals located in cities with higher poverty levels. Yet in suburban areas, we found that low poverty was associated with relatively greater availability and utilization of hospital care and high poverty was associated with relatively fewer hospital resources and availability.

Finally, the study years included in the analysis, 1996, 1999 and 2002, offer a unique opportunity for examining hospital dynamics during a period of economic growth and prosperity (1996 to 1999), followed by a period of economic contraction (1999 to 2002). The analysis demonstrates how Medicaid utilization and spending among hospitals declined and then expanded over these two three-year periods in a pattern similar to that of the total Medicaid population over the same period.

Methodology

The selection of the 100 largest cities for *The Social and Health Landscape of Urban and Suburban America* project was based on population counts from the 2000 U.S. Census.² We define the suburbs or a suburban area as the greater metropolitan area, excluding the central city(ies). Where more than one of the 100 largest cities are part of the same metropolitan statistical area (MSA), such as Minneapolis and St. Paul, the city data were combined to create a single urban area that could be compared with its surrounding suburban area. Demographic statistics for the cities and suburban areas are thus based on 82 distinct metropolitan areas. Suburban demographic rates are based on data from all counties within an MSA, excluding the city data.

Hospital Statistics

We report on hospital data provided by Health Forum from the American Hospital Association (AHA) annual surveys for the years 1996, 1999 and 2002. The surveys are voluntary and self-reported, and thus do not represent the universe of hospitals in the metropolitan areas we studied. We included data for general acute care hospitals located in the metropolitan areas of the 100 largest cities. The non-response rate was about 18 percent for all three years. At least one hospital from each city participated in the survey each year. Eight suburban areas had no hospital data included in the study.

We examined trends on hospital characteristics such as number of beds, average length of stay, and occupancy rate; volume of general inpatient admissions and outpatient visits, including emergency department visits; and specialty care, including number of level 1 or level 2 trauma centers, neonatal intensive care unit (NICU) beds and (PET) scanners. The financial data are proprietary and were provided by AHA in the aggregate form presented in the report. They included net revenues by payer; payer mix, based on gross revenues; operating margin and total margin. For financial data only, AHA imputed values for missing data based on historical reporting and community benchmarks.

We examined the hospital data in two primary ways for cities and suburbs: by ownership type (hospital averages), and by the poverty level of a hospital's location. We defined levels of low, medium and high poverty to create three relatively similarly-sized groups of cities and suburbs based on the 2000 poverty rates. (See page 9.) Levels were created separately for cities and suburbs because of the large difference in average poverty rates (17.4% v. 9.3%, respectively).

The thrust of the poverty analysis was to compare each poverty group's percentage of total urban or suburban hospital use and capacity to its percentage of total urban or suburban population. Population itself is not a perfect indicator of relative demand since people can use hospitals in places where they do not live. However, we note that other research has found that 75 percent of discharges among acute care urban hospitals took place within a 10-mile radius.³

Many factors that we cannot measure affect the use of hospital services. Extensive research on small-area variations in utilization rates of various medical procedures over the last several decades has documented wide variations across communities.⁴ These studies have stressed the importance of supply-side factors, and the relative unimportance of morbidity and other demand variables. The results of this study do not allow us to judge whether a group of cities or suburbs is providing too much or too little hospital care, but rather provides a relative analysis of availability and use for groups of cities and suburbs distinguished by their poverty rates, which could affect the demand for hospital care, but also the supply.

Hospitals Trends by Ownership Type

In this section, we examine hospital trends by type of ownership for the years 1996, 1999, and 2002 for both cities and suburbs. As context for the comparisons by ownership, we note that there are many more general acute care hospitals in suburban areas, which have two-thirds more population than the urban areas of the 100 largest cities. Nevertheless, urban hospitals have more staffed beds per hospital and provide a much larger average volume of both inpatient and outpatient care than suburban hospitals, regardless of ownership type. Urban hospitals are often affiliated with prestigious medical schools and/or have established reputations for various types of specialty care, attracting patients well beyond their city or metropolitan borders. (See Tables 1A and 1B.)

Substantial declines seen in the number of urban and suburban public hospitals.

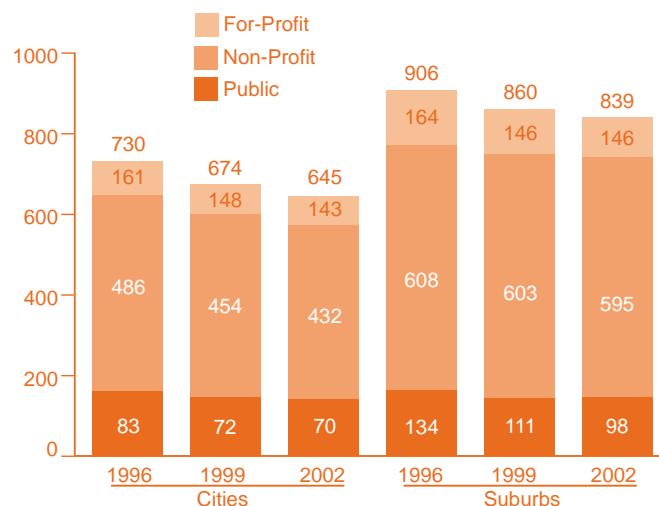
Public, non-profit and for-profit hospitals in both urban and suburban areas experienced moderate to substantial declines in their numbers from 1996 to 2002. However, proportionally, the greatest losses occurred among public hospitals, with a decline of 16 percent in cities, compared with 11 percent for non-profit and for-profit urban hospitals. By 2002, there were 645 facilities located in the 100 largest cities, 85 fewer than in 1996, with non-profit hospitals making up two-thirds of all urban hospitals in 2002. The decline in public hospitals was even more dramatic in suburban areas than in central cities, where their numbers dropped by 27 percent, from 134 to 98 between 1996 and 2002. Decreases in the number of suburban-area non-profit and for-profit hospitals were far less than half that loss: 2 percent and 11 percent, respectively. (See Chart 1.)

From 1996 to 2002, for-profit hospitals had by far the largest average increase in bed size among cities, while public hospitals led in the suburbs. Among cities, the 14 percent average increase in the number of beds per hospital among for-profit institutions contrasted with a 6 percent increase among non-profit facilities. Urban public hospitals, on average, virtually maintained the same bed size over the six-year period. However, in suburban areas, a 26 percent rise in the average number of beds per public hospital stood in stark contrast to the declines of about 2 percent in the other suburban hospital groups. The large increase in bed size among urban for-profit hospitals and suburban public hospitals suggests that the hospitals that closed were smaller than the remaining hospitals or that hospital mergers added to the bed size of the combined hospitals, or some combination of both. It is also possible that new beds were added to remaining hospitals.

Non-profit hospitals continue to dominate in metropolitan areas. In 2002, they represented about 73 percent of all general medical/surgical hospital beds in the cities and 75 percent in the suburbs. Overall, urban and suburban areas each experienced losses in total beds of about 5 percent to 6 percent. (See Chart 2.)

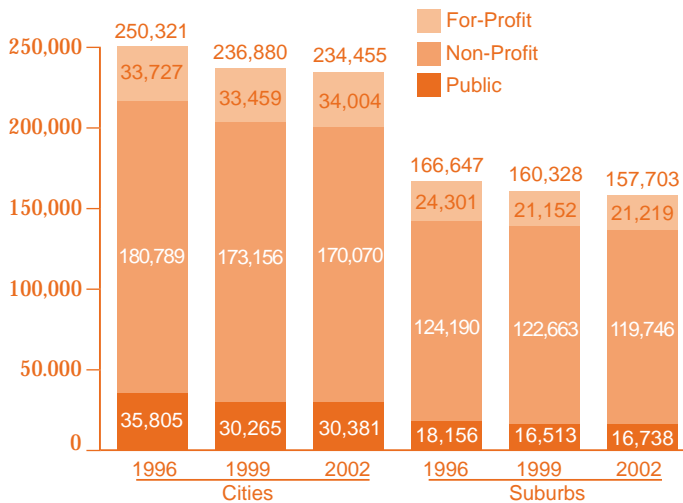
Urban for-profit hospitals and suburban public hospitals also saw a surge in utilization. Urban for-profit hospitals showed the greatest increases in the average number of admissions (36%), inpatient days (30%), outpatient visits (39%) and emergency department (ED) visits (61%) between 1996 and

Chart 1
Number of Hospitals by Ownership Type in the 100 Largest Cities and Their Suburbs



Source: Health Forum, 1996, 1999, and 2002 AHA Annual Survey of Hospitals.

Chart 2
Number of Staffed Beds by Ownership Type in
the 100 Largest Cities and Their Suburbs



Source: Health Forum, 1996, 1999, and 2002 AHA Annual Survey of Hospitals.

2002. In all likelihood, these increases are related to the growth in the average bed size among for-profit hospitals, as described above. The increases could also indicate an increase in market share. For each of these same measures of utilization, urban public hospitals, with virtually no change in bed size, on average, still averaged small increases in utilization. The average percentage increases in the utilization measures among non-profit hospitals fell between these two groups.

With the largest average bed size, urban public hospitals, in general, continued to have much higher utilization per hospital than non-profit and for-profit hospitals in cities. For example, urban public hospitals averaged over 400,000 outpatient department visits in 2002 compared to an average of just over 248,000 for non-profit hospitals and just over 91,000 for for-profit hospitals. Emergency department visits averaged over 70,000 for urban

public hospitals, well above the nearly 45,000 average for non-profit hospitals and the 27,500 average among for-profit hospitals in urban areas.

However, we note that across the entire set of 100 largest cities, public hospitals were responsible for fewer total admissions, inpatient days and E.D. visits (but not outpatient visits) in 2002 than in 1996 (numbers not shown). In contrast, for-profit hospitals, as a group, saw double-digit growth on each of these measures, and by 2002, had surpassed public hospitals in the total number of staffed beds (34,000 v. 30,400) and admissions (1.5 million v. 1.3 million) in urban areas.

Urban and suburban public hospitals reported the highest average length of stay (ALOS) for inpatient care, with little change between 1996 and 2002. While the average length of stay, an indicator of severity of illness, continued its downward trend across urban and suburban hospitals, urban public hospitals had the lowest decline—less than 2 percent from 1996 to 2002—compared to a decline of 8 percent among non-profit institutions and 4 percent among for-profit facilities. The ALOS for urban hospitals ranged from 5.2 days among for-profit hospitals to 6.6 days for public hospitals. At the same time, suburban public hospitals, already with the highest suburban ALOS in 1996 (5.8 days), were the only city or suburban hospital group to have no decrease in ALOS. This contrasts with a decrease of 10 percent in ALOS among suburban non-profit hospitals and a decrease of 3 percent among suburban for-profit hospitals.

Substantial growth in suburban public hospital use occurred between 1996 and 2002. In suburban areas, public hospitals, which saw the average bed size increase by more than one-quarter, also led in the percentage growth of admissions, inpatient days, outpatient visits and emergency department (ED) visits per hospital.

Among suburban hospitals, between 1996 and 2002:

- Admissions per hospital rose 45 percent for public hospitals, on average, nearly twice the rate of growth of for-profit hospitals (23%) and 2.5 times the rate of growth for non-profit hospitals (18%).
- Public hospitals showed the largest increase in outpatient visits (66%) compared with for-profit (43%) and non-profit (28%) hospitals.

- . The 42 percent average increase in ED visits among public hospitals was well above the 26 percent increase for non-profit institutions and the 38 percent increase among for-profit hospitals.

In cities, for-profit and non-profit hospitals saw a relative increase in Medicaid utilization from 1996 to 2002, while public hospitals saw a relative decline. City public hospitals maintained, by far, the highest rates of Medicaid discharges as a percentage of total admissions (31.1% in 2002, compared to 18% for non-profit hospitals and 19.8% for for-profit hospitals). Yet, they were the only group to see a decline (13%) in the proportion of Medicaid discharges. For-profit hospitals saw the Medicaid proportion of their total admissions rise by 15 percent, on average, over the 6-year study period, while the increase was 6 percent among non-profit hospitals.

In considering the total number of Medicaid admissions across the 100 largest cities, urban public hospitals admitted 21 percent fewer Medicaid patients between 1996 and 2002, while for-profit hospitals admitted 39 percent more Medicaid patients and non-profit hospitals admitted 17 percent more (numbers not shown). In the suburbs, the total number of Medicaid admissions grew 13 percent for public hospitals over the same period, and increased by 14 percent among for-profit hospitals and by 22 percent among non-profit hospitals.

The difference in Medicaid ALOS between public hospitals and the other ownership groups widened between 1996 and 2002 among urban hospitals. The ALOS of Medicaid patients for city public hospitals was the highest among the ownership groups in 1996, 1999, and 2002, and increased by 11 percent over the six-year period. In contrast, the ALOS of Medicaid patients declined by 9 percent among non-profit hospitals and rose modestly among for-profit hospitals (3%).

In the suburbs, Medicaid's percentage of admissions among for-profits hospitals is similar to that for public hospitals. There was only a modest difference in the percentage of Medicaid admissions across ownership type, with the rate for public hospitals (18.9%) in 2002 slightly ahead of that for for-profit hospitals (17.9%), while non-profit hospitals had the lowest percentage (13.3%). Between 1996 and 2002, Medicaid's share of total discharges increased by 4 percent, on average, for suburban hospitals.

As with urban public hospitals, suburban public hospitals had the highest ALOS for Medicaid patients all three study years and experienced the largest increase (12%) in the Medicaid ALOS, to 7.7 days in 2002. The Medicaid ALOS increased by 8 percent among for-profits hospitals (to 5 days in 2002) and declined by 9 percent among non-profit hospitals (to 5.7 days in 2002).

Hospital Utilization and Capacity by Community Poverty Level

To better understand the relationship between the care hospitals provide and the communities they serve, we focused on poverty, which is positively correlated with illness and health care need.⁵ We categorized cities and suburbs each into three similarly-sized groups of low, medium and high poverty rates. For cities, low is defined as less than 15 percent; medium, as 15 percent to 20 percent; and high, as greater than 20 percent. For suburbs, low is less than 7 percent; medium is 7 percent to 10 percent; and high is defined as greater than 10 percent. Tables 2A and 2B provide a breakdown of the cities and suburbs included in each of these poverty groups.

The cities and suburban areas, grouped by their poverty rates, also differ on a number of other demographic characteristics (based on 2000 data) that could influence hospital utilization. The poverty level is positively correlated to population size and other characteristics for both cities and suburbs. On average, high poverty cities and high poverty suburbs also have the lowest proportions of white residents; the highest proportions of black residents; and the highest percentages of population that receive public assistance, are without a high school education, and are unemployed, relative to their low- and medium poverty counterparts. (See Table 3.)

Violent crime rates are also highest in high poverty cities and suburbs, as are low birth weight rates, with respect to their urban and suburban groups. Cities are, overall, more racially and ethnically diverse than their suburbs, but vary less by poverty on the percentage of Hispanic and foreign-born residents compared with the suburbs. For example, the proportion of Hispanic residents in high poverty suburbs—26.4 percent, on average—is five times the proportion for low poverty suburbs (5.3%) and nearly three times the proportion for medium poverty suburbs (9.4%). The percentage of population age 65 and older is similar across poverty groups, averaging 11.2 percent for both cities and suburbs overall.

To conduct our analysis, we first calculated the percentage of total urban population that each poverty group of cities comprises and the percentage of total suburban population that each poverty group of suburbs comprises, using 2000 U.S. Census population data. These population distributions across poverty groups were the basis of comparison against the distribution of total urban (or suburban) staffed beds, admissions, inpatient days, and outpatient and E.D. visits across the urban (or suburban) poverty groups, using 2002 hospital data. We also compared the distribution of the following types of specialty care across poverty groups for cities and suburbs: number of neonatal intensive care unit (NICU) beds, number of positron emission tomography (PET) scanners, and number of level 1 or 2 trauma centers. (See Appendix A for definitions.)

To provide a more complete picture of hospital capacity and utilization beyond the relative measures, Tables 4A and 4B show the actual values used to tabulate the percentage distributions, along with the percentage changes across the study period. These figures do not take population growth into account but provide a reference for the scale and comparative growth rates among the three poverty groups for cities and suburbs. The tables also include occupancy rates and average length of stay.

We expected to find a larger percentage of hospital services provided in high poverty cities and suburbs relative to their percentage of total urban and suburban population, respectively. Our results showed this to be the case in cities, although not to the extent

that we expected, and was not the case at all in the suburbs. In fact, the results for suburban areas were starkly different from that of cities and not what we expected.

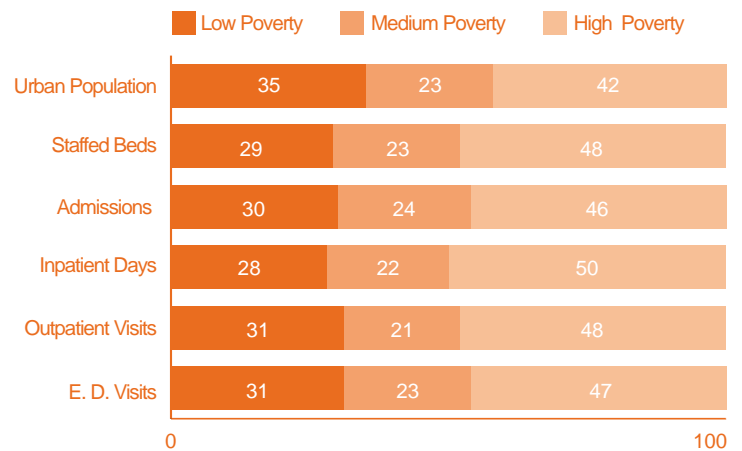
The proportion of hospital utilization and resources in high poverty cities was modestly higher than their proportion of urban population; however, high poverty suburbs showed dramatically lower levels of capacity and utilization relative to their share of the suburban population. High poverty cities had slightly higher proportions of beds, admissions, inpatient days, and outpatient visits relative to their proportion of the total urban population. But high poverty suburbs, which accounted for the largest percentage of the suburban population (44%) in 2000, represented just over one-fifth of all suburban hospital beds and admissions in 2002, and accounted for relatively small proportions of the other measures. The low poverty suburbs, with just over one-quarter (26%) of the total suburban population accounted for 42 percent of suburban hospital beds and 44 percent of suburban hospital admissions. (See Charts 3 and 4.)

Behind these differences are the much smaller number of hospitals located in high poverty areas—just 191 in 2002, compared with 334 hospitals in low poverty suburbs, and 314 in medium poverty suburbs—despite the much larger number of residents living there. High poverty suburbs also experienced the largest decline (10%) in the number of suburban hospitals from 1996 to 2002. (See Tables 4A and 4B.)

While we did not analyze hospitals by ownership type within the city and suburban poverty groups, we show in Appendix B the breakdown of hospitals in each poverty group by their ownership type. We note that for-profit hospitals made up one-third of all high poverty suburban hospitals in 2002, but comprised only 6 percent of hospitals in low poverty suburbs and one-fifth of hospitals in medium poverty suburbs.

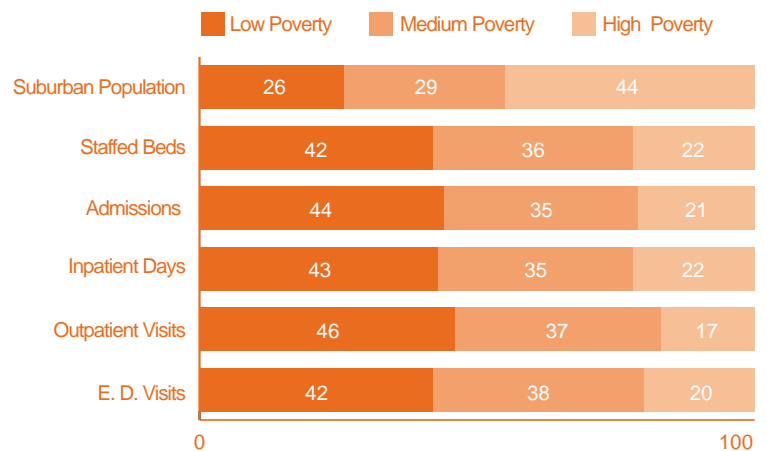
Unlike cities, where the number of emergency department visits and trauma centers were distributed across the urban poverty groups in the same proportions as the population, the volume of emergency care utilization and capacity was disproportionately higher in the low poverty suburbs relative to their population size. Low poverty suburbs had the majority—nearly 60 percent—of all suburban level 1 and level 2 trauma centers in 2002. High poverty suburbs, with two-thirds more population than low poverty suburbs, accounted for only 17 percent of the suburban trauma centers and 20 percent of E.D. visits. High poverty suburbs had only 24 level 1 or level 2 trauma centers in 2002, a 118 percent increase from

Chart 3
100 Largest Cities by Poverty Level: Distribution of 2000 Population Compared with Distribution of Hospital Beds and Utilization, 2002 (percentages shown*)



*Percentages may not add to 100 because of rounding.
Source: U.S. Census Bureau and AHA Annual Survey of Hospitals, 2002.

Chart 4
Suburbs of 100 Largest Cities by Poverty Level: Distribution of 2000 Population Compared with Distribution of Hospital Beds and Utilization, 2002 (percentages shown*)



*Percentages may not add to 100 because of rounding.
Source: U.S. Census Bureau and AHA Annual Survey of Hospitals, 2002.

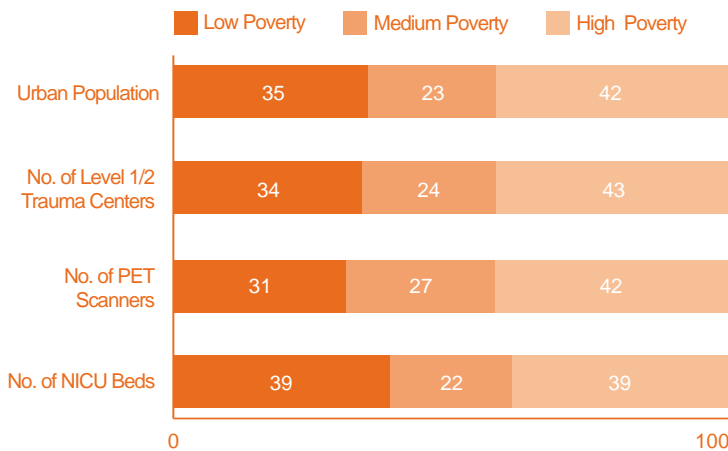
1996. This was still less than 30 percent of the number in low poverty suburbs (84). Medium poverty suburbs also had less than half (35) the number of level 1 and level 2 trauma centers as low poverty suburbs. (See Charts 5 and 6.)

For high poverty cities, their proportion of total hospital emergency department visits was slightly higher than their proportion of total urban population. However, the high poverty suburban areas represented only 20 percent of suburban E.D. visits, compared to 44 percent of the suburban population, despite having the greatest growth (29%) in E.D. visits between 1996 and 2002 of all urban and suburban poverty areas.

Low poverty suburban areas have far outpaced high poverty and medium poverty suburbs in the hospital acquisition of PET scanners; by 2002, they accounted for more than half of all suburban PET scanners. In 1996, only 3 hospitals in low poverty suburbs reported having a PET scanner, with the number increasing to 15 in 1999. By 2002, the number of PET scanners in low poverty suburbs had grown exponentially—nearly 2000 percent—to 62. Only 17 percent of suburban PET scanners were located in high poverty suburbs. By contrast, the distribution of PET scanners across the three urban poverty groups matched closely to the distribution of population among the poverty groups.

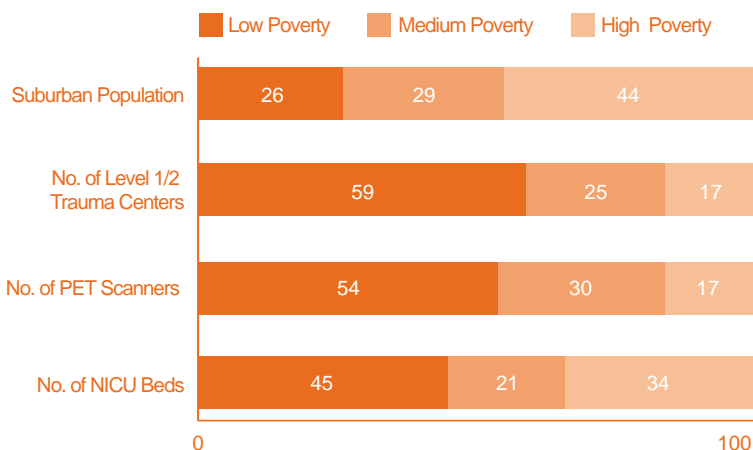
Low poverty suburbs had the largest proportion (45%) of suburban neonatal intensive care unit beds in 2002, after a 62 percent increase from 1996, the largest increase of any other suburban or urban poverty group. High poverty suburbs also experienced significant growth in the number of NICU beds (45%), such that by 2002 their percentage of suburban NICU beds (34%) came closest to matching their proportion of suburban population. In cities, the distribution of NICU beds across poverty groups was somewhat disproportionately higher in low poverty cities compared to their proportion of urban population. This was the only measure for which high poverty cities had a larger proportion of the urban total compared to their percentage of urban population.

Chart 5
100 Largest Cities by Poverty Level: Distribution of 2000 Population Compared with Distribution of Hospital Specialty Care, 2002 (percentages shown*)



*Percentages may not add to 100 because of rounding.
Source: U.S. Census Bureau and AHA Annual Survey of Hospitals, 2002.

Chart 6
Suburbs of 100 Largest Cities by Poverty Level: Distribution of 2000 Population Compared with Distribution of Hospital Specialty Care, 2002 (percentages shown*)



*Percentages may not add to 100 because of rounding.
Source: U.S. Census Bureau and AHA Annual Survey of Hospitals, 2002.

Overall, the average length of stay (ALOS) in a hospital was longer in cities than in the suburbs; within cities and suburbs, hospitals located in the highest poverty areas had the longest ALOS. The ALOS for hospitals in high poverty cities (6.2 days in 2002) remained about 1 day longer than the ALOS for hospitals in medium poverty (5.1 days) and low poverty (5.3 days) cities. The ALOS for suburban hospitals varied over a narrower range across the poverty groups (4.9 days to 5.4 days), with hospitals in high poverty suburban areas having the smallest percentage decline (2.1%) in ALOS between 1996 and 2002. (See Tables 4A and 4B.)

With a shrinking number of hospitals and staffed beds in cities and suburbs, along with growing numbers of admissions, occupancy rates rose across the board. Occupancy rates were higher in the cities than suburbs across all poverty groups (71.2% v. 65.8% in 2002), but the percentage increases in rates were higher in the suburbs, overall. Hospitals in low poverty suburban areas had the highest suburban occupancy rates, while high poverty cities had the highest occupancy rates among urban hospitals for all three study-years.

Medicaid Discharges and Average Length of Stay

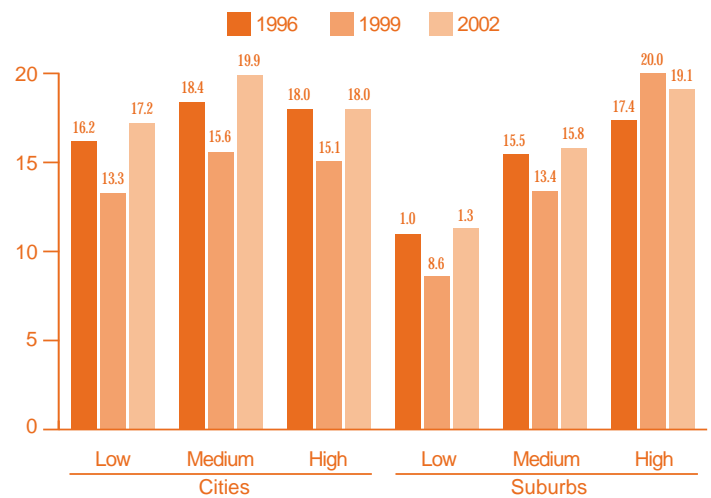
We examined three hospital statistics related to Medicaid by city and suburban poverty groups: total Medicaid discharges, Medicaid's percentage of total admissions,⁶ and ALOS for Medicaid patients.

Medicaid discharges as a percentage of total admissions declined significantly across hospitals between 1996 and 1999, at a time when the economy was expanding, then increased significantly between 1999 and 2002, when the economy was contracting.

There was also a uniform decline in Medicaid discharges across cities and suburbs between 1996 and 1999 and a uniform increase in discharges between 1999 and 2002, to levels higher than in 1996. These patterns followed trends for the total Medicaid population, which was smaller in 1999 than in 1996 (dipping to the lowest level in 1998) and then grew to a much higher level, by 2002, than the 1996 total (with the largest expansion occurring between 2001 and 2002).⁷ Hospitals from high poverty suburban areas averaged the highest percentage of Medicaid discharges (19.1%) in 2002. (See Chart 7 and Tables 4A and 4B.)

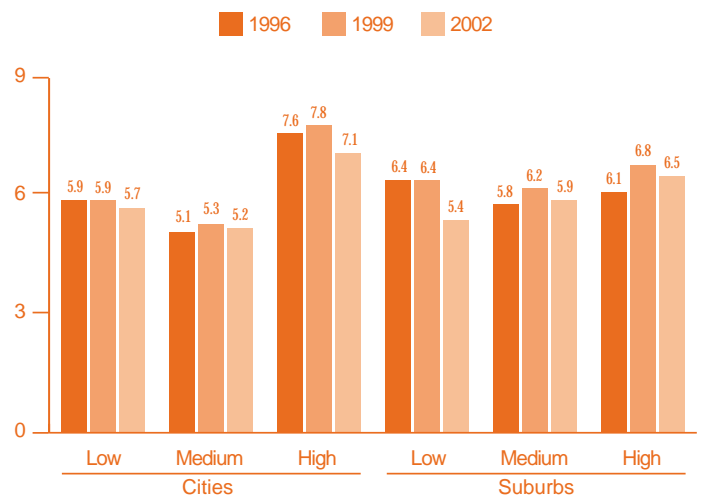
The average length of stay for Medicaid patients was highest in high poverty cities and high poverty suburban areas. Hospitals in the high poverty suburbs also had the greatest increases (7%) in ALOS between 1996 and 2002, reaching 6.5 days. Despite experiencing one of the larger declines (7%) in ALOS for Medicaid patients, hospitals in high poverty cities still had the highest Medicaid ALOS of any group (7.1 days). We also found an inverse relationship between Medicaid discharges and ALOS. Between 1996 and 1999, when Medicaid discharges declined, ALOS generally rose, and between 1999 and 2002 when Medicaid discharges increased, ALOS generally dropped. (See Chart 8.)

Chart 7
Medicaid Discharges as a Percentage of Total Hospital Admissions, by Poverty Level (low, medium, high) of Community



Source: Health Forum, 1996, 1999, and 2002 AHA Annual Survey of Hospitals.

Chart 8
Medicaid Average Length of Hospital Stay in Days, by Poverty Level (low, medium, high) of Community



Source: Health Forum, 1996, 1999, and 2002 AHA Annual Survey of Hospitals.

Hospital Financial Highlights by Community Poverty Level

We examined several financial measures for general acute care hospitals in the 100 largest cities and their suburbs by community poverty level for the years 1996, 1999 and 2002. The statistics presented include net revenues per hospital by payer source, hospital payer mix, based on gross patient revenues, as well as the average hospital operating and total margins. The figures presented are unadjusted for inflation.

Net Revenues

Over the six-year period of 1996 to 2002, the total net revenues per hospital from all payer sources increased by over 50 percent, on average, for both urban and suburban hospitals. Average hospital net revenues generally increased by a much higher rate between 1999 and 2002, even though the economy was in decline, compared to the period of 1996 to 1999. High poverty cities, with the largest number of hospitals and largest average bed size, had the largest 2002 net revenues per hospital from all sources (\$226.3 million) and from Medicare (\$83.6 million) and Medicaid (\$44.4 million), and showed the smallest percentage increases since 1996 in each case. (See Table 5.)

Hospitals in low poverty cities averaged the largest amount of 2002 net revenues from private (\$106 million) and other government sources (\$4.1 million), and averaged the largest percentage increase (63%) in private net revenues since 1996. (Note that for net revenues, the private category includes third-party, self-pay and other non-governmental sources, less bad debt).

Low poverty suburbs, which accounted for the largest number of suburban hospitals and staffed beds, averaged the largest amount of suburban hospital net revenues from all sources (\$112.8 million), and from Medicare (\$43.3 million) and private sources (\$60.1 million) in 2002. Hospitals in high poverty suburban areas averaged the largest amount of 2002 net Medicaid revenues (\$14.6 million) among suburban hospitals, but averaged the smallest percentage increase since 1996. These hospitals also had the lowest percentage increase in private net revenues (34%) compared with hospitals located in low and medium poverty suburban areas (57% each), and had the smallest increase in total net revenues over the study period.

Hospital Payer Mix

We examined hospital payer mix based on gross patient revenues, which are defined by the American Hospital Association as established rates charged for services before any contractual allowances, payer discounts, charity care, and bad debt are deducted. The categories of payer mix include Medicare, private third-party, Medicaid, other and self-pay. Other payers, in this case, include both other government and other non-government revenues.

Hospitals in high poverty cities and high poverty suburbs had the largest dependence on Medicaid revenues. Medicaid revenues as a percentage of total gross patient revenues followed the pattern described earlier for Medicaid discharges: declining between 1996 and 1999 and increasing between 1999 and 2002. By 2002, Medicaid accounted for 18.3 percent of gross revenues among hospitals in high poverty cities and 13.7 percent of revenues among hospitals in low poverty cities. Among suburban hospitals, Medicaid revenues comprised nearly one-fifth (19.1%) of patient revenues in high poverty areas and averaged about 8 percent of revenues for those in low poverty areas. (See Charts 9 and 10.)

Between 1996 and 2002, Medicare gross revenues became a smaller source of patient revenues among hospitals in high poverty cities and a larger source of patient revenues among hospitals in high poverty suburban areas. By 2002, hospitals in high poverty suburban areas had the same proportion of gross revenues from Medicare patients (40%), on average, as hospitals in low and medium poverty suburbs. Medicare revenues as a percentage of gross patient revenues varied little by poverty level among urban hospitals.

The proportion of gross revenues from third-party payers among urban hospitals was fairly similar across poverty groups by 2002; among suburban hospitals, the differences in third-party payer mix widened across poverty groups. On average, hospitals in high poverty cities increased their proportion of third-party gross revenues between 1996 and 2002 (from 34.7% to 36.2%), bringing them more in line with the proportions for hospitals in low and medium poverty cities. Third party revenues became a smaller share of total gross revenues for hospitals in high poverty suburban areas, dropping to 32 percent by 2002, and became a larger share for hospitals in low and medium poverty suburban areas.

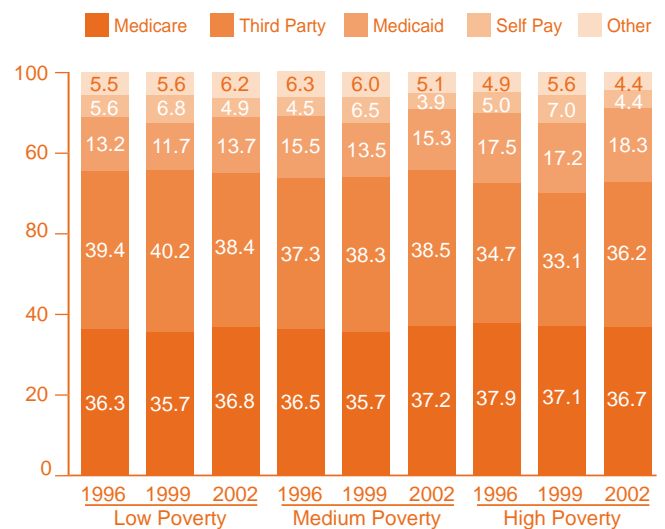
The proportion of gross revenues from self-pay and other sources each comprised a small fraction of overall gross patient revenues across city and suburban hospitals.

Hospital Operating and Total Margins

We examined average total and operating margins for urban and suburban hospitals by our three poverty categories for the years 1996, 1999, and 2002. A hospital margin is the ratio of hospital profits to hospital expenses, often expressed as a percentage. The operating margin represents profitability from core operations, namely patient care, prior to the receipt of any charitable or government contributions. The American Hospital Association defines an operating margin as the difference between operating revenue and total expenses as a percentage of operating revenue. The total margin is defined as the difference between total net revenue and total expenses as a percentage of total net revenue. This includes non-operating income, such as contributions, public appropriations and other government transfers, investments, and income from subsidiaries or affiliates.

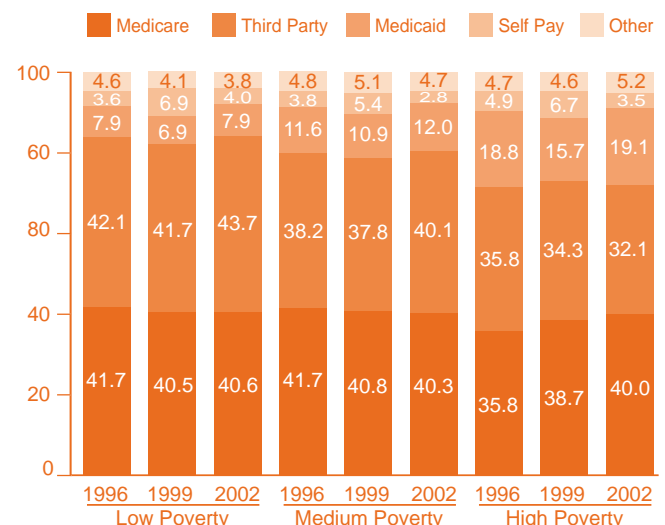
Researchers that analyzed the hospital operating margins of U.S. community hospitals between 1990 and 2003 showed that margins peaked in 1996 and hit their lowest point in 1999, then peaked again in 2002 at levels less than 1996 levels.⁸ Our analysis of hospital operating margins for urban and suburban areas reflects this same pattern.

Chart 9
Percentage of Gross Patient Revenues by Payer Source for Urban Hospitals, by Poverty Level of Community



Source: Health Forum, 1996, 1999, and 2002 AHA Annual Survey of Hospitals.

Chart 10
Percentage of Gross Patient Revenues by Payer Source for Suburban Hospitals, by Poverty Level of Community

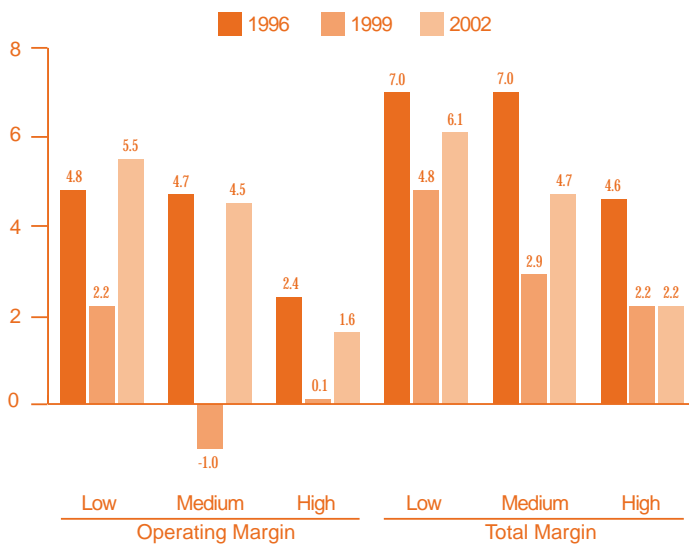


Source: Health Forum, 1996, 1999, and 2002 AHA Annual Survey of Hospitals.

Operating margins and total margins were consistently lowest among hospitals in high poverty cities. In 1996, the average total margin for hospitals in low and medium poverty cities (both 7%) was 50 percent greater than the average for hospitals in high poverty cities (4.6%), while the average hospital operating margin in low (4.8%) and medium (4.7%) poverty cities was twice that of hospitals in high poverty cities (2.4%).

Hospitals in low poverty cities were the only group to average a higher operating margin in 2002 (5.5%) than in 1996 (4.8%). The 2002 rate was three times the average of hospitals in high poverty cities (1.6%). By 2002, the average total margin for hospitals in low poverty cities had surged to 6.1%, well ahead of the 2002 averages for hospitals in medium (4.7%) and high poverty cities (2.2%). (See Chart 11.)

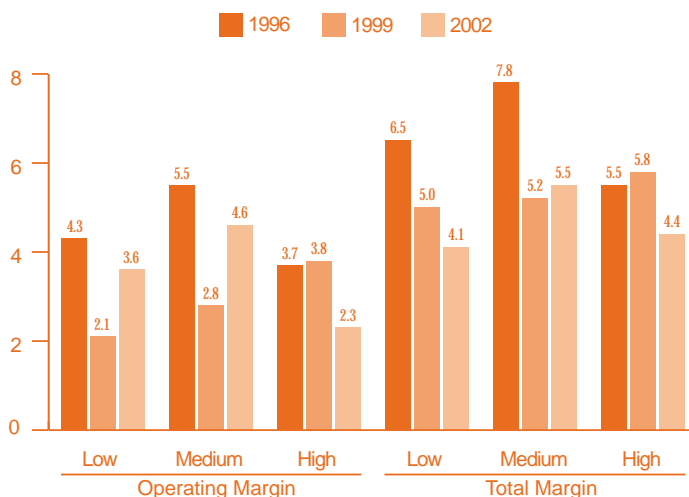
Chart 11
Urban Hospital Operating and Total Margins,
by Poverty Level (low, medium, high) of Community



Source: Health Forum, 1996, 1999, and 2002 AHA Annual Survey of Hospitals.

Hospitals in high poverty suburbs had the lowest average operating margin in 1996 and 2002, and the highest average operating margin in 1999. Hospitals in medium poverty suburbs averaged the highest operating and total margins in 1996 and 2002. The 2002 average operating margin for hospitals in high poverty suburban areas (2.3%) was half the average of those in medium poverty areas (4.6%). The average total margin for hospitals in low poverty suburbs declined over each of the 3-year intervals such that by 2002, this group had the lowest average total margin (4.1%), behind that of hospitals in high poverty suburbs (4.4%). (See Chart 12.)

Chart 12
Suburban Hospital Operating and Total Margins,
by Poverty Level (low, medium, high) of Community



Source: Health Forum, 1996, 1999, and 2002 AHA Annual Survey of Hospitals.

Summary and Conclusions

Our conclusions reflect analysis of hospital utilization and capacity in the 100 largest cities and surrounding suburban areas for the years 1996 to 2002.

The results by hospital ownership showed that the role of public hospitals, while highly significant as a safety net provider in both cities and suburbs, appears to be diminishing, as measured by their larger percentage losses and declining volume of total and Medicaid admissions in the largest cities. The analysis by community poverty levels revealed vast city-suburban differences in the distribution of hospital services and resources across low, medium and high poverty groups relative to their proportions of population. These patterns and trends raise questions about the future of the hospital safety net and its ability to adequately serve the most vulnerable residents, particularly in high poverty cities and suburbs, and about the appropriateness of the level of hospital resources concentrated in low and high poverty suburban areas.

Trends in Hospital Ownership

Our review of hospitals by ownership in the largest cities and suburbs revealed several trends about their total numbers and composition, their average size and growth in volume of care, and their share of Medicaid patients. The downward trend in the number of hospitals and total hospital beds in large metropolitan areas continued, with public hospitals showing the largest declines (16% in cities and 27% in suburbs) and the greatest decrease in the percentage of beds. These trends also represent an acceleration in the closing or merging of urban public hospitals, which declined by only 14 percent over a 16-year period between 1980 and 1996, and a continuation of a steep drop in suburban public hospitals, which declined by 43 percent over the same 16-year period.⁹

The remaining urban public hospitals continued to be the largest providers as measured by their average bed size, but their presence across the urban landscape is diminishing. By 2002, non-profit hospitals had essentially pulled even with public facilities in admissions per hospital. Urban public hospitals also provided less inpatient and emergency care in 2002 than in 1996, while other hospital groups saw steady growth. By 1999, for-profit hospitals had surpassed public hospitals in staffed beds and total admissions for the 100 largest cities.

Of the remaining suburban public hospitals, average bed size increased by 26 percent, from 1996 to 2002, suggesting that relatively smaller public hospitals dominated the closings (or conversions/mergers). Correspondingly, the average increase in utilization measures per hospital were large, relative to suburban for-profit and non-profit hospitals. Given that the remaining suburban public hospitals are much larger, and perhaps more vital than ever to the communities they serve, one question is whether their numbers will stabilize or continue to decline.

Hospital Ownership and Medicaid Patients

As safety net providers, public institutions have provided the bulk of hospital care for Medicaid patients. In cities, public hospitals continued to have the largest proportion of Medicaid discharges, while in the suburbs, the proportions were similar across hospital ownership groups. Urban public hospitals were the only group to have a smaller percentage of Medicaid discharges in 2002 than in 1996, while all other groups saw their Medicaid share of total admissions increase by 4 percent to 15 percent.

We also note that public hospitals in urban and suburban areas had both the longest Medicaid ALOS, and the steepest rise in Medicaid ALOS between 1996 and 2002. The results suggest that, on average, public hospitals treat more seriously ill Medicaid patients than the other hospital types.

What do these findings say about metropolitan area hospitals and their Medicaid patients? They suggest that the landscape for Medicaid hospital care may be shifting. Remaining public hospitals may be diversifying their patient mix to improve their bottom line. These trends could also signal an increasing role for non-profit and for-profit community hospitals as safety net providers, a more even distribution of safety net care responsibilities, and/or an attempt to increase market share by attracting healthier, more profitable Medicaid enrollees.

Hospitals in Low, Medium and High Poverty Urban and Suburban Areas

Our review of hospital capacity and utilization by community poverty levels tells a dramatically different story for urban than suburban areas. High poverty cities accounted for a somewhat larger proportion of hospital use relative to their proportion of the total urban population, while the opposite was true for low poverty suburbs. The availability of specialty services such as trauma care, and PET scanners across the urban poverty groups was generally in line with the population distribution across these groups. Only with NICU beds was capacity proportionally greater in low poverty cities relative to their percentage of urban population.

At the same time, the overall and Medicaid average lengths of stay for hospitals in high poverty cities were the highest among urban areas, suggesting that these hospitals are serving relatively sicker patients compared with hospitals in low and medium poverty cities. Other research supports the effect of an “urban health penalty,” that is, higher rates of disease and mortality in cities with higher rates of poverty.¹⁰

Among suburban areas, high poverty communities represented the greatest proportion of suburban population in 2000 but had the smallest proportion of total inpatient use, outpatient use, level 1 or level 2 trauma centers, and PET scanners in 2002. The opposite was true of low poverty suburbs, which represented the smallest proportion of total suburban population, but had the largest proportions of suburban hospital use and specialty care capacity. Low poverty suburbs also saw exponential growth in the number of hospital PET scanners between 1996 and 2002 and the largest increase in NICU beds.

This lopsided distribution of hospital resources and use suggests that low poverty suburban areas may be attractive markets for hospitals. The population characteristics suggest that, on average, residents of low poverty suburbs are the most affluent residents of metropolitan America, and likely are the best insured. By the same token, hospital systems may be reluctant to expand into high poverty suburbs. Although we do not have data on uninsured rates for these areas, we noted earlier that the high poverty suburban areas averaged the largest percentages of Hispanic and foreign-born populations. Surveys have documented these groups as having among the highest uninsured rates in the country.¹¹ A lack of health coverage may be a contributing factor in the relatively small proportion of hospital resources available in high poverty suburbs.

Between 1996 and 2002, these high poverty areas also saw the greatest decline in the number of suburban hospitals, which may exacerbate access problems, particularly for those with limited or no insurance and limited transportation options. Perhaps as an indicator of unmet need for primary care as well, hospitals in high poverty suburbs had the greatest increase in emergency department visits of all city or suburban poverty areas. The findings raise questions about whether residents in high poverty suburban areas,

especially those who are poor or uninsured, will become increasingly dependent on nearby city public hospitals. This contention has already surfaced in Dallas, where the president of the city's public hospital stated that indigent or uninsured patients residing in five surrounding suburban counties accounted for 16 percent of the hospital's \$1.2 billion in uncompensated care in 2002.¹² This situation in Dallas and other cities creates the potential for a backlash among urban taxpayers about the care of suburban residents in their public hospitals.

Finally, the financial situation of hospitals in both urban and suburban high poverty areas raises concerns about their future—more so than with facilities in low and medium poverty cities and suburbs. Hospital operating margins were generally the lowest among hospitals in high poverty cities and suburbs. Hospitals in these areas also saw the smallest increases in net revenues and the smallest rise in Medicaid net revenues, and yet they have the greatest dependence on this payer.

Implications for Availability and Access to Care

What do these results by ownership and poverty say about the future of hospital care in urban and suburban areas? Although it is not possible to draw conclusions about the specific roles and changes of each community's hospital safety net, the continued losses of public hospitals in both cities and suburbs inject uncertainty as to where the sickest of the poor and the uninsured will access care in the future.

The fallout from these changes in cities may differ significantly from the suburbs. In large central cities, the size of public and other primary safety net institutions, their constituency, their presence as an employer and the political issues surrounding their status suggest that communities are more likely to demand a careful assessment of impact, as well as a viable, alternative safety net plan. Suburban areas losing their public or primary safety net hospitals may be less likely to have the strong constituencies found in central cities. As a result, there may be a less vocal and concerted effort to assure a viable alternative is available. Ultimately, regional cooperation may be required to ensure adequate financing and access to hospital care for the area's poor and uninsured, particularly in metropolitan areas with a high poverty central city or high poverty suburban area.

Appendix A

American Hospital Association Definitions

Admissions: The number of patients, excluding newborns, accepted for inpatient service during the reporting period; the number includes patients who visit the emergency room and are later admitted for inpatient services.

Beds: The average number of beds, cribs, and pediatric bassinets set up and staffed for use for inpatients on the last day of the reporting period.

Emergency department: Hospital facilities for the provision of unscheduled outpatient services to patients whose condition require immediate care.

Emergency room visits: The number of visits to the emergency unit. When emergency outpatients are admitted to the inpatient areas of the hospital, they are counted as emergency room visits and subsequently, as inpatient admissions.

General medical and surgical care: Provides acute care to patients in medical and surgical units on the basis of physicians order and approved nursing care plans.

Gross patient revenues: Defined as established rates charged for services before any contractual allowances, payer discounts, charity care, and bad debt are deducted.

Inpatient days: The number of adult and pediatric days of care, excluding newborn days of care, rendered during the entire reporting period.

Neonatal intensive care: A unit that must be separate form the new born nursery providing intensive care to all sick infants including those with the lowest birth weights (less than 1500 grams). NICU has potential for providing mechanical ventilation, neonatal surgery, and special care for the sickest infants born in the hospital or transferred from another institution. A full-time neonatologist serves as director of the NICU.

Occupancy rate: The average daily census divided by the number of hospital beds, cribs, and pediatric bassinets set up and staffed on the last day of the reporting period, expressed as a percent. Average daily census is calculated by dividing the total annual number of inpatients, excluding newborns, by 365 days to derive the number of inpatients receiving care on an average day during the annual reporting period.

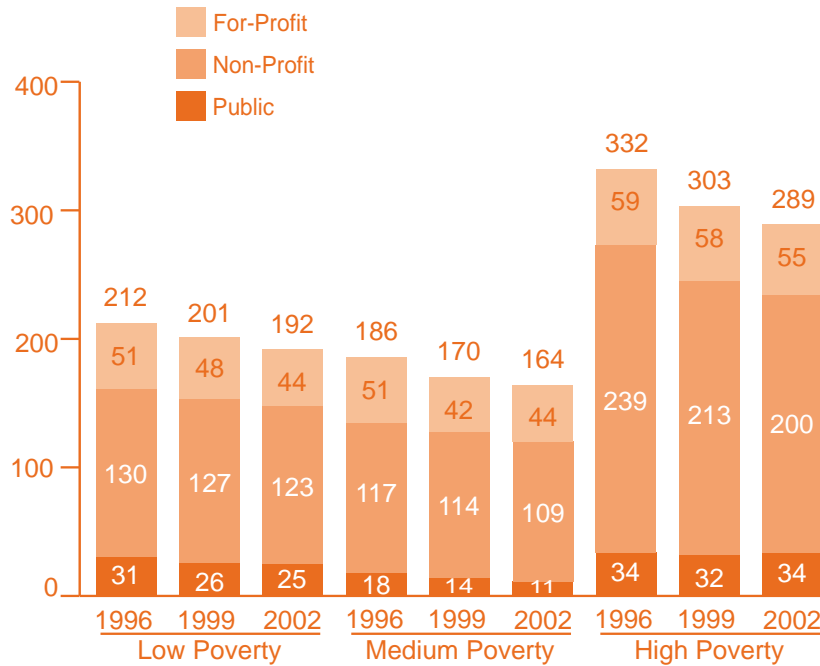
Positron emission tomography (PET) scanner: A nuclear medicine imaging technology which uses radioactive (positron emitting) isotopes created in a cyclotron or generator and computers to produce composite pictures of the brain and heart at work. PET scanning produces sectional imaging producing metabolic activities or blood flow rather than anatomy.

Trauma center (certified): A facility to provide emergency and specialized intensive care to critically ill and injured patients. Level 1: A regional source trauma center, which is capable of providing total care for every aspect of injury and plays a leadership role in trauma research education. Level 2: A community trauma center, which is capable of providing trauma care to all but the most severely injured patients who require highly specialized care.

Appendix B

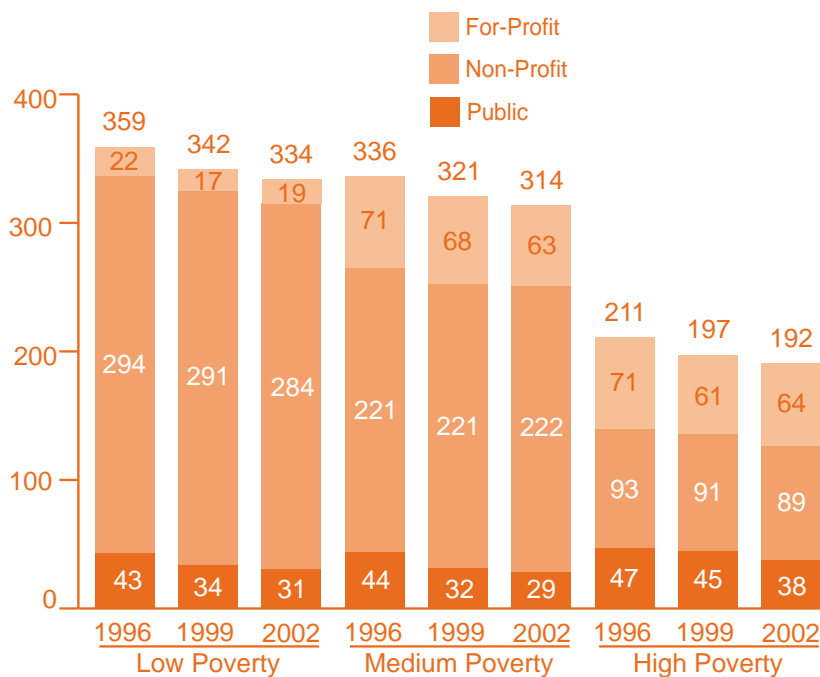
Hospital Ownership Type within City and Suburban Poverty Level Groups

100 Largest Cities by Poverty Level:
Number of Hospitals, by Ownership Type, 1996, 1999, 2002



Source: Health Forum, 1996, 1999, and 2002 AHA Annual Survey of Hospitals.

Suburbs of 100 Largest Cities by Poverty Level:
Number of Hospitals, by Ownership Type, 1996, 1999, 2002



Source: Health Forum, 1996, 1999, and 2002 AHA Annual Survey of Hospitals.

TABLE 1A
City Hospital Statistics by Type of Ownership, 1996, 1999, 2002

| | Hospital Ownership | 1996 | 1999 | 2002 | % Change | | |
|---|--------------------|---------|---------|---------|----------|-------|-------|
| | | | | | 96-99 | 99-02 | 96-02 |
| Number of Hospitals | For-Profit | 161 | 148 | 143 | -8.1 | -3.4 | -11.2 |
| | Non-Profit | 486 | 454 | 432 | -6.6 | -4.8 | -11.1 |
| | Public | 83 | 72 | 70 | -13.3 | -2.8 | -15.7 |
| | Total | 730 | 674 | 645 | -7.7 | -4.3 | -11.6 |
| Staffed Beds per Hospital | For-Profit | 209 | 226 | 238 | 7.9 | 5.2 | 13.5 |
| | Non-Profit | 372 | 381 | 394 | 2.5 | 3.2 | 5.8 |
| | Public | 431 | 420 | 434 | -2.6 | 3.3 | 0.6 |
| | Total | 343 | 351 | 363 | 2.5 | 3.4 | 6.0 |
| Admissions per Hospital | For-Profit | 7,496 | 8,969 | 10,208 | 19.6 | 13.8 | 36.2 |
| | Non-Profit | 14,930 | 16,602 | 18,419 | 11.2 | 10.9 | 23.4 |
| | Public | 17,321 | 17,861 | 18,613 | 3.1 | 4.2 | 7.5 |
| | Total | 13,562 | 15,060 | 16,619 | 11.0 | 10.4 | 22.5 |
| Occupancy Rate | For-Profit | 53.4 | 57.5 | 61.5 | 7.7 | 7.0 | 15.1 |
| | Non-Profit | 67.3 | 69.3 | 72.1 | 3.0 | 4.1 | 7.1 |
| | Public | 73.3 | 75.7 | 77.1 | 3.3 | 1.9 | 5.3 |
| | Total | 66.3 | 68.4 | 71.2 | 3.3 | 4.1 | 7.5 |
| Inpatient Days per Hospital | For-Profit | 40,972 | 47,471 | 53,407 | 15.9 | 12.5 | 30.4 |
| | Non-Profit | 91,617 | 96,441 | 103,603 | 5.3 | 7.4 | 13.1 |
| | Public | 115,710 | 116,131 | 122,214 | 0.4 | 5.2 | 5.6 |
| | Total | 83,187 | 87,791 | 94,494 | 5.5 | 7.6 | 13.6 |
| Average Length of Stay | For-Profit | 5.5 | 5.3 | 5.2 | -3.2 | -1.2 | -4.3 |
| | Non-Profit | 6.1 | 5.8 | 5.6 | -5.3 | -3.2 | -8.3 |
| | Public | 6.7 | 6.5 | 6.6 | -2.7 | 1.0 | -1.7 |
| | Total | 6.1 | 5.8 | 5.7 | -5.0 | -2.5 | -7.3 |
| Outpatient Visits per Hospital | For-Profit | 65,782 | 80,738 | 91,289 | 22.7 | 13.1 | 38.8 |
| | Non-Profit | 181,449 | 214,040 | 248,214 | 18.0 | 16.0 | 36.8 |
| | Public | 323,333 | 360,183 | 408,377 | 11.4 | 13.4 | 26.3 |
| | Total | 172,071 | 200,380 | 230,805 | 16.5 | 15.2 | 34.1 |
| Emergency Dept. Visits per Hospital | For-Profit | 17,077 | 21,980 | 27,507 | 28.7 | 25.1 | 61.1 |
| | Non-Profit | 33,957 | 39,851 | 44,865 | 17.4 | 12.6 | 32.1 |
| | Public | 60,176 | 63,166 | 70,167 | 5.0 | 11.1 | 16.6 |
| | Total | 33,215 | 38,417 | 43,763 | 15.7 | 13.9 | 31.8 |
| Medicaid Discharges as Percentage of Total Admissions | For-Profit | 17.3 | 15.9 | 19.8 | -7.8 | 24.4 | 14.7 |
| | Non-Profit | 16.9 | 14.2 | 18.0 | -15.8 | 26.3 | 6.3 |
| | Public | 35.8 | 31.4 | 31.1 | -12.4 | -0.9 | -13.2 |
| | Total | 19.2 | 16.5 | 19.8 | -14.1 | 20.5 | 3.5 |
| Medicaid Average Length of Stay | For-Profit | 4.9 | 5.1 | 5.0 | 4.4 | -1.1 | 3.2 |
| | Non-Profit | 6.8 | 6.8 | 6.2 | -0.2 | -8.9 | -9.1 |
| | Public | 6.8 | 7.4 | 7.5 | 8.6 | 2.2 | 11.1 |
| | Total | 6.6 | 6.7 | 6.3 | 1.7 | -6.3 | -4.6 |

TABLE 1B
Suburban Hospital Statistics by Type of Ownership, 1996, 1999, 2002

| | Hospital Ownership | 1996 | 1999 | 2002 | % Change | | |
|---|--------------------|---------|---------|---------|----------|-------|-------|
| | | | | | 96-99 | 99-02 | 96-02 |
| Number of Hospitals | For-Profit | 164 | 146 | 146 | -11.0 | 0.0 | -11.0 |
| | Non-Profit | 608 | 603 | 595 | -0.8 | -1.3 | -2.1 |
| | Public | 134 | 111 | 98 | -17.2 | -11.7 | -26.9 |
| | Total | 906 | 860 | 839 | -5.1 | -2.4 | -7.4 |
| Staffed Beds per Hospital | For-Profit | 148 | 145 | 145 | -2.2 | 0.3 | -1.9 |
| | Non-Profit | 204 | 203 | 201 | -0.4 | -1.1 | -1.5 |
| | Public | 135 | 149 | 171 | 9.8 | 14.8 | 26.1 |
| | Total | 184 | 186 | 188 | 1.4 | 0.8 | 2.2 |
| Admissions per Hospital | For-Profit | 5,412 | 5,861 | 6,680 | 8.3 | 14.0 | 23.4 |
| | Non-Profit | 8,228 | 9,077 | 9,732 | 10.3 | 7.2 | 18.3 |
| | Public | 5,149 | 6,048 | 7,468 | 17.5 | 23.5 | 45.0 |
| | Total | 7,262 | 8,140 | 8,936 | 12.1 | 9.8 | 23.0 |
| Occupancy Rate | For-Profit | 49.0 | 53.4 | 60.1 | 8.9 | 12.6 | 22.6 |
| | Non-Profit | 60.9 | 63.5 | 66.4 | 4.3 | 4.5 | 9.0 |
| | Public | 59.5 | 66.3 | 69.1 | 11.4 | 4.2 | 16.1 |
| | Total | 59.0 | 62.5 | 65.8 | 5.8 | 5.4 | 11.5 |
| Inpatient Days per Hospital | For-Profit | 26,587 | 28,229 | 31,886 | 6.2 | 13.0 | 19.9 |
| | Non-Profit | 45,541 | 47,160 | 48,757 | 3.6 | 3.4 | 7.1 |
| | Public | 29,518 | 36,015 | 43,066 | 22.0 | 19.6 | 45.9 |
| | Total | 39,741 | 42,508 | 45,156 | 7.0 | 6.2 | 13.6 |
| Average Length of Stay | For-Profit | 4.9 | 4.8 | 4.8 | -2.0 | -0.9 | -2.8 |
| | Non-Profit | 5.5 | 5.2 | 5.0 | -6.1 | -3.6 | -9.5 |
| | Public | 5.7 | 6.0 | 5.8 | 3.9 | -3.1 | 0.6 |
| | Total | 5.5 | 5.2 | 5.1 | -4.6 | -3.2 | -7.7 |
| Outpatient Visits per Hospital | For-Profit | 48,672 | 58,376 | 69,625 | 19.9 | 19.3 | 43.0 |
| | Non-Profit | 117,154 | 136,517 | 149,959 | 16.5 | 9.8 | 28.0 |
| | Public | 83,167 | 109,429 | 137,717 | 31.6 | 25.9 | 65.6 |
| | Total | 99,731 | 119,755 | 134,550 | 20.1 | 12.4 | 34.9 |
| Emergency Dept. Visits per Hospital | For-Profit | 16,433 | 19,524 | 22,624 | 18.8 | 15.9 | 37.7 |
| | Non-Profit | 25,221 | 28,197 | 31,841 | 11.8 | 12.9 | 26.2 |
| | Public | 19,338 | 22,367 | 27,502 | 15.7 | 23.0 | 42.2 |
| | Total | 22,760 | 25,972 | 29,730 | 14.1 | 14.5 | 30.6 |
| Medicaid Discharges as Percentage of Total Admissions | For-Profit | 17.2 | 14.4 | 17.9 | -16.4 | 24.4 | 4.0 |
| | Non-Profit | 12.5 | 10.6 | 13.3 | -15.1 | 25.0 | 6.2 |
| | Public | 17.8 | 22.1 | 18.9 | 24.6 | -14.8 | 6.2 |
| | Total | 14.2 | 12.8 | 14.8 | -9.8 | 15.6 | 4.2 |
| Medicaid Average Length of Stay | For-Profit | 4.6 | 5.0 | 5.0 | 8.5 | -0.2 | 8.3 |
| | Non-Profit | 6.3 | 6.3 | 5.7 | 0.8 | -9.2 | -8.5 |
| | Public | 6.9 | 8.3 | 7.7 | 19.9 | -6.8 | 11.8 |
| | Total | 6.1 | 6.4 | 5.9 | 5.8 | -8.7 | -3.4 |

Source: Health Forum, American Hospital Association Annual Survey of Hospitals, 1996, 1999, 2002.

TABLE 2A
Cities Categorized by Low, Medium and High 2000 Poverty Rate Levels

| Low Poverty Rate (<15%) | | Medium Poverty Rate (15%-20%) | | High Poverty Rate (>20%) | |
|---|------|--|------|---|------|
| * Anchorage, AK | 7.3 | Madison, WI | 15.0 | Washington, DC | 20.2 |
| Colorado Springs, CO | 8.7 | Grand Rapids, MI | 15.7 | Pittsburgh, PA | 20.4 |
| San Jose, CA | 8.8 | Riverside, CA | 15.8 | Memphis, TN | 20.6 |
| Norfolk/Virginia Beach/ Chesapeake, VA | 10.0 | Tacoma, WA | 15.9 | New York/Yonkers, NY | 21.1 |
| Lincoln, NE | 10.1 | Spokane, WA | 15.9 | Mobile, AL | 21.2 |
| Charlotte, NC | 10.6 | Tampa/St. Petersburg, FL | 15.9 | Milwaukee, WI | 21.3 |
| Wichita, KS | 11.2 | Oklahoma City, OK | 16.0 | Richmond, VA | 21.4 |
| San Francisco, CA | 11.3 | Minneapolis/St. Paul, MN | 16.4 | Louisville, KY | 21.6 |
| Omaha, NE | 11.3 | Orange Co. (Santa Ana/ Anaheim, CA) | 17.0 | Los Angeles/Long Beach/ Glendale, CA | 21.9 |
| Des Moines, IA | 11.4 | San Antonio, TX | 17.3 | Cincinnati, OH | 21.9 |
| Raleigh, NC | 11.5 | Akron, OH | 17.5 | El Paso, TX | 22.2 |
| Honolulu, HI | 11.8 | Corpus Christi, TX | 17.6 | Shreveport, LA | 22.8 |
| Seattle, WA | 11.8 | Montgomery, AL | 17.7 | Philadelphia, PA | 22.9 |
| Indianapolis, IN | 11.9 | Toledo, OH | 17.9 | Baltimore, MD | 22.9 |
| Las Vegas, NV | 11.9 | Bakersfield, CA | 18.0 | Stockton, CA | 23.9 |
| Jacksonville, FL | 12.2 | Lubbock, TX | 18.4 | Baton Rouge, LA | 24.0 |
| Greensboro, NC | 12.3 | Tucson, AZ | 18.4 | Atlanta, GA | 24.4 |
| Denver/Aurora, CO | 12.5 | Jersey City, NJ | 18.6 | Saint Louis, MO | 24.6 |
| Fort Wayne, IN | 12.5 | Houston, TX | 19.2 | Miami/Hialeah, FL | 24.6 |
| Lexington, KY | 12.9 | Boston, MA | 19.5 | Birmingham, AL | 24.7 |
| Portland, OR | 13.1 | Chicago, IL | 19.6 | Rochester, NY | 25.9 |
| Phoenix/Mesa/Glendale/ Scottsdale, AZ | 13.2 | Augusta, GA | 19.6 | Detroit, MI | 26.1 |
| Nashville, TN | 13.3 | Sacramento, CA | 20.0 | Fresno, CA | 26.2 |
| Albuquerque, NM | 13.5 | | | Cleveland, OH | 26.3 |
| Fort Worth/Arlington, TX | 13.6 | | | Buffalo, NY | 26.6 |
| Tulsa, OK | 14.1 | | | New Orleans, LA | 27.9 |
| Dallas/Garland/Plano, TX | 14.3 | | | Newark, NJ | 28.4 |
| Kansas City, MO | 14.3 | | | | |
| Austin, TX | 14.4 | | | | |
| San Diego, CA | 14.6 | | | | |
| Oakland/Fremont, CA | 14.6 | | | | |
| Columbus, OH | 14.8 | | | | |

*Anchorage city and MSA boundaries are identical; we chose to include its data in city but not suburban averages.

TABLE 2B
Suburban Areas Categorized by Low, Medium and High 2000 Poverty Rate Levels

| Low Poverty Rate (<7%) | | Medium Poverty Rate (7%-10%) | | High Poverty Rate (>10%) | |
|----------------------------------|-----|--|------|---|------|
| Milwaukee, WI | 3.6 | Buffalo, NY | 7.0 | Las Vegas, NV | 10.7 |
| Minneapolis/St. Paul, MN | 4.0 | New York/Yonkers, NY | 7.4 | San Diego, CA | 10.8 |
| Madison, WI | 4.4 | Austin, TX | 7.4 | Montgomery, AL | 11.0 |
| * Lincoln, NE | 4.5 | Louisville, KY | 7.4 | Oklahoma City, OK | 11.3 |
| Des Moines, IA | 4.5 | Boston, MA | 7.5 | Norfolk/Virginia Beach/ Chesapeake, VA | 11.4 |
| Omaha, NE | 5.0 | Jacksonville, FL | 7.6 | Augusta, GA | 11.6 |
| Fort Wayne, IN | 5.2 | Nashville, TN | 7.7 | Baton Rouge, LA | 11.7 |
| Denver/Aurora, CO | 5.2 | Dallas/Garland/Plano, TX | 7.7 | Lexington, KY | 12.2 |
| Baltimore, MD | 5.4 | Saint Louis, MO | 7.8 | Stockton, CA | 13.0 |
| Indianapolis, IN | 5.5 | Atlanta, GA | 7.8 | New Orleans, LA | 13.1 |
| Wichita, KS | 5.5 | Oakland/Fremont, CA | 8.0 | Jersey City, NJ | 13.5 |
| Chicago, IL | 5.6 | Portland, OR | 8.1 | Mobile, AL | 13.6 |
| Washington, DC | 5.8 | Orange Co. (Santa Ana/ Anaheim, CA) | 8.3 | * Albuquerque, NM | 14.2 |
| Columbus, OH | 6.0 | Tacoma, WA | 8.4 | Los Angeles/Long Beach/ Glendale, CA | 14.6 |
| San Francisco, CA | 6.0 | Memphis, TN | 8.5 | Riverside, CA | 15.0 |
| San Jose, CA | 6.0 | Honolulu, HI | 8.5 | * Lubbock, TX | 15.2 |
| Philadelphia, PA | 6.2 | Charlotte, NC | 8.6 | Shreveport, LA | 15.4 |
| Akron, OH | 6.3 | Tulsa, OK | 8.8 | Miami/Hialeah, FL | 15.6 |
| Richmond, VA | 6.3 | Birmingham, AL | 9.0 | Fresno, CA | 19.6 |
| Rochester, NY | 6.4 | * Spokane, WA | 9.1 | Corpus Christi, TX | 19.8 |
| * Colorado Springs, CO | 6.5 | Houston, TX | 9.3 | Bakersfield, CA | 22.5 |
| Kansas City, MO | 6.5 | Pittsburgh, PA | 9.3 | * El Paso, TX | 32.0 |
| Detroit, MI | 6.6 | San Antonio, TX | 9.4 | | |
| Cleveland, OH | 6.7 | Sacramento, CA | 9.6 | | |
| Cincinnati, OH | 6.7 | * Tucson, AZ | 9.7 | | |
| Grand Rapids, MI | 6.8 | Tampa/St. Petersburg, FL | 9.7 | | |
| Seattle, WA | 6.8 | Phoenix/Mesa/Glendale/ Scottsdale, AZ | 9.8 | | |
| Newark, NJ | 6.8 | Raleigh, NC | 9.9 | | |
| Fort Worth/Arlington, TX | 6.9 | Greensboro, NC | 10.0 | | |
| Toledo, OH | 6.9 | | | | |

*Indicates a suburban area with no hospital survey data, either because there were no hospitals or no survey participation.
 Source: Poverty rates tabulated from 2000 U.S. Census population and poverty data.

TABLE 3
Characteristics of 100 Largest Cities and Their Suburbs by Poverty Rate Levels*, 2000

| | Cities by Poverty Level | | | | Suburbs by Poverty Level | | | |
|--|--------------------------------|------------|---------------|-------------|---------------------------------|------------|---------------|-------------|
| | Total | Low | Medium | High | Total | Low | Medium | High |
| Total Population** | 56,590,581 | 19,956,047 | 12,812,500 | 23,822,034 | 94,758,109 | 25,094,993 | 27,888,383 | 41,774,733 |
| Average Population Size | 690,129 | 623,626 | 557,065 | 882,298 | 1,184,461 | 815,347 | 1,237,728 | 1,562,885 |
| % of Population 65 and older | 11.2 | 10.5 | 10.9 | 12.2 | 11.2 | 11.1 | 11.7 | 10.7 |
| % of Population Non-Hispanic White | 50.7 | 60.9 | 52.6 | 37.0 | 73.8 | 84.1 | 75.3 | 58.0 |
| % of Population Non-Hispanic Black | 25.4 | 15.7 | 18.3 | 42.9 | 8.2 | 6.0 | 8.3 | 11.1 |
| % of Population Hispanic | 16.3 | 13.0 | 21.9 | 15.3 | 12.5 | 5.3 | 9.4 | 26.4 |
| % of Population Foreign-Born | 13.3 | 13.4 | 14.2 | 12.6 | 9.4 | 7.4 | 8.4 | 13.6 |
| % Population on Public Assistance | 5.1 | 3.4 | 5.1 | 7.2 | 2.7 | 1.8 | 2.5 | 4.1 |
| % Population with No High School Diploma | 21.6 | 16.4 | 22.0 | 27.5 | 16.8 | 12.0 | 15.5 | 25.1 |
| Unemployment Rate (%) | 7.6 | 5.5 | 7.3 | 10.4 | 4.9 | 3.6 | 4.6 | 7.1 |
| Violent Crime Rate (per 100,000 pop.) | 990.3 | 792.2 | 893.4 | 1307.7 | 323.0 | 216.9 | 337.5 | 448.4 |
| Low Birth Weight Rate (% of live births) | 8.9 | 7.8 | 8.2 | 10.6 | 7.1 | 6.6 | 7.1 | 7.6 |

* Poverty rate levels for cities are: Low, <15%; Medium, 15%-20%; High, >20%. Poverty rate levels for suburbs are: Low, <7%; Medium, 7%-10%; High, >10%.

** Suburban numbers exclude the population of suburban areas which were not represented in the hospital data set.
 Source: Tabulations for demographic statistics based on data from 2000 U.S. Census; violent crime rates tabulated from FBI 2000 crime data; low birth weight rates tabulated from the 2000 Natality Data Set, National Center for Health Statistics.

TABLE 4A
City Hospital Utilization and Capacity Statistics,
by Poverty Rate Levels, 1996, 1999, 2002

| | Poverty Level | 1996 | 1999 | 2002 | % Change | | |
|-------------------------------------|---------------|-------------|-------------|-------------|----------|---------|---------|
| | | | | | 1996-99 | 1999-02 | 1996-02 |
| Number of Hospitals | Low | 212 | 201 | 192 | -5.2 | -4.5 | -9.4 |
| | Medium | 186 | 170 | 164 | -8.6 | -3.5 | -11.8 |
| | High | 332 | 303 | 289 | -8.7 | -4.6 | -13.0 |
| | Total | 730 | 674 | 645 | -7.7 | -4.3 | -11.6 |
| Staffed Beds | Low | 66,108 | 66,805 | 67,728 | 1.1 | 1.4 | 2.5 |
| | Medium | 57,705 | 55,296 | 53,280 | -4.2 | -3.6 | -7.7 |
| | High | 126,508 | 114,779 | 113,447 | -9.3 | -1.2 | -10.3 |
| | Total | 250,321 | 236,880 | 234,455 | -5.4 | -1.0 | -6.3 |
| Staffed Beds per Hospital | Low | 312 | 332 | 353 | 6.6 | 6.1 | 13.1 |
| | Medium | 310 | 325 | 325 | 4.8 | -0.1 | 4.7 |
| | High | 381 | 379 | 393 | -0.6 | 3.6 | 3.0 |
| | Total | 343 | 351 | 363 | 2.5 | 3.4 | 6.0 |
| Admissions | Low | 2,823,755 | 3,046,175 | 3,204,162 | 7.9 | 5.2 | 13.5 |
| | Medium | 2,312,503 | 2,382,520 | 2,585,196 | 3.0 | 8.5 | 11.8 |
| | High | 4,764,237 | 4,721,940 | 4,930,143 | -0.9 | 4.4 | 3.5 |
| | Total | 9,900,495 | 10,150,635 | 10,719,501 | 2.5 | 5.6 | 8.3 |
| Medicaid Discharges | Low | 471,910 | 412,656 | 560,418 | -12.6 | 35.8 | 18.8 |
| | Medium | 459,650 | 397,262 | 516,753 | -13.6 | 30.1 | 12.4 |
| | High | 1,013,787 | 851,067 | 1,042,792 | -16.1 | 22.5 | 2.9 |
| | Total | 1,945,347 | 1,660,985 | 2,119,963 | -14.6 | 27.6 | 9.0 |
| Inpatient Days | Low | 15,440,506 | 16,096,297 | 16,968,250 | 4.2 | 5.4 | 9.9 |
| | Medium | 13,082,765 | 12,689,544 | 13,247,143 | -3.0 | 4.4 | 1.3 |
| | High | 32,202,958 | 30,385,608 | 30,733,256 | -5.6 | 1.1 | -4.6 |
| | Total | 60,726,229 | 59,171,449 | 60,948,649 | -2.6 | 3.0 | 0.4 |
| Occupancy Rate | Low | 63.8 | 66.0 | 68.6 | 3.4 | 4.0 | 7.6 |
| | Medium | 61.9 | 62.9 | 68.1 | 1.5 | 8.3 | 10.0 |
| | High | 69.5 | 72.5 | 74.2 | 4.3 | 2.3 | 6.7 |
| | Total | 66.3 | 68.4 | 71.2 | 3.3 | 4.1 | 7.5 |
| Average Length of Stay | Low | 5.5 | 5.3 | 5.3 | -3.4 | 0.2 | -3.2 |
| | Medium | 5.7 | 5.3 | 5.1 | -5.9 | -3.8 | -9.4 |
| | High | 6.8 | 6.4 | 6.2 | -4.8 | -3.1 | -7.8 |
| | Total | 6.1 | 5.8 | 5.7 | -5.0 | -2.5 | -7.3 |
| Outpatient Visits | Low | 37,375,000 | 41,000,692 | 46,597,485 | 9.7 | 13.7 | 24.7 |
| | Medium | 28,569,825 | 28,605,710 | 31,304,727 | 0.1 | 9.4 | 9.6 |
| | High | 59,666,745 | 65,449,915 | 70,966,818 | 9.7 | 8.4 | 18.9 |
| | Total | 125,611,570 | 135,056,317 | 148,869,030 | 7.5 | 10.2 | 18.5 |
| Emergency Department Visits | Low | 7,040,257 | 7,877,491 | 8,666,189 | 11.9 | 10.0 | 23.1 |
| | Medium | 5,390,272 | 5,812,862 | 6,430,182 | 7.8 | 10.6 | 19.3 |
| | High | 11,816,590 | 12,202,844 | 13,130,518 | 3.3 | 7.6 | 11.1 |
| | Total | 24,247,119 | 25,893,197 | 28,226,889 | 6.8 | 9.0 | 16.4 |
| No. of Level 1 or 2 Trauma Centers | Low | 66 | 69 | 71 | 4.5 | 2.9 | 7.6 |
| | Medium | 46 | 46 | 50 | 0.0 | 8.7 | 8.7 |
| | High | 87 | 96 | 90 | 10.3 | -6.3 | 3.4 |
| | Total | 199 | 211 | 211 | 6.0 | 0.0 | 6.0 |
| No. of PET Scanners | Low | 21 | 21 | 45 | 0.0 | 114.3 | 114.3 |
| | Medium | 13 | 21 | 40 | 61.5 | 90.5 | 207.7 |
| | High | 34 | 50 | 62 | 47.1 | 24.0 | 82.4 |
| | Total | 68 | 92 | 147 | 35.3 | 59.8 | 116.2 |
| No. of Neonatal Intensive Care Beds | Low | 2,076 | 2,456 | 2,701 | 18.3 | 10.0 | 30.1 |
| | Medium | 1,458 | 1,565 | 1,517 | 7.3 | -3.1 | 4.0 |
| | High | 2,410 | 2,768 | 2,692 | 14.9 | -2.7 | 11.7 |
| | Total | 5,944 | 6,789 | 6,910 | 14.2 | 1.8 | 16.3 |

TABLE 4B
Suburban Hospital Utilization and Capacity Statistics,
by Poverty Rate Levels, 1996, 1999, 2002

| | Poverty Level | 1996 | 1999 | 2002 | % Change | | |
|-------------------------------------|---------------|------------|-------------|-------------|----------|---------|---------|
| | | | | | 1996-99 | 1999-02 | 1996-02 |
| Number of Hospitals | Low | 359 | 342 | 334 | -4.7 | -2.3 | -7.0 |
| | Medium | 336 | 321 | 314 | -4.5 | -2.2 | -6.5 |
| | High | 211 | 197 | 191 | -6.6 | -3.0 | -9.5 |
| | Total | 906 | 860 | 839 | -5.1 | -2.4 | -7.4 |
| Staffed Beds | Low | 70,626 | 67,103 | 66,329 | -5.0 | -1.2 | -6.1 |
| | Medium | 59,621 | 58,139 | 56,149 | -2.5 | -3.4 | -5.8 |
| | High | 36,400 | 35,086 | 35,225 | -3.6 | 0.4 | -3.2 |
| | Total | 166,647 | 160,328 | 157,703 | -3.8 | -1.6 | -5.4 |
| Staffed Beds per Hospital | Low | 197 | 196 | 199 | -0.3 | 1.2 | 0.9 |
| | Medium | 177 | 181 | 179 | 2.1 | -1.3 | 0.8 |
| | High | 173 | 178 | 184 | 3.2 | 3.5 | 6.9 |
| | Total | 184 | 186 | 188 | 1.4 | 0.8 | 2.2 |
| Admissions | Low | 2,901,723 | 3,090,459 | 3,309,972 | 6.5 | 7.1 | 14.1 |
| | Medium | 2,296,637 | 2,452,142 | 2,632,583 | 6.8 | 7.4 | 14.6 |
| | High | 1,381,363 | 1,457,711 | 1,555,057 | 5.5 | 6.7 | 12.6 |
| | Total | 6,579,723 | 7,000,312 | 7,497,612 | 6.4 | 7.1 | 14.0 |
| Medicaid Discharges | Low | 303,531 | 263,061 | 374,163 | -13.3 | 42.2 | 23.3 |
| | Medium | 334,732 | 322,880 | 411,475 | -3.5 | 27.4 | 22.9 |
| | High | 278,530 | 232,358 | 307,513 | -16.6 | 32.3 | 10.4 |
| | Total | 916,793 | 818,299 | 1,093,151 | -10.7 | 33.6 | 19.2 |
| Inpatient Days | Low | 15,794,103 | 15,741,176 | 16,111,601 | -0.3 | 2.4 | 2.0 |
| | Medium | 12,634,329 | 13,046,660 | 13,427,053 | 3.3 | 2.9 | 6.3 |
| | High | 7,576,509 | 7,768,708 | 8,347,632 | 2.5 | 7.5 | 10.2 |
| | Total | 36,004,941 | 36,556,544 | 37,886,286 | 1.5 | 3.6 | 5.2 |
| Occupancy Rate | Low | 61.1 | 64.3 | 66.5 | 5.2 | 3.5 | 8.9 |
| | Medium | 57.9 | 61.5 | 65.5 | 6.2 | 6.6 | 13.2 |
| | High | 56.9 | 60.7 | 64.9 | 6.7 | 7.0 | 14.2 |
| | Total | 59.0 | 62.5 | 65.8 | 5.8 | 5.4 | 11.5 |
| Average Length of Stay | Low | 5.4 | 5.1 | 4.9 | -6.4 | -4.4 | -10.6 |
| | Medium | 5.5 | 5.3 | 5.1 | -3.3 | -4.1 | -7.3 |
| | High | 5.5 | 5.3 | 5.4 | -2.8 | 0.7 | -2.1 |
| | Total | 5.5 | 5.2 | 5.1 | -4.6 | -3.2 | -7.7 |
| Outpatient Visits | Low | 41,997,862 | 46,923,674 | 52,010,759 | 11.7 | 10.8 | 23.8 |
| | Medium | 33,247,252 | 37,682,913 | 42,188,909 | 13.3 | 12.0 | 26.9 |
| | High | 15,111,174 | 18,382,989 | 18,687,420 | 21.7 | 1.7 | 23.7 |
| | Total | 90,356,288 | 102,989,576 | 112,887,088 | 14.0 | 9.6 | 24.9 |
| Emergency Department Visits | Low | 8,861,675 | 9,620,123 | 10,578,884 | 8.6 | 10.0 | 19.4 |
| | Medium | 7,903,744 | 8,312,404 | 9,375,359 | 5.2 | 12.8 | 18.6 |
| | High | 3,855,255 | 4,403,522 | 4,989,349 | 14.2 | 13.3 | 29.4 |
| | Total | 20,620,674 | 22,336,049 | 24,943,592 | 8.3 | 11.7 | 21.0 |
| No. of Level 1 or 2 Trauma Centers | Low | 79 | 82 | 84 | 3.8 | 2.4 | 6.3 |
| | Medium | 35 | 39 | 35 | 11.4 | -10.3 | 0.0 |
| | High | 11 | 13 | 24 | 18.2 | 84.6 | 118.2 |
| | Total | 125 | 134 | 143 | 7.2 | 6.7 | 14.4 |
| No. of PET Scanners | Low | 3 | 15 | 62 | 400.0 | 313.3 | 1966.7 |
| | Medium | 11 | 13 | 34 | 18.2 | 161.5 | 209.1 |
| | High | 7 | 5 | 19 | -28.6 | 280.0 | 171.4 |
| | Total | 21 | 33 | 115 | 57.1 | 248.5 | 447.6 |
| No. of Neonatal Intensive Care Beds | Low | 701 | 852 | 1,132 | 21.5 | 32.9 | 61.5 |
| | Medium | 513 | 512 | 538 | -0.2 | 5.1 | 4.9 |
| | High | 594 | 582 | 860 | -2.0 | 47.8 | 44.8 |
| | Total | 1,808 | 1,946 | 2,530 | 7.6 | 30.0 | 39.9 |

Source: American Hospital Association Annual Survey of Hospitals, 1996, 1999, 2002.

TABLE 5
Net Patient Revenues per Hospital by Payer Source, 1996, 1999, 2002

| Payer | Poverty Level | Cities | | | | | | Suburbs | | | | | |
|----------|---------------|---------------------------|---------------|---------------|----------|-------|-------|---------------------------|--------------|---------------|----------|-------|-------|
| | | Net Revenues per Hospital | | | % Change | | | Net Revenues per Hospital | | | % Change | | |
| | | 1996 | 1999 | 2002 | 96-99 | 99-02 | 96-02 | 1996 | 1999 | 2002 | 96-99 | 99-02 | 96-02 |
| Medicare | Low | \$49,081,396 | \$67,541,509 | \$73,736,212 | 17.2 | 28.1 | 50.2 | \$29,775,186 | \$34,355,964 | \$43,303,498 | 15.4 | 26.0 | 45.4 |
| | Medium | \$45,289,022 | \$52,527,795 | \$70,084,261 | 16.0 | 33.4 | 54.7 | \$25,174,349 | \$29,590,959 | \$36,031,689 | 17.5 | 21.8 | 43.1 |
| | High | \$61,883,518 | \$68,610,947 | \$83,586,003 | 10.9 | 21.8 | 35.1 | \$20,276,115 | \$26,238,760 | \$32,333,829 | 29.4 | 23.2 | 59.5 |
| | Total | \$53,937,455 | \$61,253,243 | \$77,220,971 | 13.6 | 26.1 | 43.2 | \$25,856,659 | \$30,717,992 | \$38,084,720 | 18.8 | 24.0 | 47.3 |
| Private* | Low | \$65,158,719 | \$79,487,150 | \$106,064,297 | 22.0 | 33.4 | 62.8 | \$38,129,095 | \$45,771,824 | \$60,113,426 | 20.0 | 31.3 | 57.7 |
| | Medium | \$56,489,059 | \$67,806,447 | \$89,319,607 | 20.0 | 31.7 | 58.1 | \$27,125,481 | \$31,760,260 | \$42,699,675 | 17.1 | 34.4 | 57.4 |
| | High | \$62,425,541 | \$71,386,806 | \$95,073,684 | 14.4 | 33.2 | 52.3 | \$23,241,228 | \$27,103,323 | \$31,117,343 | 16.6 | 14.8 | 33.9 |
| | Total | \$61,706,703 | \$72,899,430 | \$96,882,256 | 18.1 | 32.9 | 57.0 | \$30,581,022 | \$36,265,537 | \$46,995,226 | 18.6 | 29.6 | 53.7 |
| Medicaid | Low | \$17,434,440 | \$19,241,750 | \$30,851,824 | 10.4 | 60.3 | 77.0 | \$5,023,394 | \$5,414,467 | \$8,343,284 | 7.8 | 54.1 | 66.1 |
| | Medium | \$17,329,262 | \$20,215,457 | \$29,163,617 | 16.7 | 44.3 | 68.3 | \$6,267,034 | \$7,884,132 | \$11,387,262 | 25.8 | 44.4 | 81.7 |
| | High | \$29,837,942 | \$33,920,225 | \$44,353,742 | 13.7 | 30.8 | 48.6 | \$9,065,411 | \$10,742,158 | \$14,569,357 | 18.5 | 35.6 | 60.7 |
| | Total | \$23,048,686 | \$26,086,124 | \$36,472,271 | 13.2 | 39.8 | 58.2 | \$6,425,964 | \$7,556,697 | \$10,899,886 | 17.6 | 44.2 | 69.6 |
| Other** | Low | \$2,399,701 | \$3,791,617 | \$4,122,997 | 58.0 | 8.7 | 71.8 | \$581,229 | \$721,906 | \$1,052,202 | 24.2 | 45.8 | 81.0 |
| | Medium | \$1,959,033 | \$2,123,347 | \$3,476,105 | 8.4 | 63.7 | 77.4 | \$812,930 | \$941,530 | \$1,060,387 | 15.8 | 12.6 | 30.4 |
| | High | \$2,347,108 | \$2,555,372 | \$3,332,176 | 8.9 | 30.4 | 42.0 | \$373,446 | \$1,082,756 | \$1,109,959 | 189.9 | 2.5 | 197.2 |
| | Total | \$2,263,502 | \$2,815,077 | \$3,604,179 | 24.4 | 28.0 | 59.2 | \$618,767 | \$886,542 | \$1,068,414 | 43.3 | 20.5 | 72.7 |
| Total | Low | \$134,074,256 | \$160,062,027 | \$214,775,331 | 19.4 | 34.2 | 60.2 | \$73,508,904 | \$86,264,160 | \$112,812,410 | 17.4 | 30.8 | 53.5 |
| | Medium | \$121,066,375 | \$142,673,046 | \$192,043,590 | 17.8 | 34.6 | 58.6 | \$59,379,794 | \$70,176,882 | \$91,179,014 | 18.2 | 29.9 | 53.6 |
| | High | \$156,494,108 | \$176,473,351 | \$226,345,606 | 12.8 | 28.3 | 44.6 | \$52,956,200 | \$65,166,997 | \$79,130,488 | 23.1 | 21.4 | 49.4 |
| | Total | \$140,956,345 | \$163,053,873 | \$214,179,678 | 15.7 | 31.4 | 51.9 | \$63,482,412 | \$75,426,768 | \$97,048,246 | 18.8 | 28.7 | 52.9 |

* "Private" net revenues are defined as the sum of net revenues from self-pay, third party, and other non-governmental sources, less bad debt.

** "Other" net revenues include other government revenues.

Source: American Hospital Association Annual Survey of Hospitals, 1996, 1999, and 2002.

Notes

- ¹ Based on tabulations of population data from the 2000 Census, U.S. Census Bureau.
- ² Metropolitan areas and components, 1999, with fips codes. U.S. Census Bureau website. www.census.gov/population/estimates/metro-city/99mfips.txt; accessed on January 15, 2002.
- ³ C.R. Gresenz, J. Rogowski, J.J. Escarce, "Updated Variable-Radius Measures of Hospital Competition," *Health Services Research* 39, no. 2 (2004): 417-430.
- ⁴ J.E. Wennberg, "Understanding geographic variations in health care delivery," *N Engl J Med* 340, (1999): 52-3.
- ⁵ L. Shi, B. Starfield, "Primary care, income inequality, and self-rated health in the United States: A mixed-level analysis," *International Journal of Health Services* 30, no. 3 (2000):541-55.
- ⁶ The AHA surveys collect data on total "admissions" and Medicaid "discharges. We use the terms interchangeably.
- ⁷ Centers for Medicare and Medicaid Services, www.cms.gov; accessed June 12, 2005.
- ⁸ American Hospital Association, *TrendWatch Chartbook*, 2005. <http://www.hospitalconnect.com/ahapolicyforum/trendwatch/chartbook2005.html>; accessed July 15, 2005.
- ⁹ D.P. Andrulis, N.J. Goodman, *The Social and Health Landscape of Urban and Suburban America*, Chicago: AHA Press (1999).
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