# SAFETY NET HOSPITALS: ESSENTIAL PROVIDERS OF PUBLIC HEALTH AND SPECIALTY SERVICES

Darrell J. Gaskin
Georgetown University

February 1999

Support for this research was provided by The Commonwealth Fund. The views presented here are those of the author and should not be attributed to Georgetown University or to The Commonwealth Fund or its directors, officers, or staff.

## CONTENTS



## LIST OF TABLES

## EXECUTIVE SUMMARY

Although much of the policy discussion concerning the future of safety net hospitals has focused on their mission to provide care for the poor and uninsured, relatively little has been said about the public health and specialty care services these hospitals provide to the entire community. This study is an attempt to address this disparity by identifying the public health and specialty services—including trauma, emergency psychiatric, and burn care—that are provided primarily by safety net hospitals and determining whether communities rely on these hospitals for such services.

Safety net hospitals depend on public subsidies like Medicare and Medicaid Disproportionate Share Hospital (DSH) payments, as well as on state and local tax appropriations, for revenues to help finance their important missions. Recent changes in Medicaid and Medicare policy, however, limit the amount of DSH payments to safety net hospitals, a development that may hinder the ability of these hospitals to finance indigent and specialty care. The continued growth of managed care under both public and private insurance plans poses another threat. Safety net hospital administrators fear that managed care plans will not use their facilities for hospital care, thus eroding patient revenues and further constraining hospitals' ability to finance their missions.

Through analysis of data from the American Hospital Association's *Annual Survey of Hospitals* for 1991 and 1995, this study shows that safety net hospitals are in fact not only vital sources of care for the indigent and uninsured but important providers of specialty services to the whole community. These hospitals are the primary providers of burn care, pediatric and neonatal intensive care, trauma care, psychiatric inpatient and outpatient care, and alcoholism inpatient treatment in their communities. Compared with other urban hospitals, safety net hospitals are nearly five times as likely to provide burn care, four times as likely to provide pediatric intensive care, and more than twice as likely to provide neonatal intensive care. Safety net hospitals are also more likely than other urban hospitals to offer HIV/AIDS services, crisis prevention, psychiatric emergency care, and other specialty care.

For some types of specialized care, safety net hospitals provide a disproportionate share of care to privately insured and Medicare patients, as well as serving as a major source of care for the uninsured and those on Medicaid. For most of these services, safety net hospitals' market share is more than 20 percent greater than their share of total beds. At least one of four safety net hospitals providing selected specialized services has a market share exceeding 85 percent of these services. Burn care, inpatient alcoholism treatment, and pediatric intensive care stand out among the services that communities depend on safety net hospitals to provide.

Notably, many of the public health and specialty services that are disproportionately provided by safety net hospitals are also high-cost and/or unprofitable services. These hospitals also tend to provide services that attract potentially difficult-to-treat patient populations, including a broad range of psychiatric and alcoholism services. Given the economics of some of these services, if safety net hospitals in some areas were to close, other community hospitals might be reluctant or financially unable to broaden the scope of their care.

Although DSH subsidies do promote the overall financial health of safety net hospitals, they are at best blunt instruments for preserving these institutions' ability to provide public health and specialty services. The subsidies are determined through often complex allocation mechanisms and are not directly related to the provision of services. Further, the proportion of funds used to finance public health and specialty services versus care for the poor and uninsured is unclear.

To assure community access to vital public health and specialized services, a better policy might be to target financial support on those services essential for community care. For example, grants could be made to safety net hospitals to help offset the fixed costs associated with caring for neonatal intensive care, trauma, or burn patients while private and public payers continue to pay the marginal costs associated with their treatment. This kind of subsidy would preserve the public health and specialty care mission of safety net hospitals and still allow market forces and federal policy to promote the cost-efficient delivery of hospital services.

# SAFETY NET HOSPITALS: ESSENTIAL PROVIDERS OF PUBLIC HEALTH AND SPECIALTY SERVICES

## INTRODUCTION

Safety net hospitals are a major source of medical care for low-income and uninsured people. The National Association of Public Hospitals and Health Systems (NAPH) reports that in 1995, Medicaid and uninsured patients comprised 74 percent of discharges and 77 percent of outpatient visits in its member hospitals.[1] Another study from 1996 finds that Medicaid and uninsured patients accounted for 29 percent of discharges in academic medical centers in 1994.[2]

Although they are known primarily for the indigent care they provide, safety net hospitals also offer public health and specialty services—such as trauma, emergency psychiatric, and burn care—that benefit the entire community. A study of 100 of the country's largest cities uncovered the importance of urban public hospitals and private university hospitals as providers of public health and specialty services.[3] Although these hospitals accounted for only 20.4 percent of inpatient days in 1993, they delivered 33.5 percent of neonatal intensive care, 37.7 percent of burn care, and 43.4 percent of pediatric intensive care in their communities. Another report found that academic health centers and other major teaching hospitals are the major providers of technologically advanced services.[4] Indeed, nationally, major teaching hospitals, both public and private, have more than 70 percent of the facilities providing kidney, bone marrow, and other organ transplant services, as well as trauma and burn care.

Recent changes in Medicaid and Medicare policy, along with the continued growth of managed care, may jeopardize the mission of safety net hospitals. This decline in financial support could limit these hospitals' ability to provide care for low-income patients as well as offer public health and specialty services. Safety net hospitals depend on public subsidies like Medicare and Medicaid Disproportionate Share Hospital (DSH) payments and state and local tax appropriations for revenues. The NAPH reports that in 1995, Medicaid, Medicare, and local subsidies comprised 67.4 percent of total revenues, while payments from commercial insurers comprised only 15.7 percent of total revenues.[5] That year, almost half of public

---

[1] National Association of Public Hospitals and Health Systems, *Characteristics of NAPH Member Hospitals*, based on 1995 NAPH Hospital Characteristics Survey and 1994 American Hospital Association *Annual Survey of Hospitals* (Washington, D.C.: NAPH, 1996).

[2] E. Moy, E. Valente, R.J. Levin, and P.F. Griner, "Academic Medical Centers and the Care of the Underserved Populations," *Academic Medicine* 71 (1996):1369–1377.

[3] D.P. Andrulis, C. Ginsberg, Y. Shaw-Taylor, and V. Martin, *Urban Social Health: A Chart Book Profiling the Nation's One Hundred Largest Cities* (Washington, D.C.: National Public Health and Hospital Institute, 1995).

[4] J. Reuter and D. Gaskin, "Academic Health Centers in Competitive Markets," *Health Affairs* 16 (July/August 1997):242–252.

[5] NAPH, 1996.

subsidies received by NAPH member hospitals came from Medicaid and Medicare DSH payments, at 40 percent and 9 percent respectively.

The Balanced Budget Act of 1997, however, includes a scheduled reduction in spending in both the Medicaid and Medicare DSH programs. Congress limited the federal portion of Medicaid DSH payments to 12 percent of total expenditures of the state medical assistance plan; states that are currently above this ceiling will thus see their Medicaid DSH allotments reduced. New York's allotment, for example, will fall from approximately $1.51 billion to $1.29 billion—a 15 percent decline—and California's will fall from $1.09 billion to $877 million—a 19 percent decline. For all states, Medicare DSH payments will be reduced by 1 percent in fiscal year 1998, 2 percent in 1999, 3 percent in 2000, 4 percent in 2001, and 5 percent in 2002.

The continued growth of managed care under both public and private insurance plans is another threat to safety net hospitals. The Health Care Financing Administration (HCFA) reports that in 1997, almost 48 percent of Medicaid beneficiaries (15.3 million) were enrolled in managed care plans. Furthermore, HCFA records a 108 percent increase in Medicare managed care enrollment since 1993, with 13 percent of beneficiaries (4.9 million) enrolled in a total of 336 plans in 1997. Managed care is also beginning to dominate the private markets: in 1995, nearly 57 percent of the U.S. population was enrolled in managed care, with more than 25 percent enrolled in health maintenance organizations (HMOs) and close to 32 percent enrolled in preferred provider organizations (PPOs).[6] By the year 2000, between 103 and 106 million people are projected to be enrolled in HMOs.[7]

By encroaching on safety net hospitals' important Medicaid and Medicare patient base, managed care endangers one of their primary sources of revenues. The fears of safety net hospital administrators that HMOs will send fewer public managed care patients to their facilities is confirmed by evidence from California and Tennessee.[8] Studies also show that increased HMO enrollment is correlated with lower patient volumes for hospitals in minority communities, and that safety net hospitals are losing the competition for low-risk Medicaid patients.[9]

---

[6] Inforum, *1995 PULSE Managed Care Summary*, Inforum/The MEDSTAT Group, 1995. Inforum is the provider services division of the MEDSTAT Group, a subsidiary of Medical Economics. Inforum fields an annual consumer survey of 100,000 households that collects a variety of health care information, including insurance coverage status.

[7] InterStudy, *Competitive Edge 6.1*, Minneapolis, MN, 1996.

[8] B. Siegel, *Public Hospitals—A Prescription for Survival*, New York: The Commonwealth Fund, 1996.

[9] D. Gaskin and J. Hadley, "Population Characteristics of Safety Net and Other Urban Hospital Markets," GUMC:IWP 96-124 (July 1997); D. Gaskin, J. Hadley, and V. Freeman, "Are Safety Net Hospitals Losing the Competition for Low Risk Medicaid Patients?" GUMC:IWP 98-107 (December 1998).

Managed care also creates price competition in urban hospital markets. As this competition bids down reimbursement levels for private patients, low-risk Medicaid patients become more attractive to other urban hospitals. This dynamic could help explain why traditional safety net hospitals lost low-risk obstetric patients to other urban hospitals in the mid-1990s.[10]

The fiscal pressures created by limits on public subsidies, expansions in Medicaid and Medicare managed care, and price competition in hospital markets may undermine safety net hospitals' ability to fulfill their missions. While much discussion has centered on how these phenomena will affect access to care for low-income and uninsured people, concerns have also arisen as to how they will impair safety net hospitals' ability to provide public health and specialty services. This study proposes to assess the role of safety net hospitals as providers of such services by answering the following questions:

- What are the public health and specialty services that are provided primarily by safety net hospitals?

- How has safety net hospitals' provision of public health and specialty services changed from 1991 to 1995?

- To what extent do communities rely upon urban safety net hospitals for public health and specialty services?

**DATA AND METHODOLOGY**

A national database using information from the 1991 and 1995 American Hospital Association (AHA) *Annual Survey of Hospitals* was constructed to assess the role of urban safety net hospitals as providers of essential medical services. Urban safety net hospitals were defined as those hospitals whose Medicaid utilization rate exceeded one standard deviation above the mean Medicaid utilization rate for urban hospitals in the state.[11] The criteria vary by state because Medicaid coverage of low-income populations varies widely across states. (See Appendix 1 for the 1995 criteria for each state.) For comparison, hospitals that do not meet this criteria are referred to in this paper as "non-safety net hospitals."

[10] D. Gaskin, J. Hadley, and V. Freeman, "Are Safety Net Hospitals Losing the Competition for Low Risk Medicaid Patients?," GUMC:IWP 98-107 (December 1998); and B. Siegel, *Public Hospitals—A Prescription for Survival*, The Commonwealth Fund, October 1996, pp. 5–7.

[11] A hospital's Medicaid utilization rate equals its Medicaid discharges divided by its total discharges multiplied by 100. A less stringent criterion for safety net hospitals was used (i.e., one standard deviation or greater above the state mean or a Medicaid utilization rate greater than 25 percent); however, this resulted in almost half the hospitals in New York City and Los Angeles being designated as safety net hospitals. Under the more stringent criterion, only 23 percent and 11 percent, respectively, of the two cities' hospitals are designated safety net hospitals. Applying the more stringent criterion does not change the findings of the analysis.

While prior research has used geopolitical boundaries (e.g., county or city) to define the hospital markets, this analysis examined safety net hospitals' provision of essential services using a fixed-radius definition of seven miles to identify potential competitors. This method avoids mislabeling as competitors hospitals that are located in large counties but do not draw patients from the same areas. It also makes sure to identify true competitors such as hospitals in adjacent counties, particularly those located near county lines often crossed by patients.

In 1995, the AHA database included 2,703 nonfederal acute care general hospitals located in metropolitan statistical areas (MSAs). After identifying safety net hospitals, the sample was further reduced to include only hospitals located in MSAs that had a safety net hospital. The final analysis file included 1,747 hospitals, of which 226 were designated safety net hospitals from 115 MSAs. (For a list of the MSAs, see Appendix 2.) To examine how the role of safety net hospitals as essential provider of selected public health and specialty services changed from 1991 to 1995, hospitals in these same MSAs were identified in the 1991 AHA data. Based on these hospitals' 1991 Medicaid utilization rates, 292 hospitals (out of 1,828) were designated safety net hospitals. Comparisons between two sets of safety net hospitals were then made.

The characteristics of safety net hospitals as defined in this study are similar to those identified in other studies[12] (Table 1). Safety net hospitals were three times more likely to be public hospitals (33% vs. 10%), and 11 percent of safety net hospitals were children's hospitals, compared with less than 1 percent of the other urban hospitals. Teaching hospitals were more likely to be designated safety net hospitals—more than 27 percent of safety net hospitals were members of the Council of Teaching Hospitals (COTH) (compared with 10 percent of other urban hospitals), and 53 percent were affiliated with a medical school (compared with 31 percent of other urban hospitals). Safety net hospitals tended to be larger than other urban hospitals—14 percent of safety net hospitals had more than 500 beds, while only 10 percent of other urban hospitals had this many beds.

[12] L.E. Fishman, "What Types of Hospitals Form the Safety Net?" *Health Affairs* 16 (July/August 1997):215–222; D. Gaskin and J. Hadley, "Population Characteristics of Safety Net and Other Urban Hospital Markets," GUMC:IWP 96-124 (July 1997).

**Table 1**
**Comparison of Safety Net Hospitals and Non-Safety Net Urban Hospitals by Ownership, Teaching Status, Service Type, and Size for Selected States, 1995**

| | Safety Net Hospitals | | Non-Safety Net Urban Hospitals | |
|---|---|---|---|---|
| | Number | Percent | Number | Percent |
| **Total Hospitals** | 226 | 100.0% | 1,521 | 100.0% |
| **Ownership** | | | | |
| Public | 74 | 32.7 | 157 | 10.3 |
| Nonprofit | 124 | 54.9 | 1,053 | 69.2 |
| For-profit | 28 | 12.4 | 311 | 20.5 |
| **Service Type** | | | | |
| Short-term general | 201 | 88.9 | 1,507 | 99.1 |
| Children general | 25 | 11.1 | 14 | 0.9 |
| **Teaching Status** | | | | |
| Medical school affiliate | 119 | 52.7 | 468 | 30.8 |
| Member of Council of Teaching Hospitals (COTH) | 62 | 27.4 | 149 | 9.8 |
| **Capacity** | | | | |
| Less than 100 beds | 26 | 11.5 | 323 | 21.2 |
| 100 to 300 beds | 125 | 55.3 | 768 | 50.5 |
| 300 to 500 beds | 44 | 19.5 | 285 | 18.7 |
| More than 500 beds | 31 | 13.7 | 145 | 9.5 |

Source: Analysis of data from the 1995 American Hospital Association *Annual Survey of Hospitals*, Institute for Health Care Research and Policy, Georgetown University Medical Center.

Selected services identified in previous studies as being provided by safety net hospitals were examined using information from the AHA *Annual Survey of Hospitals*[13] (Table 2). A hospital was considered to have offered a service if it reported that it provided the service at its facility or a subsidiary (but not through a network or health system), or if it reported that it set up and staffed beds to provide the service.

For each service, the percentage of safety net and other hospitals providing it was computed. Hospitals' share of beds within a 7- and 15-mile radius was also calculated for those services for which hospitals reported the number of staffed beds. For other services, the number of providing hospitals within the two geographic zones was calculated. Because the results are similar for both radii, only the market shares and number of competitors based on the 7-mile radius are reported.

## FINDINGS

### Which Services Are Provided Primarily by Urban Safety Net Hospitals?

Burn care, pediatric intensive care, and neonatal intensive care stand out among the specialty services that safety net hospitals are more likely to provide than non-safety net urban

[13] D.P. Andrulis, C. Ginsberg, Y. Shaw-Taylor, and V. Martin, *Urban Social Health: A Chart Book Profiling the Nation's One Hundred Largest Cities*, Washington, D.C.: National Public Health and Hospital Institute, 1995.; L.S. Gage, C.C. Burch, L. Fagnani, A.B. Camper, and D.P. Andrulis, *America's Urban Health Safety Net,* Washington, D.C.: NAPH, 1994, pp. 32–62.

hospitals. Safety net hospitals are nearly five times as likely to provide burn care, nearly four times as likely to provide pediatric intensive care, and more than twice as likely to provide neonatal intensive care (Table 2). Safety net hospitals are also 34 to 47 percent more likely to offer trauma care, psychiatric inpatient and outpatient care, and alcoholism inpatient treatment, and 17 to 24 percent more likely to offer AIDS services, crisis prevention, psychiatric emergency care, and other special care. Hospice care is the only service safety net hospitals are substantially less likely to offer.

**Table 2**
**Urban Hospitals Offering Selected Services, 1995**

| | Percentage Offering Service | | |
|---|---|---|---|
| **Service** | **Safety Net Hospitals** | **Non-Safety Net Urban Hospitals** | **Ratio of Safety Net Hospitals to Non-Safety Net Urban Hospitals** |
| Burn care (beds) | 15.0% | 3.1% | 4.84 |
| Pediatric intensive care (beds) | 32.3 | 8.4 | 3.85 |
| Neonatal intensive care unit (beds) | 52.7 | 23.1 | 2.28 |
| Trauma care | 39.5 | 23.8 | 1.66 |
| Psychiatric care (beds) | 57.1 | 38.9 | 1.47 |
| Alcoholism treatment (beds) | 20.8 | 14.3 | 1.45 |
| Psychiatric outpatient services | 50.2 | 37.5 | 1.34 |
| Obstetric care (beds) | 77.4 | 62.3 | 1.24 |
| AIDS services | 66.8 | 54.7 | 1.22 |
| Crisis prevention | 25.1 | 20.7 | 1.21 |
| Other special care (beds) | 20.3 | 16.8 | 1.21 |
| Psychiatric emergency services | 53.8 | 45.9 | 1.17 |
| Births | 81.4 | 74.9 | 1.09 |
| Freestanding outpatient center | 31.8 | 29.5 | 1.08 |
| Rehabilitation services (beds) | 24.8 | 23.7 | 1.05 |
| Coronary intensive care unit (beds) | 40.7 | 38.9 | 1.05 |
| Social services | 96.9 | 93.9 | 1.03 |
| Emergency room visits | 98.7 | 97.5 | 1.01 |
| Community outreach | 64.6 | 65.4 | 0.99 |
| Health screening | 70.8 | 77.6 | 0.91 |
| Hospice care | 13.0 | 27.9 | 0.47 |

Source: Analysis of data from the 1995 American Hospital Association *Annual Survey of Hospitals*, Institute for Health Care Research and Policy, Georgetown University Medical Center.

Among all urban hospitals, large hospitals and teaching hospitals are more likely to provide public health and specialty services. Indeed, large hospitals were more likely than small hospitals to provide each of the services included in the study. With the exception of alcoholism beds, obstetric beds, and births, hospitals that are members of the Council of Teaching Hospitals (COTH)—and to a lesser degree hospitals with a medical school affiliation—were more likely than non-teaching hospitals to provide public health and specialty services. The findings do not differ according to hospital ownership status.

**Has Safety Net Hospitals' Provision of Public Health and Specialty Services Changed?** From 1991 to 1995, the percentage of safety net hospitals offering public health and specialty services did not change substantially (Table 3). For 10 of these selected services, there was a 3 to 6 percent increase, although for two other services—coronary intensive care and trauma care—the increase was larger (11.6% and 6.6%, respectively). There were small declines in the percentage of urban safety net hospitals offering burn care, pediatric care, inpatient alcoholism treatment, and rehabilitation services. For two services, AIDS care and community outreach, the declines were sharper: 21.2 percent and 16.2 percent, respectively.

**Table 3**
**Percentage of Safety Net Hospitals Offering Selected Services, 1991–95**

| | Percentage | | |
|---|---|---|---|
| **Service** | **1991** (N=292) | **1995** (N=246) | **Percentage Change** |
| Burn care (beds) | 16.1% | 15.0% | -1.1% |
| Pediatric intensive care (beds) | 32.5 | 32.3 | -0.2 |
| Neonatal intensive care unit (beds) | 49.3 | 52.7 | 3.4 |
| Trauma care | 32.9 | 39.5 | 6.6 |
| Psychiatric care (beds) | 52.4 | 57.1 | 4.7 |
| Alcoholism treatment (beds) | 22.9 | 20.8 | -2.2 |
| Psychiatric outpatient services | 44.5 | 50.2 | 5.7 |
| Obstetric care (beds) | 74.3 | 77.4 | 3.1 |
| AIDS services | 88.0 | 66.8 | -21.2 |
| Crisis prevention | NA | 25.1 | NA |
| Other special care (beds) | 15.1 | 20.3 | 5.2 |
| Psychiatric emergency services | 54.4 | 53.8 | -0.7 |
| Births | 77.1 | 81.4 | 4.4 |
| Freestanding outpatient center | 28.1 | 31.8 | 3.7 |
| Rehabilitation beds | 27.1 | 24.8 | -2.3 |
| Coronary intensive care unit (beds) | 29.1 | 40.7 | 11.6 |
| Social services | 93.5 | 96.9 | -3.4 |
| Emergency room services | 95.5 | 98.7 | 3.2 |
| Community outreach | 80.8 | 64.6 | -16.2 |
| Health screening | NA | 70.8 | NA |
| Hospice care | 10.6 | 13.0 | 2.4 |

NA indicates that this information was not asked on the 1991 American Hospital Association *Annual Survey of Hospitals.*

Source: Analysis of data from the 1991 and 1995 American Hospital Association *Annual Survey of Hospitals,* Institute for Health Care Research and Policy, Georgetown University Medical Center.

Clearly, these data do not suggest that safety net hospitals have abandoned their public health and specialty services mission. With the exception of AIDS and community outreach care, the percentage of safety net hospitals offering these services has either increased or declined slightly.

**Are Communities Dependent on Safety Net Hospitals for Public Health and Specialty Services?** Nationally, urban safety net hospitals provide a disproportionate share of some public health

and specialty services. If the provision of these services reflected the distribution of hospitals in the communities studied, safety net hospitals would account for about 12.9 percent of services and 14.5 percent of hospital beds dedicated for these services (Table 4). As would be expected, safety net hospitals provide a disproportionate amount of the care for low-income patients as evidenced by their share of Medicaid patient discharges—34.9 percent. However, they also provide a disproportionate amount of certain types of care relative to their share of beds: more than twice their share for burn care, pediatric intensive care, and neonatal intensive care, and about 50 percent more for trauma, psychiatric, and alcoholism treatment. Safety net hospitals' relative share is also 20 percent greater for AIDS services and crisis prevention services, outpatient centers, and psychiatric emergency care. For hospice, coronary intensive, rehabilitation, and other special care, safety net hospitals' relative share is smaller.

**Table 4**
**Safety Net Hospitals' Market Share for Selected Public Health and Specialty Services, 1995**

| | Percentage Share | |
|---|---|---|
| | **Safety Net Hospitals** | **Non-Safety Net Urban Hospitals** |
| Total hospitals | 12.9% | 87.1% |
| Total hospital beds | 14.5 | 85.5 |
| Total Medicaid patient discharges | 34.9 | 65.1 |
| **Services** | | |
| Burn care (beds) | 40.6 | 59.4 |
| Pediatric intensive care (beds) | 39.4 | 60.6 |
| Neonatal intensive care unit (beds) | 33.1 | 66.9 |
| Trauma care | 22.6 | 77.4 |
| Psychiatric care (beds) | 23.7 | 76.3 |
| Alcoholism treatment (beds) | 22.0 | 78.0 |
| Psychiatric outpatient services | 19.1 | 80.9 |
| Obstetric care (beds) | 18.8 | 81.2 |
| AIDS services | 17.8 | 82.2 |
| Crisis prevention | 17.7 | 82.3 |
| Other special care (beds) | 11.8 | 82.2 |
| Psychiatric emergency services | 17.2 | 82.8 |
| Births | 16.6 | 83.4 |
| Freestanding outpatient center | 16.0 | 84.0 |
| Rehabilitation services (beds) | 12.8 | 87.2 |
| Coronary intensive care unit (beds) | 10.8 | 89.2 |
| Social services | 15.4 | 84.6 |
| Emergency room care | 17.2 | 82.8 |
| Community outreach | 14.9 | 85.1 |
| Health screening | 13.9 | 86.1 |
| Hospice care | 7.6 | 92.4 |

Source: Analysis of data from the 1995 American Hospital Association *Annual Survey of Hospitals*, Institute for Health Care Research and Policy, Georgetown University Medical Center.

The study's findings make clear that safety net hospitals are important providers of certain public health and specialty services to their communities. For five essential services, those safety net hospitals offering them account for more than half the beds in their respective geographic markets.[14] For most of these services, the safety net hospital market share is more than 20 percent greater than their share of total hospital beds. At least one of four safety net hospitals that provides these services has a market share exceeding 85 percent. Burn care, inpatient alcoholism treatment, and pediatric intensive care stand out as services that communities depend on their safety net hospitals to provide.[15]

The findings also indicate that although safety net hospitals are almost never the sole providers of a service in their respective markets, they often have only one competitor. Hospice care, trauma care, and outpatient alcoholism care are three services that safety net hospitals offer where they are likely to have only one competitor.[16]

**Do Safety Net Hospitals Serve the Entire Community?**

To determine whether safety net hospitals provide public health and specialty services to the entire community, the study analyzed hospital discharge data from nine states and calculated hospitals' share of patients by type of insurance coverage (Table 5).[17] As expected, safety net hospitals were found to be major providers of specialty care for self-pay/charity and Medicaid patients: with the exception of Medicaid-insured major coronary care, their share for these services exceeds 30 percent. More interesting, however, is that safety net hospitals provide a disproportionate share of some services for both privately insured and Medicare patients, including nearly three times their share of burn patients and more than two times their share of transplant and AIDS patients. For the provision of major coronary and obstetric care—two profitable services—safety net hospitals' share is disproportionately less than their share of all privately insured and Medicare patients.

[14] The geographic market is described by a seven-mile radius around the observed hospital.

[15] From Institute for Health Care Research and Policy analysis of data from the 1995 American Hospital Association *Annual Survey of Hospitals* (data not shown).

[16] For certain services, the American Hospital Association reports only whether a hospital provides them. In these cases, the number of competing hospitals offering the service and the share of hospitals that had no competitors, or just a single competitor, were computed.

[17] The nine states are California, Florida, Illinois, Massachusetts, New Jersey, New York, Pennsylvania, Washington, and Wisconsin.

**Table 5**
**Safety Net Hospitals' Share of Selected Services, by Payer Type, 1994**

| | Self-Pay/Charity | | Medicaid | | Private and Medicare | |
|---|---|---|---|---|---|---|
| **Service** | **Share of Payer Group** | **Ratio Compared with All Discharges** | **Share of Payer Group** | **Ratio Compared with All Discharges** | **Share of Payer Group** | **Ratio Compared with All Discharges** |
| Transplants | 31.9 | 0.88 | 28.3 | 0.78 | 16.2 | 2.09 |
| Burn care | 58.3 | 1.61 | 38.8 | 1.08 | 22.4 | 2.89 |
| Trauma care | 45.1 | 1.25 | 42.3 | 1.18 | 10.6 | 1.36 |
| Neonatal intensive care | 42.5 | 1.17 | 39.5 | 1.10 | 9.5 | 1.22 |
| Psychiatric care | 32.4 | 0.90 | 34.8 | 0.97 | 14.7 | 1.89 |
| Alcohol and drug treatment | 30.9 | 0.86 | 45.5 | 1.26 | 13.2 | 1.69 |
| Obstetric care | 33.1 | 0.92 | 34.3 | 0.95 | 5.7 | 0.73 |
| AIDS services | 50.3 | 1.39 | 42.8 | 1.19 | 16.1 | 2.08 |
| Major coronary care | 31.0 | 0.86 | 18.2 | 0.51 | 5.2 | 0.67 |
| **All Discharges** | 36.2 | 1.00 | 36.0 | 1.00 | 7.8 | 1.00 |

Safety net hospital designation in this table differs slightly: it is based on the hospitals' proportion of Medicaid and self-pay/charity patients or NAPH membership. See D. Gaskin and J. Hadley, "Population Characteristics of Safety Net and Other Urban Hospital Markets," GUMC:IWP 96-124 (July 1997).

Source: Hospital discharge data collected by the states of California, Florida, Illinois, Massachusetts, New Jersey, New York, Pennsylvania, Washington, and Wisconsin.

**Non-Safety Net Hospitals' Role in Providing Public Health and Specialty Services**

For the most part, non-safety net urban hospitals do not provide these public health and specialty services (Table 2). Those that do, however, are the major source of such care in their respective markets—largely because they are often the sole provider or one of only two providers (Table 6). For example, among the approximately 3 percent of non-safety net urban hospitals that provide burn care, their average market share is 89 percent, with three of four having market shares in excess of 85 percent. With the exception of emergency room and neonatal intensive care, at least one of three non-safety net urban hospitals that provides public health and specialty services has market share greater than 85 percent.

**Table 6**
**Safety Net Hospitals' Average Market Share for Selected Services in Urban Areas with One or More Safety Net Hospitals, 1995**

| Service | Urban Areas with One Safety Net Hospital | Urban Areas with More Than One Safety Net Hospital |
|---|---|---|
| Alcoholism treatment (beds) | 90.3 | 43.8 |
| Births | 65.4 | 32.1 |
| Burn care (beds) | 88.2 | 74.9 |
| Coronary intensive care (beds) | 74.4 | 25.4 |
| Neonatal intensive care (beds) | 73.7 | 34.3 |
| Obstetric care (beds) | 69.4 | 33.7 |
| Pediatric intensive care (beds) | 78.7 | 54.6 |
| Psychiatric care (beds) | 66.8 | 29.6 |
| Rehabilitation services (beds) | 76.2 | 41.7 |
| Other special care (beds) | 73.4 | 44.8 |
| Emergency room services | 53.3 | 26.1 |
| **Total beds** | 51.3 | 24.0 |

* The average is based on only those hospitals that provide the service. The geographic market includes any hospital within seven miles of the observed hospital.

Source: Analysis of data from the 1995 American Hospital Association *Annual Survey of Hospitals*, Institute for Health Care Research and Policy, Georgetown University Medical Center.

### Comparing Safety Net Hospitals with Other Urban Hospitals

Since non-safety net urban hospitals that provide public health and specialty services tend to have higher market shares and fewer competitors, on average, than safety net hospitals, is safety net hospitals' provision of these services somehow less important than their counterparts'? The answer is no, because safety net hospitals' lower market shares and greater number of competitors are actually due to their geographical location. Safety net hospitals tend to be situated in densely populated central cities; consequently, their market comprises a much larger population than that of typical non-safety net urban hospitals, which are usually located in a city's outlying areas. Further, their central city location means that safety net hospitals are more likely to have other safety net hospitals as neighbors. Because housing tends to be segregated by income, only a few safety net hospitals may serve large low-income communities.

### Assessing the Effect of Competition on Market Share

To control for competition among safety net hospitals in this analysis, the average market share and number of competitors providing public health and specialty services were calculated twice: for areas with only one safety net hospital and for those with multiple safety net hospitals (Tables 6 and 7). The findings show that safety net hospitals that face competition in their community seem to share the responsibility for providing services, while those that are the lone safety net hospital in their community become the dominant provider. Safety net hospitals that lack competition from within their ranks have, on average, a higher share of their geographic market for most community services, including more than 70

percent of neonatal intensive care, burn care, alcoholism treatment, coronary intensive care, pediatric intensive care, rehabilitation services, and other special care. In markets with only one safety net hospital, there were from one to three other, non-safety net hospitals offering these same services.

**Table 7**
**Non-Safety Net Hospitals Offering Selected Services Within 7 Miles of a Safety Net Hospital Offering the Same Services, 1995***

| Service | Number of Non-Safety Net Hospitals in Urban Areas with One Safety Net Hospital | Number of Non-Safety Net Hospitals in Urban Areas with More Than One Safety Net Hospital |
|---|---|---|
| AIDS | 2.4 | 8.1 |
| Outpatient alcoholism treatment | 1.3 | 4.6 |
| Community outreach | 3.0 | 8.0 |
| Hospice care | 1.6 | 3.2 |
| Emergency room psychiatric care | 2.3 | 6.7 |
| Psychiatric outpatient care | 2.4 | 7.0 |
| Social work | 3.0 | 8.8 |
| Trauma center | 1.5 | 3.3 |
| Freestanding outpatient center | 2.3 | 5.7 |
| Crisis prevention | 2.5 | 4.1 |
| Health screening services | 2.8 | 8.7 |

* The average is based on only those hospitals that provide the service. The geographic market includes any hospital within seven miles of the observed hospital.

Source: Analysis of data from the 1995 American Hospital Association *Annual Survey of Hospitals,* Institute for Health Care Research and Policy, Georgetown University Medical Center.

In the study areas where there was more than one safety net hospital, these hospitals' average shares exceeded 70 percent only for burn care. For other services, their shares ranged from 30 to 55 percent. Safety net hospitals faced more competitors—from three to nine, depending on the service—in communities with more than one safety net hospital. Thus, safety net hospitals' competition for community health services comes primarily from other safety net hospitals; non-safety net providers do not offer these services, even in areas with fewer safety net hospitals.

## CONCLUSIONS

### Safety Net Hospitals Are Important Sources for Public Health and Specialty Care

Safety net hospitals demonstrate a higher propensity than other urban hospitals to provide certain public health and specialty services, with potentially high-cost and/or unprofitable services such as burn care, inpatient pediatric intensive care, neonatal intensive care, and trauma care leading the list. These hospitals are also more likely to provide services that attract potentially difficult-to-treat patient populations, including inpatient, outpatient, and emergency psychiatric care, and inpatient alcoholism treatment.

There are some community services that most hospitals provide, regardless of their safety net status, such as emergency room care, social services, and care for AIDS patients. In addition, the evidence suggests that alternative sources of care exist in safety net hospitals' geographic markets. Still, safety net hospitals are, overall, the major providers of public health and specialty services in their communities. Ensuring that they remain viable therefore benefits not only the uninsured, but the larger community as well.

**Maintaining Community Access to Services Should Be a Health Policy Priority**

The ability to ensure access to crucial public health and specialty services is particularly important when considering whether to close down a safety net hospital or one or more of its specialty care units. Before reaching such a decision, policymakers and officials need to first weigh the following issues:

- **Will the supply of public health and specialty services continue to meet demand?** Because safety net hospitals are usually not the sole provider of a particular service, even in areas with only one safety net hospital, local officials must make a determination as to whether the remaining hospitals are able to fill the gap. For example, if a safety net hospital closes its burn unit, is there sufficient capacity in neighboring hospitals with burn units to absorb the additional burn patients? More importantly, will these neighboring hospitals take on the safety net hospital's uninsured and Medicaid-insured burn patients?

- **Is the quality of services comparable at other hospitals?** For example, in debate over whether to shut down a safety net hospital's trauma unit—which may be the best in its market—consideration should be given to whether other area hospitals will be able to match its level of quality. Investigation could in fact reveal that these other hospitals' overall patient and service mix will not complement the efficient delivery of trauma care. Some trauma units, for instance, may lack experience in handling patients with multiple injuries, or they may not offer the complex services that some patients will require.

- **Will other hospitals be able to handle potentially large increases in patient volume?** Policymakers should be aware that closing one hospital facility or unit could have a domino effect on other safety net hospitals in the area. Where there are multiple safety net hospitals, the responsibility for providing public health and specialty services is shared. However, if any of these hospitals is forced to downsize or discontinue services, the other safety net hospitals could be overwhelmed by the subsequent influx of new patients. The likely drain on hospitals' financial resources could result in diminished access for the entire community to one or more services.

Growth in managed care may also threaten the availability of some public health and specialty services. Increased price competition in hospital markets caused by the presence of health maintenance organizations pressures all hospitals to reduce costs, especially non-safety net urban hospitals, which depend more heavily on revenues from privately insured patients. Consequently, these hospitals may respond by reducing or eliminating their high-cost and/or unprofitable services. In that event, safety net hospitals' role in providing them becomes critical to maintaining broad community access.

**Role of Government Subsidies in Sustaining Safety Net Hospitals**

Safety net hospitals depend primarily on Medicaid and Medicare Disproportionate Share Hospital (DSH) payments to maintain financial solvency.[18] Although it is not clear what proportion of these subsidies helps finance safety net hospitals' public health and specialty care mission and what proportion supports their treatment of the uninsured and under-insured, the funds certainly elevate their overall financial status. Limits placed on DSH payments by the Balanced Budget Act of 1997 may therefore adversely affect the ability of safety net hospitals to provide needed services to the community.

Nevertheless, these subsidy programs are blunt instruments at best in preserving safety net hospitals' public health and specialty care mission. A better policy would be to target financial support directly for those services that local communities find desirable to maintain. For example, federal, state, and local governments could give grants to their safety net hospitals to offset the fixed costs associated with a neonatal intensive care, trauma, or burn unit, while private and public payers would continue to pay the marginal costs associated with the treatment of their patients. This kind of subsidy would help ensure safety net hospitals' continued provision of a vital public good, while also allowing financial pressures created by federal reimbursement policies and health insurance market forces to promote the cost-efficient delivery of hospital services.

[18] L.E. Fishman and J.D. Bentley, "What Types of Hospitals Form the Safety Net?" *Health Affairs* 16 (July/August 1997):215–222; D. Gaskin and J. Hadley, "Population Characteristics of Safety Net and Other Urban Hospital Markets," GUMC:IWP 96-124 (July 1997).

## REFERENCES


D.P. Andrulis, C. Ginsberg, Y. Shaw-Taylor, and V. Martin, *Urban Social Health: A Chart Book Profiling the Nation's One Hundred Largest Cities*, Washington, D.C.: National Public Health and Hospital Institute, 1995.

L.E. Fishman, "What Types of Hospitals Form the Safety Net?" *Health Affairs* 16 (July/August 1997):215–222.

L.E. Fishman and J.D. Bentley, "The Evolution of Support for Safety Net Hospitals," *Health Affairs* 16 (July/August 1997):30–47.

L.S. Gage, C.C. Burch, L. Fagnani, A.B. Camper, and D.P. Andrulis, *America's Urban Health Safety Net*, Washington, D.C.: National Association of Public Hospitals and Health Systems, 1994.

D. Gaskin and J. Hadley, "Population Characteristics of Safety Net and Other Urban Hospital Markets," GUMC:IWP 96-124 (July 1997).

D. Gaskin, J. Hadley, and V. Freeman, "Are Safety Net Hospitals Losing the Competition for Low Risk Medicaid Patients?" GUMC:IWP 98-107 (December 1998).

Inforum, *1995 PULSE Managed Care Summary,* Inforum/The Medstat Group, 1995.

InterStudy, *Competitive Edge 6.1,* Minneapolis, MN, 1996.

National Association of Public Hospitals and Health Systems, *Characteristics of NAPH Members Hospitals, Based on 1995 NAPH Hospital Characteristics Survey and 1994 AHA Annual Survey of Hospitals,* Washington, D.C.: NAPH, 1996.

J. Reuter and D. Gaskin, "Academic Health Centers in Competitive Markets," *Health Affairs* 16 (July/August 1997):242–252.

B. Siegel, *Public Hospitals—A Prescription for Survival,* New York: The Commonwealth Fund, 1996.

**Appendix 1**
**Criteria for Safety Net Hospitals, by State, 1995**

| Region/State | Mean | State Standard Deviation | Cutoff |
|---|---|---|---|
| **New England** | | | |
| Maine | 14.0 | 3.4 | 19.1 |
| New Hampshire | 15.5 | 10.2 | 30.9 |
| Vermont | 14.1 | 3.4 | 19.2 |
| Massachusetts | 12.5 | 7.6 | 23.9 |
| Rhode Island | 9.1 | 3.9 | 14.9 |
| Connecticut | 14.6 | 6.1 | 23.8 |
| **Mid-Atlantic** | | | |
| New York | 20.8 | 17.0 | 46.3 |
| New Jersey | 13.3 | 9.6 | 27.6 |
| Pennsylvania | 15.4 | 12.1 | 33.4 |
| **South Atlantic** | | | |
| Delaware | 18.8 | 11.5 | 36.1 |
| Maryland | 11.9 | 8.4 | 24.4 |
| District of Columbia | 21.3 | 13.4 | 41.3 |
| Virginia | 14.6 | 9.9 | 29.4 |
| West Virginia | 15.5 | 8.5 | 28.2 |
| North Carolina | 16.5 | 8.2 | 28.8 |
| South Carolina | 15.8 | 10.2 | 31.1 |
| Georgia | 16.0 | 7.3 | 26.9 |
| Florida | 13.2 | 8.1 | 25.3 |
| **East North-Central** | | | |
| Ohio | 15.0 | 8.1 | 27.2 |
| Indiana | 14.0 | 6.2 | 23.3 |
| Illinois | 18.7 | 14.5 | 40.5 |
| Michigan | 14.8 | 9.6 | 29.2 |
| Wisconsin | 10.6 | 11.3 | 27.5 |
| **East South-Central** | | | |
| Kentucky | 15.9 | 9.9 | 30.8 |
| Tennessee | 20.9 | 11.2 | 37.7 |
| Alabama | 15.8 | 11.6 | 33.3 |
| Mississippi | 18.4 | 13.2 | 38.2 |
| **West North-Central** | | | |
| Minnesota | 14.5 | 9.2 | 28.3 |
| Iowa | 13.7 | 6.8 | 24.0 |
| Missouri | 14.4 | 14.5 | 36.1 |
| North Dakota | 11.1 | 3.1 | 15.8 |
| South Dakota | 10.6 | 5.6 | 19.0 |
| Nebraska | 15.0 | 7.1 | 25.6 |
| Kansas | 12.3 | 7.2 | 23.1 |
| **West South-Central** | | | |
| Arkansas | 15.2 | 14.3 | 36.6 |
| Louisiana | 17.9 | 11.2 | 34.7 |
| Oklahoma | 15.3 | 10.3 | 30.7 |
| Texas | 18.4 | 14.2 | 39.7 |

| | | | |
|---|---|---|---|
| **Mountain** | | | |
| Montana | 15.1 | 8.0 | 27.1 |
| Idaho | 21.4 | 7.7 | 32.9 |
| Wyoming | 18.9 | 5.0 | 26.4 |
| Colorado | 14.8 | 10.9 | 31.2 |
| New Mexico | 15.5 | 7.0 | 26.0 |
| Arizona | 18.3 | 13.9 | 39.3 |
| Utah | 13.8 | 6.0 | 22.8 |
| Nevada | 13.2 | 8.6 | 26.0 |
| **Pacific** | | | |
| Washington | 19.4 | 11.5 | 36.6 |
| Oregon | 14.3 | 8.4 | 26.9 |
| California | 21.1 | 15.3 | 44.0 |
| Alaska | 16.3 | 4.0 | 22.2 |
| Hawaii | 11.9 | 10.3 | 27.4 |

Source: Analysis of data from the 1995 American Hospital Association *Annual Survey of Hospitals,* Institute for Health Care Research and Policy, Georgetown University Medical Center.

**Appendix 2**
**Safety Net and Other Urban Hospitals, by Metropolitan Statistical Area (MSA), 1995**

| MSA | Safety Net Hospitals | Other Urban Hospitals | Total |
|---|---|---|---|
| Akron, OH | 1 | 5 | 6 |
| Albuquerque, NM | 1 | 6 | 7 |
| Alexandria, LA | 1 | 2 | 3 |
| Athens, GA | 1 | 1 | 2 |
| Atlanta, GA | 3 | 38 | 41 |
| Atlantic City, NJ | 1 | 3 | 4 |
| Bakersfield, CA | 1 | 9 | 10 |
| Baltimore, MD | 2 | 21 | 23 |
| Baton Rouge, LA | 1 | 7 | 8 |
| Beaumont-Port Arthur, TX | 1 | 7 | 8 |
| Benton Harbor, MI | 2 | 2 | 4 |
| Bergen-Passaic, NJ | 2 | 10 | 12 |
| Birmingham, AL | 2 | 14 | 16 |
| Boston, MA | 2 | 44 | 46 |
| Brazoria, TX | 1 | 3 | 4 |
| Brownsville-Harlingen, TX | 2 | 3 | 5 |
| Charleston, SC | 2 | 6 | 8 |
| Charlotte-Gastonia-Rock Hill, NC-SC | 1 | 9 | 10 |
| Chicago, IL | 9 | 81 | 90 |
| Cincinnati, OH-KY-IN | 3 | 16 | 19 |
| Cleveland, OH | 4 | 29 | 33 |
| Columbia, SC | 1 | 3 | 4 |
| Columbus, GA-AL | 1 | 3 | 4 |
| Dallas, TX | 3 | 36 | 39 |
| Denver, CO | 3 | 12 | 15 |
| Des Moines, IA | 1 | 5 | 6 |
| Detroit, MI | 5 | 43 | 48 |
| El Paso, TX | 2 | 4 | 6 |
| Erie, PA | 1 | 5 | 6 |
| Eugene-Springfield, OR | 1 | 3 | 4 |
| Fayettesville, NC | 1 | 1 | 2 |
| Fort Pierce, FL | 1 | 2 | 3 |
| Fort Walton Beach, FL | 1 | 2 | 3 |
| Fresno, CA | 3 | 10 | 13 |
| Gainesville, FL | 1 | 2 | 3 |
| Gary-Hammond, IN | 1 | 7 | 8 |
| Grand Forks, ND | 1 | 3 | 4 |
| Hamilton-Middletown, OH | 1 | 3 | 4 |
| Hartford, CT | 1 | 8 | 9 |
| Honolulu, HI | 1 | 9 | 10 |
| Houston, TX | 5 | 35 | 40 |
| Huntington-Ashland, WY-KY-OH | 2 | 3 | 5 |
| Indianapolis, IN | 2 | 20 | 22 |
| Jackson, MS | 2 | 6 | 8 |
| Jacksonville, FL | 1 | 9 | 10 |
| Jersey City, NJ | 1 | 8 | 9 |
| Johnson City-Kingsport-Bristol, TN-VA | 1 | 8 | 9 |

| | | | |
|---|---|---|---|
| Kalamazoo, MI | 2 | 5 | 7 |
| Kansas City, MO-KS | 4 | 27 | 31 |
| Knoxville, TN | 1 | 8 | 9 |
| Lafayette, LA | 1 | 11 | 12 |
| Lancaster, PA | 1 | 4 | 5 |
| Laredo, TX | 1 | 1 | 2 |
| Las Vegas, NV | 1 | 11 | 12 |
| Lewiston-Auburn, ME | 1 | 1 | 2 |
| Lexington-Fayette, KY | 2 | 9 | 11 |
| Little Rock-North Little Rock, AR | 2 | 8 | 10 |
| Los Angeles-Long Beach, CA | 12 | 96 | 108 |
| Lowell, MA-NH | 1 | 1 | 2 |
| Lubbock, TX | 1 | 5 | 6 |
| McAllen-Edinburg-Mission, TX | 3 | 1 | 4 |
| Medford, OR | 1 | 2 | 3 |
| Memphis, TN-AR-MS | 1 | 11 | 12 |
| Miami-Hialeah, FL | 3 | 23 | 26 |
| Middlesex-Somerset-Hunterdon, NJ | 1 | 7 | 8 |
| Milwaukee, WI | 3 | 19 | 22 |
| Minneapolis-St. Paul, MN-WI | 3 | 29 | 32 |
| Mobile, AL | 1 | 8 | 9 |
| Modesto, CA | 1 | 5 | 6 |
| Nashua, NH | 1 | 1 | 2 |
| Nashville, TN | 1 | 16 | 17 |
| New Haven-Meriden, CT | 1 | 2 | 3 |
| New Orleans, LA | 2 | 24 | 26 |
| New York, NY | 17 | 58 | 75 |
| Newark, NJ | 4 | 21 | 25 |
| Norfolk-Virginia Beach-Newport News, VA | 2 | 14 | 16 |
| Oakland, CA | 3 | 21 | 24 |
| Oklahoma City, OK | 1 | 14 | 15 |
| Orange County, CA | 2 | 31 | 33 |
| Orlando, FL | 1 | 12 | 13 |
| Philadelphia, PA-NJ | 9 | 59 | 68 |
| Phoenix, AZ | 5 | 23 | 28 |
| Pittsburgh, PA | 2 | 35 | 37 |
| Portland, OR | 2 | 16 | 18 |
| Providence, RI | 1 | 10 | 11 |
| Provo-Orem, UT | 1 | 3 | 4 |
| Racine, WI | 1 | 2 | 3 |
| Raleigh-Durham, NC | 1 | 8 | 9 |
| Rapid City, SD | 1 | 0 | 1 |
| Richland-Kennewick-Pasco, WA | 2 | 2 | 4 |
| Riverside-San Bernardino, CA | 3 | 30 | 33 |
| Rochester, MN | 1 | 2 | 3 |
| St. Louis, MO-IL | 5 | 34 | 39 |
| Salinas-Seaside-Monterey, CA | 1 | 3 | 4 |
| San Diego, CA | 1 | 23 | 24 |
| San Francisco, CA | 1 | 19 | 20 |
| San Jose, CA | 1 | 13 | 14 |
| Santa Cruz, CA | 1 | 1 | 2 |
| Santa Rosa-Petaluma, CA | 1 | 7 | 8 |

| | | | |
|---|---|---|---|
| Savannah, GA | 1 | 3 | 4 |
| Seattle, WA | 1 | 21 | 22 |
| South Bend-Mishawaka, IN | 1 | 3 | 4 |
| Springfield, MA | 2 | 7 | 9 |
| Stockton, CA | 1 | 5 | 6 |
| Sumter, SC | 1 | 0 | 1 |
| Tacoma, WA | 1 | 6 | 7 |
| Tampa-St. Petersburg-Clearwater, FL | 1 | 33 | 34 |
| Visalia-Tulare-Porterville, CA | 1 | 6 | 7 |
| Washington, DC-MD-VA | 1 | 38 | 39 |
| West Palm Beach-Boca Raton-Delray Beach, FL | 1 | 13 | 14 |
| Wheeling, WV-OH | 1 | 5 | 6 |
| Wichita, KS | 1 | 7 | 8 |
| Wilmington, NC | 1 | 3 | 4 |
| Yakima, WA | 1 | 3 | 4 |

Source: Analysis of data from the 1995 American Hospital Association *Annual Survey of Hospitals,* Institute for Health Care Research and Policy, Georgetown University Medical Center.