Trends in Urban Hospital Closure
1990-2000
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MAY - 5 2003

TO: Jacquelyn Y. White
Director, Office of Strategic Operations and Regulatory Affairs

FROM: Joseph E. Vengrin
Deputy Inspector General for Evaluation and Inspections


Attached are two final reports that combine 11-years of hospital closure data and describe trends that are specific to hospitals that closed in rural communities as well as hospitals that closed in urban communities. The reports focus on the extent, characteristics, reasons for, and impact of hospitals that closed from 1990 through 2000.

Our review of rural hospitals that closed from 1990 through 2000 revealed that nationally:

- Two hundred and eight hospitals closed -- 7.8 percent of all rural hospitals.
- Rural hospitals that closed were generally smaller and treated fewer patients than rural hospitals nationally.
- Generally, rural hospital closures resulted from business related decisions or a low number of patients.
- Following a closure, alternative forms of health care were often available within the community.

Our review of urban hospitals that closed from 1990 through 2000 revealed that nationally:

- Two hundred and ninety-six hospitals closed -- 10.6 percent of all urban hospitals.
- Urban hospitals that closed were generally smaller and treated fewer patients than urban hospitals nationally.
- Generally, urban hospital closures resulted from competition, business related decisions, or a low number of patients.
- Hospital services were still available within 10 miles from most of the urban hospitals that closed.
This report is being issued directly in final since it contains no recommendations. You are not required to comment on the report. However, if you have any questions or comments, please call me or John Hapchuk, Director, Program Evaluation Divisions, or have your staff contact Tricia Davis at 410-786-3143.

Attachments
EXECUTIVE SUMMARY

OBJECTIVE

To summarize the extent, characteristics, reasons for, and impact of urban hospital closures from calendar years 1990 through 2000.

BACKGROUND

Hospital closures have generated concern among the health care industry, government leaders, and the general public. Of particular interest were the reasons for and impact of the closures.

In May 1989, the Office of Inspector General (OIG) released a report describing the phenomenon of urban and rural hospital closures within the United States during calendar year 1987. Many users of that information encouraged us to continue a yearly analysis to determine the rate of closure as well as trends in the characteristics and circumstances of hospitals that closed. Consequently, we conducted similar annual inspections documenting hospitals that closed through calendar year 2000.

In 1995, the OIG released a report describing trends associated with urban hospitals that closed from 1987 through 1993. Our current inspection broadens that information and focuses on the extent and characteristics, as well as the reasons for and effects of urban hospitals that closed during 1990 through 2000. We are issuing a separate report documenting the unique circumstances that led to rural hospital closures, “Trends in Rural Hospital Closure: 1990-2000” (OEI-04-02-00610).

To determine the extent, characteristics, reasons for, and impact of urban hospital closures during calendar years 1990 through 2000, we reviewed and expanded upon the information previously documented in our annual hospital closure reports. For those reports, we compiled hospital data from two Centers for Medicare & Medicaid Services (CMS) databases: the Hospital Cost Report Information System (HCRIS) and Provider of Service (POS) file. Additionally, we interviewed officials associated with each of the closed hospitals as well as representatives from state hospital and licensing agencies.
Our review of urban hospitals that closed from 1990 through 2000 revealed the following:

296 urban hospitals closed -- 10.6 percent of all urban hospitals nationally at the beginning of the trend period.

- The average annual rate of closure was 1 percent.

- Urban bed supply was reduced by 4.8 percent (33,253 of the 686,035 urban beds nationally at the beginning of the trend period).

Generally, urban hospitals that closed were smaller and treated fewer patients than urban hospitals nationally.

- Urban hospitals that closed averaged fewer beds, lower occupancy rates, and lower annual net income than urban hospitals nationally. Medicare and Medicaid utilization rates, however, were slightly higher among hospitals that closed.

  - **Size**: 112.3 beds compared to 240.5 beds nationally
  - **Occupancy**: 35.9 percent compared to 53.4 percent nationally
  - **Net income**: ($3,221,172) compared to $3,929,219 nationally
  - **Medicare utilization**: 46.4 percent compared to 45.9 percent nationally
  - **Medicaid utilization**: 14.6 percent compared to 13.5 percent nationally

- Urban hospitals that closed were used by about one-third as many patients as urban hospitals nationally. Specifically, their average daily census was:

  - **Total patients**: 40 patients, compared to 128 patients nationally
  - **Medicare patients**: 19 patients, compared to 59 patients nationally
  - **Medicaid patients**: 6 patients, compared to 17 patients nationally

Officials associated with most urban hospitals that closed reported the reasons to be competition, business-related decisions, or a low number of patients.

- From 1998 through 2000, 113 urban hospitals closed. Officials associated with those hospitals cited multiple reasons for closure; however, the primary reasons were as follows:
Competition: Thirty-one (27.4 percent) reported that closure was due to competition with other nearby hospitals.

Business decisions: Thirty (26.6 percent) reported that the reason for closure was based on relocation, consolidation, or merger.

Number of patients: Sixteen (14.2 percent) attributed closure to low occupancy/low census.

Medicare and Medicaid reimbursements: Twelve (10.6 percent) reported insufficient Medicare and/or Medicaid reimbursements as reasons for closure; however, officials with 11 of those facilities stated that other factors, such as competition and low occupancy, also contributed.

Other reasons: Twelve (10.6 percent) reported various other reasons, such as mismanagement or an outdated facility.

Not Specified: Twelve (10.6 percent) did not report a primary reason for closure.

During 1990-1997, we reported on the reasons for hospital closure in four of our annual reports (1990, 1993, 1996, and 1997); however, that information did not differentiate between urban and rural closures. During those years, hospitals (urban and rural combined) generally closed because of low occupancy, lagging revenues, rising costs, or a combination of those factors.

Hospital services were still available within 10 miles from most of the urban hospitals that closed.

Most urban residents could receive inpatient and emergency services within 10 miles of the closed hospital.

Inpatient care: In 268 of the 296 (90.5 percent) urban communities where a hospital closed, inpatient care was available within 10 miles from the closed facility. Furthermore, residents in 290 (98.0 percent) of those communities could get inpatient care within 20 miles from the closed facility.

Emergency care: In 274 of the 296 (92.6 percent) urban communities where a hospital closed, emergency care was available within 10 miles of the closed facility. Residents in 293 (99.0 percent) of those communities could get emergency care within 20 miles from the closed facility.

During 1998-2000, 37 urban hospitals either opened or reopened, reducing the national impact of the 113 urban hospitals that closed during those 3 years. Additionally, 64 hospitals (urban and rural) opened or reopened from 1990 through 1997. Prior to 1998, however, we did not identify such data specific to rural or urban classifications. Therefore, we cannot identify how many of the 64 openings were in urban communities.
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INTRODUCTION

OBJECTIVE

To summarize the extent, characteristics, reasons for, and impact of urban hospital closures from calendar years 1990 through 2000.

BACKGROUND

Hospital closures have generated concern among the health care industry, government leaders, and the general public. Of particular interest were the reasons for and impact of the closures.

In May 1989, the Office of Inspector General (OIG) released a report describing the phenomenon of urban and rural hospital closures within the United States during calendar year 1987. Many users of that information encouraged us to continue a yearly analysis to determine the rate of closure as well as trends in the characteristics and circumstances of hospitals that closed. Consequently, we conducted similar annual inspections documenting hospitals that closed through calendar year 2000.


METHODOLOGY

To determine the extent, characteristics, reasons for, and impact of urban hospital closures during 1990-2000, we reviewed and expanded upon the information previously documented in our annual hospital closure reports. For those reports, we compiled hospital data from two Centers for Medicare & Medicaid Services (CMS) databases: the Hospital Cost Report Information System (HCRIS) and Provider of Service (POS) file. For each hospital that closed, we obtained cost report data accounting for the most recent full fiscal year prior to closure. Additionally, we interviewed officials associated with each of the closed hospitals as well as representatives from state hospital and licensing agencies.
We compiled data for hospitals that closed during the entire 11-year trend period -- including average number of beds, average occupancy, Medicare and Medicaid utilization, and the average number of patients affected -- by calculating weighted averages using the data we collected from our previous hospital closure reports. Due to rounding, some minor variation may exist between the data in this report when compared to the data in our annual hospital closure reports. Additionally, we compiled net income data directly from HCRIS.

To supplement the data, we contacted state licensing and certification agencies, state hospital associations, and state health planning agencies. Further, we surveyed various officials that were directly or indirectly associated with each hospital. Such officials included:

- Former hospital executives and physicians of the closed urban facilities,
- Executives from nearby hospitals,
- Local health and government officials, and
- Officials associated with parent corporations of closed hospitals.

We determined the distance from closed urban hospitals to the closest operating hospitals and emergency services using maps and mapping programs (e.g., Mapquest) in addition to the information provided by the various officials we interviewed.

We used data sets previously developed for our annual hospital closure reports to quantify urban hospitals that opened from 1998 through 2000. Prior to 1998, we did not identify such data specific to rural or urban classifications. The reported data was an aggregated total of openings and reopenings.

We used the following definitions as we examined urban hospitals that closed during calendar years 1990 through 2000:

**Urban Hospital:** A facility located in an urban area that provided general, short-term, acute medical and surgical inpatient services.

**Closed Hospital:** A facility that stopped providing general, short-term, acute inpatient care during 1990-2000. We did not consider a hospital closed if it:

- Merged with, or was sold to, another hospital but the physical plant continued to provide inpatient acute care, or
Both closed and reopened during the same calendar year and at the same physical location.

We conducted our inspection between July 2002 and December 2002. We conducted this inspection in accordance with the *Quality Standards for Inspections* issued by the President’s Council on Integrity and Efficiency.
FINDINGS

For more than a decade, the closure of urban hospitals has generated considerable public interest. This issue also generated concern among the health care industry and Congress. Specific areas of interest included the extent, characteristics, reasons for, and impact of hospital closures. Our national review of urban hospital closures that occurred from 1990 through 2000 revealed that:

- Two hundred ninety-six hospitals closed -- 10.6 percent of all urban hospitals.
- Urban hospitals that closed were generally smaller and treated fewer patients than urban hospitals nationally.
- Generally, urban hospital closures resulted from competition, business related decisions, or a low number of patients.
- Hospital services were still available within 10 miles from most of the urban hospitals that closed.

Extent and Characteristics of Urban Hospitals That Closed

Number of urban hospitals that closed

During 1990-2000, 296 urban hospitals closed. At the beginning of the trend period, 5,466 general, short-term, acute care hospitals were included nationally in CMS’ HCRIS database. Of those, 2,799 (51.2 percent) were classified as urban hospitals.

| Urban Hospitals in the U.S. in 1990 | 2,799 |
| Urban Hospitals that Closed from 1990 through 2000 | 296 (10.6%) |

The average annual rate of closure was 1.0 percent. The most closures for any given year occurred in 1999, when 43 urban hospitals closed. The lowest number occurred in 1994, when 11 urban hospitals closed. See Appendix A for state specific data. Figure 1 illustrates the annual rate of closure.
During the 11-year period, hospital closures reduced the inpatient bed supply in urban areas by 4.8 percent (33,253 of the 686,035 urban beds operating nationally at the beginning of the trend period).

**Characteristics of urban hospitals that closed**

**Size:** On average, urban hospitals that closed were considerably smaller than those that remained opened. During 1990-2000, the closed hospitals averaged 112.3 beds compared to an average of 240.5 beds for all urban hospitals nationally. The following figure illustrates an annual comparison.
**Occupancy:** During the 11-year trend period, urban hospitals that closed had an average occupancy rate of 35.9 percent compared to an average of 53.4 percent for urban hospitals nationally.\(^1\) Additionally, on an annual basis, occupancy was consistently lower among urban hospitals that closed. An annual comparison of average occupancy is illustrated in the following figure.

![Figure 3: AVERAGE URBAN OCCUPANCY](image)

**Net income:** An average net loss (the year prior to closure) for urban hospitals that closed occurred in each of the 11 years that made up the trend period. In contrast, urban hospitals nationally averaged a positive net income each of the 11 years. Overall, the average net loss for urban hospitals that closed was $3,221,172 compared to a net income of $3,929,219 for urban hospitals nationally. An annual comparison is illustrated in Figure 4.

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\(^1\)We calculated average occupancy by dividing the actual number of patient days by the total bed days available for urban hospitals nationally (including those that closed). Then we summed the results and divided by the respective numbers of urban hospitals -- closed and nationally.
Medicare and Medicaid utilization: According to hospital cost report data for 1990 through 2000, urban hospitals that closed had slightly higher Medicare and Medicaid utilization rates than urban hospitals nationally. The average Medicare utilization for urban hospitals that closed was 46.4 percent compared to 45.9 percent for urban hospitals nationally.\(^2\)

Similarly, Medicaid utilization for the closed hospitals was 14.6 percent compared to the national average of 13.5 percent.\(^3\) See Appendix B for annual Medicare and Medicaid utilization data. Figure 5 highlights the overall average utilization rates for closed urban hospitals and urban hospitals nationally.

\(^2\)We calculated average Medicare utilization by dividing the Medicare patient days by total patient days for urban hospitals nationally (including those that closed). Then we summed the results and divided by the respective numbers of urban hospitals -- closed and nationally.

\(^3\)Medicaid utilization is calculated the same way as Medicare utilization.
Number of patients affected: Consistent with their small size and low occupancy rates, urban hospitals that closed during 1990-2000 had a low daily census in the year prior to closure.

Total patients: Nationally, urban hospitals averaged 128 patients per day in contrast to 40 patients per day among urban hospitals that closed.

<table>
<thead>
<tr>
<th>CLOSED URBAN HOSPITALS: PATIENT CENSUS</th>
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<tbody>
<tr>
<td>Average Number of Beds</td>
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<tr>
<td>Average Occupancy Rate</td>
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<tr>
<td>Average Number of Patients Daily</td>
</tr>
</tbody>
</table>

Medicare and Medicaid patients: The average number of urban Medicare patients per day was 59 nationally, compared to 19 for the hospitals that closed. Furthermore, the average number of Medicaid patients per day was 17 nationally, in contrast to 6 in urban hospitals that closed.

<table>
<thead>
<tr>
<th>CLOSED URBAN HOSPITALS: MEDICARE AND MEDICAID CENSUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicare</td>
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<tr>
<td>Average Number of Patients Daily</td>
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<tr>
<td>Average Medicare and Medicaid Utilization Rate</td>
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<tr>
<td>Average Number of Medicare and Medicaid Patients</td>
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</tbody>
</table>
Reasons For Urban Hospital Closure

Officials reported various factors that contributed to urban hospital closures. The primary reasons, however, were competition with other hospitals or business-related decisions, such as relocations, consolidations, or mergers. Additionally, hospitals closed due to other factors, including a low number of patients (low occupancy/low census) or lagging revenues.

During 1990-1997, we reported the reasons for hospital closure in four of our annual reports (1990, 1993, 1996, and 1997); however, that information did not differentiate between urban and rural closures. During those years, hospitals (urban and rural combined) generally closed because of low occupancy, lagging revenues, rising costs, or a combination of these factors. From 1998 through 2000, we collected information specific to the reasons for urban hospital closure. To determine those reasons, we interviewed senior executives, legal council, or other officials associated with the closed hospitals. Though some officials reported more than one reason for closure, the following information focuses on what they stated to be the primary reasons.

During 1998-2000, 113 urban hospitals closed. Officials associated with 31 (27.4 percent) of those hospitals reported that the primary reason for closure was competition with other nearby hospitals. Additionally, 30 (26.6 percent) of the closures were attributed to a business-related decision, such as relocation, consolidation, or merger. An insufficient number of patients (low occupancy/low census) was reported to be the primary reason for 16 (14.2 percent) of the closures.

Hospital officials associated with 12 (10.6 percent) of the hospitals included Medicare and Medicaid reimbursements as the primary reasons for closure. Of those, 11 stated that additional reasons, such as competition and an insufficient number of patients, also contributed. Only one official reported Medicare and Medicaid as the only reasons for the hospital closing. Our analysis of hospital cost report data showed the occupancy rate for that hospital, however, was 17.8 percent compared to the national average of 53.4 percent. Additionally, a 644-bed hospital was located just over 3 miles away.

Of the remaining 24 urban hospitals that closed, 12 (10.6 percent) were reported to have closed for various other reasons, such as mismanagement or old and damaged buildings. Officials associated with the remaining 12 (10.6 percent) hospitals did not report a specific reason for closure; however, 10 of those 12 hospitals had average occupancy rates that were lower than the national average. Figure 6 provides a comparison of the primary reasons for hospital closure.
Impact of Urban Hospital Closure

Distance to inpatient and emergency care

Inpatient care: In 268 of the 296 (90.5 percent) urban communities where a hospital closed, inpatient care was available within 10 miles from the closed hospital. Furthermore, residents in 290 (98 percent) of those communities could get inpatient care within 20 miles from the closed hospital. For example, after the 1998 closure of a Dallas, Texas hospital, residents still had access to inpatient care at three different full-service hospitals that were located within close proximity to the closed facility -- the closest being 1 mile.

Figure 7 shows summary information on the distances closed hospitals were from inpatient care that was still available.
Emergency services: When a hospital closes, the community potentially loses access to emergency services as well as inpatient care. In 274 of the 296 (92.6 percent) urban communities where a hospital closed, emergency care was available within 10 miles of the closed hospital. Residents in 293 (99.0 percent) of those communities could get emergency care within 20 miles from the closed hospital. For example, a hospital in San Francisco, California stopped providing inpatient and emergency services in 1999. Residents could still receive 24-hour emergency services at a hospital that was located 2 miles from the closed facility.

Figure 8 shows summary information on the distances closed hospitals were from emergency care that was still available.
Impact of hospital openings

**Hospital openings**: Many hospitals opened or reopened in urban communities from 1990 through 2000, reducing the national impact of hospital closure. However, prior to 1998, we did not identify such data specific to rural or urban classifications. From 1990 through 1997, 64 hospitals (urban and rural combined) opened or reopened. Those 64 hospitals are an aggregated total of openings and reopenings; therefore, we cannot identify how many of them were in urban communities.

During 1998 through 2000, 37 urban hospitals either opened or reopened, reducing the national impact of the 113 urban hospitals that closed during that timeframe. Figure 9 illustrates the net number of urban hospital closures for those 3 years.

As stated earlier in the report, 30 (26.6 percent) of the urban hospitals that closed from 1998 through 2000 were due to business-related decisions such as relocation, consolidation, or merger. Of those closures, six (20 percent) were the direct result of relocation to newer buildings. When a hospital changed location, we reported it as a closure because the hospital had stopped providing general, short-term, acute care services in the physical plant from which it moved. However, for each of the six hospitals that relocated, the closure was offset by an opening of hospital services within a new building – less than 6 miles from the old building. Therefore, impact on access to care was minimal when a hospital relocated.
During the 11-year trend period, urban hospitals closed in 40 states

California had the greatest number of urban closures (50), followed by Texas (40), Florida (21), Michigan (17) and Massachusetts, Ohio and Pennsylvania (12). These seven states account for 55.4 percent of all urban hospital closures from 1990 through 2000. The following charts illustrate the frequency of closure for each state.
## Number of Urban Hospital Closures By State

<table>
<thead>
<tr>
<th>State</th>
<th>Closures</th>
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<tbody>
<tr>
<td>California</td>
<td>50</td>
</tr>
<tr>
<td>Texas</td>
<td>40</td>
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<tr>
<td>Florida</td>
<td>21</td>
</tr>
<tr>
<td>Michigan</td>
<td>17</td>
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<tr>
<td>Massachusetts</td>
<td>12</td>
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<td>Ohio</td>
<td>12</td>
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<tr>
<td>Pennsylvania</td>
<td>12</td>
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<tr>
<td>Missouri</td>
<td>9</td>
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<tr>
<td>New York</td>
<td>9</td>
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<td>Georgia</td>
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<td>Virginia</td>
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<td>Oklahoma</td>
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<td>Tennessee</td>
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<tr>
<td>Arizona</td>
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<tr>
<td>Minnesota</td>
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<tr>
<td>Washington</td>
<td>6</td>
</tr>
<tr>
<td>Maryland</td>
<td>5</td>
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<tr>
<td>Wisconsin</td>
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<tr>
<td>Alabama</td>
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<td>Connecticut</td>
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<td>Oregon</td>
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<td>South Carolina</td>
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<td>Arkansas</td>
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<td>Colorado</td>
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<td>Indiana</td>
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<td>West Virginia</td>
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<td>District of Columbia</td>
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<td>Delaware</td>
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<td>Nevada</td>
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<td>Rhode Island</td>
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<td>Utah</td>
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Medicare utilization: Urban hospitals that closed had an average Medicare utilization of 46.4 percent compared to an average of 45.9 percent for urban hospitals nationally. Medicare utilization was slightly higher among urban hospitals that closed in 7 of the 11 years, as shown in the following figure and table.

![URBAN MEDICARE UTILIZATION](image)

### Annual Medicare Utilization Rates for Urban Hospitals

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<tbody>
<tr>
<td>National Avg. %</td>
<td>44.8</td>
<td>45.8</td>
<td>46.7</td>
<td>47.1</td>
<td>47.9</td>
<td>48.8</td>
<td>48.4</td>
<td>48.0</td>
<td>46.4</td>
<td>40.9</td>
<td>39.9</td>
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<tr>
<td>Closed Avg. %</td>
<td>50.7</td>
<td>42.9</td>
<td>49.4</td>
<td>51.4</td>
<td>49.8</td>
<td>54.6</td>
<td>46.7</td>
<td>40.5</td>
<td>38.8</td>
<td>44.3</td>
<td>46.5</td>
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Medicaid utilization: Urban hospitals that closed had an average Medicaid utilization of 14.6 percent compared to an average of 13.5 percent for urban hospitals nationally. Although these averages are comparable, the yearly statistics show some variation, as reflected in the following figure and table.

![Urban Medicaid Utilization Chart]

### Annual Medicaid Utilization Rates for Urban Hospitals

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<tbody>
<tr>
<td>National Avg. %</td>
<td>12.3</td>
<td>11.7</td>
<td>12.8</td>
<td>13.6</td>
<td>14.0</td>
<td>13.9</td>
<td>14.0</td>
<td>14.0</td>
<td>14.4</td>
<td>14.0</td>
<td>13.7</td>
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<tr>
<td>Closed Avg. %</td>
<td>11.8</td>
<td>17.4</td>
<td>13.9</td>
<td>14.8</td>
<td>16.7</td>
<td>10.9</td>
<td>11.9</td>
<td>17.1</td>
<td>22.4</td>
<td>16.0</td>
<td>10.4</td>
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ACKNOWLEDGMENTS

This report was prepared under the direction of Bill Moran, Acting Regional Inspector General for Evaluation and Inspections in the Atlanta Regional Office and Graham Rawsthorn, Assistant Regional Inspector General. Other principal Office of Evaluation and Inspections staff who contributed include:

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