

**Quality Oversight: Why Are Rural Hospitals  
Less Likely To Be JCAHO Accredited?**

*Working Paper Series*

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## EXECUTIVE SUMMARY

During the past few years, the growth of managed care and the prominence of health care issues on the President's political agenda have focused attention on monitoring the quality of health care services in the United States. Hospital accreditation by an external quality monitoring organization is the standard practice for ensuring quality. The organization that has provided the benchmark for hospital accreditation is the Joint Commission on the Accreditation of Health Care Organizations (JCAHO).

As the nation advances quality monitoring to address outcomes of care, many rural hospitals have chosen not to seek JCAHO accreditation. This paper describes the discrepancies in hospital accreditation between hospitals located in metropolitan statistical areas (MSAs) and those located outside of MSAs, highlights factors associated with not being accredited, and analyzes reasons that many rural hospitals still choose not to participate in the JCAHO's accreditation process.

Fewer than 60 percent of rural hospitals and 80 percent of rural hospital beds were JCAHO-accredited in 1996, compared to over 95 percent of urban hospitals and 98 percent of urban hospital beds. The proportion of accredited rural hospitals is decreasing over time. Accreditation rates also vary geographically. Much higher proportions of rural hospitals in the eastern portions of the United States are accredited than in the western regions. A multivariate analysis shows that differences in accreditation status between rural and urban hospitals exist even after controlling for hospital size, case mix, geographic location, the concentration of the hospital market, and other hospital and market area characteristics. However, once these other factors are controlled for, only hospitals in the most rural locations are less likely to be accredited. Many characteristics of rural hospitals are also associated with a lower likelihood of accreditation such as fewer beds, limited casemix, and local government control.

The multivariate analysis identified factors associated with a lower probability of accreditation, but did not specifically shed light on why rural hospitals did not seek accreditation. To gain a better understanding of this, we conducted a survey of administrators of non-accredited rural hospitals. Survey results suggest that cost is the most important factor in explaining their lack of participation with the JCAHO accreditation process.

Two policy insights arise from the results of this analysis. First, quality oversight could be improved by making JCAHO accreditation more affordable for small hospitals. Redesigning reimbursement mechanisms to encourage accreditation is one logical approach. However, there will still be some very small hospitals for whom accreditation is not feasible nor appropriate under the existing JCAHO hospital accreditation process. These types of hospitals are necessary to maintain access to health care services for rural residents served by those facilities. The Rural Hospital Flexibility Program has created incentives for some of these facilities to change their status to a special category of hospitals C Critical Access Hospitals. Review and accreditation policies specifically designed for Critical Access Hospitals should be developed by the JCAHO.

## **INTRODUCTION**

This paper is part of a project evaluating the application of the Joint Commission on the Accreditation of Health Care Organizations' (JCAHO) accreditation process to rural hospitals. Specifically, it presents 1) an exploratory secondary data analysis evaluating urban versus rural hospital experience with accreditation; 2) factors influencing rural hospitals' accreditation status; and 3) rural hospital administrators' opinions regarding why they have chosen not to participate in the JCAHO accreditation process.

## **SIGNIFICANCE**

Quality of care can be and is monitored internally. However, accreditation by an external quality monitoring organization provides validation that internal mechanisms are working. Of the hospital accrediting organizations in the United States, the JCAHO is the most widely used (Roberts, Coale, and Redman, 1987). Its standards represent a consistent and objective method for evaluating hospitals across the country. Another accrediting organization, the American Osteopathic Association (AOA), accredits primarily osteopathic hospitals. However, osteopathic hospitals account for less than 2 percent of all hospitals and less than 1 percent of rural hospitals.

In the current health care environment, the importance of monitoring the quality of care provided by rural hospitals cannot be overemphasized. There are several reasons why quality of care and accreditation have risen to the top of the agendas of many policymakers. Early in 1997, President Clinton announced the Advisory Commission on Consumer Protection and Quality in the Health Care Industry. The Commission's final report calls for the creation of a private body to implement a comprehensive plan for measuring health care quality and reporting the results to the public (President's Advisory Commission on Consumer Protection and Quality in the Health Care Industry, 1998). At the same time the President's Commission is making recommendations

regarding the processes that should be used in monitoring quality of care at the national level, PPMC, a private sector collaboration of JCAHO, AMAP, and NCQA is developing protocols to consistently and comprehensively monitor outcomes of care from all provider levels.<sup>1</sup> Another reason that quality of care issues have regained national attention is the evolving presence of managed care. The fear that managed care organizations have a financial incentive to reduce utilization has led to calls for external monitoring and put managed care organizations (primarily health maintenance organizations) under increasing pressure to obtain accreditation.

The most common accrediting organization used by health maintenance organizations is the National Committee on Quality Assurance (NCQA). One of NCQA's credentialing and recredentialing standards states that "the managed care organization must confirm that providers have been reviewed by and approved by an accrediting body" (NCQA, 1997). If not, the managed care organization must set its own standards and perform its own surveys, which increase the amount of effort the organization must invest. In markets with a choice of providers, managed care organizations may choose to contract with those already accredited by an established accrediting body such as the JCAHO or the AOA.

A third reason that quality measurement has received national attention during the past year is the development of policy initiatives that use outcomes to measure quality. Both the JCAHO and Health Care Financing Administration (HCFA) have developed initiatives to include outcomes measures as part of their accreditation and certification processes for hospitals. The JCAHO's ORYX initiative (implemented in 1998) requires hospitals to choose performance measurement systems and performance measures that include 20 percent of their patient

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<sup>1</sup>AMAP is the American Medical Association's newly established accreditation program for physicians.

populations (JCAHO, 1998a). Performance measurement systems will collect data from the hospitals monthly and report selected performance measures to the JCAHO quarterly. Hospitals with an average daily census of 30 or fewer have less stringent ORYX compliance requirements and those with an average daily census of fewer than 10 and fewer than 150 ambulatory care visits per month are temporarily excused from complying with ORYX.

HCFA's proposed rules for hospital conditions of participation, released in December of 1997 (Office of the Federal Register, 1997), focus on patient care and the outcomes of that care. The revised rules have not gone into effect as of the publication of this study, but the two most prominent organizations (JCAHO and AOA) that monitor quality in U.S. hospitals both acknowledge the need to evaluate not only the structures and processes that contribute to hospital care, but the resulting outcomes as well. A study that examines the rural-urban disparities in hospital accreditation is important because efforts to standardize quality oversight and accreditation are highly likely in the near future.

Externally monitoring the quality of rural hospitals presents unique challenges for the rural marketplace. The financial demands and time involved in the JCAHO accreditation process may be particularly burdensome for smaller rural hospitals which tend to have lower levels of occupancy and profitability. Policies encouraging or requiring accreditation will affect rural hospitals disproportionately to their urban counterparts.

## **STUDY DESIGN AND DATA**

This study is separated into three components: 1) an analysis of secondary data to determine the effect of a hospital's rural location on its JCAHO accreditation status after controlling for hospital, market area, and other characteristics; 2) an analysis of rural hospitals to identify factors uniquely associated with their accreditation status; and 3) survey information

from rural hospital administrators of non-JCAHO accredited hospitals to provide insights into why some rural hospitals choose not to become accredited.

Data used for the first two components of this analysis were obtained from the American Hospital Association's Annual Survey of Hospitals (1988-1997), the Health Care Financing Administration's Medicare Cost Reports (1988-1997), the Area Resource File (Bureau of Health Professions 1997), and InterStudy (1988-1997). For the last component of the analysis, a mail survey with telephone follow-up was conducted among non-accredited rural hospital administrators concerning their opinions regarding the JCAHO accreditation process and their decision not to participate. A random sample of 299 non-accredited rural hospitals was selected from the 913 non-accredited rural hospitals identified in the 1996 American Hospital Association annual survey. Responses were received from 248 non-accredited rural hospitals, 92 percent of those eligible for the survey. Twenty-four were returned because the hospitals had since become accredited and six hospitals had closed. The survey asked questions regarding their familiarity with the JCAHO standards, their opinions regarding the accreditation process and their future plans regarding accreditation.

## **RESULTS**

### **Descriptive Results**

The key variable in the descriptive portion of this analysis is whether a hospital is accredited by the JCAHO or the AOA according to the American Hospital Association Annual Survey database in each year from 1987 through 1996. Overall, approximately 78 percent of all hospitals were accredited in 1996 by either the JCAHO or the AOA. In terms of accreditation, a substantial disparity exists between rural and urban hospitals. In 1996, approximately 95 percent of urban hospitals were accredited, while only 58 percent of rural hospitals were accredited. For



purposes of this analysis, we define a rural hospital as one located in a county that is not designated a metropolitan statistical area (MSA).

The proportion of accredited hospitals varies by the degree to which the hospital location is rural. Sparsely populated counties are less likely to have accredited hospitals. Figure 1 shows the proportion of accredited hospitals by the rural-urban continuum code in 1996. The rural-urban continuum code categorizes counties into 10 different classes based upon their proximity to and economic involvement with nearby MSAs (Hewitt, 1992). Hospitals located in metropolitan areas are typically accredited, including nearly 98 percent of those in large metropolitan areas and almost 90 percent in smaller metropolitan areas. Over 90 percent of hospitals in rural areas with towns of more than 20,000 and adjacent to MSAs are accredited. In counties that are similarly populated but not adjacent to MSAs, 85 percent are accredited. Accreditation rates for hospitals in counties with towns between 2,500 and 20,000 were 65 percent for counties adjacent to MSAs and 55 percent for counties not adjacent to MSAs. In counties without a town of 2,500 people, hospital accreditation rates were only 25 percent if the counties were adjacent to MSAs and 18 percent if they were not.

In addition, accreditation varies considerably by geographic location. Figure 2 presents the proportions of rural and urban hospitals with JCAHO accreditation in 1996 by the nine census divisions of the country. It shows that nearly all urban and rural hospitals in the northeastern portion of the country were JCAHO-accredited in 1996. Slightly fewer proportions of urban hospitals and substantially fewer proportions of rural hospitals were accredited in 1996 in the other eight census divisions. The west north central division, west south central, and mountain divisions contain the largest proportions of non-accredited rural hospitals. In each of

**Figure 1: Accreditation Status by Rural-Urban Continuum Code - 1996**

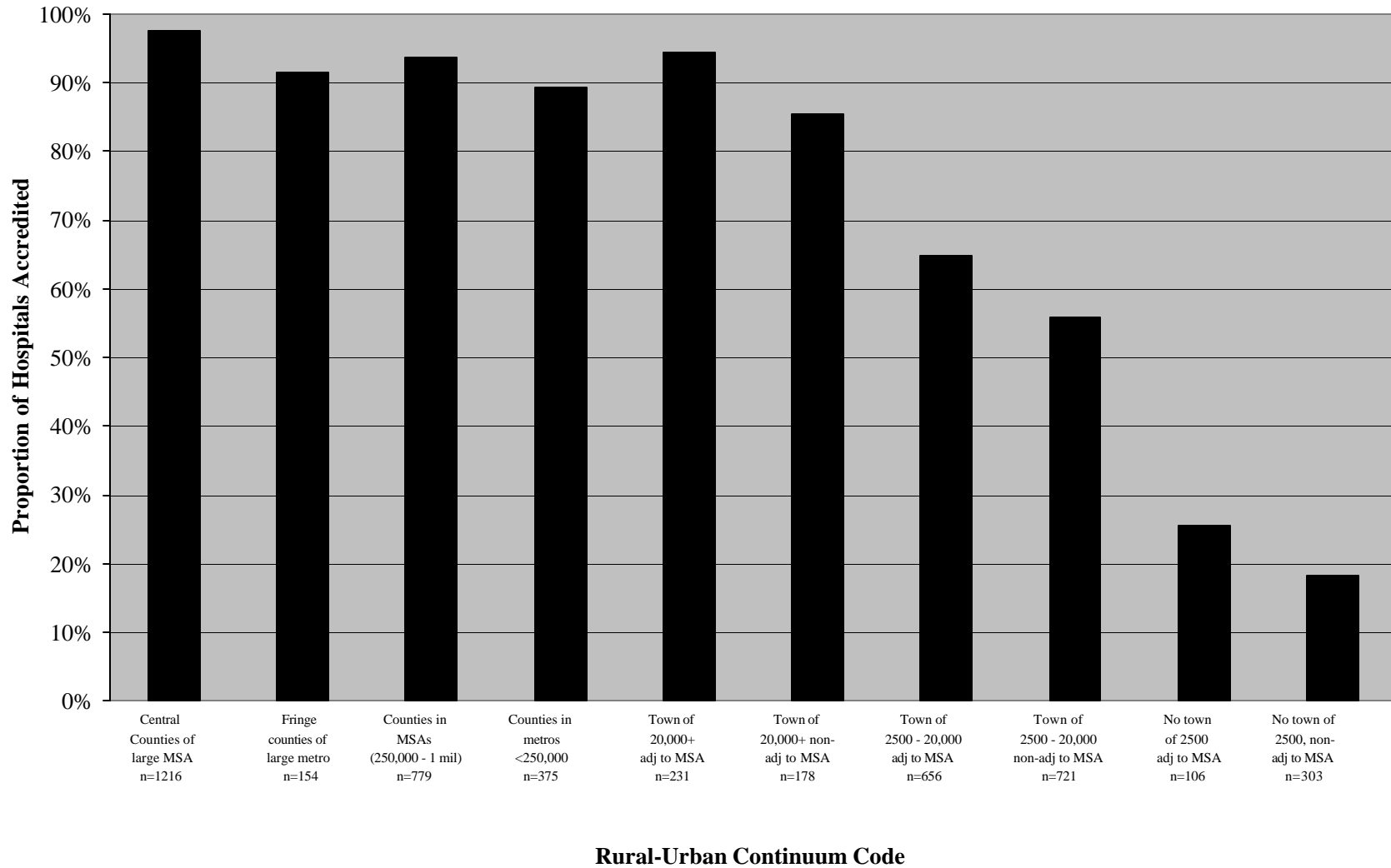
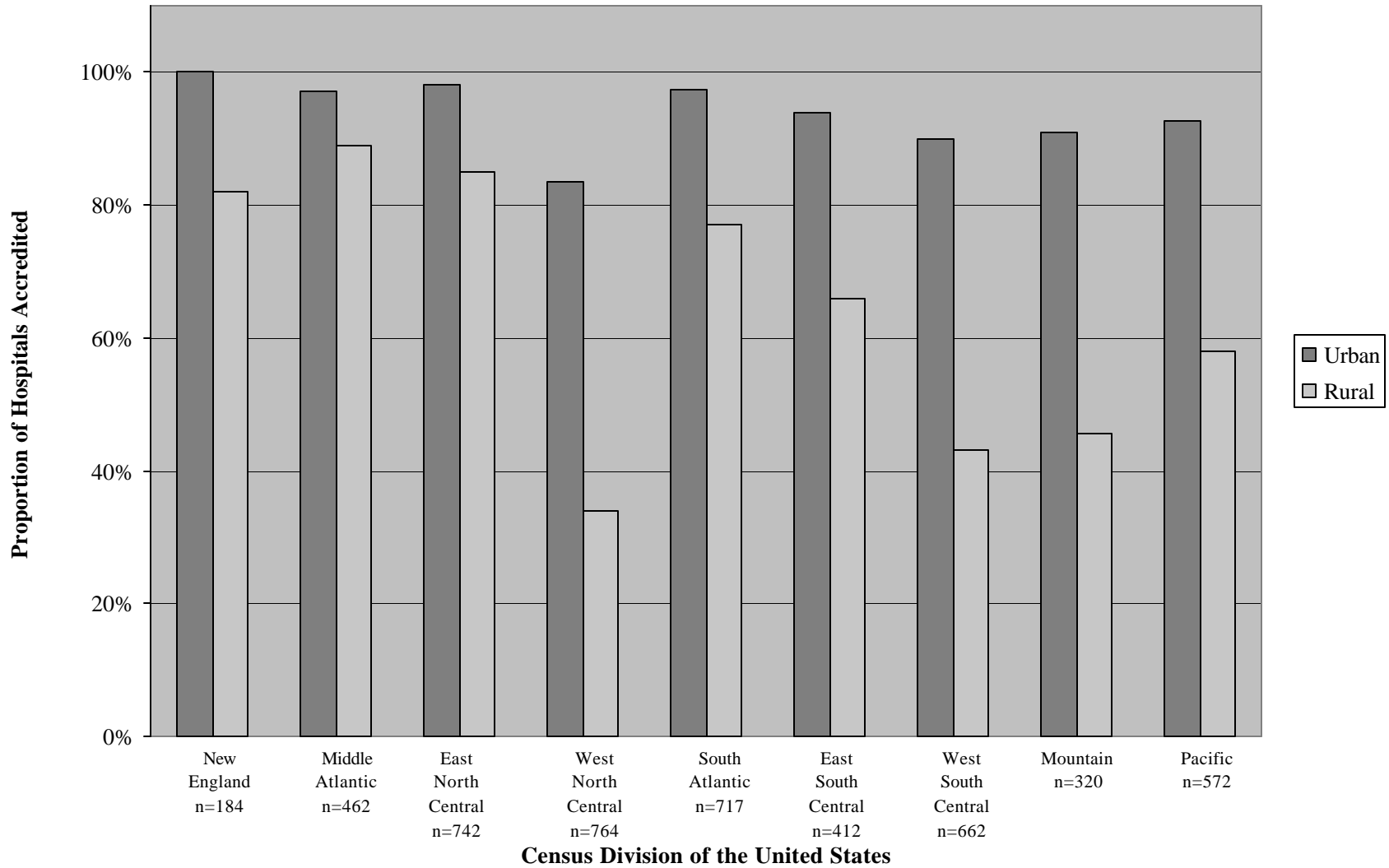


Figure 2: Rural-Urban Accreditation Status by Census Division - 1996



these three divisions, the proportion of accredited rural hospitals is less than half that of urban hospitals in the same division.

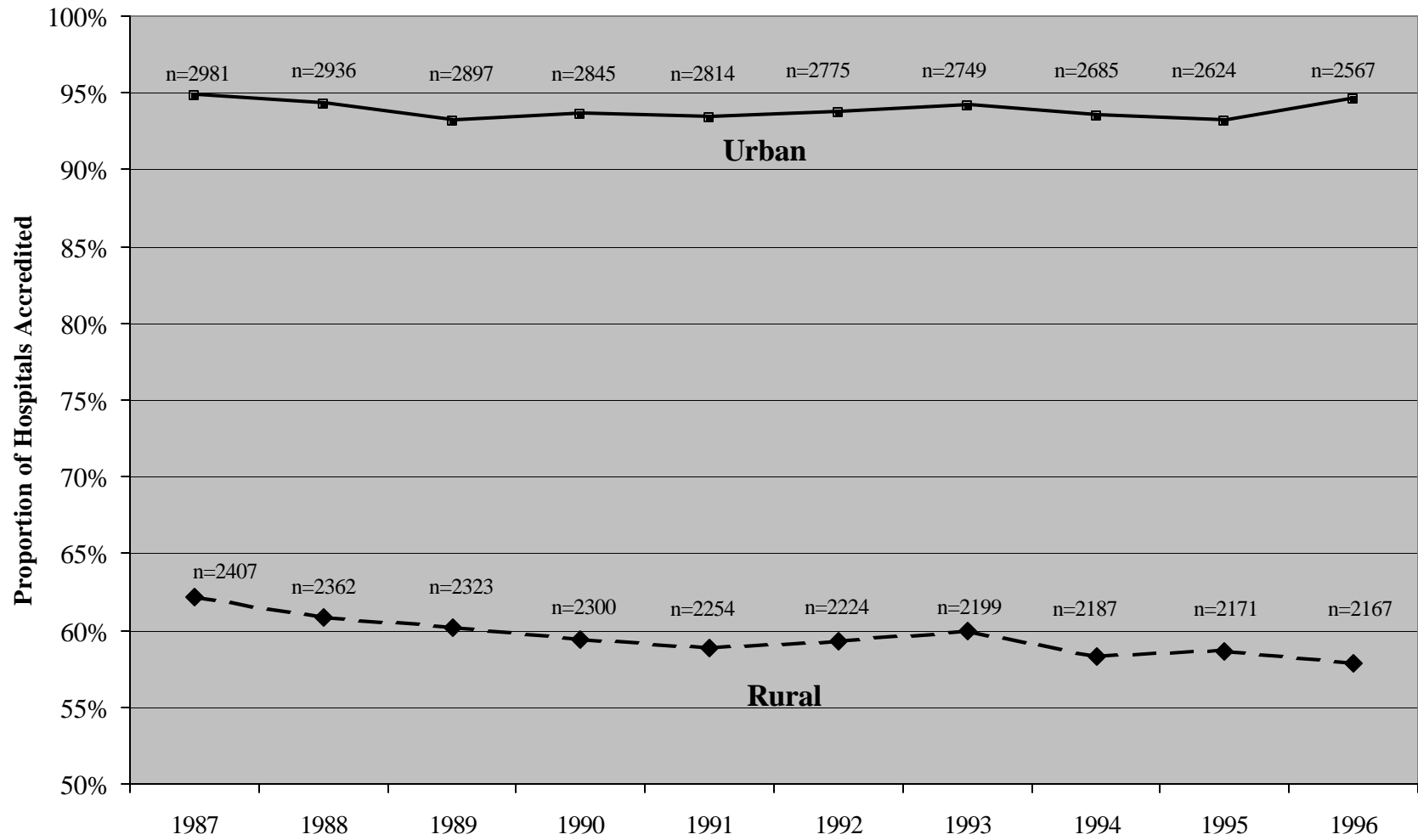
Figure 3 describes the proportion of rural and urban hospitals that were accredited by the JCAHO during the 10-year period from 1987 through 1996. The graph shows a fairly consistent pattern over the 10-year period: a large gap between the proportion of accredited urban hospitals and the proportion of accredited rural hospitals. This gap grows slightly larger over time. Although the proportion of accredited urban hospitals remains fairly constant at about 95 percent, the proportion of accredited rural hospitals decreases from 62 percent in 1987 to about 58 percent by 1996.

Because many of the non-accredited hospitals are small, Figure 3 may not accurately depict rural-urban accreditation disparities. Figure 4 compares rural and urban hospital accreditation status by the number of hospital beds. The gap between rural and urban hospital accreditation status narrows when the proportion of hospital beds, rather than the proportion of hospitals, is considered. As found in the hospital analysis, the proportion of JCAHO-accredited urban hospital beds remains relatively constant over the 10-year period C around 98 percent. The proportion of rural hospital beds accredited by the JCAHO drops slightly from about 81 percent in 1987 to about 78 percent in 1996.

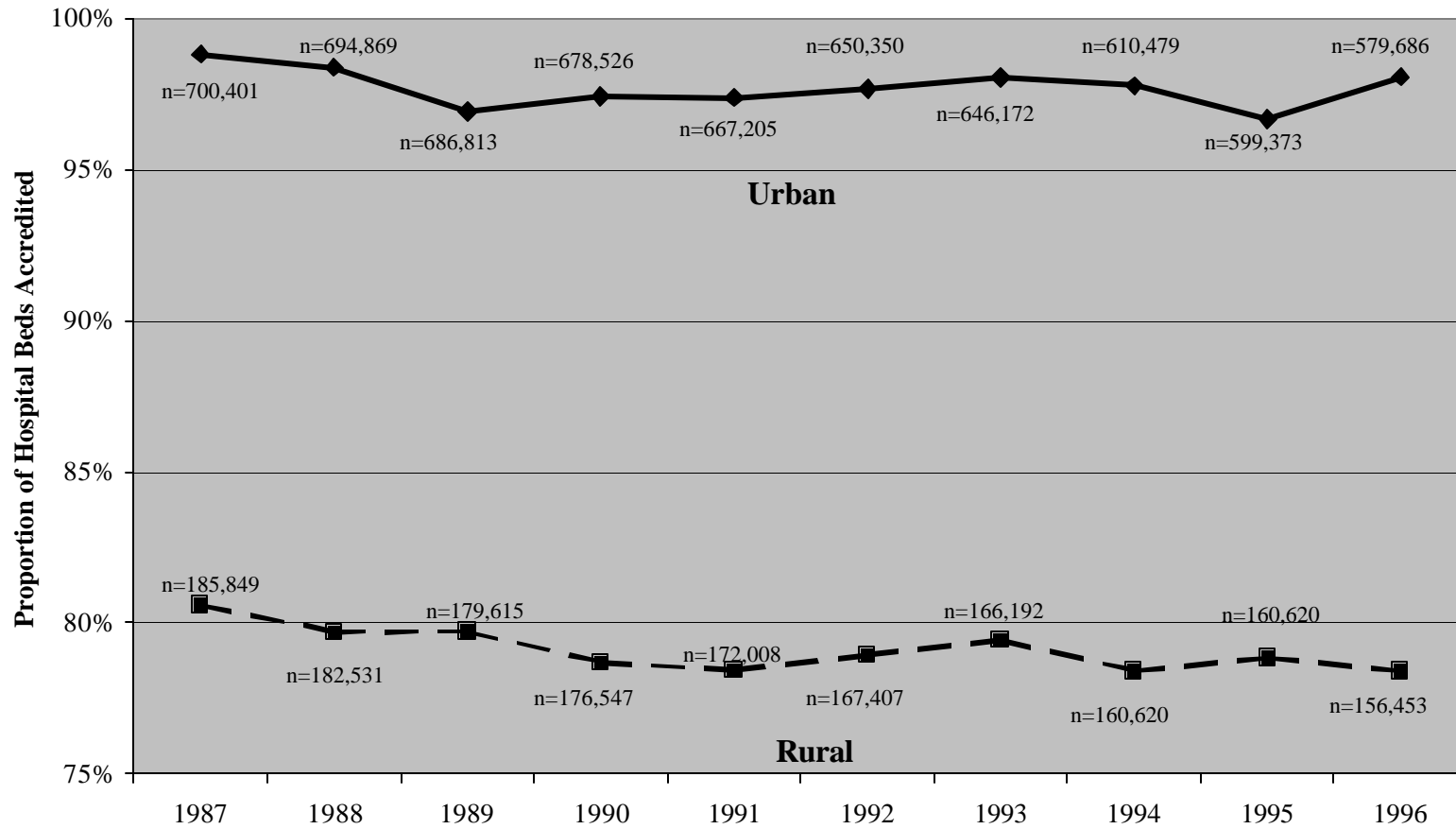
### **Statistical Analysis**

Rural location, however, may not be the primary explanation for these differences. Many hospital and market area characteristics more common to rural hospitals could explain the lower proportion of accredited hospitals in rural areas. To control for these other factors, a multivariate probit analysis is performed (Aldrich and Nelson, 1984). The general model can be stated as follows:

**Figure 3: Rural-Urban Hospital Accreditation Status  
1987-1996**



**Figure 4: Rural-Urban Accreditation Status  
by Number of Hospital Beds**



Probability of JCAHO accreditation =  $f(\text{rural location, hospital characteristics, market area characteristics, geographic location, year})$ .

The independent variables of primary interest are those that operationalize rural hospital location. This is measured using three indicator variables. Descriptive statistics for these independent variables for 1996, as well as the others used in the analysis, are presented in Table 1. The rural location variables included in the analysis were defined using the county rural-urban continuum code. The first variable indicates whether the size of the largest town in the rural county in which the hospital is located is more than 20,000 people; another variable indicates whether the hospital's county has a town of between 2,500 and 20,000 people, and the third indicates whether the hospital's county has no town of more than 2,500 people. Nine percent of the hospitals in the analysis are located in non-metropolitan counties with towns of more than 20,000, 29 percent in counties with towns between 2,500 and 20,000, and 8 percent in counties without towns of 2,500 or fewer. The remaining 54 percent of the hospitals are in MSA counties. Another variable in the model indicates whether the county in which the hospital is located is not adjacent to an MSA county. Twenty-five percent of the rural hospitals in the analysis were located in non-adjacent counties.

To assess whether rural location is important in determining hospital accreditation status, the analysis must control for other factors thought to be associated with accreditation, including hospital, market area, demographic, geographic, and time factors. Hospital characteristics thought to be associated with accreditation status include size, ownership, net margin, revenue base, case mix, and types of patients served.

Characteristics of the local hospital market and the surrounding community are likely to be associated with hospital accreditation status. The market power of the hospital, the level of managed care penetration, physician supply, and local population demographics may influence

**TABLE 1**
**Summary Statistics for Independent Variables, 1996**

Variable	All Hospitals Means (n=3315)	Urban Hospitals Mean (n=1669)	Rural Hospitals Mean (n=1646)
Hospital located in rural county with town of 20,000 or more	0.090	0.0	0.176
Hospital located in rural county with town of 2,500-20,000	0.319	0.0	0.642
Hospital located in rural county without town of 2,500	0.090	0.0	0.181
Hospital located in rural county not adjacent to MSA	0.275	0.0	0.552
Hospital has 50 or fewer beds	0.264	0.072	0.458
Hospital has between 51 and 100 beds	0.221	0.133	0.311
Medicare case mix index	1.27	1.40	1.13
Hospital is member of system	0.447	0.603	0.289
Hospital is contract managed	0.158	0.068	0.250
Hospital controlled by religious organization	0.114	0.159	0.687
Hospital controlled by local government	0.287	0.134	0.442
Hospital controlled by for-profit organization	0.103	0.144	0.608
Hospital net margin	0.048	0.052	0.044
Hospital net patient revenue (in millions)	58.8	98.2	13.0
Proportion of hospital discharges – Medicaid	0.142	0.142	0.140
Proportion of hospital discharges – Medicare	0.467	0.411	0.440
Number of HMOs serving county where hospital is located	6.87	10.71	0.92



Table 1 (continued)

<b>Variable</b>	<b>All Hospitals Means (n=3315)</b>	<b>Urban Hospitals Mean (n=1669)</b>	<b>Rural Hospitals Mean (n=1646)</b>
Hirshman-Herfindahl Index for hospitals in health service area	3,418	2,382	4,039
Physicians per 1,000 population in county	1.72	2.46	0.94
Per capita income in county (in thousands)	21.76	24.1	17.54
Proportion of county population with four years of college education	0.188	0.238	0.12

hospital's accreditation decisions. In addition to hospital, market area, and community characteristics, the descriptive analysis demonstrates trends in accreditation status over time and across geographic locations.

Because the analysis involves a panel data set (multiple observations for the same hospitals over many years), the error terms potentially are correlated across observations from the same hospital. For this reason, a probit model (Aldrich and Nelson, 1984) with robust standard errors (Huber, 1967; White, 1980, 1982) is estimated (Stata, 1997). The robust estimation of variance has the ability to relax the assumption of independence of the observations. Therefore, the standard errors produced are correct even if the observations are correlated across hospitals.

Because it is important to determine which hospital and market area characteristics are uniquely associated with rural hospital accreditation, a second probit model uses only observations from hospitals in rural counties. The general model and the independent variables remain the same. The only difference is in the variables describing rural hospital location. For this analysis, these two rural variables are those describing small town and sparsely-populated hospital location. The omitted category is hospital location in a non-metropolitan county with a town of more than 20,000 people.

### **Multivariate Analysis Results**

Table 2 presents the results of the probit estimation for rural and urban hospitals. Many variables are statistically significant in predicting accreditation status. To evaluate the substantive significance of these variables, marginal probabilities associated with each independent variable in the model are computed using the results of the probit estimation. Table 2 also presents the marginal probability associated with a change in each of the independent

TABLE 2

**Probit Results and Predicted Marginal Probabilities of Hospital Accreditation:  
Rural and Urban Hospitals**

<b>Independent Variable</b>	<b>Coefficient (Standard Error)</b>	<b>Marginal Probability</b>
Hospital located in rural county with town of 20,000	0.30** (0.10)	.039
Hospital located in rural county with town of 2,500-20,000	-0.026 (0.078)	.00059
Hospital located in rural county without town of 2,500	-0.59** (0.10)	-.12
Hospital located in rural county not adjacent to MSA	-0.13* (0.061)	-.015
Hospital has 50 or fewer beds	-1.43** (0.077)	-.25
Hospital has between 51 and 100 beds	-0.65** (0.069)	-.029
Medicare casemix index	2.19** (0.21)	.033
Hospital is member of system	0.16** (0.054)	.014
Hospital is contract managed	0.11* (0.049)	.013
Hospital controlled by church	0.30** (0.10)	.041
Hospital controlled by local government	-0.28** (0.055)	-.040
Hospital controlled by for-profit organization	-0.092 (0.083)	-.0063
Hospital net margin	0.41** (0.12)	.00017
Hospital net patient revenue (in millions)	-0.0021** (0.00060)	-.0016
Proportion of hospital discharges – Medicaid	0.36 (0.22)	.00073

TABLE 2 (continued)

Independent Variable	Coefficient (Standard Error)	Marginal Probability
Proportion of hospital discharges – Medicare	-0.31 (0.17)	-.0019
Number of HMOs serving county where hospital is located	0.17* (0.0075)	.0011
Hirshman-Herfindahl Index for hospitals in health service area	.718x10 <sup>-6</sup> (.013x10 <sup>-4</sup> )	.000034
Physicians per 1,000 population in county	0.084* (0.034)	.0021
Per capita income of population in county	0.0074 (0.0079)	.0023
Proportion of county population with four years of college education	-0.71 (0.55)	-.0019
Geographic variables <sup>a</sup>	Most are significant	
Year variables <sup>a</sup>	Most are significant	

\*p<.05; \*\*p<.01

<sup>a</sup>To control for the trend in accreditation over time, the model includes nine indicator variables for each year after 1987. Eight indicator variables control for the geographic location, one of the country's census divisions. The New England area is used as the omitted category.

variables from the probability of accreditation associated with a hospital with the mean value of each independent variable (i.e., the mean hospital). For the indicator variables, the calculated marginal probability is that associated with the particular independent variable being equal to one while all related independent variables are equal to zero. For the continuous or semi-continuous variables in the model, the calculated marginal probability is that associated with a 10 percent increase in the independent variable. These calculated marginal probabilities take the sign and magnitude of the coefficient associated with the independent variable into consideration, as well as the distribution of the observations on that independent variable.

Of the three indicator variables describing the hospitals' rural location, two are statistically significant. Controlling for other factors, rural hospitals in counties with towns of more than 20,000 are more likely to be accredited than urban hospitals. Additionally, these hospitals are 4 percent more likely than the mean hospital to be accredited, holding all other variables constant at their mean values. Hospitals in counties with towns between 2,500 and 20,000 were not significantly less likely than urban hospitals to be accredited. Hospitals located in sparsely populated counties are much less likely to be accredited, even after controlling for hospital, market area, and community characteristics, year and geographic location. The mean hospital is 12 percent less likely to be accredited if located in a sparsely populated county. Adjacency to an MSA statistically affects accreditation status. The location of the mean hospital in an adjacent county increases the probability of accreditation by one and a half percent. The control variables entered the estimation with the expected sign and significance. In comparison to the mean hospital, small hospitals are 25 percent less likely to be accredited; while medium-sized hospitals are only 3 percent less likely.

TABLE 3

**Probit Results and Predicted Marginal Probabilities of Hospital Accreditation:  
Rural Hospitals**

Independent Variable	Coefficient (Standard Error)	Marginal Probability
Hospital located in rural county with town of 2,500-20,000	-0.050 (0.12)	.026
Hospital located in rural county without town of 2,500	-0.54** (0.14)	-.15
Hospital located in rural county not adjacent to MSA	-0.13 (0.067)	-.018
Hospital has 50 or fewer beds	-1.080** (0.24)	-.16
Hospital has between 51 and 100 beds	-0.48* (0.19)	.050
Medicare case mix index	2.59** (0.40)	.081
Hospital is member of system	0.43** (0.073)	.09
Hospital is contract managed	0.083 (0.058)	.02
Hospital controlled by church	0.35* (0.14)	.12
Hospital controlled by local government	-0.21** (0.071)	-.043
Hospital controlled by for-profit organization	-0.23 (0.13)	-.047
Hospital net margin	0.0085 (0.15)	.000006
Hospital net patient revenue (in millions)	0.038* (0.017)	.017
Proportion of hospital discharges – Medicaid	0.56 (0.32)	.0025
Proportion of hospital discharges – Medicare	-0.095 (0.24)	-.0014

**TABL 3 (continued)**

<b>Independent Variable</b>	<b>Coefficient (Standard Error)</b>	<b>Marginal Probability</b>
Number of HMOs serving county where hospital is located	0.078** (0.017)	.0033
Hirshman-Herfindahl Index for hospitals in health service area	0.00011 (0.000016)	.0014
Physicians per 1,000 population in county	0.27* (0.098)	.0079
Per capita income of population in county	0.010 (0.011)	.0057
Proportion of county population with four years of college education	-0.84 (0.82)	-.0034
Geographic location <sup>a</sup>	Most are significant	
Year variables <sup>a</sup>	Most are significant	

\*p<.05; \*\*p<.01

<sup>a</sup>To control for the trend in accreditation over time, the model includes nine indicator variables for each year after 1987. Eight indicator variables control for the geographic location, one of the country's census divisions. The New England area is used as the omitted category.

Table 3 presents the probit estimation results and the marginal probabilities associated with changes in the mean value of each independent variable from the probability of accreditation of the mean rural hospital. The probability of the mean rural hospital is created for comparison purposes by calculating the predicted probability of accreditation using the mean of each independent variable. The change in the independent variables is the same as that in the previous model (a change to one for the indicator variables, a 10 percent increase for the continuous and semi-continuous variables).

Hospitals in non-metropolitan counties with small towns between 2,500 and 20,000 are not significantly less likely than hospitals in non-metropolitan counties with large towns to be accredited. However, hospitals in sparsely populated counties are significantly less likely than those in counties with large towns to be accredited. The mean rural hospital is 15 percent less likely to be accredited if located in a sparsely populated county.

The other hospital characteristics in the model also have a large effect on rural hospital accreditation status. Small hospitals are nearly 16 percent less likely than the mean rural hospital to be accredited. The coefficient for medium-sized rural hospitals shows that they are less likely than large hospitals to be accredited.

The two models present similar findings with regard to the effect of each variable on the probability of accreditation. The magnitude of the coefficients are slightly larger in the rural vs. urban model due to the distribution of hospital characteristics in the omitted categories.

### **SURVEY OF RURAL HOSPITAL ADMINISTRATORS**

The above analysis provides information about which rural hospitals are not as likely to have JCAHO accreditation. Survey results from a random sample of rural hospital administrators of non-accredited hospitals identify reasons rural hospitals do not participate in



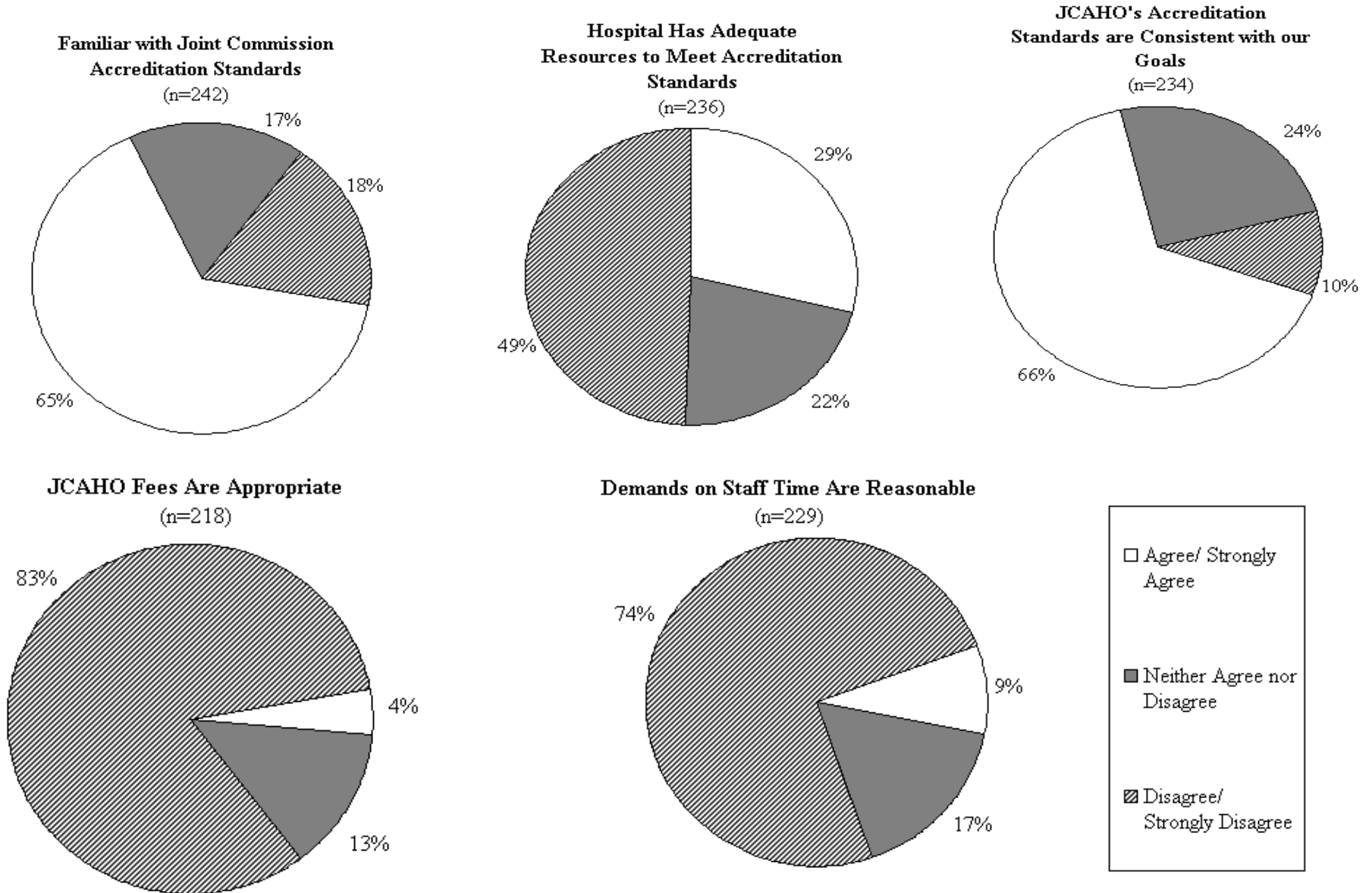
the accreditation process. Hospital administrators were asked to rate on a scale from one to five — where one represents strong agreement and five represents strong disagreement — the number that best represented their attitudes regarding the JCAHO accreditation process (see Figure 5). The first statement was “Our hospital is familiar with the Joint Commission’s hospital accreditation standards.” Over 60 percent of the hospitals responding to the survey said that they agreed or strongly agreed with the statement. Under 20 percent disagreed or strongly disagreed with the statement.

Hospital administrators were then asked to rate the statement, “Our hospital has adequate resources to meet accreditation standards.” The majority of hospitals responding disagreed or strongly disagreed with this statement. Less than 30 percent of the non-accredited rural hospitals agreed or strongly agreed with this statement. When asked to agree or disagree with statements saying that the JCAHO’s accreditation standards are consistent with their hospitals’ quality goals, most respondents agreed. Only 10 percent disagreed.

Next, survey respondents were asked to agree or disagree with two statements regarding their perceptions of the benefits received from accreditation. They were asked to respond to the statement, “In relation to the perceived benefits received from accreditation, the JCAHO fees are appropriate,” and then to the statement, “In relation to the perceived benefits received from accreditation, demands on staff time are reasonable.” Over 70 percent of the respondents disagreed or strongly disagreed with these two statements. Only 4 percent agreed or strongly agreed that the fees were appropriate and only 8 percent agreed that the demands on staff time were appropriate.

The primary reasons rural hospitals choose not to participate in the accreditation process were explored via an open-ended question. Table 4 presents the five most frequently reported

**Figure 5: Opinions of Administrators of Rural Non-Accredited Hospitals Regarding the JCAHO Accreditation Process**



**TABLE 4**

**Rural Hospital Reasons for Not Seeking Accreditation from the JCAHO  
(n=236)**

<b>Reason for Not Seeking JCAHO Accreditation</b>	<b>Proportion of Non-Accredited Rural Hospitals</b>
Cost	79%
Have no need for or see no value to JCAHO accreditation	19%
JCAHO standards are unrealistic for small rural hospitals	16%
Already surveyed by other agencies or organizations	11%
Specific concern regarding the JCAHO process	11%

reasons. As expected, the most frequently reported reason is cost. Nearly 80 percent of the respondents listed cost as a reason they did not participate. Among other frequently reported reasons: no need or value to JCAHO accreditation; the JCAHO's standards were unrealistic or not applicable to small rural hospitals; the hospital was already surveyed enough by the state, HCFA, or an insurer; or specific concerns about the JCAHO accreditation process, including fears about the public release of data, JCAHO's sentinel event and restraint policies,<sup>2</sup> the inconsistency of the surveyors, the process being too bureaucratic, and discoverability (information about the hospital that could be subject to subpoena once documented). A small number of survey respondents mentioned that the decision not to become accredited was made by the previous administration and a few felt that accreditation by the JCAHO was not a true measure of quality.

The survey also collected information on how a hospital's non-accredited status affected hospital managed care contracting and whether the hospital intended to seek accreditation in the future. Ten percent of the hospitals surveyed mentioned that they had been denied a managed care contract because of their accreditation status. Twenty percent, or 48 hospitals, said that they would seek accreditation in the future (see Table 5). The most common reason was a managed care or insurer mandate. Hospitals also often mentioned they were seeking accreditation to improve quality or to comply with corporate (i.e., a larger system) policy. Ten hospitals mentioned they planned to seek accreditation as a marketing strategy.

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<sup>2</sup>The 1998 Hospital Accreditation Standards Manual provides descriptions of these policies (JCAHO, 1998b). A sentinel event is an unexpected occurrence involving death or serious physical or psychological injury. If certain conditions are met, the event is subject to the Sentinel Event Policy in which the JCAHO performs an unscheduled survey and can add an accreditation watch designation to the hospital's current accreditation status. This attribute of the hospital's accreditation status can be disclosed to the public. The JCAHO's restraint policy limits hospital use of restraint or seclusion within the organization to those situations with adequate, appropriate clinical justification.

**TABLE 5**  
**Primary Reasons Why Rural Hospitals Would Seek**  
**JCAHO Accreditation in the Future**  
**(n=48)**

Reason for Seeking JCAHO Accreditation in Future	Proportion of Rural Hospitals Seeking Accreditation in Future
Managed care/insurer mandates	42%
Improved quality	40%
Corporate compliance	35%
Marketing strategy	19%

## DISCUSSION

Four general conclusions can be drawn from the results of this study. The first is that rural hospitals are much less likely to be accredited than urban hospitals. This pattern varies by the rurality of the area, the geographic location, and over time. The second conclusion arises from the multivariate analyses that show that even after controlling for many hospital, market, community, geographic characteristics, and time factors and trends, hospitals in sparsely populated regions of the U.S. are still much less likely to be accredited than urban hospitals and rural hospitals in more populated areas.

The third conclusion is that other factors significantly influence the probability of rural hospital accreditation, including hospital size, system membership, contract management, ownership, and managed care. The fourth conclusion is that cost is by far the most important reason rural hospitals do not participate in the JCAHO process.

These results have several implications for monitoring quality in rural hospitals. First, they indicate that proportionately more rural residents than urban residents are likely obtaining care in non-accredited hospitals. We cannot say that they are receiving lower quality of care, only that we have no way of consistently evaluating that care. Even though these hospitals are reviewed by external agencies such as state licensing agencies or managed care organizations, they undergo a different process that employs different standards and does not permit comparisons with accredited hospitals. While this has not been a major concern to date, there are reasons to expect it will become more important in the near future. Additionally, the Department of Health and Human Services Office of the Inspector General recently released a report revealing that routine surveys were rarely performed by the state agencies (Brown, 1999).

The President's Advisory Commission on Consumer Protection and Quality in the Health

Care Industry (1998) has made recommendations regarding the use of core performance measures in monitoring the quality of care provided in the United States. The ORYX initiative, implemented last year by the JCAHO, requires accredited hospitals to report on selected performance measures in order to maintain accredited status. Long-range goals of this initiative include the development and implementation of core performance measure reporting, monitoring, and comparison. Accredited hospitals are already in the initial phases of complying with many of the recommendations developed by the Commission should they become legislation. As it becomes more important to have comparable data, disparities between accredited and non-accredited hospitals in monitoring quality is likely to grow even larger.

The relationship among quality monitoring in rural hospitals, accreditation by the JCAHO, and managed care also is important. Managed care does appear to have an effect on accreditation decisions. Currently, the presence of managed care in rural markets is limited (Moscovice, Casey, and Krein, 1998). Managed care expansion into rural areas could positively affect rural hospital decisions to seek accreditation. Rural hospitals without accreditation may be denied contracts from managed care organizations in markets where there is a choice between an accredited and a non-accredited provider.

It is apparent from the results of this study that the cost of JCAHO accreditation is the major deterrent to seeking accreditation for most rural hospitals. The average cost of accreditation is approximately \$25,000 per year (Nadzam, 1997). Fees for the hospital accreditation program are calculated based upon a base fee (\$7,185), patient volume fees, and add-on fees. The hospital base fee plus volume fees will not exceed the sum of \$3,700 per hospital survey or per day (JCAHO, 1999). The cost of compliance may be substantially higher for hospitals that were not previously participating in performance measurement systems.

Rural hospitals that do not seek JCAHO accreditation are supposed to be surveyed regularly by state agencies, HCFA, third party payers, or some combination of organizations. These surveys are provided to hospitals for free. The costs of these surveys are absorbed elsewhere, either in the form of higher overhead charges, increased premiums, or higher taxes. If the social cost of these surveys is taken into consideration, the marginal cost of JCAHO accreditation is substantially lower. Since rural hospitals can concentrate only on their bottom line when making the decision to seek accreditation, policy makers must address this issue. Reimbursement policies could be redesigned to make JCAHO accreditation feasible for all rural hospitals. For instance, hospitals that are accredited by the JCAHO are deemed to be in compliance with Medicare conditions of participation. Therefore, most state governments only need to conduct surveys of non-accredited hospitals. The creation of a policy of Medicare and Medicaid cost reimbursement for external accreditation would substantially reduce the cost of the JCAHO accreditation to rural hospitals.

There are many benefits to having one organization with consistent standards monitoring the quality of care in all hospitals. It ensures that the same standards and accreditation procedures are used across hospitals, comparable data is available, and that hospital data release is readily accessible to the public.

Even though there are many benefits to having all hospitals accredited by the same quality monitoring organization, accreditation is not feasible for all hospitals under the current accreditation process. These hospitals tend to be small, provide a limited range of services, and have limited financial resources. The Medicare Rural Hospital Flexibility Program (Blanchfield, Franco, and Mohr, 1999) created by the Balanced Budget Act of 1997, creates incentives for these facilities to change their status to a special category of hospitals called Critical Access



Hospitals. Options for quality oversight of this new category of hospitals could include a special accreditation process by the JCAHO specifically designed for Critical Access Hospitals.

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