

Department of Health and Human Services

**OFFICE OF
INSPECTOR GENERAL**

**TRENDS IN RURAL HOSPITAL CLOSURE:
1987 - 1991**



JULY 1993

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JULY 1993 OEI-04-92-00441

EXECUTIVE SUMMARY

PURPOSE

This report describes the phenomenon of rural hospital closure in the United States during a 5-year period -- 1987-1991. It examines the extent, characteristics, reasons for and impact of rural hospital closure.

BACKGROUND

The closure of general, acute care hospitals has generated public and congressional concern. According to a number of recent studies, more hospitals are expected to close in coming years.

We released a report in May 1989 describing the nationwide phenomenon of hospital closure in 1987. Thereafter, we analyzed hospital closures annually to determine the effects of the phenomenon. We issued subsequent reports on 1988, 1989, 1990 and 1991 hospital closures.

This report examines rural hospitals that closed in the United States during calendar years 1987 through 1991. Unlike our annual hospital closure reports, it does not combine rural and urban hospital closures. Nearly half the hospitals in the United States are in rural areas. Proportionally more rural hospitals have closed than urban. When a rural hospital closes, residents can be left with limited access to medical care because there are fewer alternative sources of medical care. Rural residents must often travel greater distances to obtain medical care.

FINDINGS

193 general, acute care, rural hospitals closed over the 5-year period

The average annual closure rate was 1.4 percent. During the 5-year period, 7.1 percent of rural hospitals closed. These hospital closures reduced the inpatient bed supply in rural areas nationally by 3.4 percent. They occurred in 39 States.

Most rural hospitals that closed were small

Rural hospitals that closed had an average of 39 beds compared to an average of 83 beds for all rural hospitals nationally. Only 6 hospitals that closed had more than 100 beds and no rural hospital that closed had over 150 beds.

Rural hospitals that closed had low occupancy rates

Rural hospitals that closed had an average occupancy rate of 23 percent compared to an average of 37 percent for all rural hospitals nationally.

Average Medicare and Medicaid utilization at rural hospitals that closed was not significantly different from all rural hospitals nationally.

Few patients were affected by hospital closure

Because of the small size and low occupancy rates of rural hospitals that closed during 1987 through 1991, the average daily census in the year prior to closure was nine patients. Of these, four Medicare and one Medicaid patient were in the rural hospital on an average day during the year prior to closure.

Hospital closures were caused by a combined effect of declining occupancy, lagging revenues, and rising costs

- ▶ Occupancy is declining due to diminishing physician availability, changing medical practice patterns, and competition among hospitals.
- ▶ Revenues are lagging due to fewer admissions, lower third-party reimbursement, and more uncompensated care.
- ▶ Costs are rising due to increasing demands for new medical technology, skilled personnel, facility maintenance, renovation, and replacement.

Most patients had emergency and inpatient medical care available within 20 miles of the closed hospital

In three-fourths of the rural communities where a hospital closed, another general acute care hospital was located within 20 miles of the closed hospital. Residents of 15 of 193 (8 percent) of the rural communities where a hospital closed had to travel more than 30 miles for inpatient care.

In 82 percent of the rural communities where hospitals closed, emergency care facilities were available within 20 miles of the closed hospital. Residents of 3 of 193 (1.5 percent) rural communities where a hospital closed had to travel more than 30 miles for emergency services.

Some rural communities developed alternatives for providing health care locally when their hospital closed

Although most residents in communities which lost their hospitals had inpatient and emergency care available nearby, some residents had problems accessing needed care. Several communities created alternatives to a hospital for providing access to care. We report on these alternatives in two companion reports. They are (1) "Access to Rural Health Care: Successful Community Initiatives" (OEI-04-92-00730), and (2) "Medical Assistance Facilities" (OEI-04-92-00731).

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INTRODUCTION

PURPOSE

This report describes the phenomenon of rural hospital closure in the United States during the 5-year period 1987-1991. It examines the extent, characteristics, reasons for and impact of rural hospital closure.

BACKGROUND

In the past several years, the closure of general, acute care hospitals has generated increasing public and congressional concern. Numerous questions have been raised about the reasons for and the impact of hospital closure on the provision of health care, as well as implications for public policy. According to a number of recent studies, more hospitals are expected to close in coming years. The Government Research Corporation estimates over 40 percent of all hospitals in the United States will close or be converted to other uses by the year 2000.¹

The Office of Inspector General released an inspection report in May 1989 describing the phenomenon of rural and urban hospital closure during 1987 in the United States. The results were presented to the Secretary and Assistant Secretaries of HHS, and to staff of the Health Care Financing Administration (HCFA) and the Public Health Service (PHS). The Inspector General testified before the U.S. House Ways and Means Subcommittee on Health regarding the study findings. Many of those informed of the study of 1987 hospital closure encouraged the Inspector General to continue year-by-year analyses of the phenomenon to detect differences in the rate of hospital closure and in the characteristics and circumstances of hospitals that close. Consequently, the OIG conducted similar inspections of hospital closure for the years 1988 - 1991.

This report focuses on rural hospital closures. Unlike our earlier annual hospital closure reports, it does not combine rural and urban hospital closures. Nearly half the hospitals in the United States are in rural areas. Proportionally more rural hospitals have closed than urban. When a rural hospital closes, residents can be left with limited access to medical care because there are often few alternative sources of medical care. Rural residents must often travel greater distances to obtain medical care.

SCOPE

We examined rural hospitals that closed during calendar years 1987 through 1991.

For purposes of this study, the following definitions were used.

Rural Hospital: A facility located in a rural area that provides general, short-term, acute medical and surgical inpatient services.

Closed Hospital: One that stopped providing general, short-term, acute inpatient services during 1987 through 1991. If a hospital merged with or was sold to another hospital and the physical plant closed for inpatient acute care, it was considered a closure. If a hospital both closed and reopened in the same year, it was not considered a closure. If a hospital closed, reopened, and then closed again during the years in our study, it was counted as a closure only once.

METHODOLOGY

To determine the extent, reasons and impact of rural hospital closure, we obtained and aggregated information from State hospital associations, State licensing and certification agencies, State health planning agencies, HCFA data bases, officials associated with closed and nearby hospitals, and local public officials.

We obtained information on the characteristics of all rural hospitals and those that closed during 1987 through 1991 from the Hospital Cost Report Information System (HCRIS) maintained by HCFA.

We conducted this inspection in accordance with the *Quality Standards for Inspections* issued by the President's Council on Integrity and Efficiency.

Appendix A describes our methodology in further detail.

FINDINGS

EXTENT AND CHARACTERISTICS OF RURAL HOSPITAL CLOSURE

How Many Closed?

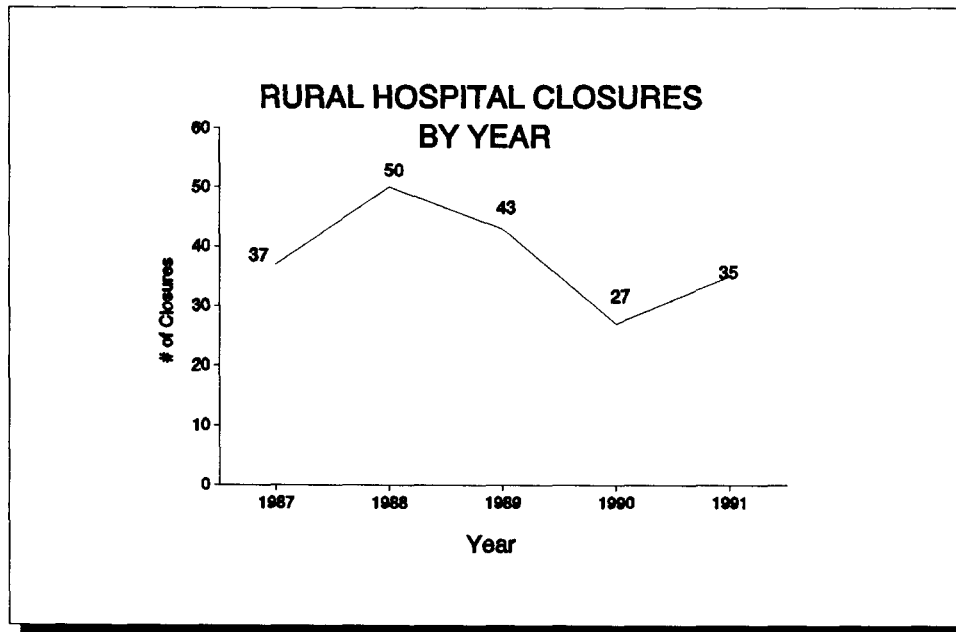
- ▶ *193 General, Acute Care, Rural Hospitals Closed Over The 5-year Period.*

In 1987, there were more than 6,800 hospitals in the United States. Of those, 5,657 were general, short-term, acute care hospitals entered on HCFA's data base as participating in the Medicare program. Of those, 2,705 (48 percent) are rural and 2,952 (52 percent) are urban.

Rural Hospitals in the U.S. in 1987	2,705
Closed in 1987-1991	193 (7.1 %)

The average annual closure rate was 1.4 percent. During the 5-year period, 7.1 percent of rural hospitals closed.

The number of rural hospital closures, year by year, is illustrated below.



- ▶ *The Closed Hospitals Reduced The Acute Care Inpatient Bed Supply In Rural Areas By 7,652 Beds -- 3.5 Percent.*

Who Owned Them?

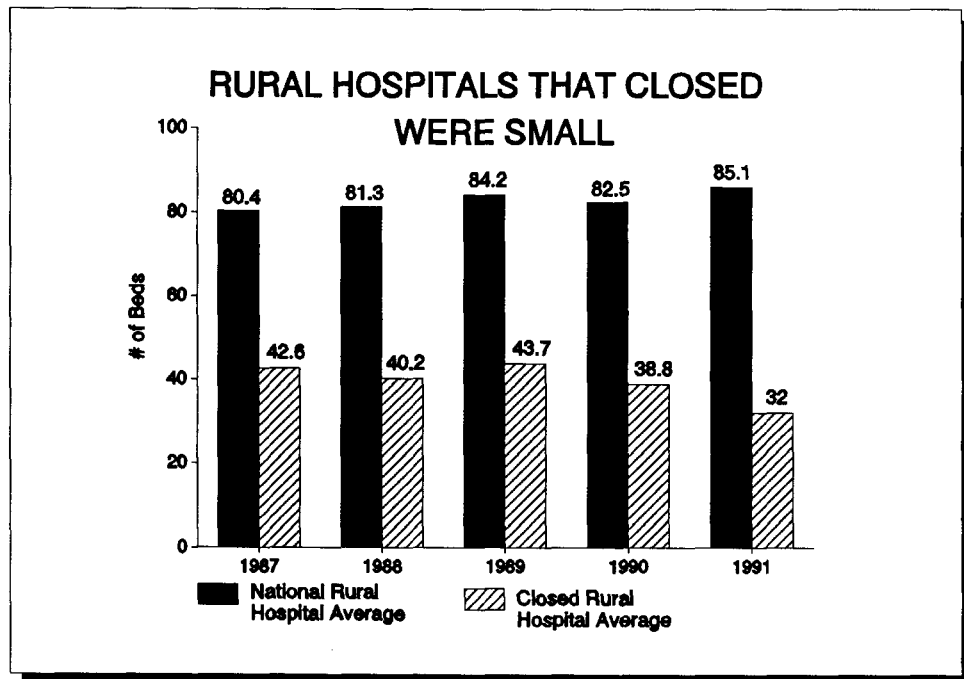
- ▶ *A Higher Percentage Of Private For-Profit Hospitals Closed In Rural Areas Than Did Public Or Private Not-For-Profit Hospitals.*

Hospital Ownership	Total Number of Rural Hospitals in 1987	Number of Closed Rural Hospitals in 1987-1991	Percent of Hospitals Which Closed in 1987-1991 By Type
Public	1071	61	5.7
Private Non-Profit	1268	83	6.6
Private For-Profit	364	49	13.5

What Were The Closed Hospitals Like?

- ▶ *Rural Hospitals That Closed Each Year Were Considerably Smaller Than The Average Rural Hospitals Nationally.*

Over the 5-year period rural hospitals that closed had an average of 39.5 beds compared to an average of 83 beds for all rural hospitals nationally. The chart below shows a year-by-year comparison.



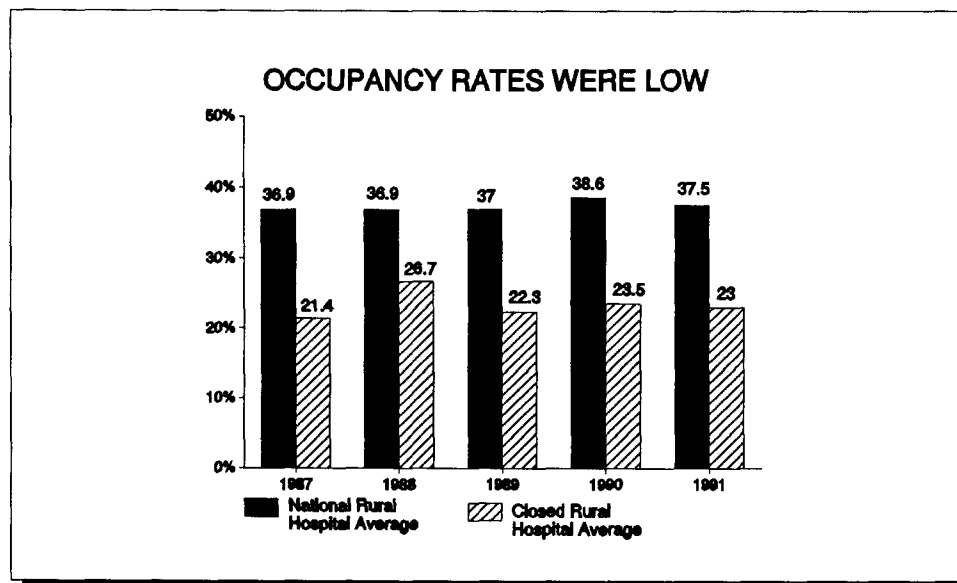
The chart below shows that closure affected a higher percentage of smaller hospitals than larger hospitals. Only 6 hospitals that closed had more than 100 beds, and no rural hospital that closed had over 150 beds.

SIZE OF RURAL HOSPITALS CLOSED IN 1987-1991

Size of Hospital	Total Number of Rural Hospitals in 1987	Number of Rural Hospitals that Closed in 1987-1991	Percent of Rural Hospitals that Closed by Size
<30 beds	396	79	20.0
30 - 49 beds	730	71	9.7
50 - 99 beds	870	37	4.3
100 - 149 beds	363	6	1.7
150 -199 beds	176	0	0
200+ beds	168	0	0

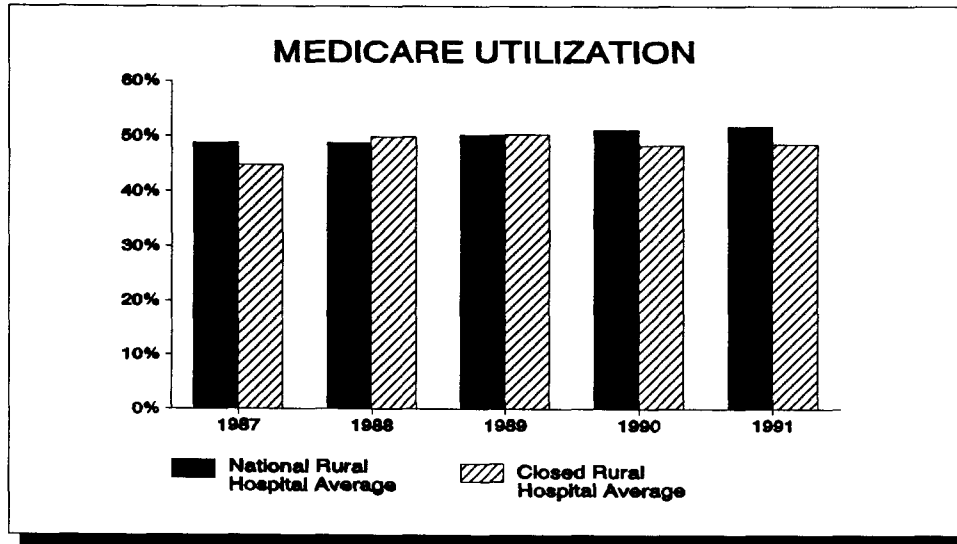
- ▶ *Closed Rural Hospitals Each Year Had Much Lower Occupancy Rates When Compared To The Average Occupancy Rate Of Rural Hospitals Nationally.²*

During the 5-year period, rural hospitals that closed had an average occupancy rate of 23.4 percent compared to an average of 37.3 percent for all rural hospitals nationally. The chart below shows a year-by-year comparison.



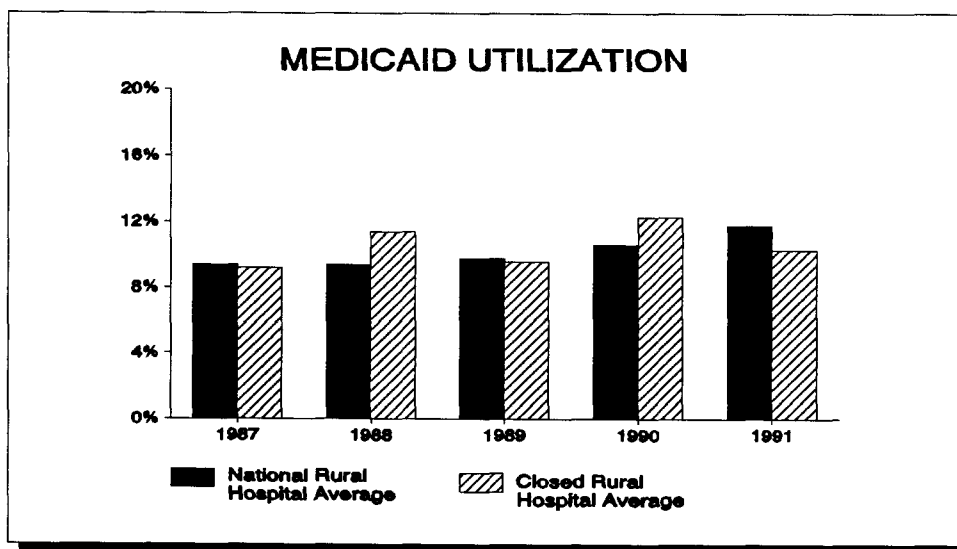
- ▶ *Average Medicare Utilization At Rural Hospitals That Closed Each Year Was Not Significantly Different From All Rural Hospitals Nationally.³*

Over the 5-year period rural hospitals that closed had an average Medicare utilization of 48.4 percent compared to an average of 52.2 percent for all rural hospitals nationally. The chart below shows a year-by-year comparison.



- ▶ *Average Medicaid Utilization At Rural Hospitals That Closed Each Year Was Not Significantly Different From All Rural Hospitals Nationally.⁴*

Over the 5-year period rural hospitals that closed had an average Medicaid utilization of 10.6 percent compared to an average of 10.2 percent for all rural hospitals nationally. The chart below shows a year-by-year comparison.



How Many Patients Were Affected?

- ▶ *Few Patients Were Affected By Rural Hospital Closure.*

Because of the small size and low occupancy rates of rural hospitals that closed during 1987 through 1991, the average daily census prior to closure was about nine patients.

WHEN RURAL HOSPITALS CLOSED, HOW MANY PATIENTS WERE AFFECTED?	
Average Number of Beds	39.6
Average Occupancy Rate	<u>x 23.3%</u>
Average Number of Patients Daily	9.2

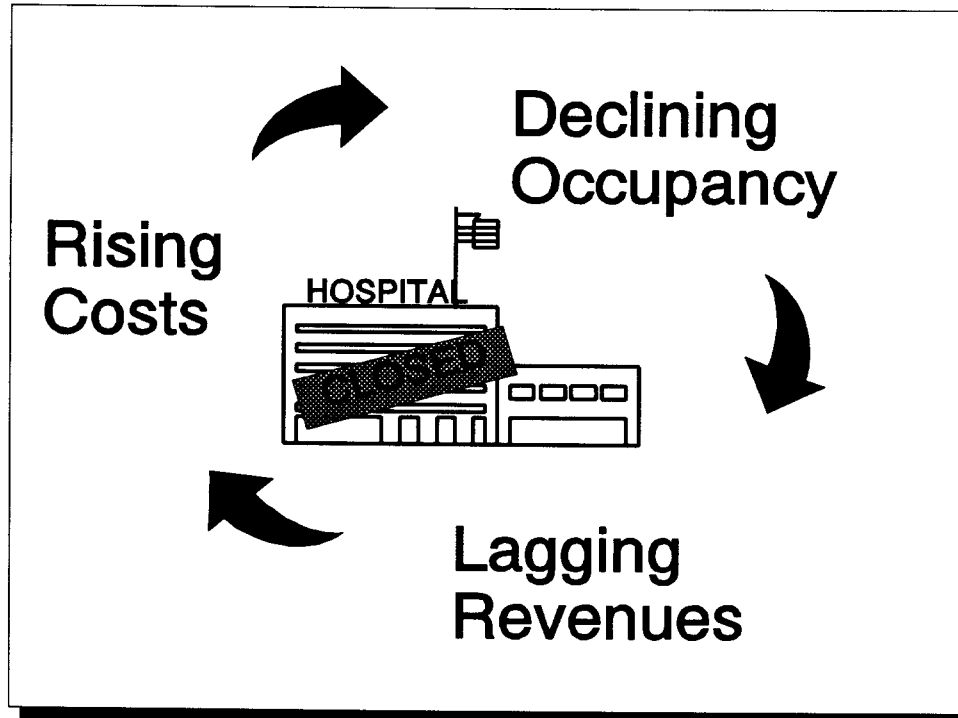
- ▶ *Four Medicare And One Medicaid Patient Were In The Rural Hospital On An Average Day During The Year Prior To Closure.*

The chart below shows the number of elderly and poor affected by rural hospital closure during the 5-year period.

WHEN RURAL HOSPITALS CLOSED, HOW MANY MEDICARE AND MEDICAID PATIENTS WERE AFFECTED?		
	<i>Medicare Patients</i>	<i>Medicaid Patients</i>
Average Number of Patients Daily	9.2	9.2
Average Medicare and Medicaid Utilization Rate	<u>x 47.9%</u>	<u>x 10.4%</u>
Average Number of Medicare and Medicaid Patients Daily	4.4	1.0

REASONS FOR RURAL HOSPITAL CLOSURE

During the 5-year period from 1987 through 1991, we found no single reason for rural hospital closure. Rather, the many health care professionals we interviewed in the course of our series of hospital closure inspections suggested a number of factors which gradually weakened the financial condition of the hospitals. As occupancy declined, revenues lagged, but costs continued to rise. Operating margins shrank, but fixed costs remained and had to be supported by fewer and fewer patients. Ultimately, there was no choice but to sell, merge with another hospital, or close the doors.



Why Is Occupancy Declining?

- ▶ *Physician Availability Is A Problem In Rural Areas.*

In several rural communities where hospitals closed during 1987 through 1991, the town's only physician retired, died, or moved his or her practice. Typically, rural communities could find no replacement. Rural areas in general are less able to attract and retain physicians. The smaller population base often means that a physician will practice alone and is always on call. Many physicians find rural practice, under these conditions, to be unattractive.

- ▶ *People Are More Mobile.*

With better roads and improved transportation there is increased access to more distant medical facilities. Now physicians and their patients can choose a hospital on the basis of quality or reputation rather than solely on proximity.

▶ *Physicians And Patients Lost Confidence In The Local Hospital.*

Many of the hospitals included in this study were old and needed renovation and modernization. They lacked the high technology diagnostic and treatment equipment which physicians and patients value. In cases where newer and better equipped hospitals are available nearby, physicians tend to shift their admissions to those facilities.

Patients, too, preferred other hospitals. People want the best care available, and many will choose a large hospital over a small one. Patients typically will choose a newer, better equipped facility over one which shows its age.

▶ *Competition Among Hospitals Is Intense.*

Even in rural areas, people interviewed for this study reported that competition with other hospitals was a factor in many of the closures. Hospitals with limited resources are hard-pressed to compete with newer or larger hospitals which aggressively market their services, maintain a healthy capital reserve, and offer higher, more competitive salaries to nursing and technical staff.

▶ *Practice Patterns Are Changing.*

Medical advances and new technology have allowed some procedures which formerly required a hospital stay to be performed on an outpatient basis.

▶ *Medicare Peer Review Organizations (PRO) Are More Carefully Scrutinizing the Necessity Of Hospital Admissions.*

The PRO's are responsible for reviewing hospital admissions for appropriateness. The PRO may sanction individual physicians for unnecessary hospitalization. As a result, physicians are more cautious in admitting marginally ill Medicare patients. Such patients might have been admitted before the advent of PRO review.

Why Are Revenues Lagging?

▶ *Insurers Are Better Controlling Their Costs.*

Both public and private insurers are pressed to control their hospital outlays. Some have reduced the percentage of hospital charges or costs that they will reimburse. Other have changed from charge-based reimbursement to paying a scheduled amount per case, usually based on a diagnosis and intensity of care required.

Many hospital officials pointed out that, with these changes, payments from some insurers no longer cover the actual cost of care. Several mentioned Medicaid in particular.

When payments do not cover costs, hospitals must either recoup the difference from patients, shift the cost to another payor, or take a loss.

- ▶ *Patients Without Hospital Insurance, Or With Inadequate Insurance, Create Substantial Losses For Hospitals.*

When hospitals admit patients with no insurance or only minimal coverage, hospitals accept losses which appear on the books as "charity" and "bad debt"-- uncompensated care. Historically hospitals covered these losses by "cost shifting" to patients who were insured or could afford to pay. Hospitals set their charges for the better-insured patients high enough to cover the cost of their patient's care plus a portion of the uncompensated care. More and more insurers are refusing to accept these cost shifts.

- ▶ *Payment Differentials Based On Hospital Location Generally Resulted In Rural Hospitals Receiving Lower Payments Than Urban Hospitals.*

Although this practice is ending, rural hospitals received less in Medicare reimbursements than did urban hospitals during the time of our review.

Why Are Costs Rising?

- ▶ *New Medical Technology Is A Major Capital Expense.*

While beneficial in speeding up diagnosis and treatment, technology is very costly. If a hospital fails to provide this modern equipment to physicians, they will take their patients elsewhere. Small hospitals, with fewer patients to share the cost of such equipment, can least afford such purchases.

- ▶ *Labor Costs Are Increasing, And Nursing And Technical Staff Are Scarcer.*

Shortages of skilled hospital personnel have made it difficult for hospitals to attract and retain staff. Rural hospitals in particular have problems competing in the regional and metropolitan markets. They must offer salaries equal to or better than suburban hospitals to attract professionals.

- ▶ *Deteriorating Facilities Require Major Capital Investments To Renovate and Modernize.*

Many hospitals that closed during 1987 through 1991 were old facilities in need of repair and renovation. Such alterations are expensive.

IMPACT OF RURAL HOSPITAL CLOSURE

In rural communities where hospitals closed during 1987 through 1991, we assessed the availability of inpatient care and emergency services.

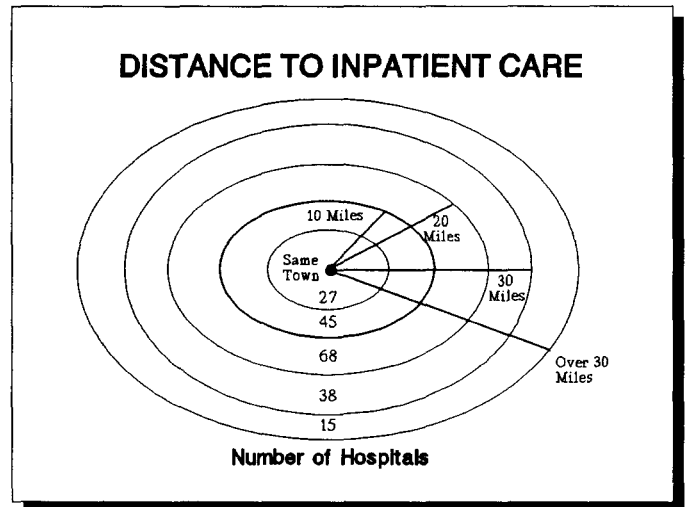
Is Inpatient Care Available?

- ▶ *In Three-fourths Of The Rural Communities Studied, Another General Hospital Is Located Within 20 Miles Of Closed Hospitals.*

As the chart shows, most people had inpatient care available to them nearby after the hospital closed.

Prior to the closure, many residents and physicians were already bypassing the local hospital and traveling to other nearby facilities for care.

Residents of 15 of 193 (8 percent) rural communities where a hospital closed must travel more than 30 miles for inpatient care at another hospital.



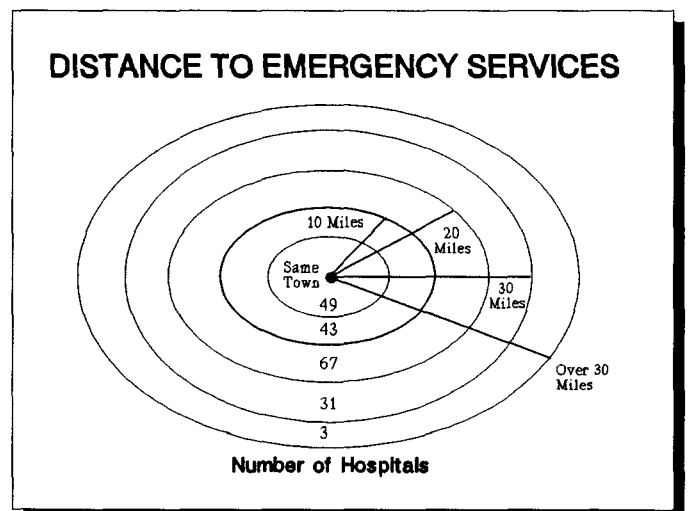
Are Emergency Services Available?

- ▶ *In 82 Percent (159 of 193) Of The Rural Communities Where Hospitals Closed, Emergency Facilities Were Available Within 20 Miles Of Closed Hospitals.*

When a hospital closes, the community loses not only inpatient beds, but also emergency services.

As the chart shows, most residents of communities which lost a hospital had an emergency care facility available within a 20 mile radius.

Residents of 3 of 193 (1.5 percent) rural communities which lost their hospital during 1987 through 1991 must travel more than 30 miles for emergency services at another hospital.



What About Access To Health Care In Rural Communities That Do Not Have A Hospital?

- ▶ *Rural Communities Without A Hospital Can Provide Local Access To Health Care.*

Although most residents in communities which lost their hospitals had inpatient and emergency care available nearby, some residents had problems accessing medical care. Several communities created alternatives to a hospital for providing access to health care. In a separate OEI inspection, we studied six alternatives, which we called "initiatives." These communities assumed responsibility and demonstrated inspiration and innovation in creating a new way for providing access to health care. Each initiative was tailored to meet the needs and the resources available in its community. In another OEI inspection, we studied the Medical Assistance Facility program, which is a special hospital alternative developed by the State of Montana and HCFA. It is currently used to provide access to inpatient and emergency medical care in several sites in eastern Montana. We discuss the results of these studies in two companion reports. They are (1) "Access to Rural Health Care: Successful Community Initiatives" (OEI-04-92-00730), and (2) "Medical Assistance Facilities" (OEI-04-92-00731).

SUMMARY

Our study of rural hospitals which closed during the 5-year period 1987-1991 showed the following.

- ▶ 193 general, acute care rural hospitals closed.
- ▶ Most rural hospitals that closed were small and had low occupancy rates.
- ▶ Because of the small size and low occupancy rates of hospitals that closed, few patients were affected. Most patients had emergency and inpatient medical care available within 20 miles of the closed hospital.
- ▶ Some rural communities have developed successful initiatives to maintain access to health care services after a hospital has closed.

ENDNOTES

1. Larry S. Gage, Dennis P. Andrulis, and Virginia Beers, *America's Safety Net: A Report on the Situation in Our Nation's Metropolitan Areas*. National Association of Public Hospitals. October, 1987.
2. Hospital occupancy rate is defined as the actual number of patient days divided by the total bed days available. National occupancy rate is defined as the sum of all rural hospitals' occupancy rates, divided by the number of rural hospitals.
3. Average Medicare utilization of closed rural hospitals is defined as the percent of Medicare patient days compared to the total patient days for each hospital, summed and divided by the number of hospitals. National average Medicare utilization is the percent of Medicare utilization of each hospital, summed and divided by the total number of rural hospitals.
4. Medicaid utilization is calculated in the same way as Medicare utilization.

APPENDIX A

METHODOLOGY

Extent Of Rural Hospital Closure

To determine how many rural hospitals closed during 1987 through 1991, we surveyed State licensing and certification agencies, State hospital associations and State health planning agencies. We also compiled Health Care Financing Administration (HCFA) data on terminated providers in 1987-1991. When a closed hospital met the study's definition or when there were questions, we contacted officials associated with the closed hospitals, officials associated with hospitals nearest to the closed hospital, and local public officials.

To determine the number of hospitals in the United States, we used the Hospital Cost Report Information System (HCRIS) maintained by HCFA. We included only general, short-term, acute care hospitals under Medicare's Prospective Payment System (PPS) in the universe.

Characteristics Of Rural Hospital Closure

To analyze characteristics of closed hospitals, we used HCFA's HCRIS data. We used the latest pre-closure cost reports. For example, if a hospital closed in May 1991 and its accounting year was on a January-December cycle, we used the provider's January 1, 1990 to December 31, 1990 report.

Reasons For And Impact Of Rural Hospital Closure

We obtained data for our analysis from interviews with the following sources.

- ▶ Former hospital administrators, board members, and/or staff of closed hospitals
- ▶ Hospital administrators and/or staff at the nearest hospitals
- ▶ Local police and health officials
- ▶ Local government officials
- ▶ State health planning agencies
- ▶ State certification and licensing agencies
- ▶ State hospital associations

APPENDIX B

1987 - 1991 RURAL HOSPITAL CLOSURES

Number Of Closures Ranked By State	
TEXAS	37
LOUISIANA	12
MISSISSIPPI	11
MINNESOTA	11
ALABAMA	10
ARKANSAS	9
MISSOURI	7
ILLINOIS	6
NEBRASKA	6
COLORADO	5
KANSAS	5
MICHIGAN	5
MONTANA	5
WEST VIRGINIA	5
GEORGIA	4
NORTH DAKOTA	4
OKLAHOMA	4
OREGON	4
SOUTH CAROLINA	4
WISCONSIN	4
CALIFORNIA	3
MAINE	3
NEW YORK	3
SOUTH DAKOTA	3
TENNESSEE	3
ARIZONA	2
IDAHO	2
INDIANA	2
IOWA	2
NEW MEXICO	2
NORTH CAROLINA	2
ALASKA	1
KENTUCKY	1
MASSACHUSETTS	1
NEW HAMPSHIRE	1
OHIO	1
VERMONT	1
VIRGINIA	1
WASHINGTON	1