L. Gary Hart, Michael J. Pirani, and Roger A. Rosenblatt

Most Rural Towns Lost Physicians After Their Hospitals Closed

Between 1980 and 1988, 132 rural hospitals closed, and left their towns with no general hospital. Most of those towns also lost physicians, and 19 were left with no physicians 2 years after closure. The smaller, more remote towns had few physicians to begin with and were more likely than larger towns to lose physicians along with their hospitals.

DURING the 1980's, almost 10 percent of all nonmetro hospitals closed. The majority of those hospitals, 132 of the 252 that closed, were small and provided the only inpatient care in their town.

Hospital closure can eliminate more than just hospital beds. Even though the number of physicians in rural areas nationwide increased by more than 20 percent during the 1980's, the group of towns whose only hospitals closed experienced a net loss of physicians. Of the 125 towns that had physicians before their hospitals closed, 65 (52 percent) had fewer physicians 2 years after the closure than they had 2 years before it. The most vulnerable communities are those that have the most difficulty obtaining health care; they are small and remote from urban areas and other hospitals.

Traditionally, hospitals and physicians have been interdependent. Hospitals provide a place where physicians can care for their sicker, more complicated patients and also provide the capital to purchase expensive medical technologies for diagnosis and treatment. Physicians, through their use of the hospital, generate the stream of patients that brings revenue to the hospital.

Because of that interdependence, many observers have been concerned that rural hospital closures will cause physicians practicing in the closure towns to leave and that the towns will find it difficult to recruit replacements. However, the physician supply in this country increased dramatically during the 1980's, and many rural communities benefited from the expansion. The growing physician supply may encourage physicians to settle farther from metro centers, so the absence of a hospital may have little or no effect on the decision of a physician to stay in or move to a specific rural community. We investigated the relationship between hospital closure and physician supply by locating closure towns, comparing the numbers of physicians in town before and after the hospitals closed, and looking at town characteristics that appeared to influence their ability to retain physicians after the closures.

Location of Rural Towns Losing Hospitals

During 1980-88, 132 rural communities throughout the United States lost their only small short-term general hospital (fig. 1). Although no region of the United States was immune, the greatest number of closures were in the South, especially in Texas.

The Anatomy of the Lost Hospitals and Their Communities

The average closed hospital was relatively small, with about 30 beds and a very low daily occupancy rate (table 1). Ownership was fairly evenly divided among government nonprofits, nongovernment nonprofits, and for-profits, with nongovernment nonprofits holding slightly more than their proportionate one-third share.

Many of the towns that lost hospitals were quite small and isolated. Two-thirds of them had fewer than 2,500 residents, and 58 percent of them were in counties that are not adjacent to a metro area. The distance from half of the

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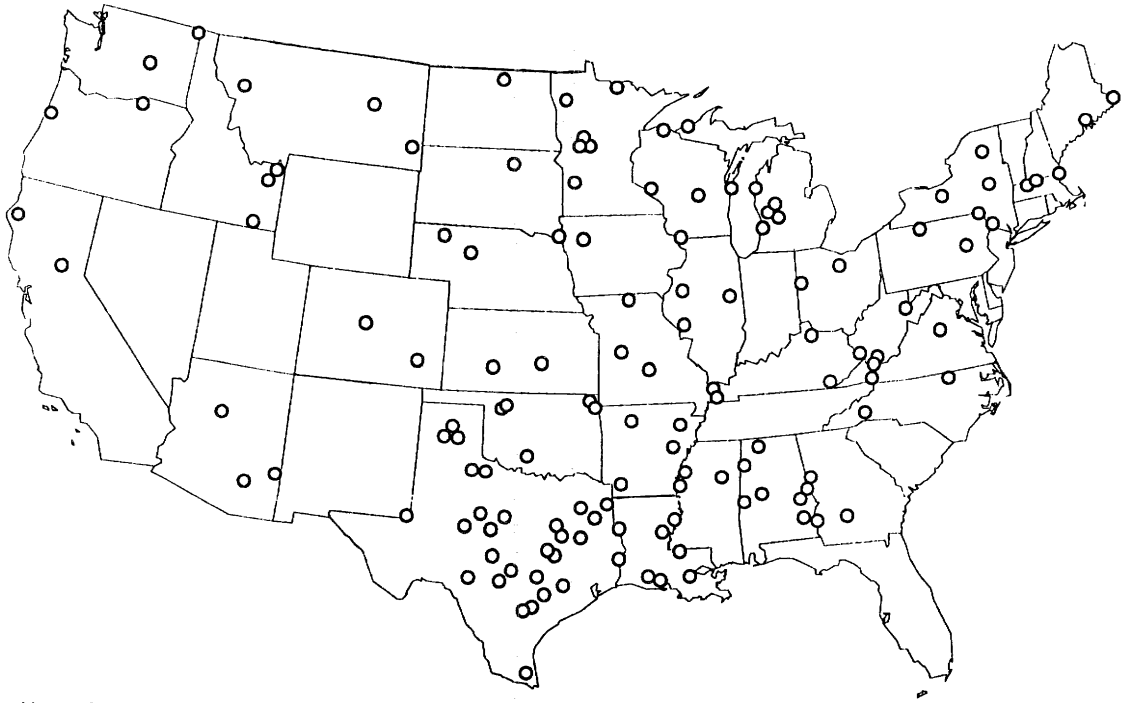
Gary Hart is the director and principal investigator at the WAMI (Washington, Alaska, Montana, Idaho) Rural Health Research Center, and Michael Pirani and Roger Rosenblatt are research associate and vice chairman in the Department of Family Medicine, University of Washington. This research was funded in part by the Office of Rural Health Policy, U.S. Department of Health and Human Services.

Figure 1

Location of closed rural hospitals, 1980-88

Towns losing their only hospital are more prevalent in the South



Note: Only towns losing their only small, non-Federal, short-stay, general hospital are shown.
Source: Identified by the authors using data from the American Hospital Association.

Table 1

Characteristics of closed rural hospitals and their communities

Half of the hospital closures left town residents at least 20 miles from the nearest hospital

Characteristic	Unit	Amount
Beds in hospital[1]	Average number	30.6
Daily hospital bed occupancy rate[1]	Average percentage	11.5
Hospital ownership:[1]		
Nongovernment nonprofit	Percentage of hospitals	32.6
Government nonprofit	do.	39.4
For profit	do.	28.0
Miles to nearest hospital	Average number	20.2
Towns 20 miles or more from nearest hospital	Percentage of towns	50.0
Town population	Average number	2,587
Towns with fewer than 2,500 residents	Percentage of towns	64.4
Towns in counties that are not adjacent to a metro area	do.	58.3
Region:		
Northeast	do.	9.1
Midwest	do.	25.8
South	do.	51.5
West	do.	13.6

[1]During year before hospital closure.

Sources: Calculated by authors using data from sources shown in "About the Study," p.20.

closure towns to the nearest hospital was 20 miles or more.

Effect of Closure on Local Physician Supply

Those rural towns where hospitals closed during the past decade also had a significant aggregate decrease in their physician supply (table 2). Physician loss was not spread evenly across all communities. Those most affected had small county populations, were isolated, and tended to have had for-profit hospitals.

The proximity of the town to the nearest hospital and proximity to an urban area also were related to the change in physician number. The 66 hospitals located within 20 miles of the next nearest hospital had virtually no change in overall physician supply. Their more remote counterparts had a 25.4-percent overall decrease in physicians. This pattern was also apparent when comparing the 56 communities located in counties contiguous to urban areas with the 76 more isolated rural communities. Net physician loss was negligible in the town in contiguous counties, contrasting with a net loss of more than 20 percent of physicians by the towns located in counties not adjacent to metro areas.

Analyzing changes in physician numbers for hospital closure towns by aggregate categories could be misleading if

Table 2

Physician supply before and after hospital closure by hospital and community characteristics and type of physician

Smaller, more remote towns lost larger shares of their physicians after their hospitals closed

Hospital/town characteristic	Primary care physicians			Specialist physicians			Total physicians			
	2 years before closure	2 years after closure	Change	2 years before closure	2 years after closure	Change	2 years before closure	2 years after closure	Change	Towns
	——Number——		Percent	——Number——		Percent	——Number——		Percent	Number
All closures	311	263	-15.4	181	168	-7.2	492	431	-12.4	132
Beds in hospital:										
6-29	126	108	-14.3	59	65	10.2	185	173	-6.5	71
30-99	185	155	-16.2	122	103	-15.6	307	258	-16.0	61
Hospital ownership:										
Nonprofit	199	180	-9.5	112	116	3.6	311	296	-4.8	95
For profit	112	83	-25.9	69	52	-24.6	181	135	-25.4	37
Town population:										
2,500 or less	143	108	-24.5	69	73	5.8	212	181	-14.6	85
More than 2,500	168	155	-7.7	112	95	-15.2	280	250	-10.7	47
One-way distance to nearest hospital:										
Less than 20 miles	167	159	-4.8	101	105	4.0	268	264	-1.5	66
20 miles or more	144	104	-27.8	26	24	-7.7	224	167	-25.4	66
Town's proximity to a metro area:										
In adjacent county	147	131	-10.9	93	104	11.8	240	235	-2.1	56
Not in adjacent county	164	132	-19.5	88	64	-27.3	252	196	-22.2	76

Sources: Calculated by authors using data from sources shown in "About the Study," p. 20.

some towns had large changes while others did not. For this reason, the changes in physician numbers were also analyzed for each town. Of the 132 hospital closure towns, 65 had fewer physicians 2 years after the hospital closure than they had 2 years before the hospital closure. Seven towns had no physician at either point in time; so, over half of the communities that had physicians before the hospital closure lost physicians. A town with a hospital might have no physicians when its physicians leave or retire and the hospital is kept open temporarily by doctors from outside the community while the hospital unsuccessfully searches for replacements and finally closes. An additional 30 towns (22.7 percent) had the same number of physicians before and after closure, while another 30 towns had an increase in their supply of physicians.

The Effect of Hospital Closure on the Local Community

The closure of a rural hospital is a major event in the life of a community. Rural hospitals provide a basic core of health services to the communities they serve, services that are difficult to provide conveniently and efficiently in the absence of a local hospital. Rural hospitals also have a major economic impact on the towns of which they are a part, and their loss may hasten the economic decline of a struggling rural community. In a study we conducted in 1990, mayors from towns where hospitals had closed reported that the closures impaired the local economies and led to declining health care access and health status for area residents (see Hart, Pirani, and Rosenblatt in "For Further Reading").

Implications for Rural Health Care

The presence or absence of a physician determines to a large extent whether rural communities have ready access to medical care. One of the key arguments for the retention of rural hospitals has been their assumed symbiotic relationship with local physician supply. This study suggests that small hospital closures are often related to the loss of some physicians from the local area. Some closure towns lost physicians after their hospitals closed, others

About the Study

This study focuses on small, short-stay, non-Federal general hospital closures in rural counties of the United States. For the purposes of this study, small short-stay hospitals include all those with fewer than 100 hospital beds with an average length of stay of fewer than 30 days. Federal hospitals and specialty hospitals are excluded. Rural is defined as all counties not located within Metropolitan Statistical Areas (MSA's) as defined by the Office of Management and Budget (OMB). Adjacency to metro areas was determined using ERS' Rural-Urban Continuum Codes. We refer to nonmetro as rural and metro as urban.

A list of 207 hospital closures for the period 1980 through 1988 was provided by the American Hospital Association (AHA). In 45 of the communities, the closed hospital was not the only short-term general hospital in town. Four of the hospitals had more than 99 beds, and two had closed before 1980. In 19 cases, the hospital had either changed names or subsequently reopened. In four of the communities, hospitals had closed, reopened, and closed again during the study period; double-counting was eliminated. An additional hospital was excluded because its county's rural status changed to urban subsequent to hospital closure. After these exclusions, our sample included 132 rural communities which had lost their sole short-stay general hospital during the study period.

The number of physicians practicing in each of these towns before and after the hospital closures was determined by using information from the American Medical Association (AMA). Data were available in the AMA's directories for 1979, 1982, 1985, 1986, and 1988 and on computer tape for calendar year 1990. Using these data, it was possible to determine the number of physicians, by specialty, practicing in each town throughout the study period. For each closure community, the number of practicing physicians was calculated for the period 2 years before and 2 years after closure.

Additional information for each of the closed hospitals and associated towns was obtained from varied sources. Hospital bed size and ownership type were extracted from AHA sources. The one-way road distance to the next nearest hospital was obtained from our survey of the mayors of hospital closure towns (see Hart, Pirani, and Rosenblatt in "For Further Reading"). Town population sizes were obtained from Rand McNally.

maintained their numbers, and still others had more physicians after closure than they had before.

The aggregate local supply of physicians declined on average in rural towns which lost their only small short-term general hospital by 12.4 percent during the period from 2 years before the hospital closure to 2 years after it. Of the 132 hospital closure towns, 125 had at least one physician before the hospital closed. Of these 125 communities, 65 (52 percent) had fewer practicing physicians 2 years after hospital closure than had practiced in those towns 2 years prior to hospital closure. By contrast, only 30 (22.7 percent) of the towns had gained physicians, with the rest remaining unchanged.

Not all types of hospital closure towns are equally vulnerable. Those most likely to lose physicians had small hospital staffs before hospital closure, were relatively remote from both urban areas and other hospitals, were located in sparsely populated counties, and tended to have for-profit ownership.

Although towns that lost hospitals tended to lose physicians, the hospital closure in and of itself may not be the cause of physician loss. Many factors determine the supply of physicians in a town, including the presence or absence of a hospital, the vitality of the hospital if it does exist, and the social and economic characteristics of the town in which it is situated. Hospital viability is itself affected by the supply, quality, and type of physicians on its staff, and by other local factors. Because formal hospital closure is generally the culmination of a long process of deterioration and decline, it is often difficult to determine which factor was most important in shaping the final outcome.

Myriad national, regional, and especially local interacting factors lead to the decline of a rural community's health care delivery system. Physician loss and hospital closure are but two of the interdependent factors and outcomes involved. The importance of local factors, such as leadership, interpersonal conflict, and management and financial competence, should not be underestimated.

The existence of a local hospital appears to be an important factor in the ability of more isolated communities to retain physicians. To sustain viable health services in remote rural counties with preexisting hospital facilities, it makes sense to pay attention to the functional integration and economic integrity of both the hospital and the local physician complement. To the extent that State and national policies have as a goal access to health services for all people, the sustenance of more remote rural hospitals or appropriate institutional alternatives should be considered.

For Further Reading

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