Rural America and the Revolution in Health Care

Almost all rural hospitals are losing money as a result of dramatic declines in use, changes in government funding, and fewer local doctors. But that does not mean that rural residents must forgo local medical care. With a little creativity, rural America can have a strong base for local health care. Most patients no longer need a bed in a hospital. And modern emergency care techniques can stabilize patients for transport to a more distant hospital. Physician assistants and nurse practitioners can help ease the workload of the local physicians.

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Due to major reforms that restructured medical education in the first half of the 20th century, physicians shifted their place of practice from the patient's home and the doctor's office to the hospital. Constructing a local hospital became a necessity for any rural community that wanted to attract physicians. Nearly 2,000 rural hospitals were built in the 1950's and 1960's, a direct result of the Hill-Burton Federal Grant Program (1946), which provided construction funds for new community hospitals.

These community hospitals thrived throughout the 1970's because an insurance system reimbursed them for the full costs of inpatient care. (Reimbursable costs typically consisted of the actual labor costs, overhead, capital expenses, and bad debt.) Doctors also collected insurance payments based on their own perceived costs. Seeing patients in hospitals became a more productive and profitable use of a physician's time, compared with house calls and office visits. Thus, hospitals and physicians had incentive to provide inpatient care. Efficiency did not matter because some third party paid the bill.

The health care environment has changed both fiscally and physically in the 1980's. Insurance payments no longer cover many costs (overhead, bad debt, or capital expenditures) and increasingly cover only a percentage of the actual direct costs of patient care. Further, reimbursement under Medicaid and Medicare, the two biggest health insurance programs in the country by far, is usually lower than payments from commercial insurance plans.

The prospective payment system (PPS) was legislated in 1983 as an effort to contain Medicare costs. It uses fixed, predetermined payments that are largely based on average costs according to diagnostic categories, not actual costs of providing care. If a hospital's cost exceeds the predetermined payment, the hospital takes a loss. If the hospital can keep its costs below the amount of payment, the hospital "profits." The incentive now is for efficient hospital operation.

Advances in medical science and technological innovations, reinforced by pressures for cost containment, are simultaneously pushing the delivery of health services from the inpatient setting (hospital beds) to outpatient, or ambulatory, care. Health care services that required several days in the hospital as recently as 5 years ago are now performed on an outpatient basis. Knee operations, for example, were considered major surgery until the recent development of the arthroscope enabled surgeons to achieve the same outcomes outside the hospital. Even treatment of heart attacks, the biggest single cause...
of hospitalization for the past 40 years, is rapidly becoming an outpatient service as a result of new drugs (thrombolytics) and new procedures (angiography) that reduce or eliminate the need for extended hospitalization.

These reimbursement and technological changes have led to a significant decrease in hospital use. During the 1940's, hospital size was based on the estimated need for 4.5 beds per 1,000 persons in the hospital's primary service area. Today, many experts believe that the estimated need has dropped to 1-2 beds per 1,000 persons.

With efficiency the key factor for survival, many of the Hill-Burton hospitals are technologically obsolete. They need extensive repair or complete replacement. Local public or private funds to build the next generation of rural hospitals are virtually impossible to come by. And no new Hill-Burton program is in the offing to pick up the tab.

Rural Health Care Troubles Traced to Population Composition...

The rural population has grown older and in many areas declined in number since the existing rural hospitals were constructed. Today's rural population includes proportionately more Medicare beneficiaries than the urban population, and rural hospitals have a correspondingly higher concentration of Medicare patients. The high volume of Medicare patients poses special problems, because reimbursement levels set by the new PPS are considerably less for rural patients because reimbursement policy completely overrides local public and private funds. Local public or private funds to build the next generation of rural hospitals are virtually impossible to come by. And no new Hill-Burton program is in the offing to pick up the tab.

Alternatives to Hospitalization

The nursing home industry as we know it today did not exist when most rural community hospitals were built. Until Medicaid was passed in 1965, the frail elderly were treated in hospitals. Now, Medicaid reimbursement is directed in large measure to nursing homes. Rural hospitals that previously treated the frail elderly for extended periods of time have now lost many of these patients, along with their reimbursement funds, to nursing homes. (Federally qualified rural hospitals can keep some patients who need only nursing home levels of care under the "swing bed" program, but the hospital receives only the lower nursing home level of reimbursement.)

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All these factors contributed to a drastic decline in occupancy rates of rural...

Too Few Doctors

Rural areas today have too few physicians. Some areas have none. Unlike their city-based colleagues, many rural physicians are the only doctor in town, bearing all the burdens of being on call every evening and every weekend. As a result, many experience "burnout" because of heavy demands on their time. Further, disproportionately large numbers of government-insured or uninsured patients generate lower incomes for physicians. Recently trained physicians need high incomes to repay large debts incurred in medical school, so they cannot afford to run the financial risks of a rural practice. As a result, many rural communities are having a tough time replacing the physicians who came to town when the new hospital was built 30-40 years ago.

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Emergency Medical Services

The key to saving lives is maintaining the flow of oxygenated blood and other fluids to essential organs (particularly the heart and brain) until the patient can be delivered to a hospital that can provide the needed care. So, the quicker the patients receive life support, the more lives are saved. In the past, when ambulances were little more than vans with stretchers, and attendants knew nothing more than basic first aid, the need for speed meant transporting the patient to the nearest hospital as rapidly as possible. However, today’s modern and fully equipped ambulances are, in effect, emergency rooms on wheels, bringing life support machines and supplies to the scene of the illness or injury.

Emergency medical technicians (EMT) know how to use this equipment. Basic (Level I in some States) EMT’s can provide all noninvasive care, and Intermediate (Level II) EMT’s can use invasive devices such as defibrillators and airway tubes when approved over the radio by a physician. Paramedics, the highest skilled EMT’s, can use their own judgment, based on written protocols, to use the equipment without being in direct contact with a physician. Registered nurses are also able to perform these life-saving procedures in most States.

Small rural communities that desire the best possible life saving care should evaluate the capabilities of their local emergency services and the costs and quality of the two alternatives, a modern ambulance/EMT system or a hospital emergency room. The smaller the hospital, the more likely the nonhospital solution may be the better value.

With beds, but in terms of its essential components: primary care and emergency service. The traditional (and still prevailing) view, based on the premise that a hospital is the absolute precondition for health care, neglects advances in medical science and technology that now allow a community to provide a high level of locally available health care services even in the absence of a brick building with beds.

Primary Care: Medical Treatment Without Beds

Primary (ambulatory) care is a key ingredient to a successful rural health system. The provision of high-quality primary care does not require a hospital, but neither does it exclude one. A hospital, with its health professionals, diagnostic equipment, and treatment rooms, can be an appropriate setting for a primary care clinic; only the beds are irrelevant. Hospital-based primary care is not a contradiction in terms, and many rural hospitals may find a viable future in dedicating all their resources to excellence in primary care as an alternative to mediocrity in bed-based (secondary) care.

So long as insurance reimbursement favored secondary care, rural areas could justifiably equate local health care with the presence of a community hospital. Thus, many rural communities failed to recognize the importance of primary care. Up-to-date primary care practitioners can meet 80-90 percent of all health care needs without acute care hospital beds. Technological advances now enable primary care specialists to provide advanced diagnostic capabilities in their offices or clinics. Blood tests and x-rays can be taken on the premises of primary care sites, and the results of these tests can be interpreted almost immediately by out-of-town specialists through the use of computers and modern telecommunications. New miniaturization and fiber-optics technologies allow primary care practitioners to perform a growing number of more technical procedures in the office or clinic. A rural area that ensures locally available, state-of-the-art primary care has less and less need for a building with beds. Retaining three to six observation beds, providing limited overnight care (like that offered at military infirmaries and college health centers) is an idea that is rapidly gaining popularity.

Provision of primary care services is not limited to physicians trained in family practice, internal medicine, pediatrics, and obstetrics/gynecology. Some nonphysician health care professionals can also fill this role at equal or greater levels of quality within their scope of practice. Nurse practitioners and physician assistants perform many primary care functions with varying degrees of supervision by a physician. Some States allow nurse practitioners to operate their own independent practices, contacting physicians on a consulting basis as required. Physician assistants work directly for physicians. Quality is maintained by following protocols developed by the physician consultant and practitioner. These nonphysician health care providers are especially valuable in rural areas that have difficulty recruiting physicians. Further, some communities prefer nonphysician providers because of their holistic approach to patient care.

Simply having a doctor does not guarantee that a rural community has full-time, long-term health care. Having more than one doctor may be the key to having any at all. Many observers find that three providers per community may be the minimum to prevent the burnout experienced by solo practitioners. This minimum provider arrangement can consist of three physicians, three nurse
Examples of Conversion and Consolidation

Two counties in rural America provide examples of innovative responses to these problems. Park County, an isolated county of 8,000 residents in the Colorado mountains, was an example of a worst case scenario. The hospital closed, and the doctors left town. In 1988, a broad-based group of citizens developed and implemented a plan to convert the former hospital to a clinic staffed by nurse practitioners and to enhance emergency services across the county. This system, scheduled to open in mid-1989, will be supported by a full-service tertiary hospital in Denver.

Augusta County, a more populated and less isolated area in rural Virginia, recently determined that it could not support its two hospitals (combined capacity of about 400 beds). The two hospitals merged to form a single corporation, which investigated options for health care in the county. This study determined that a new, centrally located hospital of 150 beds would best meet the county's health needs. The health care leaders in the county are now pursuing alternative uses for the hospitals that will be replaced by the new facility.

Emergency Care: High-Tech Paramedics in Touch With Hospital Physicians

Emergency medical services (EMS) care is the other key to the future of rural health. Again because of recent advances in the science and technology of emergency (life saving) medicine, a modern EMS system can actually be better than a typical emergency room in a rural hospital. The combination of a fully equipped modern ambulance and a currently trained crew can now stabilize most critically ill or injured patients at the scene, so transporting a patient to the local hospital for stabilization is not as essential as it once was. Thus, saving a small, rural hospital to preserve emergency care is not necessarily the best way to keep emergency care in rural areas. In many smaller towns, money spent toward emergency medical care is better spent on upgraded EMS capabilities.

Radio communications systems frequently require improvements to ensure unhindered, clear communication between the EMS crew and a qualified physician. Blind spots in radio communication should be eliminated, and an adequate number of channels should be available to handle two or more emergencies at a time. In addition, formal arrangements with a large hospital will be necessary to ensure that emergency-trained doctors are available to the emergency communications network at all hours, every day of the year.

The Rural Hospital's Future

To be financially self-sufficient and medically appropriate, hospitals will have to achieve minimally necessary economies of scale. A viable rural hospital will normally need at least 25-30 beds at 60-percent occupancy with a medical staff of 8-12 doctors and a market area population of 20,000. While many rural hospital administrators may cringe at such figures, they need not be discouraged. Hospital consolidation can often create the "critical mass" for excellent health care, just as school consolidation brought better schools to rural America in the 1950's and 1960's. By consolidating two or three hospitals, the total available market can rise to levels capable of sustaining viable health care. Residents of rural areas with hospitals too small to be financially or medically sound may be better served by one larger regional hospital than by several mediocre, but independent, facilities.

The hospital buildings vacated by consolidation have many alternate uses. Possibilities include conversion to nursing homes, apartments, offices, and prisons. Some small hospitals may also be appropriate for continued service as specialty treatment centers, such as for drug and alcohol problems, orthopedic and sports injuries, or clinical research centers.

Boards of trustees of converted hospitals can continue to fulfill their mission to meet local health care needs. They can serve in the community's best interest whether they oversee a consolidated hospital system, treatment center, or primary care system. They should remain open to the fact that their governing responsibility is to ensure local access to good health care, which is not the same thing as operating an acute care hospital. The health care system best suited to the community may be able to operate without a building with beds.

Why would rural residents support these concepts? First, these concepts can lead to better local health care. Second, jobs need not be lost if conversion, consolidation, and other transition strategies are carefully planned and managed. Full-service primary care and EMS can use as many employees as the old hospital system. Third, this view is easily tied to economic development. Research suggests that half of local health care spending is now leaving the hometown market, but as much as four-fifths could be retained in rural communities if residents could get locally the quality they seek when taking their health care business to bigger medical centers. The potential 60-percent increase (from half to four-fifths) is big business in a typical small town.
The policy emphasis must shift from saving small hospitals to ensuring excellence in primary care and emergency services. Safe, appropriate, and accessible care is within reach of rural citizens. Primary care and emergency services are the fundamental needs of any community, regardless of size. If the community is too small to support a full-service hospital, it should work to build a solid foundation of primary and emergency care rather than trying to save a facility too small to provide inpatient care in a cost-effective and medically sound manner.

Local leaders should expect some resistance to such changes. For example, political rivalries within and between communities may require that new facilities, if any, be located in a neutral location. Another common problem is that many rural residents are unaware of their local hospital's ailing financial condition and so see no need to change. They often believe that the government will eventually intervene to save their hospitals. Extensive and sustained public information campaigns are necessary to educate rural residents about the true status of local health care. Last, some physicians, comfortable in the current system, may resist change. Local leaders will probably want to work closely with all physicians, to convince them that there is no other viable alternative, and to encourage them to help make the new system succeed.

We have the science and technology to revolutionize rural health care. Progressive rural hospitals, seeing themselves as ongoing businesses with important missions instead of obsolete buildings, can be in the vanguard. But they must be open to new forms of health care delivery. Improving services, not preserving beds, is a goal to be pursued with pride in many of our country's smaller towns.

For Additional Reading


United States Senate, Special Committee on Aging, Senator John Melcher (Chairman), The Rural Health Challenge, October 24, 1988.

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National employment projections through the 1990's also show employment in high-tech industries growing by more than twice the rate of manufacturing in general. High-technology manufacturing also can be a viable and attractive source of employment and economic growth for some rural communities. Employment in nonmetro high-tech manufacturing grew by more than 15 percent from 1975 to 1982, with even higher rates in the less populous counties.

Such industries have not generally been sources of economic and employment growth in rural areas. In their formative and early-growth stages, these industries need up-to-date engineering and scientific information, skilled and technical labor, and specialized inputs, all of which are more readily available in urban areas than rural.

Before rural communities or States base major development efforts on these recent trends, however, they need information on the types of rural communities that can expect to attract high-tech manufacturers, characteristics of high-tech establishments likely to locate in rural and smalltown areas, the types of jobs created, the extent to which a high-tech plant stimulates further local economic activity, and whether high-tech manufacturing is any better in these respects than the low-tech manufacturing that rural areas traditionally at-

Stephen M. Smith and David L. Barkley

Contributions of High-Tech Manufacturing to Rural Economies

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Figure 1
Location of nonmetro high-tech plants by size and proximity to urban areas

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