

# Special Report

## Institutional alternatives to the rural hospital

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*An important aspect of the ongoing debate on rural health policy is how to deliver inpatient care in sparsely populated rural areas. One alternative is to create a new classification of rural inpatient facility that would deliver more limited services than available in a rural hospital, have more flexibility in staffing requirements, and possibly be reimbursed differently. The support of the Health Care Financing Administration for the concept of a limited service rural hospital is critical, since such a facility would not be financially viable without Medicare payment. Several organizational and public policy issues that merit consideration in the design and implementation of institutional alternatives to rural hospitals are discussed, including licensure and certification, scope of services, personnel, quality assurance, and payment.*

### Introduction

In June 1988, the Montana Hospital Research and Education Foundation (affiliated with the Montana Hospital Association) received a 1-year planning grant from the Health Care Financing Administration (HCFA) to design a demonstration and evaluation of a new category of rural health care facility, which it called the medical assistance facility (MAF). The MAF is one of several similar institutional alternatives to the hospital that have been proposed for sparsely populated rural areas. In this article, we identify and discuss the organizational and public policy issues raised by these alternatives. As a context for our discussion, we first review the motivation for introducing a new type of acute care inpatient facility in rural areas. Then, we focus more narrowly on specific issues that are important in the design and implementation of institutional alternatives to rural hospitals. These issues include: licensure and certification, scope of services, personnel, quality of care, quality assurance, and payment.

### Background

It is well known that many very small, isolated (sometimes called "frontier") rural hospitals are now facing severe economic pressures (American Hospital Association, 1987). For the past few years, Medicare's prospective payment system (PPS) has been seen as the primary source of these pressures, and there is evidence to support this view. On average, rural hospitals receive

41 percent of their revenues from Medicare, so Medicare payment policies obviously have a major impact on the financial viability of these institutions (American Hospital Association, 1987). Rural hospitals argue that prospective payments are insufficient to cover their costs, that their volume of patients is insufficient to average risks under prospective payment, and that price increases have not kept pace with increases in the price of their inputs. The data do suggest that small rural hospitals fared worse initially under PPS than did larger rural facilities. In 1985, hospitals with 6-24 beds reported net patient margins of -15 percent and hospitals with 25-49 beds reported margins of -6 percent. Rural hospitals with 50-99 beds had margins of -1 percent, while larger rural hospitals reported positive margins (American Hospital Association, 1987). The situation for rural hospitals improved somewhat in the second year of PPS, but one-third of rural hospitals still experienced negative payment margins (Guterman et al., 1988).

Isolated rural hospitals qualify for "sole community hospital" (SCH) status under PPS if they were labeled as such under previous Medicare reimbursement rules or are located 50 miles from another hospital or local topography limits accessibility to their services. Rural hospitals that elect SCH status are paid at 75 percent of hospital-specific costs and 25 percent of prospectively determined rates per admission (Freeman and Cromwell, 1987). Base payments can be adjusted to reflect changes in costs resulting from new facilities or services, and SCH's can receive a one-time additional payment if they experience discharge decreases exceeding 5 percent of discharges in the previous period. Despite these considerations, SCH status has not always proved an attractive option for rural hospitals. The hospital-specific portion of the SCH rate was calculated for each hospital using 1981 data and then projected for the first year of PPS using an inflation index. Since that time, increases in the hospital-specific portion of the rate have occurred annually but, in the view of rural hospitals, have not kept pace with inflation in the costs of their inputs. At the same time, there has been a steady decline in admissions; hospitals with less than 50 beds experienced an average decline of 22 percent from 1983-85, compared with an average decline for all hospitals of 8.4 percent (Guterman et al., 1988). This inevitably results in an increased cost per admission as small rural hospitals spread their fixed costs among fewer patients. The combination of these factors means that, for some rural hospitals, payment under SCH designation is less advantageous than receiving full prospective payments. Therefore, it is not surprising that 11 percent of SCH's had negative operating margins in each of the first 3 years of PPS. In the third year, one-quarter of these had losses of 7.5 percent or more, and one-tenth had losses exceeding 30 percent for Medicare patients.

Attempts to define Medicare's appropriate role with respect to the financing of inpatient care for beneficiaries in sparsely populated rural areas have occurred in the context of a broader policy debate over rural health care delivery. For at least 30 years, one important aspect of

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this debate has centered on how to deliver inpatient care in isolated rural areas. Typically, the number of potential hospital patients in these areas is highly variable and, on average, too small to support the specialized personnel and equipment that are normally associated with a hospital and are required for licensure. In extreme cases, the population in these areas may even be too small to support a full-time physician to admit patients to the facility. Under these circumstances, three general strategies for public policy have been discussed:

- Public policy can discourage the continued existence of rural hospitals in sparsely populated areas, while subsidizing, through public funding, the development of noninstitutional alternatives such as state-of-the-art emergency care and transport systems with linkages to larger community hospitals.
- Public payment programs such as Medicare can insist that isolated rural hospitals meet conventional standards for the delivery of inpatient services and be paid using conventional formulas. If costs exceed revenues, rural residents can reveal their preference for an acute care facility in their communities by subsidizing operating losses through the use of local tax revenues.
- Public policy can define and support an alternative model for the delivery of inpatient care in rural areas that does not comply with existing standards for hospitals and may require the use of different payment formulas, but is more than a nursing home, physician's office, or a holding facility for patients awaiting emergency transport.

Federal and State governments have provided support for emergency medical care systems in rural areas for decades, but rural communities typically have adopted these systems as complements to their hospitals rather than replacements for them. Because they perceive them to be important employers, symbols of community stability, and critical assets in attracting and retaining physicians, many rural communities have supported their hospitals year to year through large tax subsidies. However, eroding economies and tax bases during the past 5 years have made it increasingly difficult for rural communities to maintain these subsidies.

Since more than 40 percent of all rural hospitals, and an even larger proportion of smaller rural hospitals, are controlled by county or other local governments, the squeeze on local tax revenues in rural areas no doubt has contributed to the recent rise in the number of rural hospital closings. The American Hospital Association reported that 40 community hospitals closed in 1987, compared with 21 in 1985; more than one-half of these hospitals had less than 50 beds (Patten, 1988). The U.S. General Accounting Office (1988) reports that 41 rural hospitals terminated participation in Medicare in the first 3 years of PPS, with 14 of these located in counties with no other hospitals. Medicare termination is often viewed as an early warning sign that a rural hospital is at risk of closure.

The termination of Medicare participation and the closure of small rural hospitals are of concern to HCFA because of the potential impact on access to acute inpatient care for Medicare beneficiaries. One response on the part of HCFA could be a return to full cost-based reimbursement for these facilities. However, this policy

would have two major drawbacks. First, it might not have a large enough effect to prevent closure, since not all rural hospital patients are Medicare beneficiaries. Second, it could threaten the integrity of the prospective payment system since it would likely expose HCFA to pressure to expand the number and type of hospitals eligible to receive cost-based payments.

For these reasons, the third option previously listed—development of an alternative model for delivery of inpatient care in isolated rural areas—is again receiving the attention of policymakers. To the best of our knowledge, this strategy was first formally investigated by the Department of Health, Education, and Welfare (DHEW) in 1974, as a response to what were then labeled “access” or “7c” hospitals under Medicare (Little, 1974). Such hospitals had no deficiencies that presented health and safety hazards but had a waiver for the statutory requirement that the nursing service must have a registered nurse supervisor on the premises 24 hours a day. Typically, this waiver was granted if the hospital was located in a remote area where hospital services would not be available for Medicare participants within reasonable travel time if the hospital lost its Medicare participation status (Little, 1974). In 1973, there were about 150 such hospitals. At that time, DHEW commissioned a study that explored the potential for redefining these hospitals as “limited service rural (LSR) hospitals” for the purposes of Medicare participation.

To be classified an LSR hospital, a facility would need to be small, isolated, and agree to “. . . limit services voluntarily to diagnosis and treatment of those ailments for which the medical staff, nursing staff, and other staff were properly trained and for which the facilities were properly designed and equipped” (Little, 1974). Designated licensed practical nurses (LPNs), who had received special training, would be in charge when a registered nurse (RN) was not available. The study concluded that the LSR hospital concept, although appealing in many respects, would be extremely difficult to implement nationally. Opposition from professional nurse associations was expected, and concern was expressed that State certification agencies might not be willing or able to adapt to the new approaches to certification required for these facilities. However, the study recommended that DHEW play a facilitating role for States that wished to explore the LSR hospital model. It was anticipated that interested States would primarily be those where the obvious need in remote rural areas was sufficient to overcome institutional and political barriers to implementation.

Despite strong support from the congressional delegations of some rural States, DHEW did not proceed with the development of licensing and certification standards for LSR hospitals. However, the problems of hospitals in providing health care in remote rural areas, and particularly the problems of small rural hospitals complying with Medicare participation requirements, remained and were brought to the public's attention again by the implementation of PPS. As a result, there has been renewed interest recently in the limited service rural hospital concept.

At present, six States (five of them located west of the Mississippi River) have passed legislation that authorizes the licensing of inpatient facilities in rural areas to

provide a more restricted set of services than required of rural hospitals (Wellever and McCarty, 1989). At the Federal level, the National Rural Health Care Act (1988), called for the development of the medical care access facility (MedCAF) in rural areas. A MedCAF would provide both outpatient and inpatient care, with up to 10 inpatient beds and with radiology and laboratory capabilities. Inpatient stays would last a maximum of 2 days, with exceptions allowed by peer review organizations (PROs). Staffing requirements would only apply when there were patients in the facility and care in a MedCAF could be provided by physician assistants (PAs) or nurse practitioners (NPs).

More recently, the House Ways and Means Committee supported legislation that would create a new limited service institutional alternative to the rural hospital—the rural primary care hospital (RPCH). RPCHs would provide low intensity acute care for a maximum of 72 hours per admission. They would be limited to six beds and would be required to have referral arrangements with a rural or urban hospital. Services could be provided by physicians, PAs, or NPs (Gibbins and Ludtke, 1989).

Also at the Federal level, HCFA has funded a planning grant for the design and implementation of a demonstration involving another limited service rural hospital alternative—the medical assistance facility (Lutz, 1988). In 1986, a task force was formed by Montana's Department of Health and Environmental Services to study the problems of small, rural hospitals in that State. The task force recommended that hospitals failing to meet current hospital standards be required to limit their services and be licensed as a new category of facility. The Montana legislature acted on this recommendation by creating the new licensure category of MAF. The MAF provides inpatient care to persons prior to transportation to a hospital or to persons needing care for no longer than 96 hours. MAFs are designed to be much more flexible in their staffing requirements than small hospitals and, as with MedCAFs and RPCHs, they are required to develop referral arrangements and quality assurance programs with nearby hospitals.

HCFA administrators have called the MAF a "promising alternative" to closing rural hospitals (Lutz, 1988). The support of HCFA for the concept of a new category of rural health care facility is critical, since it is unlikely that these facilities could be financially viable without Medicare payments. The Montana Hospital Research and Education Foundation has been awarded a planning grant from HCFA to develop the concept further and then to recruit rural institutions to participate in a 3-year demonstration. The development of the demonstration has raised several issues that are generic to the development and implementation of limited service alternatives to rural hospitals. In the remainder of this article, we discuss these issues in greater detail. In the discussion, we use the term "limited service rural hospital," or LSR, to encompass all of the policy initiatives previously described.

## Critical issues

### Licensure and certification

The clear intent of all proposed LSR alternatives is to facilitate the "downsizing" of existing hospitals in rural

communities, and preserve reasonable geographic access to inpatient services. However, unless explicitly precluded by licensing and certification requirements, an LSR could be implemented under other circumstances, as well:

- A rural hospital may have occupied a facility in the past, but may no longer be functioning. Instead, the facility could be empty, operated as a nursing home, or utilized in some capacity unrelated to health care. The LSR alternative could allow the rural community to re-establish inpatient services to replace a closed hospital.
- A rural area may never have had a hospital but may have a functioning nursing home. The nursing home may wish to be licensed as an LSR, adding new beds or converting existing beds to LSR status in order to provide a short stay, acute inpatient care option to its patients and other community residents.
- A remote rural community without hospital or nursing home may wish to establish an LSR as a means of attracting or retaining a physician, physician's assistant, or nurse practitioner. The LSR and the provider's clinic could be located in the same building and administered as one entity or could be physically and organizationally separate.

If the primary intent of the LSR concept is to increase geographic access to a limited range of inpatient services for residents of rural areas, then a case can be made for licensure under any of these circumstances. However, if the primary intent of policymakers is to encourage rural hospitals that have difficulty meeting existing standards relating to staffing and service provision to define their missions more narrowly, then the above scenarios might be viewed with less enthusiasm. One could imagine, for instance, circumstances where new LSRs might draw patients away from relatively healthy, existing rural hospitals, exacerbating the problem they were designed to address. Therefore, the degree to which licensing requirements should limit potential LSR candidates depends on how broadly or narrowly policymakers viewed the objectives of LSRs.

A second, more technical, issue relating to which organizations should be eligible for licensing as an LSR concerns the remoteness of the facility. Most LSR approaches limit eligibility to remote institutions, but they specify different "remoteness" criteria. To be licensed as an LSR hospital in the early 1970s, it was proposed that a facility be "... at least 30 minutes driving time at normal speeds under ordinary conditions from another certified hospital offering general medical and surgical services" (Little, 1974). To qualify as a MedCAF, a facility would need to meet one of the following three conditions:

- Be located in a rural medically underserved area.
- Be in an area with less than 6 persons per square mile and more than 30 minutes travel time from a city of 5,000 or more.
- Be in a rural county of less than 20,000 residents.

In Montana, the legislation creating the MAF requires that a facility be located in an area with less than 6 persons per square mile or be more than 35 road miles from the nearest hospital.

The primary purpose of the remoteness criteria is presumably to confine LSRs to areas where the financial

viability of a licensed rural hospital would be questionable and where access to inpatient care would be difficult without some sort of local institutional alternative. An important secondary impact of these criteria is that they reduce the likelihood that the LSR option would be used to keep a failing rural institution open where there are rural hospital alternatives located nearby that could serve the needs of the area's population. In this sense, the criteria are consistent with the traditional health planning view that a pyramidal medical care delivery system is desirable, and that the "wasteful duplication" of facilities should be discouraged.

A third issue relating to licensure and certification concerns the scope of services and staffing levels that will be prescribed, or allowed, for LSRs. Clearly, all LSR options envision delivery of a more restrictive set of services yet with more flexibility in staffing than in a rural hospital. Thus, decisions as to whether licensure and certification should proceed in the traditional manner, with staffing delineated in detail, or whether a different approach should be considered are of paramount concern. For example, LSRs could provide an opportunity to implement the concept of "institutional licensure," as defined by Hershey (1969 and 1976). Under institutional licensure, facilities would have the responsibility for the delivery of services within the broad boundaries established by State licensing bodies. Ideally, LSRs would have the flexibility to use physicians and health professionals in efficient combinations consistent with the maintenance of an acceptable quality of care. Although institutional licensure is a theoretically appealing concept for LSRs, it could place considerable demands on LSR boards or, where the LSR is operated under public auspices, on county commissioners. Consequently, institutional licensure would require the intensive, continuing education of board members regarding their responsibilities and potential legal liability.

A fourth issue concerns the problems that may be encountered in enforcing LSR licensure or certification standards, regardless of how they are structured. In assessing the feasibility of the LSR hospital concept, Little (1974) collected data from surveyors concerning their reactions. Most were uncomfortable with the latitude given them in assessing compliance, and many in specialty areas (e.g., medical records, dietetics) continued to take a relatively rigid view of how departments should be organized and function. Although surveyors did respond more positively in States where the need for maintaining inpatient care options in remote rural areas was the most obvious, Little concluded that "these reactions on the part of professionals in the field are an important deterrent to implementation of the concept of LSR hospitals". These findings suggest that, even where standards are redefined to take into account the more limited mission of LSRs and to provide more flexibility in the use of personnel, special attention will need to be given to the enforcement process to assure that it is administered in an effective and impartial manner.

Finally, there is the question of whether a rural hospital should be required to "give up" its hospital licensure in order to be licensed as an LSR. Rural hospitals are likely to be concerned that, if the LSR model did not serve the needs of their communities, they would have a difficult time regaining their licensed hospital status. For the first

few years after establishment of the LSR licensure category, this concern could be addressed by allowing hospitals to "mothball" their hospital licenses for a limited time period (e.g., 3 years). When this period expired, the facility would be forced to choose if it wished to continue as an LSR or to revert to hospital status with its attendant licensure and certification requirements. This trial period seems reasonable initially, until practical experience is gained with the LSR concept.

## Scope of services

The scope, or range, of services provided by the LSR may be the most important characteristic in defining this new institution. Decisions on what services can or cannot be provided in the LSR will substantially influence the cost and quality of those services as well as the acceptance of the concept by the public and health care professionals. The types of services that can be provided by an LSR are constrained by factors such as legislated limits on length of stay and the availability of appropriate personnel (including physicians, nurses, and laboratory and X-ray technicians), technology, and equipment. According to Little (1974), laboratory, X-ray, obstetric, and emergency services were the most frequently available services at "access" hospitals in the United States (Table 1). Of interest, 9 out of 10 access facilities also had operating rooms that had average annual workloads of 229 operations per year.

More recently, Berry et al. (1988) described the characteristics of frontier hospitals in areas with population density less than six persons per square mile. In 1985, these facilities had average lengths of stay of approximately 5 days and were located primarily in areas west of the Mississippi. Frontier hospitals frequently provided a range of basic acute care services (including obstetrics, intensive care, and pediatrics), outpatient laboratory and X-ray services, and various types of long-term care services. They almost always provided

**Table 1**  
**Facilities and services available**  
**at access hospitals: United States, 1973**

Facilities and services	Percent of access hospitals with service	Average annual workload or size <sup>1</sup>
Clinical laboratory	96	10,937 tests
Pathology laboratory	9	538 determinations
Electrocardiograph	92	571 procedures for ECG's
Pharmacy	30	5,698 prescriptions
Physical therapy services	28	1,447 treatments
Outpatient services	53	3,812 visits
Emergency services	94	1,124 visits
Operating room	89	229 operations
Postoperative recovery room	26	2 beds
Diagnostic X-ray	96	3,846 exposures
Obstetric services	92	109 deliveries
Inhalation therapy services	47	870 treatments
Extended care unit	15	21 beds
Intensive care unit	0	—
Cardiac care unit	0	—
Electroencephalography	0	—

<sup>1</sup>For those access hospitals with the service.

SOURCE: (A.D. Little, Inc., 1974).

emergency services. Some of the important scope of service issues relevant to frontier hospitals included decisions concerning the treatment of sudden coronaries, serious accidents requiring blood transfusions and life-saving interventions, and the delivery of babies.

The proposed administrative rules for the MAF state that:

- Nursing services must be available on a 24-hour basis whenever a patient is in the facility.
- Pharmaceutical services must be provided that meet the needs of its patients.
- Clinical laboratory services must be maintained or available that are adequate to fulfill the needs of its patients.
- Dietary services must be directed and staffed by adequate personnel.
- Emergency services must be equipped and staffed at levels equal to, or greater than, those provided for ambulance services.

The rules do not explicitly state requirements for the provision of inpatient or outpatient medical services. They define a minimum (or core) set of services that a MAF should provide. These services include emergency services and other services (e.g., nursing, pharmacy, laboratory) essential to meeting the major goal of the MAF, which is to treat low intensity, short-term acute illnesses on an inpatient basis.

Beyond a core set of services, the services available at LSRs would vary somewhat across individual institutions. However, there are services (e.g., intensive care units, pediatric inpatient units, day hospital, computerized tomography scanner) that some rural hospitals currently offer that are unlikely to be available at an LSR. Many services currently offered by rural hospitals could also be offered at an LSR depending on the supply, training, and experience of the medical and support staff and the availability of appropriate technology and equipment. For example, obstetrics could be practiced at an LSR if the medical and nursing staff had sufficient experience with deliveries, a mechanism for the timely identification and referral of high-risk patients was in place, and the capability existed to perform caesarian sections on an emergency basis.

Decisions that limit the scope of services available at an LSR will directly influence the mix of patients treated at the facility. In an effort to understand the distribution of diagnoses likely to be treated at MAFs, the Montana Hospital Association has analyzed Medicare discharge data for hospitals in the State considered to be the most likely candidates for conversion to MAFs. These hospitals had 20 beds or less, were located in counties with population densities less than 6 per square mile or were located more than 35 miles from the nearest hospital, and had an average length of stay of less than 4 days for Medicare patients during the 29-month period ending November 1988. They averaged less than 10 Medicare admissions per month, with the most frequently observed diagnosis-related groups (DRGs) relating to cardiac problems, respiratory problems, and nutritional and miscellaneous metabolic disorders (Table 2). These conditions are most often treated by primary care physicians. The list does not include any surgically related conditions, which suggests that surgical services are unlikely to be provided in a MAF.

Legislated maximum lengths of stay at LSRs will certainly influence the scope of services they will provide. A potential positive effect of this limit is that it should encourage the development of well-defined relationships or affiliations between LSRs and other institutions. The goal of these linkages should be assurance that the complete range of health services will be available to the residents of rural communities when necessary. Presumably, the LSR would enter into agreements with one or more providers participating in Medicare or Medicaid to assure that services that the LSR does not offer are available to patients on referral. Examples of such providers include hospitals, skilled nursing facilities, home health agencies, and specialized diagnostic imaging and laboratory facilities. The LSR would be responsible for transferring patients to higher and/or lower levels of care as appropriate.

Peer review organizations (PROs) could play an important role in assuring that transfers take place when necessary. As part of the preadmission certification requirements for Medicare and Medicaid, the PROs could develop protocols for admission to LSRs that would either initially direct a potential LSR admission to a more appropriate facility or establish criteria for triggering appropriate referrals for patients admitted to LSRs. The proposed MAF rules are flexible with respect to transfer agreements and state that, if these agreements are not in writing, there must be evidence that patients referred to another provider by the MAF are being accepted and treated.

In many respects, a length-of-stay limitation, such as the 4-day maximum for MAFs, is not likely to result in an appropriate scope of services for LSRs and is the least defensible element of the present LSR legislation. It has no clinical basis and would reduce the range of appropriate roles that an LSR could play in delivering acute care in remote rural areas. For example, under this rule, patients would not be admitted to an LSR for a convalescence period exceeding 4 days after transfer from

**Table 2**  
**Most frequent DRGs and average lengths of stay**  
**at 11 Montana hospitals that are likely candidates**  
**for medical assistance facility:**  
**July 1986-November 1988**

DRG code	Description	Number of Medicare cases	Average length of stay
127	Heart failure and shock	123	3.9
089	Simple pneumonia and pleurisy	114	5.1
182	Esophagitis, gastroenteritis, and miscellaneous digestive disorder	99	2.6
140	Angina pectoris	88	2.1
014	Specific cerebrovascular disorders	72	5.0
138	Cardiac arrhythmia and conduction disorders	61	3.1
096	Bronchitis and asthma	56	3.8
296	Nutritional and miscellaneous metabolic disorders	46	3.4
243	Medical back problems	46	4.0
088	Chronic obstructive pulmonary disease	43	3.4

NOTE: DRG is diagnosis-related group.

SOURCE: Montana Hospital Association; Data from the Montana-Wyoming Foundation for Medical Care.

a hospital, and the rule could create inappropriate pressure on LSRs to transfer patients after 4 days when they required only 1 or 2 additional inpatient treatment days. PROs could be authorized to grant exceptions to the 4-day limitation on a case-by-case basis, but this simply reinforces the administrative and clinical awkwardness of the rule.

It may be more appropriate to encourage a limitation on LSR admissions and length of stay that has a stronger clinical justification and greater potential for flexibility in its execution. For instance, DRG weights could serve as the basis for LSR admitting decisions since they provide a rough estimate of the resources required to care for specific diagnoses (e.g., number of hospital days, diagnostic services, etc.). At admission, LSR staff could contact the PRO with an admitting diagnosis that would then be assigned a DRG. DRGs below a predetermined DRG weight would typically receive automatic PRO approval. This number could be established based in part on the early experience of LSRs. However, all but one of the common admitting diagnoses for Montana rural hospitals that are likely MAF candidates have DRG weights of 1.5 or less, suggesting this as a reasonable starting point. For DRG weights exceeding this number, it would be expected that the patient would be transferred to a hospital as soon as feasible, with the possibility that the PRO could grant exceptions under special circumstances. Under this system, transfers from a hospital to an LSR would be feasible, allowing patients to return to their local communities for convalescence. PROs would conduct retrospective analyses of LSR discharge DRGs to assure that LSRs did not "game" the system at admission, and would conduct concurrent utilization review to ensure that the LSR was not providing services more appropriately offered by a skilled nursing facility.

In summary, there is no ideal list of services that should be provided in an LSR. From a policy perspective of maintaining access to services for Medicare beneficiaries in rural areas, the LSR is more likely to be successful if it has a flexible, rather than rigid, set of guidelines related to the services that it can or cannot provide. These guidelines should acknowledge the need to examine the availability of appropriate personnel, technology, and equipment on an individual-facility basis whenever scope-of-services decisions are made.

## Personnel issues

To a great extent, the viability and attractiveness of the LSR hospital concept depends on the appropriate use of personnel. One can easily envision a facility that has one or two family practitioners on staff who use the facility as a downsized rural hospital. At the other end of the spectrum, an LSR could have one physician and one physician's assistant on staff with the physician located 50 miles from the facility and the physician's assistant, under the supervision of the physician, providing the majority of services to patients.

These two models are both feasible under the proposed MAF rules in Montana. Under the first model (with physician(s) onsite), it might be difficult to distinguish the MAF from a small rural hospital in most practical respects. Under the second model, with physician(s) located offsite and providing supervision to a physician's

assistant (PA) or nurse practitioner (NP), the MAF represents a new institutional alternative for rural communities that have had physician recruitment and retention problems.

The proposed administrative rules for MAFs state that the facility must have a medical staff that includes at least one physician and may also include one or more physician's assistants and/or nurse practitioners. The rules imply that patients can be admitted to the facility by a PA or NP with the facility's sponsoring physician notified of that fact within 24 hours after the admission. A physician, NP, or PA must be on duty or on call and available within 1 hour at all times.

The responsibilities of MAF physicians include: medical direction for the facility's health care activities; consultation and medical supervision of nonphysician health care staff; review of the records of each patient admitted and treated by a PA or NP within 1 month of patient discharge from the MAF; provision of medical services to the MAF's patients; and preparation of guidelines for the medical management of health problems, including conditions requiring medical consultation and/or referral. At intervals of no more than 30 days, the physician must be physically present in the facility for a sufficient period of time to meet the above responsibilities.

The issue of the physical availability of a physician at the LSR site is extremely important from several perspectives. The problems that small rural communities have with physician recruitment, retention, and call-response issues suggest that many LSRs will not have physicians onsite at times, a circumstance which has potential implications for the level and quality of services that can be provided at the LSR. For example, the level of emergency services provided and the timeliness and appropriateness of patient transfer decisions could vary depending on physician availability. A critical issue is how physicians who are not located onsite at the LSR would provide adequate supervision to nonphysician personnel. For example, one could question whether supervision would be adequate in the extreme case when a physician would visit the LSR just once a month. In this situation, it would be the physician's responsibility to limit the PA's practice in direct relationship to the physician's ability to provide supervision. If errors or omissions occur in the PA's treatment of patients, the supervising physician is ultimately legally responsible in most cases.

The proposed rules regarding physician availability in MAFs are consistent with extensive research that has shown that PAs and NPs can provide cost-effective health care in rural settings (Office of Technology Assessment, 1986). The rules state that PAs and NPs must:

- Participate with a physician in a periodic review of each patient's health records.
- Provide health care services to patients in accordance with the facility's policies.
- Arrange for, or refer patients to, needed services that are not provided at the facility.
- Be on duty or on call and available physically within 1 hour.

The rules appear to foster physician oversight of the PA/NP after the fact rather than direct onsite physician supervision of PAs and NPs.

The functions and roles of PAs and NPs generally have been found to be directly dependent on the settings in which they work. Theoretically, the LSR can be an appropriate setting to fully utilize the skills of mid-level health professionals. In practice, LSRs may be limited in this respect by existing regulations that vary State by State. A paradox in the proposed MAF rules, for instance, is that Montana also has a restrictive State practice act for PAs and NPs, resulting in only 17 PAs currently practicing in Montana. If the LSR proves to be an attractive setting for the use of PAs and NPs, States seeking to establish LSRs will need to reevaluate their existing practice acts for nonphysician personnel.

As in hospitals, a good portion of the patient care in LSRs will be provided by nurses. The Little (1974) report and the proposed Montana rules both suggest a reorganization of inpatient nursing services. As conceived in 1974, LSR hospitals would have registered nurses (RNs) on duty in the capacity of charge nurse at least 2 shifts per day and an RN would be on call and within 15 minutes of the facility during the third shift. The proposed Montana rules state that an RN must be on duty at least 8 hours per day and on call and available within 20 minutes at all times. The relaxation of the requirement that an RN be present at all times is controversial, since nursing professionals do not generally agree that licensed practical nurses (LPNs) can perform RN functions.

LSR nursing costs should be lower than nursing costs in rural hospitals. However, to take advantage of relaxed nurse staffing requirements, there must be registered nurses in the community willing to work when needed by the LSR. This is a questionable assumption for many rural communities that currently have nurse shortages. Another aspect of the nursing issue relates to the possibility of an LSR co-locating with a nursing home. In these instances, the nursing home could have a portion of its nursing staff available to help staff the LSR as needed.

The proposed Montana rules state that the MAF must provide 24-hour nursing services whenever a patient is in the facility. As with other personnel, the MAF would have the flexibility to use the range of nursing professionals available in the community to provide nursing services as needed. Such flexibility is particularly relevant for isolated rural communities that have had a difficult time recruiting adequately trained RNs willing to cope with the heavy workload and generalist role of rural nurses. With their more flexible staffing requirements, LSRs might be better able than rural hospitals to take advantage of the available mix of LPNs and nurses aides residing in their areas.

Allied health personnel, such as laboratory technicians, radiologic technicians, physical therapists, and occupational therapists, also will be required to staff LSR hospitals. As with many rural hospitals, the limited patient volume at LSR hospitals would probably not support full-time allied health personnel who have only one competency (Patten, 1988). This problem could be addressed by hiring multicompetency personnel or by the joint hiring of staff by multiple rural institutions. The National Rural Health Care Act allows MedCAFs to use part-time offsite allied health personnel instead of having a full-time onsite dietician, pharmacist, laboratory technician, medical technologist, and radiological technologist. MedCAF's also could use multicompetent

health care technicians to staff the emergency room, to conduct basic laboratory tests, and take basic X-rays. The multicompetent health care technician would be qualified by education or experience to perform routine laboratory procedures and radiography and would also be trained as an emergency medical technician.

The proposed MAF rules state that the facility must have either a pharmacy directed by a registered pharmacist or a drug storage area under the supervision of a consulting pharmacist who must develop, supervise, and coordinate all pharmacy activities. If a MAF maintains, or has available, diagnostic radiologic services, then only personnel designated as qualified by the medical staff, and meeting requirements of State law, may use the radiologic equipment and administer procedures. MAFs also must maintain, or have available, clinical laboratory services to meet the needs of their patients. Only personnel designated as qualified by the medical staff by virtue of education, experience, and training may perform and report laboratory test results.

Both the National Rural Health Care Act and the MAF rules support the flexible use of multiskilled allied health personnel and part-time personnel to meet the needs of patients in isolated rural areas. As with physicians, this flexibility is likely to be particularly useful in rural communities that have had problems attracting health professionals. The facilitation of meaningful professional relationships between physicians and other LSR staff will be of particular importance to the success of this concept. In the end, the question that may need to be addressed by some rural communities is would they benefit from having a well-trained, midlevel professional practicing in an LSR compared with no physician or a less-than-adequate one practicing in an underused hospital?

## Quality

Since an LSR would be a nontraditional provider of health care services, evaluation of the quality of care it provides is an important issue. Because of the remoteness of LSR hospitals, many medical services will be indicated infrequently, a fact that may give rise to concerns of poor quality simply related to low volume. However, low volume does not automatically equate with poor quality for many services (Luft, Hunt, and Maerki, 1987). It will be necessary for LSRs or appropriate licensing and certification bodies to determine which services can be provided without compromising quality. This process should include consideration of the effect on patient outcomes of not being able to provide the service in a timely manner. A quality assurance (QA) program should then be developed that is consistent with the scope and type of services selected.

A discussion of QA options for LSRs begins with examination of the expectations of regulatory agencies. External controls on health care quality include State licensing and certification standards, Medicare conditions of participation, and accreditation criteria of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). With respect to quality assurance, Montana licensure standards for MAFs are similar to Medicare conditions of participation for hospitals, and they contain essentially all the proposals related to QA for MedCAFs. JCAHO accreditation standards would appear to have

little effect on MAFs. Small rural hospitals of less than 50 beds are infrequently JCAHO accredited (Berry et al., 1988). Only 10 of Montana's 47 hospitals of less than 50 beds were JCAHO accredited in 1988, and 3 of these were U.S. Public Health Service hospitals.

MAF licensure standards specify that the governing body of a facility must ensure that there be a written QA program and implementation plan in effect that ensures and evaluates the quality of the patient care provided. Specific provisions include periodic review (not less than semiannually) of utilization, active and closed patient records, and the facility's health care policies. Also required are evaluations of services provided by contractors, implementation of a discharge planning program that includes a formal referral agreement with another hospital(s), and the documentation of actions that are taken to address deficiencies. Many other MAF licensure rules have QA implications, such as requirements pertaining to the availability of local providers and staff, the availability and adequacy of physician supervision of nonphysicians, and the adequacy of the pretransfer stabilization process and transfer arrangements to the referral hospital.

LSRs will encounter many of the same problems as small rural hospitals in performing QA activities. Smaller hospitals generally have fewer resources (money, expertise, staff, and physicians willing to participate) to direct toward assessment and assurance of the quality of the medical care that they deliver. Because the cost of the QA program is spread over fewer patients in smaller facilities, the fixed cost per case is greater than in larger facilities. The limited staff size of rural hospitals also poses a problem for QA activities. Staff members perform many functions: The director of nursing, for instance, also may be responsible for QA and infection control; the hospital pharmacist may be the only retail pharmacist in town; and the social worker may be employed only part time by the hospital. In many cases, no peers are available for discussing and reviewing QA issues.

A related problem for some rural hospitals is a general lack of knowledge about hospitalwide quality assurance, in part because the coordinator is only part time and must respond to other pressures that divert attention from QA. Educational meetings are often some distance away from the facilities, making attendance difficult. As a result, there may be confusion about what is expected by regulatory bodies, as well as limited understanding of the methodology of quality assurance.

Many rural hospitals see their small medical staffs as the greatest problem for implementing effective QA activities. Because of longer hours employed in the direct care of patients and more oncall time, rural practice can be extremely demanding on physicians, limiting the time they have available for participation in QA activities. In addition, there are practical concerns about peer review and effective credentialing with a small medical staff. In a solo practice, internal peer review cannot occur, and in partnerships it may not be realistic to expect rigorous peer review.

Even if a sound QA program can be implemented by a rural hospital, its ultimate impact may be limited. There may be too little data available on specific procedures in small institutions to allow for reliable conclusions to be

reached about quality of care (Luft and Hunt, 1986). This makes outcome review at the individual facility level difficult, if not impossible. Thus most small rural hospitals are forced to focus entirely on process indicators of quality of care.

It is unlikely that the medical staff of an LSR would be able to conduct peer review and departmental QA activities without some assistance from outside colleagues. The proposed administrative rules for MAFs in Montana include a provision that there be a discharge planning program, with formal referral agreements with other hospitals. In recognition that there needs to be some linkage between the MAF and other hospitals to provide backup to the MAF staff, MAFs are required to have documented referral relationships that include transfer agreements for patients. These linkages could be extended to apply to QA activities as well, since overall quality of care will depend on the care provided by both institutions.

If a coordinated approach by an LSR and a referral hospital in performing QA activities is pursued, what shape should it take? There are several options. For example, an LSR could use the referral hospital as an outside consultant to an internal, relatively comprehensive QA program at the LSR. Or, it could attempt to integrate its peer review activities with those of the referral hospital, with a consulting relationship for departmental QA activities. A third option is that the LSR could conduct departmental quality assurance, while peer review, credentialing, and privilege renewals could be done in conjunction with the referral hospital. A fourth approach, the feasibility of which might be constrained by the distances between facilities, would integrate the LSR QA activities horizontally with those of the referral hospital. For example, such an arrangement might involve the dietary department QA activities being part of similar activities of that same department at the referral hospital. Clearly, all options that rely on assistance from the referral hospital are constrained by the QA program at the referral hospital. However, an affiliation with an LSR might have the interesting second-order effect of improving QA activities at the referral hospital as well.

## Payment alternatives

A fundamental issue in the development of institutional alternatives to rural hospitals concerns the way in which they will be paid under Medicare. The two extreme alternatives are full, cost-based reimbursement and prospective payment by DRG (Table 3). The case for full cost-based reimbursement is essentially the case against prospective payment by DRG. It rests heavily on the assumption that small, financially marginal institutions should not be expected to assume the risk inherent in any prospective payment system. Because they serve relatively few patients annually, these institutions do not have the opportunity to average risk across large numbers of admissions in specific diagnostic categories. Thus, a bad patient "draw" in a particular year could have disastrous financial consequences.

Furthermore, the fixed costs of operating an LSR at low occupancy could be relatively large, even with reductions in staffing requirements. DRG payments, calculated on the experience of larger rural hospitals with smaller fixed costs per patient, could be too low for LSR

hospitals, as they appear to be for many small rural hospitals. To maintain reasonable access to institutional care for Medicare beneficiaries, Medicare must be prepared to cover operational costs for rural inpatient facilities. In the long run, as one gains more experience with LSR hospitals and their cost structures, it may be possible to construct a prospective payment approach that places them at some financial risk. As a practical matter, the data are simply not available at present to assess the appropriateness of DRG payments for LSRs. Therefore, one could argue that it would not be advisable to jeopardize the future of any LSR model by insisting that it conform to a payment system designed primarily to encourage large hospitals to control their costs.

There are arguments that can be made in favor of some form of prospective payment for LSR hospitals. For instance, the risks that these facilities would be exposed to under a prospective payment system could be less severe than the risks faced by small rural hospitals. A major complaint of small hospitals is that they are inadequately paid for the costs incurred by "outlier" patients under Medicare's PPS. Since LSRs would transfer most of their difficult cases to hospitals, they would be relatively well-protected from this source of financial risk. Also, since LSRs would offer a limited range of services and have some flexibility in staffing requirements, their fixed costs per patient should be less than those in small rural hospitals. Therefore, it is conceivable that LSRs could be profitable under prospective payment rates that would result in financial losses for small rural hospitals.

There are payment alternatives for LSRs that could limit their exposure to large losses and still provide some rewards for efficient operation (Table 3). One such alternative would follow the present system of payments for SCHs, with modification to eliminate the factors in that system that rural hospitals find the most objectionable. In particular, the facility-specific cost component of the rate could be established specifically for each LSR hospital and updated annually. Under this approach, the LSR would receive 75 percent of its

payment per case on an actual (rather than a projected) cost basis and would be "at risk" for 25 percent of the cost per admission. The 75/25 split could be adjusted over time if it appeared desirable to increase or decrease the financial risk exposure of LSRs.

A second alternative would place HCFA in a reinsurance role with respect to LSRs. The reinsurance could be structured on a case specific and/or a facility-specific basis. Under this approach, LSRs could be paid a DRG rate per admission. Initially, this rate might be based on the cost experience of small rural hospitals. Eventually, it could be recalibrated to reflect the average cost experience of LSRs. If the cost of an individual case exceeded a predetermined amount (e.g., 130 percent of the DRG rate), HCFA would agree to pay a portion of the excess costs (e.g., 80 percent). The total cost per case to the LSR could be capped (e.g., at 150 percent of the DRG rate), with HCFA paying all costs in excess of the cap. The parameters of the reinsurance could be adjusted over time to increase or decrease the case-specific financial risk for MAFs.

The financial risk faced by LSRs could be limited in a similar way on a total-admissions basis. For example, if an LSR incurred annual costs for Medicare patients that exceeded payments by a predetermined amount (e.g., 15 percent), HCFA would agree to pay a portion of these costs (e.g., 80 percent). Total losses on Medicare patients during any given year could be capped (e.g., at 30 percent), with HCFA paying the LSR for any losses in excess of this amount. The percent of LSR losses paid by HCFA might also be related to the number of Medicare discharges annually, with HCFA paying a larger share of losses for lower volume LSRs, which presumably would have less opportunity to average high- and low-cost cases.

A third alternative would involve prospective payment of LSRs for all discharges. However, for those patients that were transferred to hospitals, rather than discharged to the community, LSRs would be reimbursed their costs.

These three "blended" approaches are not necessarily distinct. A number of alternatives are possible that would

**Table 3**  
**Summary of possible payment alternatives for limited service rural (LSR) hospitals**

Admissions and transfers	Payment alternative				
	Cost-based	DRG-based	Shared risk		
Sole community hospital			Modified DRG/1	Modified DRG/2	
Admissions	LSR would be reimbursed for all patients on audited cost basis, using cost reports filed annually with Medicare.	LSR would receive the full DRG payment for rural hospitals for all admissions. For patients ultimately transferred to other hospitals, LSR would receive portion of DRG rate.	LSR would be paid using revised sole community hospital methodology; 75 percent of facility-specific costs and 25 percent of the standardized national DRG rate.	LSR would receive full DRG payment with Medicare providing reinsurance against losses.	LSR would receive full DRG payment for discharges from LSR and be reimbursed on a cost basis for other patients prior to their transfer.
Transfers	Hospitals accepting transfers from LSRs would be reimbursed on an audited cost basis for these patients.	Hospitals accepting transfers would receive prorated portion of DRG payment and any outlier payments required.	Hospitals accepting transfers would receive prorated portion of DRG payment and any outlier payments required.	Hospitals accepting transfers would receive the prorated portion of the DRG payment and any outlier payments required.	Hospitals accepting transfers from LSRs would be reimbursed on an audited cost basis for these patients.

NOTE: DRG is diagnosis-related group.

SOURCE: Christianson, J.B.: University of Minnesota Health Care Financing Administration Policy Center.

combine different elements drawn from each. Their common thread is that they would each limit the financial risk for small rural hospitals considering conversion to LSR status, and therefore could encourage them to adopt the LSR option. However, any prospective payment approach applied to LSRs would create financial incentives for them to refer patients to hospitals, even if these patients could be cared for appropriately and less expensively in LSRs. (This incentive is present, of course, in the present PPS as well, with respect to early discharge or transfer to nursing homes.) Therefore, as suggested in the previous discussion, an active role for PROs in review of LSR discharges and transfers would be necessary.

Although the way in which LSRs are paid will strongly influence the willingness of remote rural hospitals to convert to LSR hospital status and the financial feasibility of the LSR concept, it is not a critical decision for HCFA from a fiscal standpoint. If strict eligibility criteria are adopted, the number of rural hospitals able and desirous of converting to LSR status is likely to be limited. Also, given the relatively few admissions that will occur in any given LSR, the difference among the payment alternatives for a single institution will be minor from HCFA's standpoint.

## Conclusions

The problem of providing acute inpatient services of acceptable quality to remote rural areas continues to be an important health care policy issue. The aging of the population, particularly in rural areas, has increased the relevancy of this issue for the Medicare program. At present, several institutional alternatives to the rural hospital are being discussed, with one in the design phase for a HCFA demonstration. The primary attractions of these alternatives to HCFA are that they could address the problems faced by rural inpatient facilities in recruiting and retaining medical staff, including physicians, and thereby improve access to acute inpatient services for Medicare beneficiaries in remote rural areas. Limitations on scope of services, together with consultative and referral arrangements with nearby hospitals, could contribute to the maintenance of acceptable levels of quality of care and the appropriate transfer of patients.

Although the potential benefits from the establishment of a new type of rural inpatient facility are attractive for policymakers, they are based on several assumptions that have not been tested to this point. First, can these alternatives be implemented as they are now structured? Opposition on the part of health care professionals and licensing agencies could arise for a variety of reasons, including concern for quality of care, a desire to protect traditional roles and prerogatives of different categories of personnel, or a failure to acknowledge limits on the achievable levels of quality in small rural facilities. Strong opposition on the part of professionals could discourage hospitals from converting to LSRs or communities from accepting LSRs as legitimate alternatives to rural hospitals.

Second, will residents of remote rural areas accept a more limited concept of an inpatient facility? Under what conditions will they utilize these facilities rather than incur substantial travel costs to seek care at a hospital?

Obviously, if there is insufficient demand for care in LSRs on the part of rural residents, because LSRs are perceived as delivering inferior quality care or being too limited in the services they offer, then they will not survive without substantial subsidies.

Third, will LSRs prove to be financially viable at payment levels that are acceptable to payers? Virtually any institutional health care alternative could be financially feasible in rural areas at some level of payment. However, the configuration of institutional health care that will exist in rural areas ultimately will reflect the judgments of payers concerning the cost effectiveness of the services provided. Payers are not likely to be willing to pay higher rates to LSRs than to rural hospitals, given that LSRs will care for a less severe case mix with less restrictive regulations on staffing and equipment. It is more likely that payers will look for cost savings, or at least no evidence of cost increases, associated with caring for patients in LSRs. It is possible, however, that service limitations and other factors could constrain the number of patients in LSRs to the extent that per patient costs would increase relative to rural hospitals.

Fourth, can LSRs deliver care of comparable quality to the quality of care delivered in small rural hospitals? The answer to this question is not only important in itself, but has implications for the other issues as well. Local residents are not likely to seek care at an LSR hospital if it is perceived to deliver inferior quality services, and payers are not likely to pay for LSR services, if they have serious reservations about the quality of those services.

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