"Rehabilitation of the disabled is a luxury of an affluent society,"1 This statement may seem harsh, even insensitive, but in a time of ever-escalating health care costs and diminishing resources, it reflects the moral and fiscal dilemma which is now faced by consumers and providers alike.

The quality of the emergency medical system has increased survival for major trauma victims. Diagnostic technology allows us to confirm clinical suspicions. It is estimated that physical disability now affects 32 million Americans and is increasing.2 The existence of this large and increasing number of the physically disabled adds another dimension to health care cost.

The decade of the eighties saw chaotic change in health care delivery with Diagnostic Related Groups (DRGs), case management, and managed care (Health Maintenance Organizations, Preferred Providers, etc.) all attempting to curb the costs fed by technology and consumer demand.

To service the patients in need of rehabilitation and address the issue of costs, "centers of excellence" should be considered as a partial solution to this complex problem. "Centers of excellence" is a concept of designated regional service providers who have a track record of exceptional clinical and fiscal outcomes for specific classes of patients.3

A recent report to the Department of Health and Human Services by Marshall and Perry4 noted that "centers of excellence" were the most cost-effective method to deliver health care services. While these authors were referring to organ transplants, it is obvious that a physician and a facility that service a large volume of the same type of case have better outcomes and less complications.5 Therefore, these individuals and facilities will save dollars. This concept also has application to rehabilitation and all realms of health care.

Since the introduction of the prospective payment system and diagnostic related groups, many hospitals have begun searching for alternative sources of revenue.6 Rehabilitation (as well as pediatric and psychiatric) facilities, being exempt from the DRGs, are being viewed as revenue enhancement vehicles. Many hospitals, large and small, profit and non-profit, have recently opened rehabilitation programs to improve their respective financial positions. This "explosion" in the number of rehabilitation facilities has increased not only the quantity but also the questions that are inherent in making a "quality choice."

- Does the facility have adequate staff (number, experience, and disciplines) to treat the patient?
- Is the local program adequate or is one several hundred or thousands of miles away more appropriate?
- Are there alternative programs that can accomplish the same outcomes for less costs?
- Is the provider that holds the HMO, PPO, or IPA contract as effective as the non-contracted provider?
- Is accreditation by the Joint Commission of Accreditation of Health Care Organizations (JCAHO) and the Commission on Accreditation of Rehabilitation Facilities (CARF) a designation as a "center of excellence?"

The authors will attempt to address these as well as other questions that will enable the reader to make responsible decisions to identify "centers of excellence" in rehabilitation.

Does the facility have adequate staff to treat the patient effectively?
Rehabilitation is labor intensive, requiring a team of experts. The specialized skills and expertise of a number of health care professionals including physicians, therapists, psychologists, nurses, social workers, and counselors are required. No one person in any given discipline can do it all and in rehabilitation it is essential for optimal outcome that the assembled team of experts works in an interdisciplinary manner.

However, interdisciplinary teams are difficult to build. In addition to the critical shortage of nurses, the past several years has seen increased demand for physical therapists, occupational therapists, and speech pathologists, with only limited numbers available.7

A significant factor in the shortages found in rehabilitation is the trend toward a high degree of specialization and independent practice. Physical therapists, for example, can concentrate their services in one of many areas: the physically disabled, orthopedics, sports medicine, chronic pain, or neurotrauma. Occupational therapists and speech pathologists also have similar options. Psychologists have specialized as well in areas such as clinical psychology, neuropsychology, and behavioral psychology.

A "center of excellence" must have a sufficient number of staff members to assure optimal outcomes. There must be an adequate staff-to-patient ratio. Ideally, the average case load of a therapist should not exceed six to seven contact hours per working day. Each patient should receive a minimum of three to five hours of structured therapy per day in an acute rehabilitation setting. This does not include the time spent by the nursing or social service staff.

The number of nursing hours varies depending on the level of care. For example, skilled nursing homes for Medicare purposes are providing approximately 3.0 hours of nursing
care per day. For acute rehabilitation hospitals, direct nursing care will range from 6.5 to 7.0 hours per day with a minimum of 5.5 hours per day. Just numbers of staff and nursing hours, however, are not enough to provide optimal care. The experience and training of staff is critical and must be considered.

To respond to the need for consistency in the delivery of rehabilitation services, the American Board of Physical Medicine and Rehabilitation was formally established in 1947. Its purpose is to ensure a high degree of uniformity in the training of rehabilitation physicians. There are an estimated 3000 board-certified physicians specializing in Physical Medicine and Rehabilitation in this country.

The following questions must be asked in assessing the quality of staff.

- Are staff members acquiring continuing education units to maintain quality?
- Are clinical staff, as well as marketing personnel, attending educational seminars?
- Does the staff participate in major national professional associations and/or at the local level, such as family support groups?

Positive responses to these questions are indicative of a “center of excellence.”

Factors in the Choice of Program

People, not buildings, make programs. The construction of a “Taj Mahal” could be indicative of a misplaced priority. As previously noted, the expertise of the staff as well as a sufficient volume of that particular diagnostic group should be an indicator of its abilities.

Questions to ask:

- Is the local program adequate or is it necessary to send a spinal cord- or brain-injured individual several hundred miles away? (Many of the small community programs do an excellent job with the stroke patients but are unable to handle the complexity of spinal or brain injury.)
- What volume of this particular diagnosis has been seen in the past?
- Have their outcomes been successful?
- How are former patients functioning in the community?
- If the facility is new, what is the actual experience of the staff?
- Does the facility have ongoing peer/support groups for the patients?

Be sure to analyze the answers carefully. Look at the outcome and not just length of stay. Do not rely on the past reputation of the facility being considered, since over the last few years many of the better known facilities have lost staff to newer programs. No facility or program can do it all. If a program says it can do all things, be advised to move cautiously.

With younger patients, the goal should be more than independent living when feasible. The ideal program should address their educational/vocational needs. The program should have a vocational professional on staff, or if none exists, the program should have a relationship with community vocational programs.

Effective programs recognize the critical role of the family in the progress and overall outcome of the patient’s rehabilitation. The family is therefore considered an integral part of the rehabilitation team and is provided training to handle the patient’s needs including access to systems of funding. In situations where the family is non-supportive, it is the patient who must be taught the skills to advocate for himself/herself.

The cost of hospital-based acute rehabilitation appears relatively high, ranging between $800.00 to $1500.00 per day, depending on geographic location. Unfortunately, price rather than quality has become the major consideration in program selection. Price shopping and comparison works well for purchasing an automobile; however, medical care, no matter how and what is said, is an individualized issue.

An understanding of the factors which contribute to the actual cost of care will enable an individual to make informed decisions regarding facility selection. Therapeutic services may be delivered and charged in a variety of ways. Group therapy should be less costly than individual therapy. Charges for treatment provided by an aide or assistant should be less than charges for the therapist. There are instances where some facilities charge the same amount for one-on-one-therapy regardless of who is delivering the service, be it a therapist or an aide. Request an explanation if no price differential is evident.

If the facility is using aides or assistants to perform treatment, there should be a therapist on site at all times to supervise and evaluate the rate of change of the patient. The therapist should be reassessing the patient at least once a week during the treatment period. It should be noted that some therapeutic modalities may require several therapists.

The type of facility selected is also a factor in cost. Freestanding facilities should be less expensive since they are not managing an intensive care unit or operating theater, nor are they dealing with a large indigent population. Licensing as either acute hospital beds or nursing home beds should make a difference in price. Some facilities are licensed as skilled nursing although they are delivering services that are equivalent to acute rehabilitation hospital programs.

Emphasis should be placed on quality-outcome-oriented programs, which are in and of themselves the ultimate vehicle for cost containment. Quality rehabilitation will minimize future medical expenses by reducing rehospitalization for complications and enhance potential for return to work. It has been noted that for every dollar spent on rehabilitation one is able to save 8 to 17 benefit dollars. Although these figures are not current, quality rehabilitation should be an overall cost savings.

Alternative Care

Settings outside of the hospital have been used for many years in the psychiatric industry. Since 1979, programs outside of the acute rehabilitation unit or hospital have evolved, especially in the treatment of traumatic brain injury. These include subacute, residential treatment, and home care programs. They are intended to enhance outcome and are usually less costly.

Subacute rehabilitation is being offered for the slow-to-progression and comatose patients. These programs are described as coma stimulation, subacute rehabilitation, or neuro-rehabilitation. Many of these programs are not traditional medical
models but are very effective. A number of programs offer a full complement of medical and therapy staff. Others, however, only use nurses aides with medical and therapy consultants and are considered just “warehouses.” It is advisable to be knowledgeable of these different models of treatment.

Residential treatment programs offer a mechanism of reentry to the community. All of these programs have short-term savings compared to acute rehabilitation but are usually more expensive than “warehousing” a patient. The charges are normally less than acute rehabilitation.\textsuperscript{13} Utilizing these programs is very complex and a successful outcome will be determined by patient selection and appropriate placement. Judgment calls are very difficult and a good basic understanding of these programs is a must.

Home health care is one of the fastest growing areas in rehabilitation. It is being viewed as a cost-effective alternative to facility-based rehabilitation. In the brain injury setting, programs called “Home and Community” and “rehabilitation without walls” have evolved. These should not be compared to traditional home health care (contract RNs, PTs, etc.) as these are specially trained and assembled teams of professionals.

However, it should be noted that such programs may not offer the milieu that is necessary to gain community reentry for all patients.

**Accreditation**

Evidence of accreditation is one criteria for making a “quality” choice. Accreditation by the Joint Commission of Accreditation of Healthcare Organizations (JCAHO) and/or the Commission on Accreditation of Rehabilitation Facilities (CARF) is significant. For example, CARF has specific standards for General Inpatient Rehabilitation, Brain Injury, Spinal Cord Injury, and many others.\textsuperscript{14} Accreditation affirms that at the time of the review, the facility was found to be in compliance with recognized industry standards.

Does accreditation alone identify a “center of excellence?” The answer is obviously “no.” Although all programs and facilities should be accredited, it is not an assurance of overall excellence. Accreditation does not guarantee that the staff present during the accreditation are still with the facility.

**Documentation and Outcomes**

Documentation and outcome data should be available, attesting to the quality and cost-effectiveness of the program. The worker’s compensation organizations, for example, use return to work as a positive outcome measure. A rehabilitation facility can or should provide evidence of functional independence, therefore reducing long-term costs. Data in specific categories can be used to compare facilities; however, caution should be used when evaluating “numbers.”

The best test for any program is the evaluation of the individual goals. The goal must be realistic, must be achievable, must be measurable, and must be significant to functional outcomes. A good way to look at the goals and outcome potential is to have the facility determine what its goals will be after the patient has been evaluated. One must consider if it is possible to achieve these goals in a less intensive and costly setting.

Documentation from the facility needs to justify the goals and continued length of stay. They should be available to the payers and their representatives. Hand-written team conferences and outcome notes are passé and quality documentation is a must in the 1990s.

**Utilization Review and Case Management**

In order to provide for cost-effective treatment, utilization review and case management are employed. Utilization review (UR) organizations have proved to be cost effective, but many have not looked at quality and the hidden long-term costs. Utilization standards are only “guidelines” and must be treated as “guidelines” or “averages” and not the “only rule.”

Many of the UR firms employ acute care nurses who have limited knowledge or understanding of rehabilitation and are using acute hospitalization norms to complete their review. Standards of care for acute rehabilitation have yet to be published. Updates every few days on a brain-injured patient in acute rehabilitation is not cost effective but overkill.

Flexibility must be available when dealing with the catastrophically injured patient. For example, a complete rehabilitation evaluation could take 5 to 14 days (if not 30 days for a brain-injured patient). The results of the evaluation would be used to provide a reasonable estimate for the length of the projected treatment program. It should be noted that this time frame is just an “estimate,” and should not be “cast in stone.”

A primary purpose of Case Management is to assure that the goals from the evaluation and continuing treatment are being met and that the facility is providing a reasonable level of care. The coordination, compilation, and interpretation of a multiplicity of data is required.

The case manager should work closely (on site as well as by telephone) with the rehabilitation team, attending patient conferences and asking specific questions of the team. Cost effectiveness is achieved by case management through the timely transfer of patients to the most appropriate level of care. The case manager should also be able to provide sources for alternative delivery systems available and advise if the patient might be better served at one of these alternative facilities.

Major concerns of the authors are that some individuals are providing Utilization Review in the guise of case management. The original strengths of the case management process are compromised when preformed by inadequately trained and ill-suited individuals.

**Marketing**

Today’s rehabilitation programs are under extreme competitive pressure to find patients and fill beds. “Marketing” in health care is no longer an anathema but a matter of survival. Payers, hospitals, physicians, case managers, families, and support groups are all targets for this massive rehabilitation “marketing,” the common theme being “we do it better.”

Many marketers have minimal knowledge of what their program can offer. They only know that they must fill the beds to maintain their jobs. It has been rumored that some of the programs are now paying marketers on a commission basis if they do not meet a certain quota they jeopardize their continued employment. The implications are obvious. A positive aspect of all the marketing and advertising is that the message about the effectiveness of rehabilitation is finally getting out, perking interest and raising questions.
Creative Financing
Generally, today’s group medical insurance policies do not provide adequate funding for the catastrophically injured individual. The plan design, e.g., definitions, covered expenses, limitations, exclusions, amounts, etc., do not provide the flexibility nor the latitude necessary to appropriately treat these individuals.

The stringent policy language and time limitations that have evolved in the HMO benefit design are examples of the inadequacies of this type of coverage. For example, the typical HMO rehabilitation benefit is 60 days. While this may be adequate for most types of non-catastrophic injuries (e.g., stroke), it does not cover the average length of stay for the typical quadriplegic, which is 90 to 180 days. This 60 days is woefully inadequate for providing coverage for a severely brain-injured individual who may require several admissions to various rehabilitation settings to be functional in the community.

Is there a solution short of supplemental catastrophic coverage? Probably not. Acknowledging the cost effectiveness of rehabilitation and permitting flexibility with case management involvement would go a long way in providing services for those who could truly benefit and at the same time save benefit dollars.

Limited financial resources are a reality with all sources of benefits attempting to contain costs. The concept of “extra-contractual” benefits to fund “extra-ordinary” services is not widely used by the more conservative payers. The payers who have used “extra-contractual” benefits have found that it is usually cost effective.

Several organizations, e.g., Blue Shield of California, Northwestern National Reinsurance, and QC-MED, have noted that limited financial resources are a reality with all sources of benefits attempting to contain costs. The concept of “extra-contractual” benefits to fund “extra-ordinary” services is not widely used by the more conservative payers. The payers who have used “extra-contractual” benefits have found that it is usually cost effective.

Because of limited resources and ever-diminishing benefits for rehabilitation, the hope for the future will be “coordinated” and cooperative funding. Better cooperation between both public and private sectors can ensure continuity of care and improved outcomes. A “center of excellence” must be knowledgeable of the patient’s benefits and be able to integrate private- and public-sector funding.

Are per diem rates better than fee for service? Yes and no. Per diem rates simplify bookkeeping and minimize audit time. A major benefit is that it allows the patient to receive services that are oftentimes specifically excluded in some policies. Many times these excluded services are the most important and beneficial in helping the patient to return to independent living and potential employability.

Conclusion
Rehabilitation is a dynamic and constantly evolving field.

“Centers of excellence” have evolved and matured. Knowing their strengths, they will not consciously admit patients they cannot serve. “Centers of excellence” will act as an informational resource to the referral source in order that the patient receive the most appropriate care.

“Centers of excellence” in rehabilitation exist, but one must be resourceful in looking for them. This article has provided criteria or recommendations for their identification. These recommendations are similar to the guidelines published by the National Head Injury Foundation as to what to look for in traumatic brain injury rehabilitation programs.

How is a “center of excellence” chosen? The answer lies in one’s knowledge of rehabilitation. Develop an information network with established regional case managers. Rely on the judgment of those who are actively and currently involved, and who are comfortable advising clients and referring to other case managers when necessary. Trust the judgment of competent case managers or other professionals. Know who is actually doing the case management and do not just hire a company. For quality to survive, the payer and providers must work together to achieve positive outcomes of both quality of life and return to society.

The authors would like to see a quality delivery system where everyone is a winner. They feel there has been a dilution of quality for the almighty dollar. Unfortunately, price rather than quality has become the major consideration in facility selection, with the dollar being placed ahead of patient outcome. This must be turned around to continue quality in health care.

REFERENCES