Traumatic Brain Injury (TBI)
The New Delivery System

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The current situation:
- Lifetime Average Cost $90,000.00 per year
- Vocational Rehabilitation $15,000.00 per month
- Skilled nursing facility $650.00 per day
- Cognitive Rehabilitation $100.00 per hour

Advances in medical technology have presented the reimbursement industry with a "new" population of survivors and in doing so a new set of claim decisions. The advances in life saving and sustaining technology have far out-distanced the ability of the reimbursement industry to realistically pay for the lifetime care of these survivors.

In 1987 the National Head Injury Foundation (NHIF) estimated that there were over 500,000 traumatic brain injury (TBI) victims admitted to hospitals of which 50,000 to 70,000 will be severely disabled for the remainder of their lives. It is estimated that lifetime medical costs could exceed 4.5 million dollars for each of these severely disabled survivors.

The sheer number of TBI survivors has forced modifications to the traditional medical delivery system and has spawned the evolution and proliferation of an alternative, "new" medical delivery system. Sheldon Berrol, M.D., and Mitchell Rosenthal, Ph.D., Editors of The Journal of Head Trauma Rehabilitation in the inaugural issue stated:

"The unprecedented growth of specialized head injury rehabilitation facilities, educational conferences, and research activity has created and sustained an international movement directed toward the better understanding and improved management of the multifaceted disability.... This movement has not only taken place in the professional health care community but is unique in its incorporation of consumers, families and most recently third party payors and government agencies...."

This alternative, "new" medical delivery system developed because of inadequacies in the existing system and the special needs of a disabled population that did not "fit." The TBI survivors were either "too sick" or "too well," "too slow" to recover or "too young," "too sick" for the conventional skilled nursing facility (SNF) but "too well" for acute rehabilitation, "too slow" to recover for acute hospitalization and often "too young" to fit in with the geriatric population of the typical SNF. Specialty programs developed to fill the void. Currently there are over 700 specialty programs for traumatic brain injured survivors in the United States.

What this article will attempt to provide is a framework to evaluate some of the most frequently encountered non-hospital based programs and a general overview of some common claim problem areas.

Acute hospitalization, acute rehabilitation and the traditional SNF are not at issue. The growing concern is over the definition and classification of the newly developed alternative treatment programs that do not "fit".

Coma Stimulation Programs

Typically housed in skilled nursing facilities, coma stimulation programs range in size from a few dedicated beds to entire centers treating in excess of a hundred patients. They differ from the traditional SNF it that they maintain a much higher staff-to-patient ratio (typically at least 2 to 1) and provide much more direct services. For example, minimum standards for nursing in a SNF in California are 2.9 hours per day: Western Neuro Care Center, Tustin, California, provides approximately 9.50 nursing hours per day. In addition, these facilities normally maintain their own full time licensed therapy staff versus the typical SNF which contracts with independents. Many of these facilities have a full complement of medical specialists who see the patients as frequently as necessary. They, in many instances, have the capability of admitting patients who are on ventilators and who have feeding gastrostomies. One of these units has gone so far as to develop a specialty pediatric unit which cares for infants as young as four months old.

Though many quality coma programs are only licensed as SNFs, they are none the less still providing services that are traditionally found only in acute hospitals or acute rehabilitation programs. Even though services might be comparable to, or even superior to those delivered by the acute centers the coma programs do not meet any clear policy definition that qualifies them for full reimbursement. Confusion also exists as to the "why" and "where" they fit in the continuum of care.

The "why" is obviously economic. The cost for services is less than acute hospital though greater than the basic SNF. The unique and complex nature of the care required for this level of patient normally precludes transfer to the traditional SNF. The coma stimulation program offers both a cost and quality effective alternative to long term acute care hospitalization.
A true coma stimulation program is the non-traditional bridge between the acute hospital and acute rehabilitation. The services provided should be considered in lieu of acute hospitalization and no part of the acute rehabilitation process. It is the specialized therapeutic milieu where the patient is given the time and opportunity to be aroused with minimal danger of avoidable, irreparable complications occurring. Issues of complexity and levels of care are being addressed, e.g., decannulation, wean from ventilator, increase stamina, etc., to prepare the patient for transfer to the rigors of acute rehabilitation or to step-down long term placement. The coma stimulation programs are not, as many mistakenly believe, long term placement facilities.

Claims administration differs widely among payors with regards to the coma stimulation programs. Some payors have chosen to administratively recognize specific coma stimulation centers as acute hospitals, implicitly acknowledging value and reimbursing billed charges. Others have taken somewhat of a halfway approach. They will recognize the coma program as medically necessary and will reimburse total per diem charges, however, they will impose rehabilitation or SNF time limitations (90 to 180 days). A somewhat different version of this halfway approach is to request an itemized billing for services rendered, a practice which is much more costly. The payor then pays its scheduled SNF benefit and picks up additional itemized charges as permitted by the respective policy with time limits normally imposed. Still other payors have chosen not to recognize the programs for anything other than a skilled nursing facility. There is no special consideration given for the type of care provided nor is there any consideration given to benefit amount adjustment.

Skilled Nursing Facility Based Acute Rehabilitation Specialty Programs (The Super SNF)

"The Super SNF," like the coma stimulation programs offer much more than the traditional skilled nursing facility. These programs are virtually acute rehabilitation hospitals housed in skilled nursing facilities. The quality programs offer high staff to patient ratios (3+ to 1) more nursing hours than the traditional SNF and their own therapy staff. In addition, these programs may include a continuum of care which includes cognitive remediation, community reintegration, education, and pre-vocational or vocational activities.

Like the coma stimulation programs, the "Super SNF" faces a definition problem. It doesn't "fit" any standard policy definition to qualify for full reimbursement. As in coma stimulation programs, claims may be fully recognized and reimbursed or be completely declined.

Residential — Behavior — Transitional Living Programs

The concept of the residential treatment program is not new; homes for the developmentally and psychiatrically disabled are common in most communities. The residential neurobehavioral and transitional living centers (TLC) are the most numerous and fastest growing of the post acute treatment programs. These programs were started in the late seventies beginning with the Center for Comprehensive Skills in Carbondale, Illinois and Tangram Ranch in San Marcos, Texas. These programs are primarily directed at the "walking wounded" or individuals who are making or have made maximum physical recovery but are exhibiting cognitive deficits or antisocial behavior that precludes their return to society. Heretofore, an individual who exhibited bizarre behavior following head injury would be discharged home only to fail and be rehospitalized or placed in a psychiatric institution or in some instances, a penal institution.

Psychiatric hospitals are not equipped nor do they possess the experience to deal with the deficits of the TBI population. Most of the psychotropic medications used for the psychiatric population are in fact detrimental to the recovery of the TBI patient.

Though a large percentage of these severely disabled TBI survivors will in all probability never be completely independent, as many as 20% return to work based on the Los Angeles Head Injury Survey. By providing the opportunity to maximize independence and self sufficiency at the earliest possible date following acute hospitalization and acute rehabilitation, the payor is minimizing long term costs. These costs could take the form of not only psychiatric institutionalization, but also private duty nursing, secondary victim claim costs, litigations, and recurring acute hospitalizations. According to Bryan Jennett, M.D., in Rehabilitation of the Head Injured Adult, TBI victims are prime candidates to suffer subsequent head injuries:

...in a study conducted in Minnesota, the incidence of a subsequent head injury in adults was about three times that of a first head injury in a general population. Among those who had more than one head injury, the incidence of a subsequent head injury was eight times that of the general population.

TBI Post Acute Programs: Who Fits? Where? Why?

In coma stimulation programs the patient also described as Persistent Vegetative State (PVS), slow to recover, low level or Rancho Los Amigos (RLA) Scale of Cognitive Functioning Levels II and III would be considered as potential candidates for this type of program. There should be some reasonable expectation that some improvement will occur over time. The program should be able to provide objective data that documents progress and needs (See Appendix: The Western Neuro Sensory Stimulation Profile-WNSSP, Western Physical Performance Analysis-WPPA, Western Neuro Care Assessment, Progress, Evaluation, Goals-APEG Tool Intensity of Nursing Care). The program should also be able to provide clear and distinct discharge criteria.

The "Super SNFs" are ostensibly acute rehabilitation hospitals. The clients that would be considered appropriate for these programs might be described as lightening from coma, agitated, confused, RLA Level III+ . Some programs might accept ventilator dependent patients, others might not. Most programs require that the patient be medically stable.

Progress evaluation of patient at this level of care may be less complex than that of the low level patient, with some
caveats. Physical improvement is demonstrable and measurable; improvement can be assessed in numerical measurements, e.g., time, degrees, distance, weight, raw numbers and percentage accuracy. One program in the northeast (The Head Injury Recovery Center at Hillcrest, Milford, Pa.) has developed a reporting format which they call "videocharts." They are attempting to visually depict the patient as he/she is admitted to the program. Filming similar activities at approximately 60 day intervals, they are hoping to demonstrate progress over time, highlighted by use of split screen before and after segments. The "chart" is further enhanced by written on screen text and voice over narration where appropriate.13

The assessment of progress with regards to cognition and behavior are less demonstrable yet measurable. Test scores, percentages, time intervals and other numerical measures can provide objective means of monitoring progress toward stated goals.

However, it should be noted that when dealing with the TBI population, the traditional time frames of 60, 90 and even 180 days allotted for rehabilitation (or SNF Benefits) are not usually sufficient to complete the respective programs.

The residential treatment center (TLC) clients are generally described as functioning at RLA V+ or higher on the scale of cognitive functioning. These clients may or may not be physically impaired. They are exhibiting deficits or changes of cognitive functioning. These clients may or may not be described as functioning at RLA V+ or higher on the scale of cognitive functioning.

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- Memory
- Personality
- Speech
- Basic A.D.L.s
  1. feeding
  2. dressing
  3. hygiene
- Advanced Living Skills
  1. communication
  2. home living skills
  3. family relationships
  4. time management
- Academics/education
- Vocational
- Financial management
- Academics
- Social roles
- Transportation/driving
- Personality
- Speech
- Advanced Living Skills
- Communication
- Home living skills
- Family relationships
- Time management
- Financial management
- Academics
- Social roles
- Transportation/driving

(List from Rosenthal's, et al Rehabilitation of the Head Injured Adult)

When attempting to assess the progress of the TLC client, it is imperative that the deficits are clearly understood and that all parties understand the objectives and goals of the treatment program.

Reimbursement Trends

There has been a gradual increase in the number of these facilities being recognized by third party payors. Many payors who are recognizing and reimbursing these programs have determined that it is more cost and outcome effective to provide a continuum of services which attempts to insure maximal physical, cognitive and psychosocial recovery. They have "stretched" the traditional medical interpretation of rehabilitation to encompass the total recovery process. Though these post acute programs appear to be expensive, approximately $350 - $800 per day, they can offer a substantial savings when compared to the usual alternative of long term acute or psychiatric hospitalization or 24 hour private duty nursing. Since the post acute programs do not "fit" most policy definitions to qualify for reimbursement, there has been an increasing use of what is called the "extra contractual agreement." This is simply an agreement among the payor, policyholder, the provider of services and the insured client/family that acknowledges certain facts:

- That the insured or family member has sustained a severe injury
- That the payor/policyholder are contractually obligated to reimburse for specifically defined medical benefits
- That the services provided by the post acute program do not qualify for reimbursement under strictly defined contract provisions
- That the payor/policyholder will be recognized and reimbursed for this particular situation without waiving policy defenses in the future. In addition, there are normally, time limitations (at least 90 days) with reporting, extension and termination requirements.

By utilizing the "extra contractual agreement," payors have a controlled means to expand the scope of coverage for particular situations where it appears that all parties will benefit.

Compliance with ERISA can be maintained by a respective policyholder as long as decisions are base on measurable functional abilities. In other words, the same decisions are reached for the same functional levels, e.g., two Rancho Level II coma victims would be both allowed access to the same levels of "extra contractual" care if they were both insured under the same plan of benefits, one could not be approved while the other denied, this could be construed as discriminatory.14

Another method that is gaining widespread use to monitor and help control the TBI (and other catastrophic injury) claim is the use of Medical Case Management (MCM). Several major carriers, Aetna, Prudential, Pacific Mutual and John Hancock to name a few, have developed internal specialty units to identify and "case manage" the catastrophic injury claim. Case management should not be confused with predmission authorization, utilization review or other cost containment efforts.

Under a medical case management approach, a care coordinator — usually a registered nurse, another health care professional or an insurance expert, work with the patient, his or her family and the attending physician to plan the patient's overall care...

Cost savings of as much as $10 for every dollar invested in medically managing a catastrophic health care case are possible because care coordinators arrange services and resources that are most cost-effective than keeping the patient in an acute care hospital...15
In lieu of establishing an internal case management department, some payors have found it beneficial to hire independent case managers to work with these clients and their respective claims departments. One major group medical reinsurer demands that case management be in place before it will reinsure the primary carrier.

Many of the TLC's have developed a strong vocational component as part of their respective programs. The same northeastern facility that developed the "Videocharts" has established a true vocational school exclusively for the TBI survivor (H.I. Technical School, Milford, Pa.). This is of note as it emphasizes how far the rehabilitation process has gone with this disability group.

Though vocational training has historically not qualified as a covered expense, some payors have opted to provide funding for it to complete the rehabilitation process. These payors have found that it does little good to bring an individual "almost" all the way back and then hope that he/she is directed to an educational institution or the respective Department of Vocational Rehabilitation. By funding the respective vocational programs, the payor is "insuring" that their "investment" has not been wasted. Another factor influencing a more positive attitude toward funding this type of program is that the payor has discovered that if vocational training leads to gainful employment with another employer, medical coverage with another carrier frequently accompanies the new job absolving the current payor from future exposure (effective dates and types of coverage differ with respective jurisdiction).

Conclusion
The alternative medical delivery system is growing and maturing. The reimbursement industry should recognize that traditional policy language does not adequately provide the flexibility required to deal with catastrophic injury and its sequelae.

General approval of these facilities at this time would be ill advised as there is a vast discrepancy in the types and quality of services being provided by those who profess to be "Head Injury Specialty Centers." In considering the use of the alternative delivery systems:

- **HAVE A CLEAR IDEA OF THE GOAL AND OBJECTIVES OF THE PLACEMENT**
- **CONSIDER STRONGLY THE POSSESSION OF APPROPRIATE ACCREDITATIONS — ESPECIALLY C.A.R.F. AND J.C.A.H.O.**
- **CONSIDER THE OVERALL REPUTATION OF THE PROGRAM, ITS STAFF AND ITS LONGEVITY**
- **CONSIDER THE ASSESSMENT PROTOCOLS AND REPORTING FORMATS**
- **SERIOUSLY CONSIDER THE USE OF COMPETENT CASE MANAGERS**

The worlds of medicine and finance are as intertwined as the serpents on the medical insignia. The coma stimulation programs, "Super SNFs" and residential treatment centers, are attempting to financially survive and treat a technology spawned population. This alternative "new" delivery system has earned the right to serious consideration and reimbursement.

**Appendix**

1. **THE WESTERN NEURO SENSORY STIMULATION PROFILE-WNSSP**
   A tool developed to assess severely impaired head injured adults who are functioning at Level II through Level V on the Rancho Los Amigos Scale of Cognitive Function. The Profile was developed 1) to meet a need for a tool for objectively assessing the cognitive status of severely impaired head injured patients, 2) to provide a tool for monitoring subtle changes over time, 3) to provide a tool which might help to predict recovery for this population, and 4) to provide a tool to bridge the gap between the Glasgow Coma Scale and higher cognitive measures.

2. **THE WESTERN PHYSICAL PERFORMANCE ANALYSIS-WPPA**
   A tool developed to evaluate performance of selected activities of daily living. It is not intended to describe general physical functioning but to precisely measure performance of specific tasks in order to assess change in performance over time. The objectivity of the WPPA has helped define what is meant by "minimum, moderate and maximum" degrees of assistance required.

3. **THE WESTERN NEURO CARE ASSESSMENT, PROGRESS, EVALUATION, GOALS-APEG TOOL**
   A tool developed to evaluate the intensity of nursing care required for severely impaired head injured individuals.

4. **"VIDEOCHARTS™" Head Injury Recovery Associates**
   A visual report format which depicts head injured patients' progress through the rehabilitation process.

5. **NEUROCARE'S INTEGRATED DATA BASE**
   Preliminary data regarding patient assessment, treatment planning and long term tracking is available. Purpose of data collection and dissemination is to: 1) Develop precise functional goals in the areas of physical independence and productive activity, 2) ensure lower cost and less structure as the client improves, 3) evaluate long term outcomes in terms of independent living status, productive activity, use of medical resources dollars, reliance on government aid and other measures designed to provide clear feedback regarding the efficacy and cost-benefit of their programs.
6. THE CENTER FOR NEURO SKILLS INDEPENDENT LIVING SCALE

A computer assisted assessment tool which objectively quantifies functional performance in a residential setting. Activities of daily living, behavior, initiation, and attendant care requirements are assessed.


References


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5. Buckley R, Chief Operating Officer, Co-Founder Western Neuro Care Center, Tustin, California — Personal Interview; July, 1988.


14. Based on opinion of one carrier’s legal department, may vary from company to company, circa 1979.


