MEMORANDUM

TO: Lex Freiden

FROM: Mark Fuhrer MF

DATE: May 15, 1991

After my April 15 memo transmitting to you strategic planning material for TIRR research, the enclosed proposal was received from Diane Atkins. I'd appreciate your adding it to the documents supplied earlier. Further, I've modified the third page of the cover memo to add item # 14 that alludes to Diane's contribution.

5. Cardiopulmonary Research and Development, submitted by Margaret A. Nosek, Ph.D.

6. Rehabilitation Engineering--Product Development, submitted by Tom Krouskop, Ph.D.

7. Rehabilitation Engineering--Pressure Sore Prevention, submitted by Tom Krouskop, Ph.D.

8. Product Demonstration Center, submitted by Tom Krouskop, Ph.D.

9. Rehabilitation Services Research Program, submitted by Diana Rintala, Ph.D., Marcus J. Fuhrer, Ph.D., and Karen Hart, Ph.D.

10. Pharmacologic Management of Early and Late Effects of Traumatic Brain Injury, submitted by L. Don Lehmkuhl, Ph.D.

11. Models of Community Supports for Living and Working Following Traumatic Brain Injury, submitted by L. Don Lehmkuhl, Ph.D.

12. Injury Prevention, submitted by L. Don Lehmkuhl, Ph.D.

13. Development of an Noninvasive Adjustable Cervical Spine Immobilizer, submitted by Thorkild Engen, C.O.

14. Next Generation of Myoelectric Prostheses, submitted by Diane J. Atkins, O.T.R.

For Functional Strategic Planning Regarding TIRR Research

AN AMERICAN INITIATIVE
The Next Generation of Myoelectric Prostheses

A Workshop of the Limbs of Love Foundation, Inc., The Institute for Rehabilitation and Research and NASA

Mission Statement:

To design a more technologically advanced, yet cost-effective myoelectric prosthesis for children and adults with upper extremity limb loss.

Overall Mission Objectives:

1. To Develop a better, less expensive myoelectric prosthesis alternative.

2. Integrate more advanced features into an upper extremity prosthesis. For example; tactile sensation, and increased degrees of freedom in prehensors and wrist units.

3. Development of an advanced prototype prosthetic hand that incorporates applicable features of robotic hands for Prosthetic applications.

Concept:

To apply the combined expertise of specialists in the prosthetic field, with the experts at NASA, to apply emerging technologies to improved devices for limb deficient individuals.

Background:

Technologies have matured in recent years that will allow development of improved prosthetic devices for children and adults.. A reality, however, is that many of these devices and components, particularly for children, are presently designed and manufactured outside of the United States. It is our belief that more can be accomplished much faster through a coordinated effort by national experts in prosthetics and robotics technology. Accordingly, we have taken this initiative to bring together these experts with the objective of initiating on-going collaborations that will yield advanced, yet cost effective prosthetic devices developed and produced in the United States.

The Limbs of Love Foundation is a not for profit parent and family based organization that promotes the needs of limb deficient children nationally. The organization accomplishes its tasks through; A national Support Group network, Philanthropy, and through stimulation of Research and Development activities. This Foundation has taken a lead role in surfacing these needs within the community and in developing the framework for this initiative. The Institute for Rehabilitation and Research (TIRR) , located in the Texas Medical Center, will be actively involved as well. TIRR is nationally recognized as a "center of excellence" in amputee rehabilitation. Their participation in clinical and patient field testing of prototypes will be an integrated component of this research. Additionally, TIRR is a national "Rehabilitation Engineering Center" (REC), and has the potential to provide the rehabilitation engineering expertise to guide these efforts. Recognizing that relevant technologies are emerging from the field of robotics, electronics, and materials, NASA has cosponsored this initiative to provide its engineers an opportunity to be involved with the application of these technologies to this important need.

Those that have already committed to participate in this effort are listed as follows. These individuals represent the necessary expertise nationwide to embark on this effort.

Projected List of Participants:

Diane J. Atkins, O.T.R.
Rehabilitation Specialist
Baylor College of Medicine
Instructor, Department of Physical Medicine
The Institute for Rehabilitation and Research
Houston, Texas

Dudley S. Childress, Ph.D.
Director,
Rehabilitation Engineering Program and Prosthetics Research Laboratory
Northwestern University Medical School
Chicago, Illinois

John L. Combs
Chairman
The Limbs of Love Foundation, Inc.
Houston, Texas

Jodie L. Combs
Vice President
The Limbs of Love Foundation, Inc.
Houston, Texas

Don Cummings, CP
Director of Prosthetics
Texas Scottish Rite Hospital
Dallas, Texas

William H. Donovan, M.D.
Professor, Department of Physical Medicine
and Rehabilitation
Baylor College of Medicine
Director, Amputee Program
The Institute for Rehabilitation and Research
Houston, Texas

Rick Emshoff
Systems Engineer
Lockheed Engineering & Sciences Company
Space Station-EVA Systems
Vice President
The Limbs of Love Foundation, Inc.
Houston, Texas

Denise C.Y. Heard
Masters Degree, Biomedical Engineering
Wright State University
Dayton, Ohio 45324

Stephen C. Jacobsen, Ph.D.
Professor, Dept. of Mechanical Engineering
Director, Center for Biomedical Design
Institute for Biomedical Engineers
The University of Utah
Salt Lake City, Utah 84112

Maurice Le Blanc, MSME, CP
Director of Research
Children's Hospital at Stanford
Rehabilitation Engineering Center
Palo Alto, California

John Michael, M.Ed.,CPO
Assistant Clinical Professor
Director, Department of Prosthetics and Orthotics
Duke University Medical Center
Durham, North Carolina

Joanna Patton, O.T.R.
Child Amputee Project
Department of Pediatrics
UCLA School of Medicine
Los Angeles, California

James Perrone
Consultant
The Limbs of Love Foundation, Inc.
Houston, Texas

T. Walley Williams, III
Project Director, Prosthetics
Loss Prevention Research Center
Liberty Mutual Insurance Group
Hopkinton, Massachusetts

Deborah Wilde
Chief of Prosthestics and Orthotics
Children's Hospital at Stanford
Rehabilitation Engineering Center
Palo Alto, California

Daniel L. Winfield
Senior Research Engineer
Research Triangle Institute
Research Triangle Park, North Carolina

NASA JSC Personnel:

Richard Bozeman
Thermochemical Test Branch Chief

Bobby Bragg
Program Manager
Battery Systems

Fred Dawn Ph.D
Special Assistant
Crew and Thermal Systems Division

Eric Darcy
Project Engineer
Battery Systems

Dean Glenn

Fred Grissom
Program Manager
Applications Engineering

Cliff Hess
Project Engineer
EVA Retriever development
Robotic Smart Hand Development

Larry Li
Manager
Robotic Smart Hand Development

Anne Murray
Robotics Research Engineer
Automation and Robotics Division

Paul Svejkovsky
Manager
Lockheed

First Meeting Objectives:

1. To Identify common goals.

2. To Identify tasks and task oriented goals that need to be accomplished.

3. To Establish groups that can start up and approach these goals

4. To define the roles and identify a project director and project coordinator.

5. To identify and obtain necessary funding sources within government and the private sector in order for this project to meet it's stated goals.

Examples of Common Goals:

1. Decreased costs of componentry and fabrication, while developing better integrity and reliability of the electronics that operate the device, to withstand childhood play and overall use rigors.

2. Downsizing of batteries and electric components, therefore decreasing weight.

3. A more durable glove for the myoelectric hand.

4. Sensory feedback, and increased responsiveness of prosthesis.

5. Replace current wire bundles with conformal printed circuits.

Initial Phase/Initial Meeting:

1. A workshop to be held in the spring of 1991, with the designated participants.

2. Identification of a Project Director and Project Coordinator(s).

3. Each participant to give a brief synopsis of their background, interest, involvement, and long term goals related to this project. Specifically, what have been their individual and institutional experiences as it relates to the stated goals. Further go into what limitations technologically have been experienced in the past from the prosthetics point of view.

4. Explore the history of myoelectric prostheses, discussing the pros and cons from the prosthetic, engineering, rehabilitation, medical and wearer's perspectives. In addition, a brief historical review of body-powered prosthetic devices, advantages and disadvantages.

5. A Historical/Developmental review of NASA JSC's activities in the field of robotic smart hands and dexterous arms with discussions of their goals related to this project.

6. Identification of stated goals.

7. Focused discussion and finalization of each of the goals.

8. Establishment of project teams to address specific goals.

Specific Examples of Possible Task-Oriented Goals:

1. Develop a better, functional, and more cost-effective myoelectric arm for the immediate use of upper extremity amputees.
   a. Ideally, this would be accomplished on a systemized approach so the progression of prosthetic fitting would remain coordinated and consistent from age 6 months to adulthood. (This is essential to be consonant with the consequences of growth and development.)

2. Explore what is available in robotics presently and develop a 3-5 year plan that includes all aspects of "state-of-the-art" advances.
   a. that have potential utility for No. 1 and when feasible, mutual design and use advantage.
3. Design a "retro" fit arrangement where a prostheses could be modified to include the proposed technological advances.
   a. Specifically, discussion of the Tactile Sensing Capabilities system.

4. Exploration of a prosthetic hand-arm unit that would incorporate appropriate technology advances as demonstrated in the NASA/JSC systems utilizing the UTAH/MIT Dexterous Hand and the Jameson Hand.

6. Feasibility of a Biopotential Control interface that permits effective and efficient patterned intent and action.

Project "Process":

1. Prototype development.

2. Commence manufacturing of prototypes.

3. "Field test" with amputee population as a national effort.

4. Once findings of the field testing are available, disseminate this information through various conferences, journal articles, and in-service efforts to medical students, rehabilitation physicians, prosthetists and students in training, therapy staffs, and interested "consumers."

5. Identify and explore various manufacturers who could become involved with project recommendations.

6. A coordinated effort to quantify and identify primarily congenital amputees in order to assist in the dissemination of information and results.

Pre-Requisite of Symposium:

Once a Participant List is established, a comprehensive syllabus of CVs, paper publications and related journal articles will be compiled prior to the proposed symposium in order to fully familiarize all involved individuals with the various backgrounds of each participant. We would like for these items to

be concise and as brief as possible. We would like for each participant to write 1 or 2 pages maximum focused on these objectives. Where possible we would like the shorter version of CV's, 1 paragraph to 1 page maximum.

Proposed Dates of Workshop:

May 30 & 31, 1991

Proposed Site of Workshop:

1. The Johnson Space Center, Houston, TX

5–10 yr plan

- maintain & improve qual. services
  - in SE
    - head injury
      - clinic
      - outpatient therapy
      - trials
      - sports & rec.
- expand the continuum of service/care
  - more beyond med rehab to voc & com
    - home service
      - house calls
      - adult care
    - research

MEMORANDUM

Date: April 29, 1991

To: Charles C. Beall, Jr.
President

From: Rebecca R. Clearman, M.D.

Re: Long Range Planning

The following suggestions are in response to your request for input on long range planning.

1. Expansion of outpatient services

As competition for health care dollars among providers becomes increasingly vigorous, and medical facilities are increasing amounts of energy and resources on justification of expenses to third party payors, TIRR must develop a proactive strategy in order to survive in the 21st century. I believe that **outpatient care is the future of medicine**, and TIRR must be at the forefront of this shifting emphasis. TIRR's basic structure needs both expansion and reevaluation regarding ease of outpatient administration.

A. Development of complete comprehensive outpatient/day treatment program options for each disability category. Although the brain injury program has such a program, this is a glaring deficiency in the spinal cord injury program, and other programs as well.

B. Day treatment would require expansion of existing services for all therapeutic modalities, and require involvement of a case manager at perhaps even more intense levels than inpatient case management requires. Administrative personnel would be required to assist with coordination, and the importance of computerized scheduling and tracking is absolute to develop this sort of program.

C. TIRR's program oriented strategy to patient management is a great strength and development of comprehensive day treatment programs would be relatively simple. However, the current TIRR structure is not well suited to outpatient care. The admissions process and outpatient financial clearance is slow at times; outpatient work fluctuates in volume. Careful thinking of staffing requirements is critical in order to provide appropriate staff utilization.

D. Space utilization is a problem. Patients in a day treatment program may require an area to rest between therapeutic treatments. In addition, family members who accompany outpatients to therapy must have a place during treatments.

Some of these issues around space utilization could be resolved by the development of after hour and weekend utilization opportunities. Rather than operating from 8:00 a.m. - 4:00 p.m., therapies, clinics, etc. could be kept open until 8:00 or 9:00 p.m., thereby utilizing the space most fully during a 24 hour period.

E. Regarding how TIRR would be different in three years, I believe there would be a improved understanding from all TIRR staff that TIRR is not operating in a market vacuum. Although we do offer unique services, today's health care consumers and third party payors are increasingly sophisticated regarding their service requirements. Simply put, TIRR would become more market driven.

2. Development of truly comprehensive care strategies for persons with disabilities. Currently we have clinics in Plastic Surgery, Surgery, Podiatry, Obstetrics and Gynecology, etc. The development of a Family Practice or Internal Medicine Clinic, Orthopedics Clinic, Otorhinolaryngology Clinic, Optometry Clinic, etc., could provide needed services to the disabled persons within the community.

   A. The development of these clinics would require more outpatient clinic space and personnel. Specialized equipment needed for these specific clinics should be sought by donation from various fraternities, clubs, and other charitable groups. This equipment could be well utilized both by outpatients, and by inpatients who very frequently have need of these services.

   B. Service to the disabled population is the mainstay of TIRR admission. Countless numbers of patients go without needed services because of the reluctance of physicians in the community to treat them. For example, it is not uncommon for women with spinal cord injury to go without a Pap smear for many years due to the inability to find a physician willing to work with the mobility constraints, spasticity, etc. Particularly regarding family practice and internal medicine concerns, patients are sent into the community where the treating physicians have limited understanding of the rehabilitation problems and no collaboration between the TIRR physicians and outside physicians occur to the detriment to the patient's health.

   C. Closer liaisons with the Baylor College of Medicine or the University of Texas Medical Schools might provide a dual benefit of training opportunities for these medical schools and health care benefits for our patients. In addition, the exposure during training years of physicians to the catastrophically injured may very positively impact on their ability to manage such patients in their communities once training in completed. The development of such multispecialty clinics would change TIRR's reputation in the community for inpatient rehabilitation only. A broader spectrum of patient's could be expected to be attracted to the Institute.

Rebecca R. Clearman, M.D.
April 29, 1991

3. Development of a physician directed psychiatric/psychological program. TIRR is in the inviable position of having Dr. Arlinghaus in attendance at the Institute. She is both a gifted psychotherapist as well as a talented teacher and administrator. Under her guidance a complete clinical psychiatric service could be developed which would benefit both our patient population and provide needed services for those patients who we must now refer to other facilities.

   A. Beginning with more extensive outpatient services, individual and group psychotherapy should be provided for our patients. Currently Dr. Arlinghaus is providing individual psychotherapy, but under her direction a more extensive psychological services program could develop. This might include both individual and group psychotherapy from clinical therapists.

   B. Equally important is the eventual development of an inpatient med/psych unit to address the needs of the severely depressed spinal cord injured persons, and brain injured persons who become a behavioral problem. Currently, we send those patients with funding to other (competing!) facilities. Patients without funding, we keep at TIRR.

Rebecca R. Clearman, M.D.
April 29, 1991

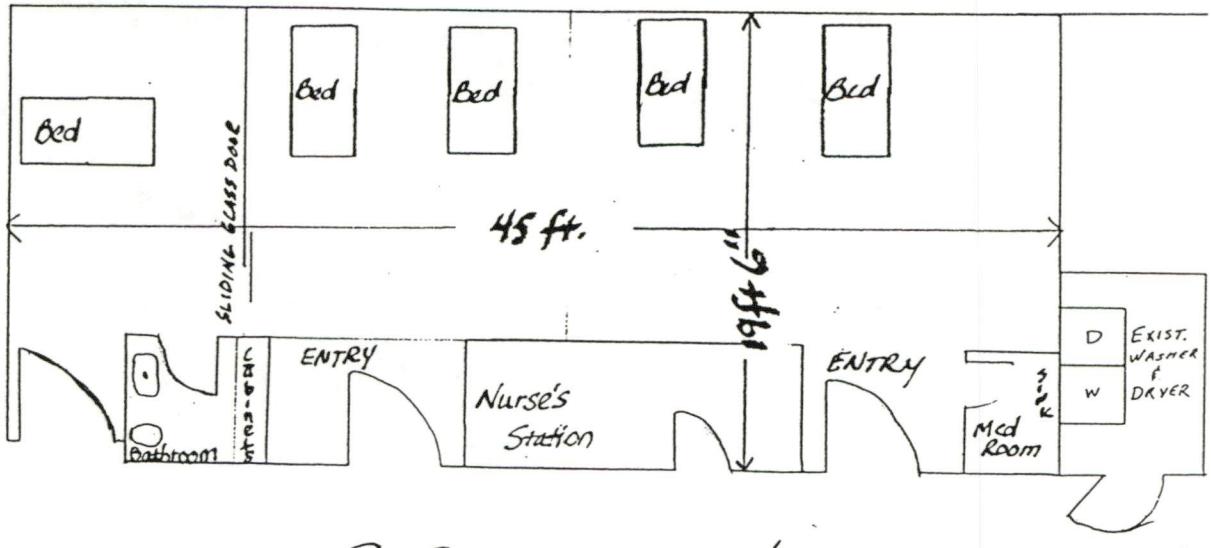
4. Development of an alternate housing and transportation system for patients and their families.

   A. Transportation concerns continue to be a major source of difficulty in providing outpatient services for the disabled. In addition, housing for outpatients and families who are with the catastrophically injured is difficult to obtain. Modeling after Ronald Mcdonald House, perhaps off-site housing could be arranged to meet these needs.

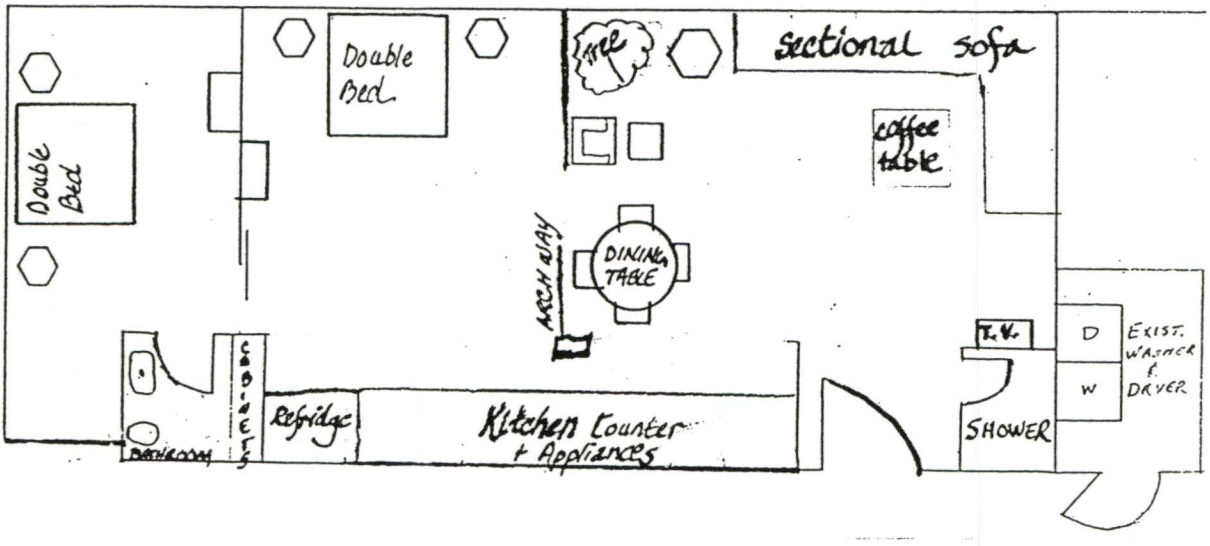
   Metrolift currently is inadequate to meet the needs of our patients. Through a collaborative effort with the Houston Metro Bus Service and TIRR, a more reasonable approach to patient transportation could occur. Rather than develop a unique TIRR transportation system, perhaps a contract with Metro could be developed to the advantage of both parties.

A Trial Apartment

Existing ICU



After Renovation: The Trial Apartment (completely accessible)



A 900 square foot space on the first floor of TIRR that currently serves as a five bed Intensive Care Unit (ICU) will no longer be needed in 1991 as these beds will be relocated to the new patient tower that is currently under construction. The location for a trial apartment is ideal, away from the patient care units, near the new cafeteria and outdoor cafe, but still within the confines of the hospital. The current ICU space has the necessary plumbing, electrical outlets, heating and cooling and existing header wall units contain oxygen, suction and compressed air to make conversion to a trial apartment extremely cost-effective. Renovation will include enlarging the windows, sealing off multiple doorways, converting a medicine room with a sink into a shower and removing three header wall units so that the oxygen, air and suction can still be used by families and patients if necessary. The current nurse's station will be enlarged and fitted with kitchen appliances. New furnishings will include two double beds (for use by the patient and family), a dining room table, sofa and television. Attractive, functional lighting and plants will be used to create a homelike setting. The budget will provide for the structural changes and appliances. New furnishings will be sought through community donations by the Director of Volunteers.

Lex Fyl (B)

Lex

I know it is a little late but I wanted to share an idea for a potential new program — a burn rehabilitation

The CDC, NIDRR, NIH is interested in this. Please see the attached Panel on Rehab from the CDC.

It is just something more to consider.

Bonthrons

MEMORANDUM

DATE: April 12, 1991

TO: Lex Frieden
Senior Vice President for Planning

FROM: Frances Pendergraft
Executive Director of Counseling Services

RE: Strategic Planning - Proposals for Service

Lex, attached are the suggestions related to strategic planning and ideas from the departments I manage:

Social Work/Vocational Service
Challenge Program
Outpatient Clinic

Good luck in putting all the suggestions you will be receiving. It has been fun participating in the process. I look forward to the retreat.

FPP/std

Community Out-Reach Program
"Community Case Manager"

Program objectives: An out-reach, post-discharge program with four main areas of activity:

1) Coordination of post-discharge care recommendations to ensure optimal rehabilitation outcome.
2) Assistance to patients and families in making community linkages for needed and existing services.
3) Counseling to assist patients/families with coping/adjustment issues, integration of information learned in rehabilitation, etc.
4) Development of community service contacts for networking, service provision and community planning to fill service gaps.

Staffing

1) A multispeciality planning team (already existing) to develop a "Community Re-entry Plan" for each patient prior to discharge.
2) Outpatient case managers under the direction of the Social Work Department to monitor plan.

Service Focus

1) Individualized post-discharge plan of care.
2) Arrangement for and monitoring of community based services.
3) In-home assessment of care needs.
4) Assistance in resolving problems.
5) Counseling and education of individuals and their families.
6) Monitoring progress and early identification of problems.

A. Allocation of resources:
Staff of two to four case managers to be managed out of Social Work Department.

B. 1) This proposal is related to overall research, education and clinical service mission of TIRR.
2) It will meet the needs of patients, ensure better rehabilitation outcome, keep patients connected to TIRR and address the needs that occur in the transition from rehabilitation to the community.
3) TIRR strength - Our experience and expertise with in-patient case management, our knowledge of existing community resources.
4) TIRR weaknesses - While we have a good outpatient medical follow-up program, we have put little emphasis on community reentry and vocational follow-up.
5) Competitive forces - fragmented and limited.
(To some extent insurance representatives maintain follow-up intervention with Workers Compensation patients)
Houston Center for Independent Living in fragmented way.

6) Sponsorship - Grant and/or foundation funding. Some option for reimbursement under Medicare to qualified MSW's under "outpatient patient counseling." (See Attached)
7. Health care trends are to shorten rehabilitation stays and force services to the community.
8) Health care financing and industry trends are also moving toward community based programs although funding is not necessarily assured.
9) Trends in rehabilitation - We would be unique. Such a program would set us apart from the for profit group who cut services at discharge.
10) Three years from now TIRR would have the reputation of a commitment to a continuum of care approach to rehabilitation.

FP/bb
4/91

MEDICARE REIMBURSEMENT FOR OUTPATIENT CLINICAL SOCIAL WORKERS SERVICES VALID

HCFA officials recently assured the Society for Hospital Social Work Directors (SHSWD) and the AHA that Medicare Part B will pay for services provided to outpatients by hospital based clinical social workers (CSW) despite conflicting instructions issued by several Medicare carriers. CSW's, however, will not be allowed to direct bill Medicare for services.

As part of the Omnibus Budget and Reconciliation Act of 1989, Congress extended Medicare Part B coverage to include services provided by CSW's on or after July 1, 1990. The act defines covered services as those provided by a CSW for the diagnoses and treatment of mental illness that the CSW is legally authorized to perform under state law, except for services furnished to hospital and skilled nursing facility inpatients.

While the law clearly allows payment for CSW services provided to hospital outpatients, carriers in Indiana and Ohio have issued bulletins erroneously stating that Medicare Part B will not pay for CSW outpatient services. And the SHSWD and the AHA already have received reports that some claims for outpatient services have been denied.

Although HCFA officials readily acknowledged that outpatients CSW services are covered, they stressed that current law does not allow CSWs to direct bill Medicare for covered outpatient services. Instead, CSWs must bill hospitals for outpatient services, and the hospitals in turn must bundle their CSW claims and submit them to their Part A Intermediaries for payment.

Faxed 1-16-91

To be published in AHA's Washington Watch February, 1991.

S24/25C

Vocational Program
Inpatient, Outpatient (Sheltered Workshop)

Program Objective:

1) Inpatient vocational counseling to be continued in an outpatient structured program.
2) Outpatient vocational services - including follow-up with TRC referrals.
3) Continue our present Vocational Evaluation Program.
4) Employ Job Find/Employer Liaison to:

   A. Create an Advisory Committee of community business/industry leaders. Advisory Committee would be asked to provide direction and advice in job opportunities, entry into market place, etc. and lend advice to program development and provide support to our Vocational Department.

   B. Maintain contact with client's employer during his rehabilitation stay and negotiate for same job with modifications or other options with same firm or company.

   C) Provide job find services and job coaching when appropriate.

5) Sheltered workshop for patients/clients who are too disabled or cognitively impaired to make it in a competitive job market.

Staffing

At least two additional vocational specialists to begin such a program.

A) Allocation of existing resources - Two additional staff to provide vocational services. One of the two would need to have strong organizational skills and an interest in developing community/industry liaisons.

B 1) Relates to TIRR's overall mission.
2) Would meet patient/client need by expanding our present service of evaluation and referrals to a more active, participatory, approach to return to work.
3) TIRR strength - A history of a strong vocational program that set the standard for vocational rehabilitation several years ago.
4) TIRR weakness - our deemphasis on vocational services because of poor reimbursement.
5) Competitive forces - None. TRC would be a resource, not a competitor.
6) Sponsorship is, at most, 30% to 40% from insurance. Industry and business might find supporting a "return to work of disabled individuals" an appealing project.

7) Health care and disability policy trend is to ignore vocational services. They like to assume the state take care of vocational needs. Unfortunately, TRC can provide some resources for training and education but are short on individual counseling and placement - especially for the severely disabled.
8) Same as 7
9) The few successful vocational departments in rehabilitation facilities have very creative, innovative leadership that has found ways to put together services to attract funding.

C) TIRR in three years would have a better return to work outcome for our clients.

FP/bb
4/91

Transitional Living Center/Outpatient Treatment (CARP)

A transitional living environment with attendant/support services adjacent to an outpatient rehabilitation facility (CARF).

The program would be designed to serve:

1) Patients in transition from hospital to independent living who require continued rehabilitation services in a less skilled environment (lower cost).
2) Out-of-town patients who could functionally receive rehabilitation services in an outpatient facility if they had access to local housing.
3) Post injury patients who did not receive rehabilitation or who did but need a refresher to rehabilitation and need a total program approach in a non skilled environment.

This model would be educationally focused.

a. Resources:
   1) A community based facility with separate space for housing and rehabilitation treatment.
   2) A complete rehabilitation staff for provision of outpatient services (suggest provision of services in groups when possible to keep cost low).
   3) Attendant services available in housing unit.

b. 1) Relates to TIRR's overall mission.
   2) Meets patient/client needs.
   3) TIRR strength - past experience in transitional living programming (New Options, Rehab III) and Systems experience in outpatient program development.
   4) TIRR weakness - We have been inpatient focused in recent years.
   5) Competitive forces - I am not aware of a program of this kind.
   6) Sponsorship options: Insurance would like lower cost but might hesitate to support need for housing.
   7) Health care following trend to move toward delivery of effective servies at less cost.
   8) Health care financing - probably a negative.
   9) Trends and expected development in rehabilitation-unsure.

c. In three years TIRR would have a wider service base with more options to service delivery that emphasizes cost containment.

FP/bb
4/91

Undeveloped Ideas

1) An attendant registery/training program.
We have discussed this need and encouraged Houston Center for Independent Living to develop and implement this program.

2) Refinement of the services offered to Spanish speaking patients to ensure they have complete/comprehensive services including all materials in Spanish.

3) A larger, newer fleet of vehicles to more completely provide in and outpatient needs.

4) In-Hospital apartment for home care training to give families and patient opportunity to practice in safe environment and build confidence in ability to do care at home.

FP/bb

Challenge

STRATEGIC PLAN: A CONTINUUM OF EMPLOYMENT SERVICES

The Challenge Program has experienced heavy demand for employment services because of its success in helping people with brain injury return to work. The model utilized by the team is the time-limited transitional employment training model in which clients are trained and placed in community work settings and job support is gradually withdrawn (faded) after work performance has been stabilized at a level commensurate with employers' standards (Szymanski & Parker, 1987). In addition, the experience of working on a practice job trial prior to placement in a paid job, allows for clients and staff to determine job appropriateness and to develop techniques for enhancing performance prior to actual job placement.

This plan proposes that TIRR develop an Employment Resource Center in the Challenge Program that will expand the current successful approaches of the Challenge Program Employment Track and the TIRR Vocational Department to a larger number of brain injured adults and to patients and former patients served in TIRR's other programs.

A. The specific objectives of the Center would include:

1. Involving the Houston business/industrial/commercial sectors in the funding, planning, direction and specific activities of the Center, possibly including TIRR Board members and other interested TIRR benefactors.

2. Developing a team of employment specialists who would cultivate the Houston and Harris County business communities to develop job opportunities, be knowledgeable about specific techniques that are successful in returning hard-to-place persons with disabilities into competitive employment; be informed about the legal and psychological issues associated with on the job injuries.

3. Providing a vocational assessment program that would efficiently and economically help clients and referrers identify feasible, realistic vocational objectives in light of the disability, individual capabilities and potentials, the local job market, and other critical factors such as transportation, financial disincentives, and family responsibilities.

4. Serving as a resource to TIRR patients and former patients, Texas Rehabilitation Commission, worker compensation carriers, employers and other members of the community who need specific disability related employment services.

5. Operating a clearinghouse between employers who seek qualified workers to fill manpower needs and applicants with disabilities.

6. Providing specific employment-related services and consultation for the Challenge Program, other TIRR entities, and employers including vocational counseling, job placement, job coaching, job readiness training, job site modification.

7. Operating a TIRR industry using paid Challenge or other TIRR clients/trainees in a work crew.

B. The staff would include a Center director, 2 employer liaison/job development specialists, job coaches (contracted as needed), vocational rehabilitation counselor, vocational evaluator. A TIRR industry would require staff such as director and supervisor.

C. Resource requirements would include 2 offices (at the Challenge Program and at the hospital - $12,000), annual staff salaries ($170,000), funds to contract job coaches ($25,000), and travel expenses ($4,000). Total for these expenses would be approximately $211,000. The TIRR industry would require its own budget.

1. Long term outcome of TIRR patients is an element of TIRR's effectiveness that can be easily overlooked by staff providing acute rehabilitation services, but is viewed critically by referrers and payors since vocational success typically indicates good health (and lower costs). Providing services that will help clients access the most important indicator of social and economic participation, a job, is a missing link in TIRR's fulfilling its mission.

2. Before the Challenge Program began its Employment Track, patient need for job placement assistance was largely unaddressed. Vocational evaluation and counseling, currently part of the TIRR service package, are important first steps in the employment process. However, very poor rates of employment among TIRR's spinal cord injured patients testify to the lack of vocational help and opportunity available.

3. The current success of The Challenge Program's Employment Track in helping brain injured clients return to work could be a basis for developing an effective Employment Resource Center that would serve all TIRR patients. We have developed credibility with the Texas Rehabilitation Commission and insurance case managers.

4. This program would fill a currently existing gap in services that addresses TIRR's mission of our patient's achieving productive functioning.

5. Of TIRR's hospital competitors, none currently have a substantial commitment to employment services. Project ReEntry and the Neurobehavioral Institute have one staff person assigned to job development/placement. In the head injury arena, Transitional Learning Community in Galveston has a very active

employment program. However, T.L.C. provides basically different services from TIRR and competes in a different market, residential facilities.

6. Sponsorship options include Texas Rehabilitation Commission, worker compensation insurance companies, and employers. TIRR may be able to look to Houston's business community to find development resources or other support for this project, especially in light of the Americans with Disabilities Act of 1990.

7. Besides addressing the above cited issue of long term outcomes of our patients, the Employment Resource Center would provide a resource for employers in Houston and Harris County who will seek qualified applicants with disabilities; this is anticipated to be an effect of the Americans with Disabilities Act. In addition, there is a growing movement to require worker compensation benefits to include vocational rehabilitation. Most private rehabilitation providers are preparing for this by employing small vocational rehabilitation units.

8. This program is not typically part of most hospital services. However, there are some rehabilitation hospitals who do have similar types of services including the National Rehabilitation Hospital and the Rehabilitation Institute of Chicago.

9. Preparing ourselves for the impact of the Americans with Disabilities Act should be an important part of our strategic plan. The Employment Resource Center could play a key role in the strategy.

With a successful employment program in place, TIRR would be valued as a facility that produces healthy and productive former patients who require fewer subsequent hospital admissions, who contribute to society as taxpayers and who have an enhanced quality of life.

04-11-91

04-EmpResCen-pk

Strategic Plan: *The Challenge Program*

The Challenge Program (TCP) is an outpatient, comprehensive brain injury rehabilitation program. TCP addresses the needs of brain injured patients through one of three primary "tracks": Vocational, Independence, or Educational. A small portion of clients also receive individual services. Please see Figure 1 for a current distribution of patient enrollment. Patients are supported by a variety of funding sources. Please see Figure 2 for a current distribution of funding sources. Since October of 1990 the Challenge Program has been experiencing an upswing both in client attendance and financial success (See Figures 3 & 4). As may be seen from Figures 3 & 4, this trend is continuing into 1991. One of the negative components of this trend is that the quantity of patient need is beginning to outstrip available resources.

In terms of TCP's conceptual framework of "The Community is our Classroom," necessary resources are threefold: sufficient space to serve clients during in-house, group-based therapies; sufficient staff to be available for in-house groups, community-based groups, and community-based vocational supervision; and sufficient transportation to reach the community that is our classroom. At the current attendance of approximately 18 patients per day, TCP is one of the largest outpatient brain injury rehab programs in the country. 18 patients per day is also stretching the 5.5 person rehabilitation staff. The single van, available to the program, only comfortably holds 6 persons.

If the program were to remain static in terms of patient demand, over time accommodations would occur to the client load. However, at present there a 12 reported, outstanding referrals. Additional limitation to the program relates to its locations. Though referrals are frequently made from northwest Houston and beyond, patients referred from such areas find the travel distance prohibitive.

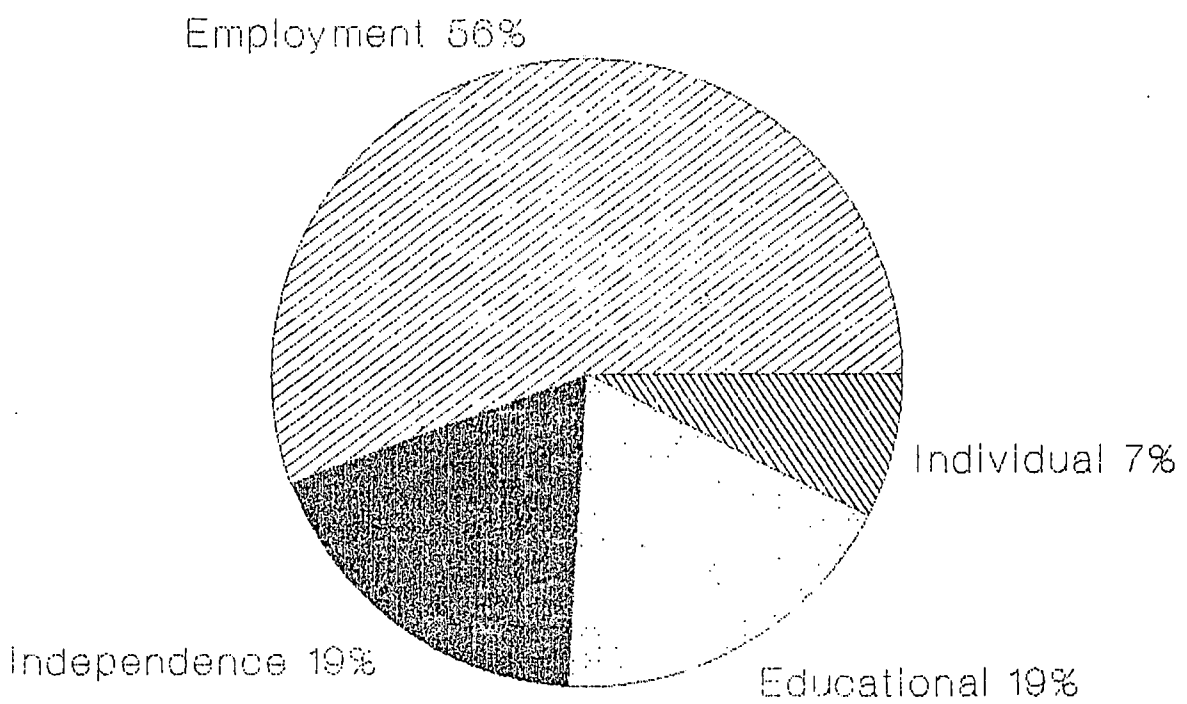
The purpose of this proposal is to make several recommendations:

1. Consider the development of satellite Challenge Programs in a variety of areas including the Cy-Fair/1960 area and or the Clear Lake area. The programs could develop different primary tracks based on local need. For example, the Klein School District has a very strong interest in providing services for brain injured students. The "Challenge Program" in the Klein area could have a stronger Educational Track than the "Challenge Program" in the Bellaire area.

2. As an alternative or corollary to "1", consider developing the Challenge Program Model as a transferable package which may be sold/ joint ventured with other facilities. This has the advantage of more immediate return with less start up cost.

3. Develop a more responsive transportation system for TCP. Consider a fleet of 3 vehicles for the current program which are leased.

Rehab Tracks
Challenge Program



1991: 1st Quarter

Figure 1

Challenge Program
Patron Sources

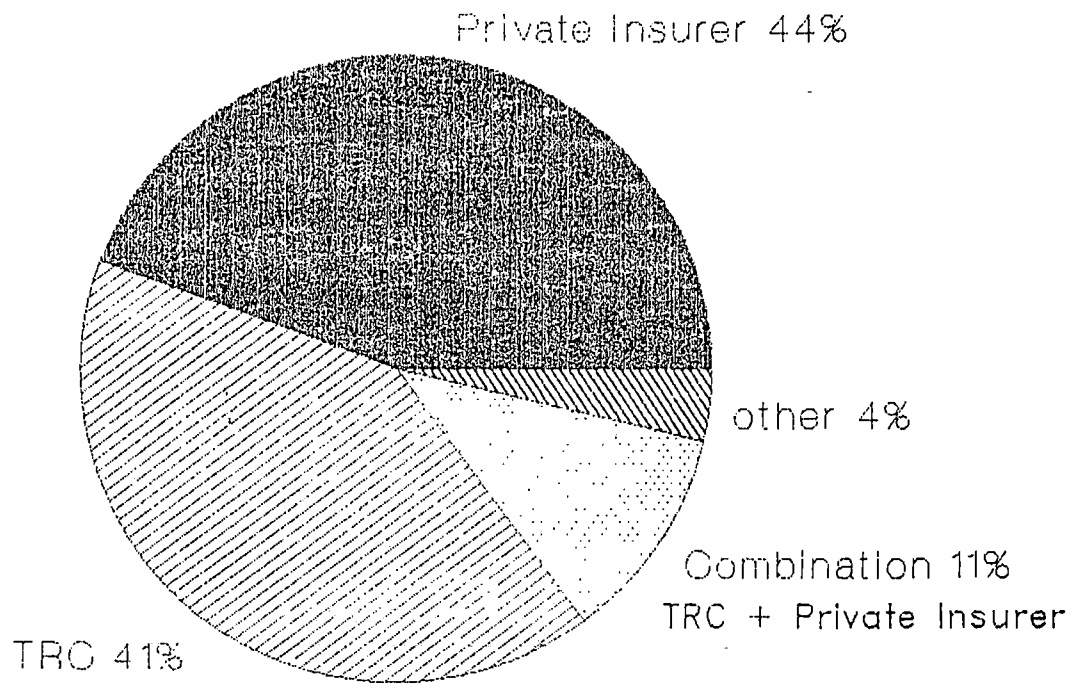
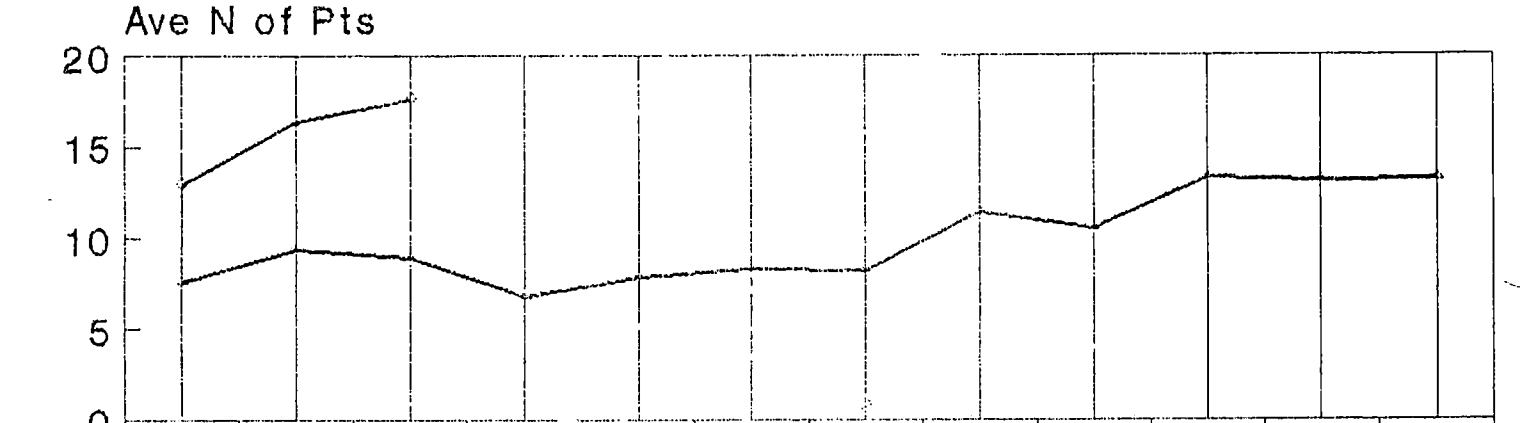


Figure 2

1991

Average N of Pts/Day
The Challenge Program



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1990	7.6	9.4	8.9	6.8	7.9	8.3	8.2	11.4	10.5	13.3	13.1	13.2
1991	12.9	16.4	17.6									

Month

Calendar Year
1990 1991

1991

Figure 3

Total Revenue Challenge Program

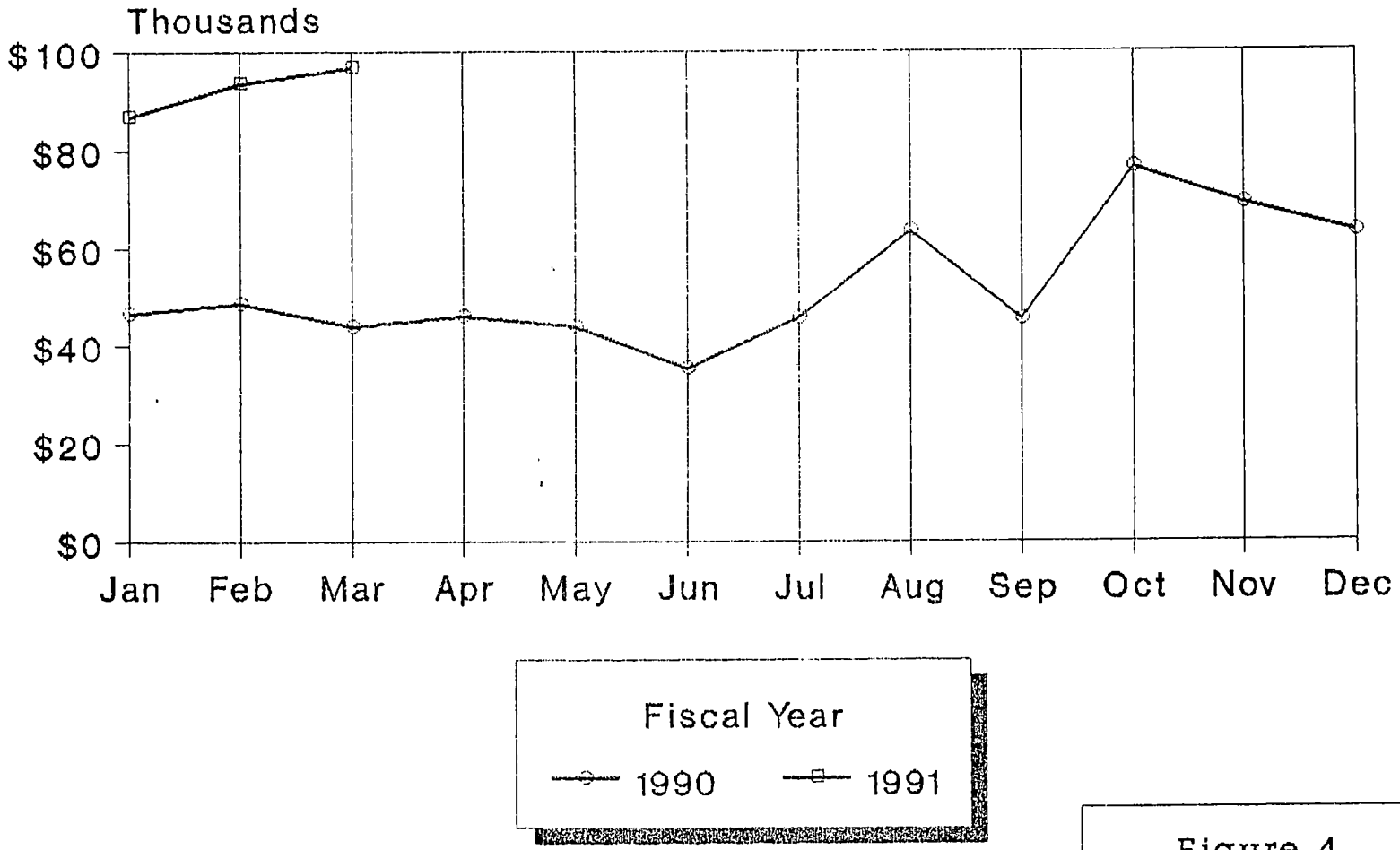


Figure 4

1990 - 1991

1. Establish a collections office on the first floor for clients whose accounts are "self pay"

   a. Space and a collector

   b. 1). Such a program will assist to coordinate and improve services to outpatients

      2). Currently, self pay patients must go to the cashier's window on the second floor to pay after they have registered and received services on the first floor.

      3). TIRR's commitment to providing access to services and a barrier-free environment to rehabilitation clients will support this program.

      4). A collections office on the first floor will address a weakness of client dissatisfaction, inconvenience to mobile patients and of extreme difficulty to some less mobile patients. It will also improve a current weakness for collecting from self pay patients who deliberately avoid going to the cashier's window to pay before leaving.

      5). A convenient collections office relates to competition because such a service will portray an image of "client first" and of meeting the special needs of the rehabilitation patient.

      6). Options for the location and staffing of a collections office include options in Outpatient Clinic, Admitting, or a collections office under the management of Accounting or Patient Accounts.

      7). A convenient collections office will relate well to the trend to decrease barriers to the handicapped.

      8). A convenient collections office on the first floor is congruent with the industry trends to emphasize client service. Such an area will improve collections by decreasing opportunities for self pay patients to avoid paying at the time of service.

      9). A convenient collections office relates well to the trends in rehabilitation to decrease barriers for clients and to facilitate access to all areas of rehabilitation providers.

   c. A collections office on the first floor will improve collections from "self pay" clients and improve an area of client dissatisfaction.

2. Enhance Services Offered Through Outpatient Clinic

a. Resource requirements include additional space for examination/treatment rooms and patient conference areas plus the additional nursing and clerical personnel as volume indicates.

b. 1). Enhancing services will support the mission of developing and managing coordinated services to outpatients with speed of delivery, integrated scheduling and space.

2). Enhanced services relevant to patient needs include the following:

- Pain Clinic
- Internal Medicine Clinic
- Extended hours
  - for select clinics
  - for assessing medical problems that occur after regular clinic hours
- Gynecology Clinic
- Fertility Clinic
- Sexual Dysfunction Clinic
- Others as Identified
- "Call the Nurse" Program for questions and answers about rehabilitation needs

3). TIRR's multidisciplinary team approach to rehabilitating and treating the total patient is a strength that will support this program. Having an onsite Outpatient Clinic that is establishing itself as a provider of convenient, quality services will strongly support this program.

4). Enhancing these services will address a current weakness by filling "gaps" in services not readily available to the rehabilitation patient.

5). These services will help TIRR to compete in the market place by providing services not readily available to the rehabilitation patient but that will address their total care needs.

6). TIRR's Outpatient Clinic has the components to sponsor enhancing outpatient services. Consulting physicians such as gynecologist, urologist, anesthesiologist, etc. currently have privileges at TIRR. An internist, who previously provided employee pre-employment physicals in Outpatient Clinic, has expressed an interest in staffing an Internal Medicine Clinic.

7). Enhancing outpatient services relates to health care and disability policy

trends to provide a multidisciplinary approach to the total needs of the rehabilitation patient.

8). Enhancing outpatient services fits the current health care financing and industry trends to increase the services available in an outpatient rather than an inpatient setting.

9). Enhancing services for the total well being and enjoyment of the life of the rehabilitation patient relates to the trends and expected developments in the field of rehabilitation.

c. The expected outcome and effects of enhancing the services available through Outpatient Clinic are increased client satisfaction and loyalty from both patients and referral sources, increased outpatient revenue, and stronger competitive advantage in an increasingly competitive environment.

3. Enhancing Transportation for Outpatients To and From Therapies and Visits to TIRR

a. Resource requirements include additional vehicles with patient lifts and drivers.

b. 1). Enhancing transportation for outpatients will support the mission of developing and managing coordinated services to outpatients with speed of service delivery.

2). Transportation issues currently contribute to patients canceling or failing to keep scheduled appointments due to transportation problems which include lateness of Metrolift, ineligibility for Metrolift services, and special care needs.

3). TIRR strength that will support enhancing transportation of outpatients is the staff of Patient Escort/Valets, who are trained to lift and transfer rehabilitation patients.

4). Enhancing transportation to outpatients will correct a current weakness: the number of therapies or visits cancelled and "no shows".

5). Enhancing transportation will provide TIRR a competitive edge against its competition inside and outside The Texas Medical Center by improving access to services available.

6). Sponsorship for this program is available through TIRR's Patient Escort/Valet Services, which currently provides transportation services to and from therapies on a limited basis.

7). Enhancing transportation for outpatients relates to removing barriers to services experienced by the rehabilitation patient.

8). Enhancing transportation for outpatients relates to the health care industry trend to take services to the patient through satellite facilities (which often duplicate services and compete with anchor facility) by reversing this principle - taking the patient to the services centralized in a world renown facility.

9). Enhancing this program relates to trends and developments in the field of rehabilitation by making access to services easier for the handicapped client.

c. Enhancing transportation for outpatients to and from therapies at TIRR will improve productivity by increasing productive therapy time, increase client satisfaction and loyalty, increase referrals, and provide TIRR with a stronger competitive edge in an increasingly competitive environment.

4. Computerizing Medication Histories

a. Computer hardware and software

b. 1). Developing and networking a computerized data base of patients medication histories is compatible with the goal of developing and managing coordinated services to outpatients with speed of service delivery and integration.

2). Currently TIRR pharmacy and Outpatient Clinic maintain separate records of patients' medications prescribed and refilled. Patients needs could be better addressed if Pharmacy had access to records of medications prescribed by TIRR physicians and/or outside physicians which are filled by outside pharmacies. If computerized records were maintained, a current medication history could be generated for each patient seen in Outpatient Clinic. This would provide a convenient and more accurate history, which is especially important due to TIRR's multidisciplinary approach to patient care. Networking between pharmacy and Outpatient Clinic will provide continuity of care between outpatient and inpatient care status.

3). TIRR strength that will support the program are the computer programming ability of TIRR's MIS Department. Outpatient Clinic's nursing staff, are designated agents of TIRR physicians with their authority to approve medication refills. These nurses are in communication with patients, physicians, home health nurses and other professionals involved in the care of outpatients.

4). A computerized data base with access by Pharmacy and Outpatient Clinic will improve the speed, efficiently and accuracy of medication dispensing and refilling.

5). Such a data base will provide efficient and up-to-date information to ensure quality patient care, which is TIRR's greatest marketing tool to patients and referral sources.

6). Pharmacy and Outpatient Clinic both strongly support this concept, which has been discussed with MIS. MIS can develop a computer program, or TIRR can investigate the feasibility of purchasing commercial software.

7). A centralized data base of medication histories will relate well to the multidisciplinary approach to providing care to rehabilitation patients. It will provide continuity of care between inpatient and outpatient status.

8). Such a program fits well with the industry trends which focus on quality and continuity of care.

9). The program relates well to rehabilitation's focus on multidisciplinary care and the growing emphasis on ambulatory care.

c. Developing a centralized data base of patients medication histories for TIRR Pharmacy and Outpatient Clinic to access with provide benefits that include:

- greater speed of service delivery of refill approvals
- integrated services between Pharmacy and Outpatient Clinic
- enhanced quality of patient care
- enhanced client satisfaction
- enhanced physician satisfaction and efficiency
- enhanced productivity in Pharmacy and Outpatient Clinic.

STRATEGIC PLAN: RESIDENTIAL SERVICES

In 1989 TIRR Challenge Program and the Volunteers of America submitted a proposal to the U.S. Department of Housing and Urban Development to build a 25 unit apartment project intended for residents with mobility impairments and brain injuries who may need some supervision. The proposal was approved by H.U.D. Now the Volunteers of America, acting as landlord, is building the apartment in the Heights area of Houston. The project calls for the outfitting of a "practice apartment" in which clients can prepare for independent living under the supervision of the Challenge Program. A specific plan for TIRR's management and staffing of the rehabilitation portion of the project is under discussion. TIRR's role in this project and other housing initiatives should be part of the strategic plan.

TIRR Challenge Program and other outpatient services of TIRR could also benefit from the availability of supervised temporary or transitional housing for clients/patients needing extended services such as Challenge Program (up to 6 months) or other outpatient treatment. Currently clients seek their housing in the Medical Center area, with family members providing supervision if necessary. However, clients who do not have family members able to stay with them for a period of months either receive inadequate outpatient services near their homes or go without.

Low cost, supervised temporary housing would probably be used by three groups of patients: (1) outpatients needing easy to access housing for the period of their treatment; (2) Challenge clients from outside of the area served by Metro Transit Authority who need transportation and supervision in order to stay away from home; (3) TIRR patients and former patients and Challenge clients who need safe, accessible temporary housing until they can find something appropriate in the community.

This proposal states the need for TIRR to develop a systematic plan to include residential/housing resources in its continuum of services as part of this strategic plan.

At this time TIRR is very much a Medical Center oriented facility. At the same time Houston is a community that is increasingly decentralized, with its residents looking for services in their neighborhoods or at least delivered in a fashion that clients and families can manage, given the demands of commuting and other family responsibilities. Although in the past TIRR had a presence outside of the Medical Center, until recently TIRR demanded that its patients come to the Medical Center for all its services. Planning TIRR's growth in the direction of outpatient services and housing that is connected to those outpatient services would allow for expansion in the communities where patients are, making our services attractive to people who otherwise would not have considered them.

Resources are available to develop more long term living H.U.D. apartment housing. The Volunteers of America anticipate more projects like the V.O.A./TIRR project if this one is successful. It makes sense for the Volunteers of America to continue as landlord since they have much experience in federal housing programs for persons who are elderly and disabled.

Resources are also available for patients/clients to live in various types of housing, including worker compensation insurance, Texas Rehabilitation Commission and H.U.D. housing subsidies. In addition, the Texas Department of Human Services as part of its program for Intermediate Care Facilities for Persons with Related Conditions (ICF/RC's) and for Community Living and Support Services (CLASS) will have resources available to both purchase housing in group homes and to purchase services to keep developmentally disabled persons with brain injuries out of institutions.

At present, TIRR's competition offers the following housing options (that I know of):

Project ReEntry at Del Oro makes arrangements for unsupervised housing in area motels.

Neurobehavioral Institute has a long term residential group home.

Memorial City Rehabilitation offers supervised housing in their extended care facility.

Transitional Learning Community in Galveston has several levels of supervised housing including a practice apartment, Bay Ridge Village in League City which provides assistance for cognitive needs and apartment living.

This proposal is by no means a comprehensive exploration of the housing program options available to TIRR. Much more study is required. However I see two important issues:

1. Insurance companies and patients want more outpatient services. Providing temporary housing so that patients and insurance companies can access the best outpatient rehabilitation services (those of TIRR, of course), makes us a more likely choice.

2. The number of brain injury survivors increases by 4,930 per year in Texas. Many of these survivors will require varying levels of assistance in order to make the transition to independence or to live with minimal supervision. For those persons who do have access to financial resources to pay for housing and housing-related services, TIRR has little to offer. If we are to be known as a provider of excellent and complete brain injury rehabilitation services across the continuum of care, some type of residential program should be part of our system.

04-resfac-pk

MEMORANDUM

DATE: April 15, 1991

TO: Charlie Beall

FROM: William H. Donovan, M.D.

RE: Strategic Plan for TIRR - Recommendations

1. Features

The Amputee Program - mainly an outpatient service has many unique and outstanding features.

a) 20 years experience.
b) Far greater than average experience with upper extremity amputees.
c) Offers comprehensive services beyond ordinary amputee programs.
   - Medical management including amputation revisions utilizing the latest in plastic surgical techniques.
   - Prosthetic - Muilenberg's experience and reputation for excellence. This includes fitting "state of the Art" upper extremity myoelectric components for children and adults.
   - Rehabilitation - inpatient and outpatient preparation for and training in the use of the prosthesis along with instruction in alternative means of mobility and self care.
   - Follow-up care - improved clinic services that facilitate all aspects of ongoing care.
d) Location of the Limb Bank at TIRR - working with community resources to raise money to continue this community service.

2. Resource Requirements:

A. Personnel

1. Program Coordinator, 1 FTE - Major duties are to facilitate referrals to TIRR, assist with securing details of sponsorship, assist with intake, through-put, coordination of services, feedback to sponsors, also acts as community liaison and coordinator of limb bank operations including screening of applicants,

selection of prosthesis and rehabilitation course of treatment.

2. Program Secretary, 1/2 FTE - Major duties are to maintain the data bank on all amputee patients, handle all correspondence and files, type up minutes and chart round notes as well as replies to 3rd party payors.

3. Nurse, 1/3 Time - Major duties are to assess clinic patients prior to their medical examination, collect information relative to the data bank on all clinic patients, provide assistance to the physicians, respond to phone calls from patients needing appointments or other assistance.

4. Medical Director, 1/3 Time - Major duties are to provide medical direction to the program, provide medical treatment to the patients, supervise the duties and performance of the above persons as well as the residents and medical students, supervise educational activities for medical and allied health personnel and direct research emanating from this program.

5. Social Worker, 1/5 Time Outpatients, 1/3 Time Inpatients - Major duties are to counsel patients to help resolve problems and adjust to disability as well as assist with seeking funds.

6. More readily available psychiatric services are needed to help meet the emotional needs of these patients.

B. Space

1. Office for Director of Program (now currently shared with Vice President for Medical Affairs).

2. Office for Coordinator of Program (currently shared with Chief of Surgery Office).

3. Clinic utilization every Wednesday A.M. and alternate Friday PM.

4. Limb Bank Office

C. Equipment - Standard office equipment for Director and Coordinator

D. Supplies - Standard office supplies for Director and Coordinator.

3. Relevance of Program to TIRR's Mission

The relevance of the Amputee Program hardly needs explanation. Amputations produce catastrophic disabilities. TIRR specializes in catastrophic disabilities. Beyond that, this program offers more than any other amputee facilityin this region (see above). This places it above the competition Its major strengths are its comprehensiveness and the experience of the medical director, the surgeon, the prosthetist, the coordinator, the therapists and the nurse. It's weaknesses can and are being corrected. Namely, we need a newer, more competitive hospital (physical plant) as do all the other programs. We also need a better marketing effort to let referees know of our strengths. Even so, we continue to receive many referrals on a National basis from Workman's Compensation insurance nurses who know of our reputation.

4. Health Care Trends

This program, like the others must follow health care and disability policy trends. The program has modified its treatment strategies to accommodate for more outpatient treatment; it has taken a cautious approach to newer expensive, "high tech", devices while continuing to prescribe less experience but tried and true components for those who lack sponsorship for newer devices; it has never refused medical evaluations for anyone approved by TIRR.

5. Discussion

This program should definitely continue. Its strengths should be marketed more widely. Current level of hospital support for space and staff support is adequate except for a larger fraction of social work support that is needed - at least 1/4 FTE. Space will be required in the very near future for the Limb Bank Headquarters of Houston.

In the future, the program will need more physician time, a full time secretary, and a 1/3 time social worker for the Outpatient Clinic.

The University of Texas
Health Science Center at Houston

MEDICAL SCHOOL
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FAX TRANSMISSION COVER SHEET

TO: Charlie Beall

FAX - 799-7095

FROM: Delbert Rudy

FAX - 792-5683

Total Number of Pages Sent (Including Cover Sheet): 6

INSTRUCTIONS:

I. Urology Clinic

a. 1. Full-time urodynamics/urologist.

2. C-arm.

b. 1. Necessary to evaluate/treat voiding dysfunction secondary to neurologic disease/injury.

2. Voiding dysfunction, sexual dysfunction, stone disease and infection are sources of significant patient morbidity/mortality.

3. TIRR provides appropriate patient population.

4. TIRR has been underserved in this regard in the past.

5. The only competition is at Methodist/St. Luke's. There is no other equivalent competition that I am aware at other local rehabilitation centers.

6. The Hermann Voiding Dysfunction and Incontinence Center that is currently under construction.

7. Voiding dysfunction is probably the urologic 'disease' of the 1990's.

8. Preventative and diagnostic care are obvious industry trends.

9. Over the next ten to 15 years, I think we will certainly see new developments in our ability to manage voiding dysfunction.

c. Patient retention, reduce patient morbidity, improve quality of life.

II. Inpatient urology care/surgery.

a. Dedicated inpatient beds.

b. 1. Voiding dysfunction secondary to neurologic disease/injury.

2. Voiding dysfunction, sexual dysfunction, stone disease and infection are sources of significant patient morbidity.

3. TIRR provides appropriate patient population.

4. TIRR has been underserved in this regard in the past.

5. To provide for more centralized care instead of 'farming-out' urology care to other institutions. Patients clearly like receiving urologic care at TIRR.

6. Inpatient urology care can easily be done at other hospitals as has been done in the past.

7. More efficient.

8. More efficient.

9. As capabilities to treat voiding dysfunction expand, it will be important for institutions such as TIRR to be involved.

c. Improved hospital utilization and patient satisfaction.

III. Urodynamics

a. C-arm, full-time urodynamics nurse.

b. 1. Necessary to manage neurogenic bladder.

2. Most TIRR patients have neurogenic bladder.

3. Attracts suitable patient population.

4. Largely unavailable in the past.

5. Only real competition is at Methodist/St. Luke's.

6. Hermann.

7. Preventative and diagnostic focus of urodynamics is clearly in keeping with industry and funding trends.

8. See 7.

9. This would allow TIRR to take advantage of future new developments in the treatment of voiding dysfunction.

c. Increased revenue, facilitate clinical research in voiding dysfunction, facilitate patient care.

IV. *Pediatric Voiding Dysfunction Clinic (e.g. myelodysplasia)*

a. *Clinic resources, pediatrician, orthopedist, neurosurgeon, pediatric rehabilitation specialist, neurourologist, ostomy nurse.*

b. 1. *Pediatric physical disability is a major problem and certainly in the scope of TIRR's mission.*

2. *The only other clinic I know of in this regard outside of the Shrine Hospital for indigent patients is at Texas Children's Hospital.*

3. *The rehabilitation ability and reputation of TIRR.*

4. *This would need to be a multi-disciplinary clinic which might serve as a model for other clinics at TIRR.*

5. *The only current private medicine competition is really from St. Luke's Hospital that I am aware of. There is a clinic at the Shrine, however, this is primarily for indigent patients. I would think that this would be a highly marketable enterprise on a PPO/HMO model.*

6. -

7. -

8. -

9. *The therapeutic options open to treating the pediatric patient population is changing rapidly and requires a 'cutting edge' institution like TIRR to provide optimal care. For example, Dr. Kaplan's work with bladder stimulation would be a natural for the setting at TIRR.*

c. *New Resource.*

V. *Urology Research*

a. *Research coordinator.*

b. 1. *Voiding dysfunction research obviously fits the mission at TIRR.*

2. *This is fertile research area.*

3. *TIRR has the appropriate patient population, reputation, and research qualification.*

4. *This is largely an untapped resource at TIRR.*

5. -

6. *Federal, institutional, and private (drug companies, for example).*

7. -

8. -

9. *Voiding dysfunction is clearly a major industry focus in terms of development of new capabilities with regards to drugs and equipment. For example, such a focus would be a natural marriage with the research already underway regarding the Baclofen pump at TIRR.*

c. *Active productive urologic research would enhance the reputation at TIRR, increase the availability of institutional funds and attract patients.*

M E M O R A N D U M

TO: Charlie Beall

FROM: Charlotte Stelly-Seitz, MD CSS

RE: Strategic Plan

DATE: April 22, 1991

Enclosed you will find some additional pieces to the strategic plan developed by the pediatric team. If you need any clarifications, please do not hesitate to contact me at 799-5052.

TIRR STRATEGIC PLANNING
4/91

Pediatric research Description and rationale: TIRR has been a leader in areas of research regarding disabilities. As we develop a pediatric program with a broader base, the potential to become a leader in this research area is apparent.

a. Resource requirements pertaining to Pediatric research: Initially, need support to acquire grants for research. The pediatric team is eager to explore areas of research. We have been piloting the WEE-FIM assessment tool and are working to develop Individual Treatment Plan nomenclature for pediatric patients.

b. 1) relevance of Pediatric research to TIRR clinical mission: Research is one of TIRR's main missions.

2) relevance of Pediatric research to patient needs: Research will help us to better identify patient needs and effective strategies for their management.

3) how TIRR strengths will support Pediatric research: TIRR has a strong history of good, effective research.

4) how Pediatric research will address TIRR weaknesses: We don't currently have well established pediatric research. The preventive brain injury grant should incorporate the pediatric component of TIRR more.

5) how Pediatric research will relate to competition: Just as it helped establish TIRR as the expert in spinal cord and brain injury rehabilitation, it would help do this for pediatrics. Presentations at national meetings would keep experts across the country informed of our progress and knowledge.

6) known options for sponsorship of Pediatric research: All the typical sponsors of other research with the addition of those specifically pediatric.

7) how Pediatric research relates to health care and disability policy trends: More children are surviving premature birth and accidents. Therefore, interest in the management of these persons is increasing.

8) how Pediatric research fits health care financing and industry trends: Recognized as a need area. More specific requests for pediatric research are being seen.

9) how Pediatric research relates to trends and expected developments in the field of rehabilitation: Just as geriatrics expanded, so will pediatrics.

c. Discussion of expected outcome or effects of change resulting from implementation of Pediatric research: Assist in establishing TIRR as a true center for pediatric rehabilitation. Better tracking of outcomes and planning for future needs of this population.

Medicaid/EPSDT Description and rationale: As of August 1990, there was an expansion of services in Medicaid for children aged 0-18years. This expansion basically is that Medicaid will provide coverage for all conditions listed on an Early Periodic Screening Diagnosis and Treatment (EPSDT) exam done on Medicaid patients. Durable medical equipment and speech therapy would be examples of services covered for our potential patients. This would give our patients a wider variety of funding options. In addition, the fee collected by the physician for this service is better than for routine Medicaid visits.

a. Resource requirements pertaining to Medicaid/EPSDT: Mostly involves the outpatient clinic. The nurses there would have to add height measurements, vision screening, and hearing screening. The pharmacy would also be involved as immunizations are a part of EPSDT. The immunizations would be provided to TIRR without charge. Laboratory specimens would need to be mailed with all lab collection devices and labels provided. We would need lab help to collect what are largely fingerstick samples.

b. 1) relevance of Medicaid/EPSDT to TIRR clinical mission: Assists the disabled with getting all services available to them to enhance the quality of their lives. For example, it would provide better coverage of speech therapy for those persons with brain injury who don't have this service under CIDC alone.

2) relevance of Medicaid/EPSDT to patient needs: Provides alternate sources of funding when sources like CIDC have their usual fiscal crisis.

3) how TIRR strengths will support Medicaid/EPSDT: We see a population that would benefit very directly from the program expansion. We are largely providing services very close to the EPSDT requirements at the present time.

4) how Medicaid/EPSDT will address TIRR weaknesses: Will open new funding options for our potential patients and allow us the ability to serve them more comprehensively.

5) how Medicaid/EPSDT will relate to competition: As a new program, most places don't know how to access it. We would be a leader.

6) known options for sponsorship of Medicaid/EPSDT: Self-explanatory.

7) how Medicaid/EPSDT relates to health care and disability policy trends: Extends early intervention and preventive health care services to the disabled child.

8) how Medicaid/EPSDT fits health care financing and industry trends: The fact that Medicaid has been willing to fund such a program, has made it potentially easier to lobby for insurance companies and other private sector funding sources to cover preventive and screening services. Many private insurance companies don't currently pay for any well child care.

9) how Medicaid/EPSDT relates to trends and expected developments in the field of rehabilitation: CIDC is cutting back services. Alternate services will become more important.

c. Discussion of expected outcome or effects of change resulting from implementation of Medicaid/EPSDT: Broadens the base of funded patients and the comprehensive quality of funding for many of our younger patients.

Respite care Description and rationale: Respite is a break from a person's routine duties. In health care, it generally refers to a period of time when the family is freed from the responsibility of taking care of a dependent member. Often, these dependent members require some form of round the clock medical supervision/intervention. This program might mesh nicely with the day hospital concept as beds that become idle at night, may be able to be used, for evening and night respite.

a. Resource requirements pertaining to Respite care: Per discussions at a Texas Respite Resource Network conference that Dr. Stelly-Seitz attended in San Antonio in November, 1990, resources would include at least the following: 1) Research in the form of a needs assessment survey sent to probably our former patients and their families and existing social service agencies that are also involved in the care of dependent persons, 2) CORF certification of the unit set up, 3) administrative structure to include a board of directors or advisory council whose expertise would ideally include someone knowledgeable regarding law, accounting, business management, advocacy, special education, and the running of another related organization, 4) assistance with the location of appropriate funding sources, 5) publicity and networking, 6) establishment of a training program for the staff to include CPR and first aid as well as ongoing inservice with hiring not occurring until an initial 20-40 hours of training is completed, 7) annual independent audits done to track dollars given to support the program, 8) locating multi-source funding, 8) hiring a program director.

b. 1) relevance of Respite care to TIRR clinical mission: Makes our rehabilitation services more balanced. Provides education to more of the general public regarding the needs of the handicapped. Allows the disabled to interact with a broader scope of people and thus explore options for care other than from family members.

2) relevance of Respite care to patient needs: Will help retard or prevent "burnout" of families. When this burnout occurs, the disabled person is often placed in a more restrictive environment with fewer personal choices.

3) how TIRR strengths will support Respite care: We have the skills needed to provide respite care in our institution. TIRR personnel have responded with success to other novel adventures including the Challenge program.

4) how Respite care will address TIRR weaknesses: Broadens the scope of services.

5) how Respite care will relate to competition: Will expose TIRR services to a larger number of potential patients. Answers a need in the community and thus fosters our public image.

6) known options for sponsorship of Respite care: Private insurance, In-Home-And-Family-Support programs through TDHS and MHMRA, private foundations, United Way venture funds, foster family programs, Maternal and Child Health grants.

7) how Respite care relates to health care and disability policy trends: Continued trend to deinstitutionalize disabled persons.

8) how Respite care fits health care financing and industry trends: Assists in avoiding an inpatient hospital stay as fatigued caregivers are unable to provide the intensity of care needed. With a break given to these caregivers, they will be more likely to be able to provide ongoing services.

9) how Respite care relates to trends and expected developments in the field of rehabilitation: The incorporation of the family into the needs of the disabled, is becoming more and more talked about.

c. Discussion of expected outcome or effects of change resulting from implementation of Respite care: If we develop a day hospital program, it will help address the fact that the beds would not be utilized for a period of every day. It would meet a community need. It would help our staff to realize how needs of the patients change over time and thus make us all more effective educators in more acute phases. It would help us to establish a network of families and patients that could offer support to our patients throughout not only their acute rehabilitation phase, but over a longer span of time. This group of patients would also allow research into new areas in the care and functioning of disabled persons.

Spanish speaking nurses Description and rationale: TIRR often has a population of Spanish speaking patients. If we are going to serve them, we need to take steps to assure that their education and clinical care rivals that of all other patients.

a. Resource requirements pertaining to Spanish speaking nurses: Ideally, there would be Spanish speaking personnel, optimally nurses, available on all shifts. As this may be difficult to accomplish, I think the 3-11 shift should take priority. The rationale for this is that is the best time for family members to be available for family teaching, and to summarize the patient's concerns for our staff members. Physicians could plan some afternoon time to be available as well.

b. 1) relevance of Spanish speaking nurses to TIRR clinical mission: Currently, there is a discrepancy in the clinical care and education of our patients when they are Spanish speaking. Our few Spanish speaking personnel are spread too thin. Our Spanish speaking social worker often acquires the role of translator for teaching medical procedures. This distracts from her true role and likely allows for "something to be lost in the translation".

2) relevance of Spanish speaking nurses to patient needs: We have Spanish speaking patients on all services.

3) how TIRR strengths will support Spanish speaking nurses: We know how to educate and care for patients effectively. The problem with lack of Spanish speaking personnel can be solved for the benefit of our patients.

4) how Spanish speaking nurses will address TIRR weaknesses: Ditto much of the above.

5) how Spanish speaking nurses will relate to competition: One of our competitors, Warm Springs, certainly has the ability to more effectively communicate with the Spanish speaker.

6) known options for sponsorship of Spanish speaking nurses: Would pay as any other nurse. A differential to acknowledge this bilingual skill would be appropriate to consider.

7) how Spanish speaking nurses relates to health care and disability policy trends: Nondiscriminatory care.

8) how Spanish speaking nurses fits health care financing and industry trends: Unknown, except that we don't want to limit our ability to care for funded patients who also speak Spanish.

9) how Spanish speaking nurses relates to trends and expected developments in the field of rehabilitation: It's another competitive edge to have them.

c. Discussion of expected outcome or effects of change resulting from implementation of Spanish speaking nurses: This will allow all patients to be treated more equally. We should be careful not to advertise a bilingual program unless we truly have one, as this mistake has been made at TIRR in the past.

M E M O R A N D U M

TO: Charlie Beall

FROM: Charlotte Stelly-Seitz, MD

RE: Strategic Plan

DATE: April 15, 1991

Enclosed you will find the strategic plan developed by the pediatric team as requested. More information may be forthcoming in the next day or two.

If you need any clarifications, please do not hesitate to contact me at 799-5052.

TIRR STRATEGIC PLANNING
4/91

Educational Seminars Description and rationale:

TIRR has exceptional expertise regarding training of caregivers to the physically disabled. This training allows comfort in caring for these patients and thus enhances their chances of reintegrating into a wider variety of home and community settings. Provision of education to potential caregivers in the school setting will enhance the reintegration into the school setting over homebound teaching.

a. Resource requirements pertaining to Educational Seminars:
Need support from departments of education, nursing, pharmacy, and respiratory therapy. Consider offering some sessions specific to the various other school therapists. Need space at TIRR to provide workshop/seminar environment. Printing dept. to make brochure. Marketing to help identify potential participants.

b. 1) relevance of Educational Seminars to TIRR clinical mission:
Fulfills role of TIRR in education of the community. This would be of direct benefit to our patients and their families. As all children are eligible for school district services, will target school system first.

2) relevance of Educational Seminars to patient needs:
Patients need comfortable caregivers in their expected community setting of school just as adults need to the work environment. Training these caregivers in their special needs will enable the least restrictive environment to provide these services and avoid the isolation of homebound services for all but the most medically unstable.

3) how TIRR strengths will support Educational Seminars:
We already are very familiar with providing education to previously unskilled persons who are then able to provide high quality care to our patients. This training could easily carry over to teachers and teacher's aides in special education classes and RNs at the local schools. In addition, families and family support groups could benefit from these sessions as they approach planning for their child in the school setting.

4) how Educational Seminars will address TIRR weaknesses:
We are often approached by school personnel who feel they need further education to support our patients return to the school setting. They specifically desire knowledge and training regarding the effects of traumatic brain injury and technical skills such as tracheotomy suctioning, catherization, gastrostomy or NG feedings, seizure precautions and management. The proposed seminar would provide an efficient system for relaying frequently requested information.

5) how Educational Seminars will relate to competition:
Enhanced public relations. Reminds a large segment of the community of our services and expertise.

6) known options for sponsorship of Educational Seminars:
Fees could be collected for individual attendance. School districts have funding for staff development. Corporate sponsorship also an option.

7) how Educational Seminars relates to health care and disability policy trends:
Shortened hospitalizations means more children in community with more acute medical needs. Trend is for integration of disabled as smoothly and quickly as possible.

8) how Educational Seminars fits health care financing and industry trends:
Education getting stronger emphasis. Families and community settings expected to accommodate a wider array of the population.

9) how Educational Seminars relates to trends and expected developments in the field of rehabilitation:
Trend is for mainstreaming and least restrictive environments.

c. Discussion of expected outcome or effects of change resulting from implementation of Educational Seminars:
Greater success with our patients return to the most normal community setting. If our patients meet a less fearful service provider(the school system), a quicker reentry will be enhanced as the school will already feel prepared to provide services successfully.

TIRR STRATEGIC PLANNING
4/91

Pediatric team retreat Description and rationale:

The purpose of this retreat would be to unify team members into a dynamic and cohesive team with a well-defined philosophy specific to TIRR's pediatric population.

a. Resource requirements pertaining to Pediatric team retreat:
Would need availability of pediatric team members for a minimum of one working day. Would like to consider extension into one weekend day, likely Saturday. Would benefit from a consultant in team building who would facilitate the process to enable the team to meet predefined goals set in routine pediatric team meetings and through input from individual departments. Prefer working day component to occur at a site away from TIRR to decrease distractions. Saturday component may be able to use TIRR facilities.

b. 1) relevance of Pediatric team retreat to TIRR clinical mission:
Enhances the ability of the disabled child to participate in planning and directing their own care. Would be done independent of the child's family members and thus may give the child greater confidence in their ability to be successful outside the home setting. Such an experience may carry over into the child desire to try an employment setting or assisted living arrangement. Supports the integration of a multidisciplinary team for more effective communication and teamwork. Enhances the ability of the disabled child to participate in planning and directing their own care. Would be done independent of the child's family members and thus may give the child greater confidence in their ability to be successful outside the home setting. Such an experience may carry over into the child desire to try an employment setting or assisted living arrangement.

2) relevance of Pediatric team retreat to patient needs:
Unified patient care philosophy will lead to less confusion in multiple inputs to the patients and their families regarding plans of treatment and strategies for reaching patient goals.

3) how TIRR strengths will support Pediatric team retreat:
TIRR has developed previous team philosophies in the areas of spinal cord injury and brain injury in particular. We are familiar with this concept and are comfortable with it.

4) how Pediatric team retreat will address TIRR weaknesses:
Will involve identifying those persons who have a strong commitment on an ongoing basis to treat pediatric patients and educate their families so that a stable workforce can be established who know and identify with the philosophy developed. Will help to quickly establish protocols for pediatric treatment and thus speed the successful development of a strong pediatric program. Currently, we do not have a stable team of pediatric-dedicated nurses. As we acquire these personnel, many will be from acute care settings and therefore benefit from greater exposure to some of the philosophies of rehabilitation. Likewise, the team can benefit from their acute care background as we are getting a higher acuity patient load.

5) how Pediatric team retreat will relate to competition:
A unified philosophy will make for a stronger team. This will enhance TIRR's ability to be a leader in pediatric rehabilitation. As all team members will have an investment in the plan, they will be able to speak of our philosophy to persons they meet in a wide variety of settings outside of TIRR from which patient referrals may come.

6) known options for sponsorship of Pediatric team retreat:
This would largely require support from TIRR itself.

7) how Pediatric team retreat relates to health care and disability policy trends:
Enhances the multidisciplinary approach.

8) how Pediatric team retreat fits health care financing and industry trends:
Trend toward managed health care. This would facilitate that trend.

9) how Pediatric team retreat relates to trends and expected developments in the field of rehabilitation:
As more and more technology develops to save the lives of both premature infants and accident victims, pediatric rehabilitation will have a bigger role in society. Federal legislation has been

passed recently that ensures these children's rights to a greater and greater extent. Adequate health care, including rehabilitation is expected.

c. Discussion of expected outcome or effects of change resulting from implementation of Pediatric team retreat:
Establishment of a pediatric rehabilitation philosophy that will guide further program development. Enhance the team dynamics so that more effective communication will occur.

TIRR STRATEGIC PLANNING
4/91

Therapeutic summer camp Description and rationale:

Provide a setting for the highest level of independent functioning for children with disabilities. Intended to fill in service gaps for our special population of disabled children. Traumatic brain injured children in particular are poorly served.

a. Resource requirements pertaining to Therapeutic summer camp:
Need therapeutic recreation as well as support from routine therapies and nursing. Volunteers would be needed to assist with basic care provisions like bathing, mobility.

b. 1) relevance of Therapeutic summer camp to TIRR clinical mission:
Enhances the ability of the disabled child to participate in planning and directing their own care. Would be done independent of the child's family members and thus may give the child greater confidence in their ability to be successful outside the home setting. Such an experience may carry over into the child desire to try an employment setting or assisted living arrangement.

2) relevance of Therapeutic summer camp to patient needs:
Although their are disability related camps, most relate to specific disabilities such as spina bifida or muscular dystrophy. This would give our young patients with spinal cord and brain injury and those with cerebral palsy, a chance to have a camp experience.

3) how TIRR strengths will support Therapeutic summer camp:
Pediatric team has the expertise and enthusiasm for this concept.

4) how Therapeutic summer camp will address TIRR weaknesses:
More comprehensive services. Unique service to the area. Public relations improved as it addresses a need area identified by families.

5) how Therapeutic summer camp will relate to competition:
Colorado pedi rehab program has developed a summer program. Warm Springs offered a summer swim program for the disabled child last summer.

6) known options for sponsorship of Therapeutic summer camp:
Colorado program used a combination of scholarship through local sponsors and charging for various sessions under the therapy type to which it most closely related with goals such as improved fine motor skills, improved gross motor skills, and improved visual perceptual abilities. In addition, families paid for it as they would camp for any other child.

7) how Therapeutic summer camp relates to health care and disability policy trends:
Further integrates the child into society.

8) how Therapeutic summer camp fits health care financing and industry trends:
Unknown. Possibly could link to vocational training.

9) how Therapeutic summer camp relates to trends and expected developments in the field of rehabilitation:
In competitive market, addressing consumer desires, is mandatory.

c. Discussion of expected outcome or effects of change resulting from implementation of Therapeutic summer camp:
Enhances TIRR's public image and well as reinforcing it as a truly comprehensive care provider in the field of rehabilitation.

TIRR STRATEGIC PLANNING
4/91

Outreach managed health care coordinator Description and rationale:

We need a coordinator who facilitates the transfer of patients from outlying facilities to TIRR. This person would develop a relationship with the family of the patient to be transferred. They would be an active link between TIRR's financial clearance and admitting office regarding timing of the admission. Once the patient is transferred to TIRR, the relationship would continue to be very active. This coordinator would be a nurse who could round with the pediatric physiatrist and resident and then relay any information to the families as needed. The current TIRR liaison nurse position doesn't allow the above as the relationship essentially ends when the patient is actually admitted to TIRR. Social services tries to provide some aspect of this, but their medical knowledge and time constraints limit their ability to be effective. Resident physicians also provide some of this service, but true continuity is difficult to establish as they 1) don't meet families prior to admission and 2) they change on a 2-month rotation basis. (See enclosed article for some advantages of a managed health care option).

a. Resource requirements pertaining to Outreach managed health care coordinator:
This would involve hiring a RN who could work closely with the admitting department, transferring hospital, referring physician, social services, and TIRR physician to facilitate patients rehabilitation stay from preadmission to discharge and followup.

b. 1) relevance of Outreach managed health care coordinator to TIRR clinical mission:
Would facilitate smooth functioning of team. Would facilitate rehabilitation of patient as would have one person to link with easily on aspects of admission and discharge.

2) relevance of Outreach managed health care coordinator to patient needs:
The current system of transfer is fragmented. Often multiple calls are required to determine the status of a patient admission. With increasing need for precertification of patient admissions,

it would be helpful for a clinically trained person to assess the patient, check on relevant insurance needs, and precertify the admission. A single person could coordinate inputs from all involved.

3) how TIRR strengths will support Outreach managed health care coordinator:
We have all the components needed in managed health care except for a central person to take the lead and responsibility for transmitting accurate information to the users of our service. Information is currently fragmented.

4) how Outreach managed health care coordinator will address TIRR weaknesses:
As above, information transmission is fragmented. The appearance given to the acute care facility is one of TIRR being a difficult place to get into. It is found to be difficult to discover exactly what the holdup is on a patient admission/transfer.

5) how Outreach managed health care coordinator will relate to competition:
Better public relations. Will have one person identified whose job it is to coordinate care and information delivery to patients and their families.

6) known options for sponsorship of Outreach managed health care coordinator:
There are some specific pediatric grants available through the NIH via the branch of Human Resources and Health Services.

7) how Outreach managed health care coordinator relates to health care and disability policy trends:
Managed health care is becoming preferred as it is seen as more efficient in terms of resource utilization.

8) how Outreach managed health care coordinator fits health care financing and industry trends:
Case management services are being better reimbursed.

9) how Outreach managed health care coordinator relates to trends and expected developments in the field of rehabilitation: Insurance companies are seeing the benefit in health care coordinators in the form of case managers. This proposed job would facilitate communication for these insurance liaisons.

c. Discussion of expected outcome or effects of change resulting from implementation of Outreach managed health care coordinator: More user friendly environment for families at times of high stress. Would relieve burdens from other departments and the physician so that their primary roles could be better emphasized.

TIRR STRATEGIC PLANNING
4/91

Scoliosis screening Description and rationale:

School systems are do mass screening for scoliosis. TIRR has been a service site for scoliosis for a long time. We could expand services with pediatric physiatrist working with orthopedic surgeon to develop criteria for referral to surgeon. Pediatric physiatrist would see patients until they met surgical criteria. At that time, they would be referred to the surgeon who would operate on them in an acute medical facility. Select postop patients could be transferred back to TIRR for postop management after initial medical stabilization done at acute medical hospital.

a. Resource requirements pertaining to Scoliosis screening:
Need preadmission referral information documents done on increased number of patients. Expect most referrals to come from school system screens, so would need to advertise service to the school nurses or other persons providing the initial screening. Radiology would be anticipated to have a larger number of scoliosis films to take. Would need to coordinate program with agreement from current orthopedic surgeon covering scoliosis clinic at present.

b. 1) relevance of Scoliosis screening to TIRR clinical mission:
Would be a rehabilitation service to persons with potentially severe physical disability. Research possibilities open up in cooperation with school system in terms of outcome of their screens. Could also incorporate training in gross screening by appropriate school personnel.

2) relevance of Scoliosis screening to patient needs:
Increasing awareness of and screening for scoliosis in the community naturally leads to an increased need for followup services.

3) how TIRR strengths will support Scoliosis screening
Very familiar with techniques of taking appropriate x-rays. Have expertise of available surgeon with great skill in this area as needed.

4) how Scoliosis screening will address TIRR weaknesses:
Potentially financially gratifying. Will also serve a marketing and public relations function in the community.

5) how Scoliosis screening will relate to competition:
From experience in pediatric clinics, there is no obvious leader in this area of following gross screening done in schools.

6) known options for sponsorship of Scoliosis screening:
Private insurance, CIDC.

7) how Scoliosis screening relates to health care and disability policy trends:
Preventive health care and early identification are linked with it.

8) how Scoliosis screening fits health care financing and industry trends:
Early intervention leading to decreased overall costs.

9) how Scoliosis screening relates to trends and expected developments in the field of rehabilitation:
Consumers are also focusing on prevention and early intervention. Informed consumers desire informed service providers.

c. Discussion of expected outcome or effects of change resulting from implementation of Scoliosis screening:
Increased volume of patients with a problem we are familiar with. Enhanced efficiency in use of surgeon's time as patients are prescreened and potential surgical candidates more selectively referred. Would anticipate an increased number of patients referred to the surgeon overall.

TIRR STRATEGIC PLANNING
4/91

CPR training for families Description and rationale:

Our patients are at a higher risk of developing cardiopulmonary arrest than the average discharged patient from a hospital. Families could benefit from formal education in this area so they will be better prepared to handle a potential crisis occurrence.

a. Resource requirements pertaining to CPR training for families:
Education department would need to set up this course. Training also needs to include pediatric team members at a minimum so that expertise permeates entire system.

b. 1) relevance of CPR training for families to TIRR clinical mission:
Relates to education. Also relates to enabling patients to achieve personal independence from nursing services as family members would have greater comfort in taking care of these patients.

2) relevance of CPR training for families to patient needs:
Our patients are often with increased risk of need for CPR as they often have impaired ventilation and swallowing functions. Community offered classes don't address well the special needs of the ventilator dependent or patients with tracheotomies.

3) how TIRR strengths will support CPR training for families:
We have strong emphasis on education. Have been able to meet many similar needs in the past.

4) how CPR training for families will address TIRR weaknesses:
It's a needed area of education that's not currently offered. Classes could also be offered to school system personnel.

5) how CPR training for families will relate to competition:
Unique provision of services. TCH offers this type of training to neonatal graduates who go home with apnea monitors.

6) known options for sponsorship of CPR training for families:
This is a billable service. Would bill the same way RAPS is billed.

7) how CPR training for families relates to health care and disability policy trends:
Educated consumers are an expected outcome of services.

8) how CPR training for families fits health care financing and industry trends:
This training supports home care of the disabled.

9) how CPR training for families relates to trends and expected developments in the field of rehabilitation:
Supports care in least restrictive environment with decreased interventions needed from nursing care.

c. Discussion of expected outcome or effects of change resulting from implementation of CPR training for families:
More confident and comfortable families at discharge.

TIRR STRATEGIC PLANNING
4/91

Day Hospital Description and rationale:

This program would be used as an alternative to inpatient hospitalization. Users of this service could include patients whose financial resources are limited for inpatient hospitalization or who have community supports enabling an outpatient stay, but still require intensive therapy. Although proposed initially in regard to pediatric patients, this service could be expanded to the adult population.

a. Resource requirements pertaining to Day Hospital:

Proposed space to start would be the 4-bed ward on the 6th floor of the new building that is not part of the 8-bed pediatric unit. Because the patients will not be staying in that room 24 hours per day and the fact that some of the patients could be accommodated by crib-sized beds or junior beds, it is likely that 6 day hospital beds could be accommodated in this ward room. Bed space is needed for rest/naps.

Proposed staff would include a coordinator who would function as an admission and discharge facilitator/case manager for the patients in this program. Additional staff includes a nurse to deliver medications needed, 1-2 aides to assist with patient transfers and other needs, PT/OT/Speech/Recreation or Child Life therapists support. In addition, all usual TIRR services from areas such as respiratory therapy, orthotics, pharmacy, dietary, laboratory, radiology,etc. Social services support may be provided in a large part through the coordinator. Suggested schedule for this program would be 7am-7pm M-F, with patients leaving the program daily between 5-6pm and thus leaving time for charting and preparation for the next day.

Other support includes linen services, housekeeping. Housekeeping would likely have an increase in services needed for these beds as the patient population would change more rapidly and thus necessitate more bed cleaning and change of bed size, etc. The use of transportation services would be a nice addition, both from home and for medical appointments within the medical center area.

b. 1) relevance of Day Hospital to TIRR clinical mission:
Day hospital would enable us to reach a broader number of patients with physical disabilities needing TIRR services. Maximize independence.

2) relevance of Day Hospital to patient needs:
Strong family desire=child at home. Would lessen family stress.
Financial considerations=Good resources now opt for home health.
Less resources risk premature discharge, inability to benefit fully from TIRR services.
Could accommodate common needs including: progressive sitting, casting, intense multidisciplinary therapy, trial and training in equipment, seating and positioning modifications.

3) how TIRR strengths will support Day Hospital:
TIRR has the expertise to provide such therapy for our patients. We have loaner equipment, our orthotics department and various vendors have equipment for trial. We provide family training that could help families enter the day hospital after a shorter inpatient admission. TIRR has the resources to follow closely and study the patient outcomes.

4) how Day Hospital will address TIRR weaknesses:
Provide desired options for families thus improving community relations. Allow broader support for families. Monitoring of followup recommendations would be enhanced after discharge from more acute programs. Allows option that is better funded (outpatient) in areas of current patient needs. Would be less taxing to nursing staffing and minimize overall care hours.

5) how Day Hospital will relate to competition:
Would be a unique program for the area. Exists currently in A.I. DuPont Inst. in Delaware and is successful. Appealing to families in that could offer shorter inpatient stay as would still have backup of an outpatient intensive program. Getting well-funded families "in the door" is our weakness at present. Need to compete with things families see as priorities.

6) known options for sponsorship of Day Hospital:
Insurance, CIDC, TRC. Medicaid/Medicare more likely to fund an outpatient program. Workman's comp. for adults.

7) how Day Hospital relates to health care and disability policy trends:
Shorter stays, more freedom of choice, and service in the least restrictive environment are trends this program would fill.

8) how Day Hospital fits health care financing and industry trends:
Shorter stays, more outpatient funding over inpatient.
Demonstrated need for intensive outpatient therapy.

9) how Day Hospital relates to trends and expected developments in the field of rehabilitation:
Push all over is for outpatient preferred over inpatient. Families encouraged to take advocacy roles. Enhances community reintegration.

c. Discussion of expected outcome or effects of change resulting from implementation of Day Hospital:
Improve our patient's care. Less stress on family's time and resources. Less stress on nursing time. Attractive to more families. Facilitate community reintegration. Emphasize TIRR's role as a leader in rehabilitation. Keep more beds full in slower times. Allow a space for evening respite if desired (further info. in other program proposals).

Case study: Managed care helps hospital contain costs

Can basic managed care concepts be applied to a hospital setting? Yes, say officials at 562-bed Hermann Hospital, but not without an organizational overhaul and careful consideration of internal politics.

"The doctors are the key," says Jeptha Dalston, Ph.D., president of Houston-based Hermann. "You have to identify the willing, enthusiastic physicians and then link tightly with them and march forward together."

Nearly two years into the managed care program, the effort is still reaping rewards, officials say. Patient census is down 5 percent, and the average length of stay is down about 9.5 percent, says Jeffrey Woodside, M.D., vice-president at Hermann.

The hospital also recently completed a three-month pilot program that provided intensive managed care for 73 indigent patients and patients in high-cost DRGs. Average length of stay dropped 23 percent for pilot participants, while total average charges decreased 16 percent, according to Woodside.

Financial turnaround. Managed care played an important—if subtle—role in Hermann's recent financial turnaround. The hospital earned $6.4 million in FY 1990, after losing $6.6 million and experiencing one-time write-downs of $22.5 million in FY 1989.

Hermann achieved the turnaround by slashing costs, reducing its workforce and inventories, and improving its payer mix. However, the hospital-wide focus on utilization management "had a distinct benefit in reduction of expenses," says Dalston. Operational improvements have also won Hermann praise—and a higher credit rating—from Moody's Investors Service, New York City.

"Extensive management efforts have led to a stabilization in operating performance," says John Goetz, vice president at Moody's. This stabilization followed "a trend of significant financial deterioration resulting from an increase in unreimbursed indigent care services and some non-recurring reimbursement adjustments," Goetz adds.

Internally managing care has also helped Hermann's contract negotiations with HMOs and preferred provider organizations (PPOs), according to Larry Smith, chief financial officer at the hospital. "We have a handle on the appropriateness of our charges," Smith says. "We know that if we do negotiate a type of payment rate, we have an individual who monitors how patients are being treated in relation to their contract."

Dalston: "Much of the delivery mode of the future is going to be along the lines of managed care."

Streamlining care. In mid-1989, Hermann consolidated its preadmission, concurrent review, and discharge planning departments into a single Office of Managed Care.

The move streamlined care by enabling one department to oversee every facet of a patient's stay—from preadmission review to financial and discharge planning. The department constantly guides clinicians to seek the most appropriate care in the least costly setting, Woodside says.

"We truly attempt to manage the care that patients receive during the course of an illness when they're in the hospital," he adds. "This involves resource conservation, cost-efficient treatment, and very early identification of discharge planning needs."

Consultant Randee Lehrer-Wright, R.N., director of Tampa Bay (FL) Associates, designed Hermann's managed care initiative to achieve three specific goals:

- To overcome operational and departmental barriers to moving patients through the hospital as cost-effectively as possible
- To improve utilization patterns of the medical staff and residents from the hospital-affiliated University of Texas Medical School and to eventually develop patient care guidelines
- To use medical resources more cost-effectively and improve the hospital's financial performance while maintaining good patient outcomes

"To really affect any kind of change in health care, you have to look at the delivery process," Lehrer-Wright says. "Organizationally, hospitals are not structured to perform adequate cost containment. Much of what hospitals do is fragmented."

The following sections look at how Hermann's top management, medical staff and nursing staff worked to restructure its delivery of care.

Top management: Stopping turf battles

"The critical thing is having top management agree that something needs to be done and to decide on the goals that they want to accomplish," says Woodside. "Once that's done, it's very

important to gather together the managers of the involved departments and then come up with a workable plan for conserving resources."


Woodside

Hermann's top management got the managed care ball rolling in response to pressure from local business coalitions, Dalston says. "We became convinced that much of the delivery mode of the future is going to be along the lines of managed care," he adds.

In early 1989, Dalston brought in Lehrer-Wright to turn this abstract concept into a viable program. After six months of planning, the hospital created the office of managed care, directly reporting to the CFO.

"It makes for better coordination between the social services and those who are negotiating with HMOs and PPOs," CFO Smith says.

From June 1989 on, much of the nitty-gritty work of making the program run fell to the service chiefs. As a result, the organizational changes created some turf battles, Lehrer-Wright says. "It's difficult because you have to cross territories where staff aren't used to working with one another or are now reporting to different people."

But the resulting efficiency gains won dissenters over, Lehrer-Wright says. "All of the areas could see how they now had complete information from preadmission to discharge. They could see why the consolidation was done."

Management's role. Top management played a key role in minimizing turf battles between departments, hospital officials say.

"We had some turf battles initially," says Woodside, who is also medical director of Hermann's Office of Managed Care and professor of urology at the University of Texas Medical School. "They were made manageable by the commitment of the top leadership.

"We had a common vision about this," he adds. "We stuck together and worked with the managers involved to try to make this smooth out."

Active support by top management is crucial to a program of this nature, adds administrator Dalston. "It's too hard to do otherwise. It's too much of a change. . . .If you don't have a strong, forceful expression by top management to do this, it isn't going to happen."

Medical staff: Partners in change

Woodside played a key role in building physician support for the managed care department. "He was really able to move physicians through the program, show why we had to have the program," says Lehrer-Wright.

Introducing physicians at the hospital to managed care is not easy, she adds. "It could have been much more difficult without physician leadership

to guide the program."

Woodside started by selling the service chiefs on the program's worth. "I explained what managed care was, how the department was going to be organized, and the contact between the [nurse reviewer] and physicians," Woodside says.

He also met, and continues to meet, monthly with the house staff. In addition, Woodside works one-on-one with physicians, residents and faculty.

Lehrer-Wright

Physician education is a "continual process," Woodside says. "There's so much to learn, so much in the whole reimbursement arena. On almost a case-to-case basis, physicians and nurses learn to handle a particular diagnosis for a particular patient."

Eye-opener. For example, during the past eight months, the managed care department has focused a special utilization review effort on Hermann's observation unit.

Medicare and Medicaid rules for observation units differ regarding patient admission and length of stay criteria. So the managed care department is working closely with physicians to ensure that their treatment falls within the appropriate guidelines, says Rachel Bodne, R.N., the hospital's administrative director of managed care support services.

"This has been a real eye-opener for physicians," Woodside says. "They're getting patients out of the unit expeditiously, and we're seeing much better resource utilization."

It's important to give clinicians—both physicians and nurses—control over the whole issue of reducing resource consumption, says consultant Lehrer-Wright.

"These folks are best suited to determine where consumption can be reduced, where we can safely and appropriately treat more cost-effectively, and where we can't afford to make any changes because to do so would compromise patient care," says Lehrer-Wright.

Cuts in resource use should be done on a case-by-case basis, she adds. "You can't look at clinical care and say, 'We have to have a 5 percent reduction across the board.'"

Nurse reviewers: Managing care and collecting data

"It takes a while for a new department to gain acceptance," says Rachel Bodne, who oversees Hermann's office of managed care. "But a cost-containment department has a couple of strikes against it before it begins."

Bodne has worked hard to combat any antagonism toward her department. "The nurses that she manages have made an extraordinary effort in soothing relations," says Woodside. "They're seen as a helper rather than an inquisitor by the attending physicians. They've overcome that knee-jerk reaction by physicians to having nurses do concurrent review."

Bodne has trained her seven managed care coordinators and four discharge planners to handle every situation coolly and professionally. "We're trying to make sure they understand that we're not a threat," she says. "We're not trying to tell them how to care for the patient."

If a physician is recalcitrant, Bodne's staff are trained to wait until they are back at the managed care department before venting their frustration. "I've never had an irate physician call and complain about any of our activities on the floor," Bodne adds.

Sensitive role. Such professionalism is key, given the sensitive tasks that Bodne's nurse reviewers perform. Within 24 hours of a patient's admission, the department receives a worksheet-format printout with the patient's demographics, the admitting or attending physician, and any special nursing considerations.

At this point, the managed care coordinator determines whether to generate further referrals, whether financial counseling is needed, and whether the case is complex enough to be assigned to a discharge planner.

Every Friday morning, the managed care coordinators meet with social workers and financial counselors to brainstorm for dealing with high-cost patients, or patients with especially complex discharge needs. For example, the group typically handles Medicare patients who are outliers, uninsured patients or patients who need special attention. "Out of these sessions come really good ideas," Bodne says.

Utilization review. The department also conducts utilization review for commercial insurers, HMOs, PPOs and employers. This reduces interruptions for physicians and helps speed up claims payment, Bodne says.

The department also tracks utilization and resource use by clinical service. However, Hermann doesn't have the information system capability to track this information by physician, Woodside says. "You can look at length of stay by physician, and we do," he says. "But beyond that, this is going to require a better information system."

For example, a patient admitted through the emergency department with upper gastrointestinal bleeding is typically treated by a team of physicians. Two days later, the team changes. The question here, says Woodside, is: To whom do you attribute the patient's $70,000 bill?

Bodne

"It's absolutely counterproductive, if you don't have absolutely reliable data on physicians, to start beating up on physicians," Woodside says. "As soon as one physician can show the data aren't accurate, you've lost all credibility."

Goals. In addition to upgrading Hermann's data capabilities, Woodside hopes the hospital will eventually use its new infrastructure to implement physician practice guidelines.

Meanwhile, Dalston's primary goal is to light a fire under his staff. "We want to get people who understand what's involved and are willing and enthusiastic about being part of this movement," he says. "We're still working toward that. We have a growing nucleus of physicians and health care professionals who are working diligently on this."—*Julie Johnsson* H