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OA/ID Number: 52066
Folder ID Number: 52066-005

Folder Title:
[TIRR - Strategic Plan] [1985-1991] [4]

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DEPARTMENT OF PHYSICAL THERAPY

STRATEGIC PLAN

SURVEY I

 Suggested Program Concept: Identify and market some components of our programs under the "Wellness Concept".

Our mission statement and values support the wellness concept but do not speak directly of it. Rehabilitation is often considered to be what takes place after serious injury and therefore sounds recovery oriented only, yet much of what we offer in the way of services is what is necessary to maintain a healthy life. If we already offer wellness oriented services anyway, I think we should name it, claim it, market it and expand on it. Parts of all of the services we currently offer (to patients as well as to staff) could become a part of our Wellness Program.

- a. Resource requirements: To begin with only staff time to identify, categorize and promote what we already do as part of our "wellness program". Expansion of a wellness program can go as far as we wish and necessarily would require additional resources such as space, equipment, staff time and cash; but any new programs would be added late in this three year plan. Some of our current services that could qualify as wellness-oriented include: RAPS, the inclusion of patients in rounds, education opportunities for staff, safety awareness programs, Strength Unlimited, CARE, Interaction Management, TIRR Sports, EAP, Weight-watchers, aerobics, nutritional counseling, leisure education . . .
- b.
 1. Relevance to TIRR's mission: This is simply a new label for something we already do, but the public doesn't know it or see it that way.
 2. Relevance to patient/client needs: Although patients don't think that their first trip through TIRR has anything to do with wellness, their needs after they leave have clearly to do with "how do I stay healthy?"
 3. TIRR strengths: We are already providing wellness-oriented services to both patients and staff. We have a very large population of clients who have ongoing, life-long needs who would like to keep coming back to us. We have a good Marketing Department. Management is oriented toward staff wellness as well.
 4. TIRR weaknesses: We don't package and promote our wellness services; therefore, we also don't think of ourselves as offering wellness; therefore, we don't think in terms of

creating more wellness services. We in fact allow ourselves to support "group think" that we are not good to ourselves. And our patients, who are thinking "cure, not care", think negatively of "care" because it connotes that they are sick, and the limit of what we have to offer is to get them up in some wheelchair, make them functionally independent and safe, reintegrate them to home, work and society and wait for them to come back when they get sick again. We are really all about wellness, we just don't talk about it.

5. Competitive forces: Nobody else advertises wellness either. We could be a first.

6. Sponsorship options: Nothing changes here so far as I know, unless someone (like Medicare) decides that "wellness" and "maintenance" are interchangeable terms, but I think we could avoid that by careful planning of the words we use. When people start thinking in terms of wellness there's a sort of self-fulfilling prophecy effect which could result in more healthiness in the long-run and ultimately less cost to the consumer. (That includes us as a "consumer" of employees.)

7. Health care and disability policy trends: In general, I think policy makers are fascinated with wellness concepts, and there appears to be general public approval. Again, we could be a leader by adopting a wellness model in a rehabilitation hospital that treats persons with severe physical disabilities.

8. Health care financing and industry trends: I don't know.

9. Trends and expected developments in rehabilitation: A popular trend is certainly to look toward cure, not care; however, any way you slice the pie, quality of life is what everyone is after. A belief in every person's right and ability to obtain a sense of wellness could be trend-setting.

c. Effects of program/concept implementation: Adopting a core belief that we are all about wellness can change how everyone looks at us, including us. With wellness in mind, development of a second tower might include plans for a large indoor/outdoor pool (open to inpatients, outpatients, staff, community groups for disabled persons), a workout facility (a gymnasium with capacity for team sports), space and staff for advocacy programs and support groups, and, of course, space for what we already do so well (much of which is wellness in disguise).

DEPARTMENT OF PHYSICAL THERAPY

STRATEGIC PLAN

Suggested Service: **Outpatient Treatment and Administrative Services**

The Physical Therapy Department's Outpatient Service has shown significant growth in the last 2 years with the growth of the Sports/Arts Program and the increased numbers of clients desiring quality outpatient rehabilitative services. As we have grown, we see the need to expand and better organize our services with the desire that the Institute will see this need on a larger scale for all departments providing outpatient services. Several components have been identified under the broad heading of "Outpatient Treatment and Administrative Services" as needing special emphasis in the next 3 years. Under each component listed are areas to be considered in relation to that component. These may be new and innovative areas or pre-existing ones that need special attention.

- I. Pediatric Patients
 - A. Rounds - Multidepartmental
 - B. Separate treatment space from present PT Gym - could be shared with OT/Speech/Nursing and Education
 - C. Day Program - Area for patients to rest in between therapies, but would go home each day, possibly need some type of nursing staff in attendance
 - D. Classes - Group treatment, PT and/or multidepartmentally
 - E. Extended Hours
- II. Rehabilitation Patients (SCI, BI, Stroke etc.)
 - A. Rounds
 - B. Day Program
 - C. Classes
 - D. Extended Hours
- III. Sports/Arts Orthopedic Patients
 - A. Separate Space
 - B. Extended Hours
 - C. Classes
- IV. Strength Unlimited - Clients from the community who use our facilities to work out in a gym atmosphere
 - A. Extended Hours
 - B. Staffing
 - C. Space and equipment (by end of 3 years)
- V. Physical Therapists Providing Services in Outpatient Clinics
 - A. Staffing
 - a. Resource requirements: For this 3 year plan we would especially like to develop the separate treatment area (PCC I) for the specific treatment of sports/arts orthopedic patients. Additional staffing will be required as program grows. The separate area allows therapists to teach in a different way and would be more oriented to the community not just the hospital.

- b. 1. Relevance to TIRR's Mission - The outpatient program is a clinical service that is the link, in many cases, between a somewhat dependent feel of the inpatient hospital stay and independence at home or at a job. By emphasizing the outpatient program as a separate entity, staff would be more focused on seeing the individual as a consumer from the community instead of a patient in the hospital system. (Example: Challenge Program)
2. Relevance to patient needs: Patients could have a smoother, and quicker and more defined transition from inpatient to outpatient. There would be clearer and consistent information given to patient if outpatient services were more separate and organized. Treatment would be more effective and efficient with better interdepartmental communications (rounds.)
3. TIRR's strengths in support of service:
- a. Large volume of appropriate referrals from community
 - b. Large number of inpatients that become outpatients
 - c. Expertise of staff
 - d. Already well known in the area as excellent inpatient facility
 - e. Good physician support
 - f. Availability of other departmental services
 - g. Located in the Medical Center - referrals can be generated to other sources as needed
4. TIRR's present weakness pertaining to this service:
- a. Lack of administrative position for TIRR's overall outpatient services (person with vision and authority.)
 - b. Parking
 - c. Coordinated Services
 - d. Inability to keep up with demand due to fluctuating circumstances
 - e. Patient Advocate or Patient Advocate Program
5. Competitive Sources: There are currently several facilities locally offering outpatient programs: Del Oro, Houston Rehabilitation Institute and various orthopedic clinics. It would be helpful to further identify our competition if marketing could explore that market like they have with inpatient facilities.
6. Known Sponsorship Options: We are currently well reimbursed for outpatient services. Our relationships with our present sponsors would be more efficient and our prospects of repeat sponsors would be enhanced.

We are currently exploring alternative funding sources for Strength Unlimited.

7.

8. Relationship of service to healthcare financing and industry trends: Insurance companies have encouraged shorter inpatient stays so patients need more outpatient care for a complete rehabilitation program.
9. Relationship of service to trends and expected development in rehabilitation:
 - a. The increase in numbers in the disabled population due to their increased longevity is bringing more people into the outpatient program as they have complications and deal with the effects of aging.
 - b. The increased complexity of our patients limits what can be done as inpatients. Outpatient services are necessary to complete goals.
 - c. Some disabilities and some insurance companies are not funded well for inpatient care. Therefore more treatment must be done on an outpatient basis. (This is already occurring with the amputee population and with some SCI patients.)
- C. Effects of implementation:
 - 1) Outpatients would know they are equal consumers of services at TIRR.
 - 2) In future planning there would be a more balanced approach with inpatients and outpatients.
 - 3) By acknowledging trends, needs of society and the flow of the economy, outpatient services will be able to contribute to the Institute's financial growth in a more predictable manner.
 - 4) With a focus on outpatients, we would be able to better accommodate or support community needs as they arise.
Examples: Strength Unlimited
Training counselors for MDA camp
Patient Advocate Services.

DEPARTMENT OF PHYSICAL THERAPY

STRATEGIC PLAN

Suggested Service: Aid in the development of a philosophy for the Pediatric Program.

With the move into the new building and an expected increase in numbers of patients, we feel the need to be part of the development of a philosophy for the Pediatric Program at the Institute so that we have a solid base on which to function. There is often the assumption that everyone is operating from the same philosophy just because there is a program in place. By establishing a philosophy together, we can focus our energies and efforts on services and programs that support that philosophy rather than the flow of the program being determined by the strengths and weaknesses of those personalities who happen to be involved during a certain time frame.

- a. Resource requirements: The areas that should be addressed in the philosophy are listed below with resource requirements that pertain to P.T. stated by each.
 - 1) Environmental - Will move into the 6th floor PT/OT area, hope to develop a separate pediatric area for outpatients.
 - 2) Treatment Staff - Ensure appropriately trained staff are available for treatment and specific continuing education occurs departmentally
 - 3) Conferences, Rounds - Administrative support for time scheduled for conferences and rounds.
 - 4) Relationships with families - provide education, family training and support as families require.
 - 5) Transitioning to Home, School, Outpatient Status - P.T. to be a part of multidisciplinary recommendations and/or decisions for discharge
 - Be available to provide information on disabilities, family training, equipment etc. to school, home and other community personnel
 - 6) Treatment Philosophy - Be part of a multidisciplinary development of an appropriate treatment philosophy.
 - 7) Equipment - Continue to provide equipment necessary for treatment with input from the team.
- b.
 1. Relevance to TIRR's mission: The development of a team philosophy directly influences clinical services. Team work is required in treating pediatric patients and treatment is more effective when everyone is operating with the same philosophy.
 2. Relevance to patient needs: TIRR is one of a very few rehabilitation hospitals in the area offering services to pediatric patients, especially those with SCI and BI.
 3. TIRR's strengths in support of the service:
 - Present P.T. staff is dedicated to pediatrics
 - Good departmental support
 - Managerial emphasis on pediatrics
 - New pediatrics floor to open this year

4. TIRR's present weaknesses pertaining to this service:
 - Insufficient treatment space for treating outpatient pediatrics
 - Inconsistent intra team support
 - Acuteness of patients' needs (lack of patients' rehabilitation readiness)
 - Inconsistent team philosophy of treatment
 5. Competitive sources: Possibly TCH
 9. Relationship of service to trends and expected development in rehabilitation:
As rehabilitation units and new rehabilitation hospitals continue to develop there will be more competition for patients. By establishing ourselves as a quality pediatric center we will attract that population of patients.
- c. Effects of implementation:
- TIRR would have a dynamic cohesive pediatric team with a sound base that could survive the changes that occur in staffing - additions and losses
 - TIRR would provide quality, efficient services focused on the dignity of the child and his family

DEPARTMENT OF PHYSICAL THERAPY

STRATEGIC PLAN

Suggested Service: Research and Education Service in Physical Therapy

Physical Therapy has always included the research and education components of rehabilitation in its philosophy. The education component is the strongest and entails orientation of new staff, staff development in the department, participation in staff development at the Institute level, participation in workshops for peers and consumers and participation in the clinical education of physical therapists and physical therapists assistants. Research has been done sporadically and the number of projects, presentations and posters varies greatly due to time constraints, interests, staffing and availability of help for those interested in research but needing guidance.

We would like to develop the research and education components in our department so that we can keep staff current in treatment techniques, encourage them to become involved in research activities, and have materials and work space easily accessible.

a. Resource requirements:

- Separate space for library of educational materials (books, videotapes, posters, orientation materials), table to work on projects and posters, and storage space.
- Administrative support to allow staff time away from patient care to become involved in projects.

b. 1. Relevance to TIRR's Mission:

We could have a more balanced focus on the research and education portions of TIRR's mission to serve persons with disabilities.

2. Relevance to patient's needs:

Patients would benefit by treatment administered by therapists who are aware of departmental and Institute information and more highly motivated by their involvement in research activities.

3. TIRR's strengths in support of service:

- Known for a strong commitment to education and research by the Institute
- Large, highly motivated physical therapy staff, many attracted to research opportunities.
- Departmental support of professional conferences, presentations etc.
- Great success in grant acquisitions

4. TIRR's present weakness pertaining to this service:

- Lack of area to work on projects for short periods of time, leave materials out and return to them
- Lack of area where all supplies for research and education projects are kept

5.

6.

7.

8.

9.

- c. Relationship of service to trends and expected development in rehabilitation:
- Continued recognition of the P.T. department as a quality department, not only clinically but in research and education
 - Therapists who are attracted to research will stay employed at TIRR.

OCCUPATIONAL THERAPY DEPARTMENT
Strategic Plan
Survey I
1991

1. HOME HEALTH CARE AGENCY

A "Home Health Care Agency" would provide services such as Nursing, Respiratory Therapy, Occupational Therapy, Physical Therapy & Speech Pathology for those individuals that require specialized rehabilitative services. This would include home, work site, school and/or community setting visits.

a. RESOURCE REQUIREMENTS..

A complete administrative, management & clinical staff would be required as well as space for equipment, personnel, forms, etc.. I envision it as being separate from the TIRR inpatient functioning, such as Ultra Staff however, staffed with health care professionals trained by TIRR inpatient staff in rehabilitative management.

b.

1. RELEVANCE OF PROGRAM TO TIRR MISSION..

Our mission states that rehabilitative services are accomplished when persons achieve a quality of life with personal independence, productive functioning and maximum state of health according to each persons capabilities and opportunities. During inpatient as well outpatient services, TIRR is a laboratory. It is felt that providing services in "their" own setting will complete the rehabilitative process. It will ensure integration into the community & home.

2. RELEVANCE OF PROGRAM TO PATIENT NEEDS..

Two patient groups in need of these services today are those patients that have medicare & have only a 27 day admit & the plastics patients that are ready to start sitting programs but we don't have a bed or they have difficulty getting into TIRR for outpatient services. The other group of patients that have presented some problems are those that are in the outpatient inhibitory casting program. It is imperative that frequent follow-up is provided to ensure safety for the patient. Sometimes due to transportation issues we recommend that these patients be admitted for the treatment.

3. TIRR STRENGTHS..

Our strengths include the expertise & resources to train staff to provide these services & our strong commitment to comprehensive rehabilitative services.

4. **TIRR WEAKNESSES..**

The program will fill a gap in the rehabilitation process. It will open up opportunities to treat those patients in their own setting if that is appropriate. It will also expand our ability to follow-up.

5. **PROGRAM RELATION TO COMPETITION..**

Currently Methodist & St. Luke's have home health agencies. As a matter of interest, the OT/PT departments were contacted to train the staff at St. Luke's so they could provide inhibitory casting to their home health patients.

6. **SPONSORSHIP..**

I am not certain about reimbursement issues in home health. Further investigation will be necessary.

7. **HEALTH CARE & DISABILITY POLICY TRENDS..**

The program relates to health care trends since shorter admissions are requiring our patients to be discharged prior to completion of the rehabilitation process. Additionally, the Americans with Disabilities Act is going to require that work sites adjust environments in order that the disabled person can accomplish the job responsibilities.

8. **HEALTH CARE FINANCING & INDUSTRY TRENDS..**

This program could cut the cost of health care by getting the person out of the hospital sooner & yet not compromising their potential to get specialized rehabilitative services.

9. **TRENDS & EXPECTED DEVELOPMENT IN REHABILITATION..**

At the National Head Injury Foundation last year, it was discussed that the treatment of Brain Injured persons should begin at the scene of the accident and continue for 6-10 years. Many of those years need to be in the home, school, community & work setting. It is also felt that the introduction of the ADA will open up many more opportunities for the disabled population to join the work force. They along with the employers will have difficulty if direction is not provided by trained professionals.

c. **EXPECTED OUTCOMES..**

It is felt that providing a Home Health Care Agency would balance out the rehabilitative process between in patient & out patient services. It would complete the link in TIRR providing comprehensive rehabilitative services.

OCCUPATIONAL THERAPY DEPARTMENT
Strategic Plan
Survey I
1991

1. SPACE DEVELOPMENT AND ALLOCATION

Space has always been and will always be something everyone needs. As we look forward to moving into the new patient tower and maintaining/upgrading present space, it is very important to look at clinical treatment and support department space. Perhaps a "space plan" should be established.

a. RESOURCE REQUIREMENTS..

Money to renovate or build. Space to expand into.
Knowledge of multiple departments to allocate space appropriately.

b.

1. RELEVANCE OR PROGRAM TO TIRR MISSION..

Space is necessary to continue with development and implementation of all our mission statement. This is necessary not only for attractive clinical treatment space, but also for adequate staff education, research, and training space.

2. RELEVANCE OF PROGRAM TO PATIENT NEEDS..

Space is necessary to accommodate new state of the art, high tech. equipment and to keep it readily and safely available for therapist/patient access. Space should be attractive and uncluttered to encourage patient families selection of TIRR for service and to provide safety for patient and staff functioning.

3. TIRR STRENGTHS..

New availability for space with new patient tower shift. Also strength in TIRR Foundation to raise funds for additional building projects.

4. TIRR WEAKNESSES..

Not enough space and disorganization of present space.

5. PROGRAM RELATION TO COMPETITION..

The new patient tower will help alot, but the clinical treatment areas are most visible to third party payors and families. In our competitors facilities, the clinical treatment areas are larger, staff desk space is separate from treatment areas, and there is adequate storage space elsewhere.

6. SPONSORSHIP..

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7. HEALTH CARE & DISABILITY POLICY TRENDS..

We will have an increasingly difficult time employing professionals to work in older, crowded department space. Also in relation to ADA, we need to look at space that will accommodate hiring of persons with disabilities in all areas.

8. HEALTH CARE FINANCING & INDUSTRY TRENDS..

The trends are toward sharp looking facilities with state of the art equipment and space, as well as expertise and knowledge in rehabilitation. The financing issues in regards to workmen's compensation may be more readily contained at TIRR if space was more organized and safe.

9. TRENDS & EXPECTED DEVELOPMENTS IN REHABILITATION..

Since it is to look toward more out-patient services, we need to consider adequate and different types of space for them; (i.e. resting space, lounge, day beds, individual treatment spaces for privacy, and options for child care assistance on-site).

c. EXPECTED OUTCOMES..

The outcome of this program would provide a safer, more pleasant environment for patients and staff. Patients would feel more comfortable and readily want to come to TIRR for services. Equipment and supplies would be stored appropriately, allowing treatment space to be safer and better utilized. Staff would have separate space enhancing communication, documentation, and recruitment.

**STRATEGIC PLAN
Survey I
1991**

- 1. NEURODEVELOPMENTAL TREATMENT APPROACH CERTIFICATION COURSE
FOR TREATMENT OF THE ADULT HEMIPLEGIA OR BRAIN INJURED
POPULATION**

This suggestion was turned into to Karen Hart, Ph.D

OCCUPATIONAL THERAPY DEPARTMENT
Strategic Plan
Survey I
1991

1. TISSUE PRESSURE MANAGEMENT PROGRAM

Pressure sore prevention continues to be a major objective in the rehabilitation of persons with SCI. It has become evident (RT life status study and research on behavioral indicators of pressure sore recurrence) that knowledge obtained during rehab often is not translated into effective prevention strategies once the person leaves his rehabilitation. The literature reports that structured, organized, and comprehensive programs for prevention of pressure sores reduce their occurrence. Further support of this philosophy can be seen in the REC model that was in practice from 1976-1982. During that time, the recurrence of pressure sores was reduced from 30% to less than 5%.

a. RESOURCE REQUIREMENTS..

A major component of the program is the plastic surgery clinic. Coordinating the efforts/responsibilities of the surgeon, nurse, OT, social worker, and possibly a rehab engineer will require cooperation and commitment. There will be clinic space utilized and a pressure evaluator of some form will need to be available and working in order to evaluate and prescribe cushions objectively.

b.

1. RELEVANCE OR PROGRAM TO TIRR MISSION..

Will reduce recurrence of sores and facilitate continuity of care.

2. RELEVANCE OF PROGRAM TO PATIENT NEEDS..

Patients will benefit from the plastics clinic with maximum coordination of all aspects of prevention and healing addressed.

3. TIRR STRENGTHS..

TIRR excels in promoting the independence and the education of persons with disability. Also our history with pressure sore prevention and invention of the PEP can effectively be the building blocks for a very successful program.

4. TIRR WEAKNESSES..

The breakdown of the plastics team and the fragmentation of the production of an effective pressure monitor.

5. PROGRAM RELATION TO COMPETITION..

Other rehab facilities primarily place patients on one given specialized cushion. We have in the past been able to objectively measure and evaluated where the problems are coming from and specialize treatment for the patients needs. We need to be able to do this again with a more comprehensive approach.

6. SPONSORSHIP..

TRC, insurance. A charge would have to be developed as a clinic charge, or each service could charge individually.

7. HEALTH CARE & DISABILITY POLICY TRENDS..

8. HEALTH CARE FINANCING & INDUSTRY TRENDS..

We are aware that the government is interested in pressure sore prevention as so stated by the charge of the AHCPR, both Susan Garber and Tom Krouskop presently serve on committees with them.

9. TRENDS & EXPECTED DEVELOPMENTS IN REHABILITATION..

The AHCPR is working on publishing guidelines for prediction, prevention, and early intervention of pressure sores.

c. EXPECTED OUTCOMES..

Pressure sore rounds/plastic clinic/skin rounds could be implemented as a part of our total inpatient and outpatient programs. This should serve to prevent pressure sores, assist with the most effective approach to enlisting the patient in regards to healing them, and allow the team additional opportunities to educate the patient and family to proper cushions, weight shifts, nutritional needs in order to get and stay healthy.

OCCUPATIONAL THERAPY DEPARTMENT
Strategic Plan
Survey I
1991

1. SUBSIDIZING PATIENTS DURING VAN TRAINING (GRANT/FOUNDATION SUPPORT)

Frequently, patients referred for (OP) driving evaluation & training are far from their homes & require housing, transportation & meals during the training period. Although most sponsors will support & pay for the evaluations & training, they do not subsidize other expenses. Patients & their families who are unable to provide funds for these other expenses may be unable to receive training or they go elsewhere. We recently acquired the latest technology in adapted driving-a van for the evaluation & training of persons who in the past would be unable to drive. Expanding our services to provide those outside the Houston area with opportunities otherwise unavailable is certainly in keeping with TIRR's mission.

a. RESOURCE REQUIREMENTS..

This grant or foundation supported program would require a person or persons to administer it & coordinate the logistics & finances. Agreements with participating residential facilities would be developed with input from legal counsel.

b.

1. RELEVANCE TO TIRR MISSION..

Promotes independence & productive functioning by allowing them the opportunity to obtain evaluation & training.

2. RELEVANCE OF PROGRAM TO PATIENT NEEDS..

Since receiving the evaluator van, we have evaluated 9 patients, 5 of whom live out of town. These five patients will require training up to 20 hours after their own vans arrive. This program would allow use to serve a larger population of disabled persons.

3. TIRR STRENGTHS..

TIRR currently has a strong drivers education program & is know throughout the state. We certainly have the population at TIRR for expanding the program through the SCI & post polio population.

4. TIRR WEAKNESSES..

5. PROGRAM RELATION TO COMPETITION..

Warm Springs rehabilitation in Gonzales provides housing for patients training in drivers education. We are the only facility in the Houston area that has an evaluator van.

6. **SPONSORSHIP..**

Grant or foundation support would be required since charging through the departmental system would be too costly for the consumer.

7. **HEALTH CARE & DISABILITY POLICY TRENDS..**

With the passing of the ADA more persons with disability will be joining the work force & will require mobility.

8. **HEALTH CARE FINANCING & INDUSTRY TRENDS..**

This grant or foundation supported program would keep the cost down for the funding agency so that the person could get the training required to become functionally productive.

9. **TRENDS & EXPECTED DEVELOPMENTS IN REHABILITATION..**

The technology related to driving for the disabled is exploding. TIRR needs to keep up to date regarding this area so that the equipment is here & available for patient training.

c. **EXPECTED OUTCOMES..**

This program would allow TIRR to be recognized as a evaluation & training site for persons requiring an adapted van for functional mobility. It would also recognize us as being able to accommodate those individuals from out of town in an alternative fashion.

OCCUPATIONAL THERAPY DEPARTMENT
Strategic Plan
Survey I
1991

1. REHAB TECHNOLOGY SERVICE DELIVERY

Coordinated cooperative effort to provide the most current technological advances to patients with TBI and SCI; the way of the future.

RESOURCE REQUIREMENTS..

Dedicated space to house equipment, therapist office, and evaluation process; establish relationships with manufacturers/vendors of equipment to lend equipment that then is purchased. As new equipment comes on the market, it replaces obsolete equipment.

b.

1. RELEVANCE TO TIRR MISSION..

To provide the most outstanding current treatment techniques for patients with severe physical disabilities. Expansion of the present technology clinic will serve TIRR's mission by enhancing independence and productivity.

2. RELEVANCE TO PATIENT NEEDS..

Technological advances in medicine have resulted in the survival of persons who have suffered the most severe, traumatic injuries or diseases. Augmentative communication systems, environmental controls, and computers, as well as state of the art wheelchairs will facilitate maximum independence and return to productive lifestyles.

3. TIRR STRENGTHS..

Our strength is in our innovative and creative ways at looking at a patients functions. Also we have numerous contacts with high tech vendors and are presently offering as much of this service as we can even with the present limitations. We are also a model center for both SCI and TBI and should build on that with technology also.

4. TIRR WEAKNESSES..

Lack of the necessary technological equipment and the space to house it. We do have some of this equipment but it is not utilized as it could be because there is no place to keep it set up and readily available for patient evaluation and training.

5. RELATION TO COMPETITION..

Most major rehabilitation centers, especially model system programs and our direct state competition, DRI

and BIR offer these services. In Houston, no one presently provides it or closely has the potential to do so as TIRR could.

6. SPONSORSHIP..

The Texas Rehabilitation Commission is receptive and has a history of sponsorship for these kinds of programs and equipment. I also believe that Workmen's Compensation and even insurance will consider this valuable if we can prove it reduces care in the home and/or improves independence.

7. HEALTH CARE & DISABILITY POLICY TRENDS..

High tech is high on the governments list of services needed for the physically disabled person. With the passing of the ADA, employers will be needing the technology to maintain productivity standards while providing employment to the disabled person

8. HEALTH CARE FINANCING & INDUSTRY TRENDS..

Everything in health care is going high tech. We will need to upgrade and forge ahead if we want to stay in the lead in rehabilitation. Not only with patient equipment but also with pt. treatment modalities.

9. TRENDS & EXPECTED DEVELOPMENTS IN REHABILITATION..

Development in the area of technology are increasing and improving. It is imperative that we keep up to date with our equipment and service delivery.

c. EXPECTED OUTCOMES..

By establishing and building the high tech program, TIRR would be the site in Houston to provide these special services. This would increase revenues and provide disabled persons in this area a center for education and training on high tech equipment. This would support them in becoming more productive in this community. It may also become a referral base for employer looking to see what is available for them to purchase in order to hire the disabled individual.

OCCUPATIONAL THERAPY DEPARTMENT
Strategic Plan
Survey I
1991

1. EXPANSION OF DRIVING PROGRAM

The current functional mobility program at TIRR includes evaluation & training in a car &/or van. Patients are required to find transportation to & from these training sessions. We have been contacted by health care professionals in Galveston, Texas City & College Station regarding patients that require our services but have limited resources & are unable to get to TIRR. It is recommended that we have a "traveling car "in which training sessions could be provided. The facility could contract with us for several patients & a driver trainer could take the car & provide the services.

Additional services for expansion include development of a specialty fieldwork in driving for Occupational Therapy students & TIRR sponsored Driving Workshops.

a. RESOURCE REQUIREMENTS..

Additional Occupational Therapy & drivers training staff would be necessary as well as one additional car. Space allocation for the staff would also be required.

b.

1. RELEVANCE OF PROGRAM TO TIRR MISSION..

Our mission states that it is accomplished when persons achieve a quality of life with personal independence & productive functioning. Many of our patients cannot achieve this level if functional mobility (driving) is impaired.

2. RELEVANCE OF PROGRAM TO PATIENT NEEDS..

Currently we are evaluating & training approximately 200 patients per year. Some of the patients can get to TIRR for the evaluation but are unable to come for the consecutive number of training sessions required.

3. TIRR STRENGTHS..

TIRR currently has an active program for evaluation & training in the car & van. We have seven staff members involved in the program with a combined 49 years of experience.

4. TIRR WEAKNESSES..

5. PROGRAM RELATION TO COMPETITION..

The competition is with regular driving programs that often are not able to adequately handle that level of disability we see at TIRR. This would allow those patients to receive training & through the workshops perhaps encourage those other programs to improve training practices.

6. SPONSORSHIP..

TRC, insurance. A charge would have to be developed that would keep this health care service within reason.

7. HEALTH CARE & DISABILITY POLICY TRENDS..

The program relates to health care & disability trends in that return to the community & work setting is more of a possibility with the ADA.

8. HEALTH CARE FINANCING & INDUSTRY TRENDS..

If a cost effective manner in charging for this service could be developed, health care cost overall could be reduced & return to the work force could be expedited.

9. TRENDS & EXPECTED DEVELOPMENTS IN REHABILITATION..

This program is keeping in line with the development of technology which allows the disabled individual to participate in the community & work setting with less difficulty.

c. EXPECTED OUTCOMES..

The outcome of this program would increase revenue for TIRR as well as provide a valuable & much needed service to the community.

REPLY TO STRATEGIC PLAN REQUEST
Survey I

Diana Bertrand
Clinical Laboratory

1. Expand the Surgery Program - emphasis on orthopedic and general surgery.
 - a. Increase staff and physical space in clinical departments
 - b.1 Supports and expands TIRR's clinical service mission
 - b.2 Expands service to patients/clients
 - b.3 Enhances "stand-alone-status"
 - b.4 Ancillary support (Lab, Radiology) for clinical services is a weak link
 - b.5. Would make TIRR more competitive
 - b.6 Do not know
 - b.7 Expansion of services should decrease length of stay
 - b.8 Same as b.7
 - b.9 ?
- c. TIRR would be different in three years than it is today for the following reasons:
 - i. Stronger clinical support for patient care.
 - ii. Possibly shorten lengths of stay - and as a result, enhance referrals
2. Provide a more comprehensive medical program (inpatients and outpatients); this could enable TIRR to better serve the medical needs of the patients - decrease "send-outs".
 - a. Increase staff and physical space in clinical departments.
 - b.1 Supports and expands TIRR's clinical service mission
 - b.2 Expands service to patients/clients

b.3 Enhances stand-alone-status

b.4 Overall clinical support is weak

b.5. Would make TIRR more competitive

b.6 Do not know

b.7 Expansion of services could decrease length of stay

b.8 Same as b.7

b.9 ?

c. TIRR would be different in three years than it is today for the following reasons:

i. Stronger clinical support for patient care.

ii. Possibly shorten lengths of stay - may enhance referrals

3. Provide clinical support for research.

a. No additional personnel - may require additional space

STRATEGIC PLAN

Jean Herzog, Ph.D.
Director
Department of Speech-Language Pathology

Suggested Program: **Adaptive communication equipment loaner/rental program, with concomitant expansion of the existing equipment**

The Adaptive Technology Clinic, a joint project between the departments of Speech-Language Pathology and Occupational Therapy, was begun during 1990 with administrative support for capital equipment purchases. The purpose of the Clinic is to provide individuals who require adaptive equipment the opportunity to have appropriate and complete evaluation and therapy services. Many of these patients require adaptive communication equipment that serves as their voice and/or means of writing, literally their link with the world around them (see the Winter 1990-91 issue of *Voice*). A loaner program for the communication devices is a natural expansion of these services for both inpatients and outpatients; policies and procedures for such a program would be developed prior to initiation.

- a. Resource requirements: There are several pieces of equipment that are used most frequently. Establishing a basic loaner program would require duplicates of these pieces, at a financial cost of approximately \$30,000 - \$40,000 (dependent upon current market cost). A list of specific equipment is available.
- b.
 1. Relevance to TIRR clinical mission: This program focuses on the service delivery component of the mission.
 2. Relevance to patient needs: Various aspects of patient care would be affected by establishing this program:
 - a. Accurate evaluation: Choosing an appropriate device is not the result of a snap decision; by providing individuals with the opportunity to try a device 24 hours a day for a period of time, the clinician gains a more accurate picture of the person's ability and needs, as well as the participation and follow-through by caretakers. Adjustments in device selection may then be made if necessary. These devices are often expensive, and they may or may not be covered by insurance; therefore, the decision to purchase is not only a therapeutic but a financial commitment on the part of the patient and family, and a trial period would benefit the evaluation process from the perspectives of both clinician and patient.
 - b. Therapeutic need while waiting for device: Funding for the individual's device may take several weeks, followed by the time required for the supplier to fill the order. By providing a loaner device, the clinician may begin training instead of having to wait until the purchased device arrives.
 - c. Loaner instead of purchase: Insurance companies may sometimes pay for rental but not for purchase. One of the device companies has a rental program, but it is limited to their equipment; no medical supply companies carry these devices for rental.
 - d. Fulfill a temporary need: Some patients need a device on a temporary basis, a need answered by a loan rather than a purchase.

3. TIRR strengths in support of program: The interaction of Speech and OT, with the concomitant support of other departments as needed, is unusual, permitting more accurate assessment and decreasing expensive errors in prescription of equipment.
 4. Addressing TIRR weaknesses: This program would fill a gap in current services; we provide the evaluation and treatment, but without a device, the patient has nothing.
 5. Program relation to competition: No other rehabilitation facility in central-southern Texas has a loaner program, much less a Clinic set up such as this. Others outside of our immediate area do exist that may provide us with information, such as Rancho Los Amigos in California.
 6. Known sponsorship options: None at this time. The National Institutes for Health had a one-time granting program two years ago, but have indicated to me that they will not repeat this anytime in the predictable future.
 7. Program relationship to health care and disability policy trends: These devices permit the increased independence of individuals who otherwise are dependent upon others to speak for them.
 8. Program relationship to health care financing and industry trends: Insurance companies are slowly recognizing the long term benefits of these devices, but often a great deal of time and effort on the part of the clinician, physician, and family member is required to obtain funding for purchase.
 9. Program relationship to trends and expected developments in rehab: Technology is advancing constantly, and this is an area in which changes occur constantly. By making devices more readily available, we are offering individuals the opportunity to take advantage of the available technology.
- c. Effects of program implementation: 1) Increased patient satisfaction with services; 3) Provision of equipment in circumstances in which the patient might not otherwise have a device available; 2) Additional recognition within the medical community, with the potential for additional referrals.

Suggested Program: Educational training site for elementary and secondary school personnel

The elementary and secondary schools are finding themselves responsible for children who have been injured once those children have been discharged from hospital care, children who never received adequate treatment, and children who were born with disabilities that have not been addressed before in the school setting. As a result, the schools are also finding themselves unprepared to deal with the problems, whether physical, cognitive, or social, that these children present. School personnel frequently contact us seeking assistance in the form of information and suggestions.

- a. Resource requirements: Patient care personnel; ancillary costs.
- b.
 1. Relevance to TIRR clinical mission: Pediatric patient care after discharge; may also be applicable to children who have never been hospitalized.
 2. Relevance to patient needs: This is an extreme need. After working so extensively with our head injured children in particular, it is frustrating to see them return to the school setting where they often are not placed appropriately and personnel are not aware of and/or able to deal with their special needs.

3. TIRR strengths in support of program: 1) Multidisciplinary approach with excellent staff; 2) an established pediatric program.
4. Addressing TIRR weaknesses: We need to build a stronger liaison with the school systems for the benefit not only of the children we see in our clinical practice but also for the benefit of those who may need but will never receive services at a rehabilitation facility.
5. Program relation to competition: Interaction with the school system is generally on an individual case basis; I am unaware of any type of formal, ongoing training outreach programs for the schools conducted by other facilities.
6. Known sponsorship options: The Southwest Regional Brain Injury grant obtained by Dr. Catherine Bontke and her colleagues should be helpful in addressing the head injured child; possible options for other disorders is unknown, but the TBI system could serve as a model as it develops.
7. Program relationship to health care and disability policy trends: It is federal law that each child be provided with appropriate services in the schools; however, the limited financial and personnel resources available makes this very difficult for educators.
8. Program relationship to health care financing and industry trends: Many children are not covered under any type of insurance, and therefore the schools are their only option for services; CIDC is limited in terms of what they cover and for how long, so again the schools find themselves the primary providers. Given that it is a federal law that each child be provided with appropriate services through the schools, many conscientious teachers, speech pathologists, and other related personnel are very concerned about providing appropriate services as they are able, given their limited resources.
9. Program relationship to trends and expected developments in rehab: A rehab facility cannot stand alone; it is imperative that we interact with the other providers who also have responsibility for the children.
- c. Effects of program implementation: 1) Improved care for our kids beyond the hospital; 2) enhanced relationship with the schools that would facilitate transition back to the school setting; 3) potential benefit for kids who cannot afford rehabilitation; 4) increased community awareness of disability and the need for community involvement.

Suggested Program: Speakers' Bureau of TIRR employees

This may exist and I just am unaware of it. Basically, speakers from any of the divisions who have talks that may be given to community, philanthropic organizations, etc., could register with the Department of Education and/or Marketing. They would be available to provide these talks as a public service.

- a. Resource requirements: Speakers and their time.
- b.
 1. Relevance to TIRR clinical mission: Education component.
 2. Relevance to patient needs: Effects would be indirect via increased community awareness, potential donations.
 3. TIRR strengths in support of program: Many professionals involved in innovative work.

4. Addressing TIRR weaknesses: Strengthen our link with the community outside of the Medical Center.
 5. Program relation to competition: There's nothing really organized along these lines that I know of in other institutions, or at least that is actively involved in the community.
 6. Known sponsorship options: ?
 7. Program relationship to health care and disability policy trends: Increased public awareness of and involvement in disability management.
 8. Program relationship to health care financing and industry trends: Same as above.
 9. Program relationship to trends and expected developments in rehab: Involvement of the community is only going to increase in the coming years, given the fiscal and social climate.
- c. Effects of program implementation: 1) Indirect positive effects on patient care through community awareness, possible donations; 2) makes TIRR a recognizable name in the community (people tend to remember the generosity of an institution that provides something for free).

Suggested Program: Professional staff education: Educational/travel funds

While TIRR itself provides excellent opportunities for continuing education of professional staff, exposure to new ideas and clinical approaches beyond the TIRR/Houston environment is necessary for continued growth in patient care. Current educational/travel funds for the professional staff providing direct patient care is not keeping up with the actual cost. While staff members are expected to pay part of the expenses for conferences, the cost even with the available funds often becomes prohibitive for anything outside of the immediate Houston area. Funding is an issue that may also prevent staff members from presenting at conferences because they cannot afford to attend.

- a. Resource requirements: Registration fees are running approximately \$250 - \$400, depending on the length of the conference, the sponsor, and the location; thus, one conference registration takes the major portion or all of the clinician's allowed annual funds, and in some cases does not cover all of the registration fee. This then leaves plane fare, hotel, food, and ground transportation expenses.
- b.
 1. Relevance to TIRR clinical mission: Ongoing education of staff.
 2. Relevance to patient needs: Incorporation of new ideas and clinical approaches into patient care.
 3. TIRR strengths in support of program: 1) Openness to development of new patient care protocols; 2) Physician support for conference participation.
 4. Addressing TIRR weaknesses: Limiting education to just that available at TIRR produces limited vision in terms of patient care.
 5. Program relation to competition: Other facilities have access to various funding sources for education; this a benefit that helps attract and retain qualified personnel.
 6. Known sponsorship options: None at this time.
 7. Program relationship to health care and disability policy trends: None.
 8. Program relationship to health care financing and industry trends: None.
 9. Program relationship to trends and expected developments in rehab: Provides staff with increased opportunity for exposure to those trends and developments, with potential for incorporation and/or further development in this setting.
- c. Effects of program implementation: 1) Exposure of staff to additional patient care information; 2) Potential for incorporation and/or further development of this information in the TIRR setting; 3) increased presentations by TIRR staff.

Jean Herzog, Ph.D.
Director
Department of Speech-Language Pathology

Suggested Program: Day Care for TIRR employees' children

A day care program on site or nearby, that would provide for employees' infants and children, would serve as a recruiting/retention tool, as well as contribute to the overall perception of TIRR as an environment that cares not only for its patients, but for its employees also. While there is the day care subsidy program available for the TMC facility, a smaller environment provided by the employer would likely be more welcome by the employees. There are various issues that would need to be addressed in addition to those noted in this format, including:

- a. What kind of hours would be available? While there is a majority of kids from the day shift and departments having 8-5 work hours, there may be needs on the part of the evening and night shifts.
- b. Would sick kids be included? This requires appropriate personnel and perhaps an additional facility area to keep them separated from the kids who aren't sick. What defines a sick kid?
- c. Would such services be available to individuals who provide contract services? This would certainly give departments who use contract personnel more flexibility, since the individual would not have to make arrangements for day care in order to come in on short notice.

While there are definitely hurdles to be met in establishing such a program, there are models in business and other hospitals that could provide guidelines. The emphasis should be on quality care, not just a place to dump off the kids for the needed time.

- a. Resource requirements: Facility area, materials, supplies, and equipment, and appropriate, qualified personnel.
- b.
 1. Relevance to TIRR clinical mission:
 2. Relevance to patient needs: Indirect, through provision of personnel.
 3. TIRR strengths in support of program: Employee interest; perhaps a survey would be an appropriate first step in identifying and defining needs.
 4. Addressing TIRR weaknesses: Recruitment and retention of TIRR personnel.
 5. Program relation to competition: Larger hospitals, such as Methodist, are offering this option.
 6. Known sponsorship options: Parents would pay for participation. Perhaps the volunteers would see this as a viable part of their mission in terms of financial support; if day care regulations permit it, perhaps volunteers could help out as aides. It might also be an option to tie into nursing and/or education/child development training programs for assistants; these assistants would need to be supervised by appropriate personnel.
 7. Program relationship to health care and disability policy trends:
 8. Program relationship to health care financing and industry trends:
 9. Program relationship to trends and expected developments in rehab:

This is a business rather than a health care trend, as the working world recognizes the needs of the working parent and the fact that those parents are good employees who should not be lost because of childcare responsibilities.

- c. Effects of program implementation: 1) Improved employee relations; 2) a benefit for employee recruitment/retention.

SUGGESTED RESPONSE FORMAT

1. Suggested Program X, description and rationale

Comprehensive Rehabilitation Services

a. Resource requirements pertaining to Program X

Recruit orthopedist, rheumatologist, geriatric and oncology rehabilitation services

b. 1) relevance of Program X to TIRR clinical mission,

Completely supports TIRR mission

2) relevance of Program X to patient needs,

Widens patient population served, Both disciplines merge well with current medical staff but broaden scope of services

3) how TIRR strengths will support Program X,

Excellent rehabilitative services & clinical departments

Have resources available to support these programs.

4) how Program X will address TIRR weaknesses,

Reduce TIRR reliance on a single "straw" program. TIRR still seen by public as covering "Comprehensive" but still

5) how Program X will relate to competition, very narrowly focused

Most competition already provide these programs. Program-wise.

6) known options for sponsorship of Program X,

7) how Program X relates to health care and disability policy trends,

Both areas are high in health care & disability policy trends. Oncology currently being addressed by Dwyer legislation.

8) how Program X fits health care financing and industry trends, and

9) how Program X relates to trends and expected developments in the field of rehabilitation.

All of these areas are being addressed by progressive rehabilitation programs. Population is growing older & living longer - these areas need to be

c. Discussion of expected outcome or effects of change resulting from implementation of Program X.

Addressed.

TIRR can take a leadership role as a truly

"Comprehensive" Rehabilitation program. Can be expanded physician staff will bring in more patients, increase volume of services provided & more importantly expand eliminate narrow program focus

Note: Programs Y-Z would be addressed in a similar manner on following pages.

SUGGESTED RESPONSE FORMAT

SPANISH-ENGLISH TRANSLATOR/INTERPRETER FOR HOSPITAL

1. Suggested Program X, description and rationale

A Spanish-English translator to assist with and advocate for Spanish only speaking inpatients & outpatients. Person would also be responsible for hospital

a. Resource requirements pertaining to Program X *translation of pertinent information*
1 FTE. Secretarial support & housing out of Department of Education or Marketing.

b. 1) relevance of Program X to TIRR clinical mission,
100% support of TIRR mission. This aspect is currently not being met or being poorly met for Spanish speaking patients

2) relevance of Program X to patient needs,
Only hospital in TMC did currently address this need. This should be a high priority for 1992

3) how TIRR strengths will support Program X,
Several clinical depts have taken exemplary steps toward meeting these needs.

4) how Program X will address TIRR weaknesses,
This is one of our biggest weaknesses

5) how Program X will relate to competition,
will bring us "up to par" with competition. We have lost many patients to RIOSA in San Antonio because of this deficiency.

6) known options for sponsorship of Program X,

7) how Program X relates to health care and disability policy trends, *This service is available in almost progressive health care facilities. Seen as a high priority in Southwest.*

8) how Program X fits health care financing and industry trends, and

9) how Program X relates to trends and expected developments in the field of rehabilitation. *TIRR is lagging far behind in meeting this necessary patient service. Allows patient to be part of his/her rehabilitation process.*

c. Discussion of expected outcome or effects of change resulting from implementation of Program X.

Positive image in meeting all patient needs. Decrease number of complaints from patients about their inability to communicate with their providers. Positive, stress-free hospitalization will serve as an excellent marketing tool for Spanish speaking population in Mexico, South & Central America

Note: Programs Y-Z would be addressed in a similar manner on following pages.

SUGGESTED RESPONSE FORMAT

1. Suggested Program X, description and rationale

~~Psychological~~ *Psychological and/or psychiatric services for Spanish-speaking & bicultural*

a. Resource requirements pertaining to Program X

Contract services of ~~under~~ individuals(s) to provide these services.

b. 1) relevance of Program X to TIRR clinical mission,

Completely supports TIRR Mission

2) relevance of Program X to patient needs,

Meets a current deficiency

3) how TIRR strengths will support Program X,

help person achieve a productive quality of life both physically & mentally.

4) how Program X will address TIRR weaknesses,

This is a recognized weakness

5) how Program X will relate to competition,

Equal or improve on competition.

6) known options for sponsorship of Program X,

7) how Program X relates to health care and disability policy trends,

8) how Program X fits health care financing and industry trends, and

9) how Program X relates to trends and expected developments in the field of rehabilitation.

c. Discussion of expected outcome or effects of change resulting from implementation of Program X.

This is a major complaint of Spanish speaking patients & family - seen as a major deficiency & of the presented because they feel & see void in the area.

Note: Programs Y-Z would be addressed in a similar manner on following pages.

SUGGESTED RESPONSE FORMAT

1. Suggested Program X, description and rationale

Hospital wide study of the art order entry + computerization

a. Resource requirements pertaining to Program X

Replace, update, + or support current equipment.

b. 1) relevance of Program X to TIRR clinical mission,

Will support + enhance program services.

Will increase efficiency of services provided.

2) relevance of Program X to patient needs,

Support, augment + improve services provided.

3) how TIRR strengths will support Program X,

Strong MIS department

4) how Program X will address TIRR weaknesses,

This is the biggest weakness at TIRR.

5) how Program X will relate to competition,

Most competitors are studying the art on this area

6) known options for sponsorship of Program X,

N/A

7) how Program X relates to health care and disability policy trends,

8) how Program X fits health care financing and industry trends, and

In many departments, will bring greater efficiency + economy.

9) how Program X relates to trends and expected developments in the field of rehabilitation.

Without it we can only lag behind.

c. Discussion of expected outcome or effects of change resulting from implementation of Program X.

Will not only improve services, but increase employee morale.

Note: Programs Y-Z would be addressed in a similar manner on following pages.

Department of Respiratory Care
Strategic Plan
Survey I

1. Suggested Program for Respiratory Care:

Investigation into alternative modes of ventilation for high quadriplegia and neuro-muscular disease. Some modes of ventilation that could be investigated - negative pressure ventilation (i.e., chest shell, cuirass); positive pressure ventilation via nose or mouth (BiPap ventilator); exsufflation belt. Continued research into positive pressure ventilation with new modes such as pressure support, or continuous flow ventilation and electrophrenic stimulators.

- a. Resource requirements - utilization of present staff. Staff will need additional training on new equipment and new modes of ventilation. The Department will be purchasing 6-10 new ventilators this year that will provide new modes of ventilation. This will also require a physician knowledgeable in these methods.
- b.
 - 1) Some of these alternative modes of ventilation may enable the person with high quadriplegia to be ventilated without a trach tube, thus enhancing his perception of his physical appearance. The new modes of positive pressure ventilation may facilitate weaning off the ventilator.
 - 2) See No. 1 above. Facilitate weaning; enhancement of appearance and feelings of self confidence. Also, some of these alternative means of ventilation are less expensive.
 - 3) TIRR has had many years of experience in the rehabilitation of ventilator dependent quadriplegics.
 - 4) There are other rehab facilities that are currently using these methods with documented success. Staff members and physicians from these facilities are speaking at conferences and seminars across the country on what they are doing in terms of alternative modes of ventilation.
 - 5) Dallas Rehab Institute has established a reputation for being able to send high quadriplegic patients home without tracheostomies. TIRR has a good

reputation for their work with ventilator patients, but being able to use less expensive and less invasive means of ventilation will be more appealing to the patient and their families as well as to their sponsors.

- 6) I don't know about options for sponsorship.
- 7) See #5 above and #9 below.
- 8) See # 5 above and #9 below.
- 9) Some patients will not tolerate anything other than the standard positive pressure ventilation via trach tube. TIRR has been one of the few institutions in the country that has been able to provide for these people and address their rehabilitation needs. If TIRR can utilize other methods that will facilitate a patient's weaning off the ventilator, or utilize alternative means of ventilation that could be less expensive than conventional means, then TIRR would be able to enjoy a competitive edge over other rehabilitation institutions in the country. The presence of a tracheostomy and use of positive pressure ventilation hinders the person's ability to compete effectively in the workplace or in a school environment. The presence of a tracheostomy also makes that person more susceptible to respiratory infections. Some of these alternative means of ventilation allows for the removal of a tracheostomy tube, or at least its being replaced by a trach-button. The trach-button maintains a patent airway, but is much less obvious and is more aesthetically appealing in its appearance.

c. Expected Outcome:

The use of some of these alternative modes of ventilation should have several positive effects:

- 1) Patient's weaning from positive pressure ventilation would be facilitated by some of the new modes of ventilation provided by the new ventilators (i.e., pressure support, or continuous flow ventilation). Weaning from the ventilator is a prime objective in rehabilitation and results in a savings to the consumer.

- 2) Some of the alternative means of ventilation facilitate the disabled person's transition into the workplace or school. The exsufflation belt and the EPR stimulators require less in terms of nursing or attendant care. They also allow the disabled person to look more "normal". This enhances self-confidence and feelings of well-being.
- 3) Successful use of alternative methods of ventilation will attract more families and sponsors, especially if it proved to be more cost effective.
- 4) Successful use of alternative modes of ventilation could result in TIRR staff being asked to participate and speak at more conferences. This will enhance TIRR's already fine reputation and standing in the area of rehabilitation of the high quadriplegic and the neuro-muscular disease patient.

SB:mtn
04/12/91
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STRATEGIC PLAN

Survey I

1. Expand - Radiology, Surgery, Urology and Urodynamics Services.
 - a. Additional: staff, space and equipment.
 - b.
 - 1) Support research studies - Dr. Loubser, Research Laboratory, Urology and Urodynamics.
 - 2) TIRR has been in need of a Urologist, which we now have to maintain our status of patient care including diagnostic inquiries.
 - 3) Provide ancillary support. TIRR is nationally known need to keep in forefront or we will lose our prestige.
 - 4) Support for clinical services, architectural free barrier working conditions, weaknesses on building maintenance upkeep.
 - 5) Help fight it...do patients in timely manner with optional images.
 - 6) Urology, anesthesiology, orthopedic, neurosurgery need to keep abreast.
 - 7) Computerized radiology equipment.
 - 8) An evening Sports Medicine Clinic, two nights a week. Radiology/Nuclear Medicine could stay open two nights a week in the p.m. \$ \$
 - c. To be able to provide non-existing radiographic examinations for TIRR physicians.

STRATEGIC PLANNING

DEPARTMENT OF THERAPEUTIC RECREATION

April 10, 1991

1. Indoor Swimming Pool - Swimming Programs

- a. Presently there is no facility for this and one would need to be built - presently the Department of Therapeutic Recreation uses community pools when needed.

Staffing would include: 1 (one) Pool Administrator for maintenance, upkeep, scheduling use, etc.; 1 (1) certified therapeutic recreation specialist to conduct classes and individual treatments - these may be co-lead by PT/OT/ or Speech. Perhaps this pool could be housed on the lower level of a proposed 2nd TIRR tower.

- b. (1) This relates to TIRR mission statement as it involves team work. Also, the pool could be used for outpatient services and community activities and would enhance maintaining contact with former patients.
- (2) At this time there are no community recreational swimming programs for disabled individuals. There are several competitive teams and one recreation swimming program in Pasadena, which is too far for many clients. The client needs of inpatients are not fully being met at this time due to travel time, scheduling, etc. at other facilities. While the P.T. department does pool check offs in the present TIRR pool, it doesn't allow for recreational activities such as leisure swimming, endurance swimming, Kayaking lessons, scuba lessons, and more.
- (3) Strengths - able to adapt and use community pools
- (4) Weaknesses - not as many patient benefits as would if we had an on site pool
- (5) Competition - Verne Cox Recreation Center -

no other rehabs. in Houston offer this

(6) Sponsorship options - matching funds

(7) ?

(8) ?

(9) Trends for T.R. services are moving toward the outpatient area

C. More attractive facility: specifically providing a wider variety of services to enhance the patient goals

STRATEGIC PLANNING

DEPARTMENT OF THERAPEUTIC RECREATION

April 10, 1991

2. TIRR Community Recreation Center

- a. A community building would have to be built or an annex made to our present facility (with larger rec. room)
- b.
 - (1) TIRRs values include directing patients to achieve independence. Once this is accomplished many return home and their social lives are limited. Many express the need for recreation groups specifically designed for disabled but not excluded to abled persons. This could be a research proposal to evaluate effectiveness of socialization/recreation groups among disabled in the community.
 - (2) Patient needs at this time reflect that there are few to no services of this type in the Houston area. The TBI population is in great need of this type of community focus and unfortunately the City of Houston Parks and Recreation Department is not filling these needs.
 - (3) Strengths - T.R. program provides guidance on filling their recreation need upon D/C but little to refer them to in the community
 - (4) Weaknesses - not a large revenue producer but good marketing tool
 - (5) ?
 - (6) Sponsor with a large corporation such as Texaco, Texas Rehabilitation Commission, Mc Donalds, Chrysler

- (7) Health care trends are leaning toward shorter admissions - therefore many recreation/leisure goals will need to be addressed from an outpatient standpoint - the outpatient staff could monitor and operate the facility and therefore produce some revenue.
- (8) ?
- (9) More programs could be offered and inpatients could utilize this building too - (generating revenue). This building could house a gymnasium, weight room, swimming pool (explained earlier), arts and crafts room, tennis courts, raquetball courts, multi- use l meeting room and possible even be used for therapeutic horseback riding. Scouting for handicapped meet here.

C. Larger public image offering more to meet patient needs.

STRATEGIC PLANNING

DEPARTMENT OF THERAPEUTIC RECREATION

April 10, 1991

3. Therapeutic Van

- a. Several (1-2) new TIRR wheelchair accessible vans are needed for use for community outings with patients, as well as for patient services to other facilities.
- b. (1) This relates to TIRR's values as these outings increase a patients confidence and self esteem when returning to the community and play a vital role in increasing their independance.
- (2) Many patients complain about the ride in the present vans - despite efforts to fix them. The present vans also are in poor shape in many areas and reflect to patients in a negative way. Patients need community reintegration as part of the overall rehab. process as research has shown the value it has.
- (3) Presently have 2 operating vans
- (4) Often need repairs and TIRR has no backup vans ~~often need repairs and TIRR has no backup vans~~ so patients often cancelled
- (5) Houston Rehab. and Memorial Rehab. have nice vans but weaker community reintegration programs
- (6) Local organizations - Tx. Ford Dealers, etc.
- (7)
- (8)
- (9) Continued need for com. reintegration as part of rehabilitation

- C. Greater patient satisfaction; increased patient awareness of TIRR's concern for patient comfort and safety; marketing tool - you'd be surprised at the # of people who ask our staff about TIRR when they are out on outings.

STRATEGIC PLANNING

DEPARTMENT OF THERAPEUTIC RECREATION

April 10, 1991

4. Larger Therapeutic Recreation Room

- a. Presently five therapist, an intern, and a music therapist must use the present small recreation room for treatments. Staff need a recreation room which can be subdivided into three or four smaller treatment areas or opened as one large area for parties, etc. without having to use the P.T. gym (and having to rush to decorate, set up, etc. after their strength unlimited program). A new recreation room should be built in perhaps a second TIRR tower, or more space allotted in the remaining buildings.
- b.
 - (1) This relates to TIRR's values by increasing independence of patients through individual treatments, leisure education, and recreation participation.
 - (2) Many patients must presently turn away from the recreation room if it is a high use time due to the small size of our present room. Others get confused if we are having a party but it's not in the recreation room.
 - (3) A recreation room is available.
 - (4) Smallness causes safety concern - pool sticks hit nintendo players, etc. Not much variety in recreation room to meet majority of patient interests/needs. Patients don't realize completely the importance of recreation in their lives post D/C without TIRR's support of recreation room facility.
 - (5) Del Oro, Memorial Rehab., Houston Rehab - VA, Chicago, Craig, RIOSA Rehabs., offer better emphasis on recreational facilities
 - (6) Foundation support
 - (7) ?

(8) ?

(9) Shorter admissions mean more use of
recreation room by staff - unable to wait to
begin treatment

C. Good marketing tool when recruiting patients.
More patients aware of Therapeutic Recreation as
they are actually taken to the recreation room and
not other recreation centers

STRATEGIC PLANNING

PEDIATRIC PROGRAM - THERAPEUTIC RECREATION

April 10, 1991

5. Summer Camp for Kids

- a. TIRR would sponsor summer camp sessions for children with multidisciplinary team involvement - all disabilities served - could be revenue producing for some Therapeutic Recreation sessions as well as P.T., O.T. and speech.
- b.
 - (1) Families are educated to meet the needs of their disabled children and how to mainstream their kids. Team work is necessary to ran camp
 - (2) Presently their are summer camps for specific disabled groups - but few that bring them together
 - (3) Good clinical staff to enhance camp
 - (4) Facility for camp, however, this could be arranged to be held at camp Stroke or other camps
 - (5) Individual disability camps, UTMB
 - (6) Lions Club, etc
 - (7 & 8)
 - (9) More emphasis will be placed on providing and meeting the needs of all disabled children

C. Increased programs and services offered

MEMORANDUM

DATE: April 15, 1991
TO: Charlie Beall
FROM: Cheryl Sohrabian *CS*
RE: Strategic Plan, Survey I

Maintenance/Development of Primary Program/Service Components and Research/Education Programs:

Maintenance of current programs is appropriate:

SCI - all
TBI - all
Amputee - all
Pedi - all
Surgical - all currently listed
Stroke - current activities are adequate due to market trends (i.e. rehabilitation units within hospitals are focusing on stroke rehabilitation, reimbursement trends from Medicare). A suggestion will be made later in this survey regarding change in the stroke program.
The "other" programs tend to be incidental admissions/services not categorized in the fully described programs for our clients. These indicate services needed by our consumers, desired to be obtained at TIRR, but nonetheless, subordinate in development. The first suggestion is made in this regard.

- ★* 1. Suggested Program: Rehab V development as "full services" for the disabled population (physical and cognitive).

Rationale -- TIRR is established as a center of excellence for rehabilitation of the spinal cord injured, is developing strongly for the brain injured, and is in the developing stages in pediatric rehabilitation. Our disabled clients, once they have received their initial rehabilitation, must rely on medical, nursing, and allied health services from persons and agencies not experienced or less knowledgeable about disability than we. These clients may be seen again at TIRR for complications such as surgical wound management or respiratory compromise. We are currently licensed and accredited as a hospital and are, therefore, well suited to offer full services to the disabled population. Their needs could be met in a consolidated, consummate effort of service.

- a. Resource requirements: added medical, surgical, and nursing services, as well as counseling services. These would need to be both inpatient and outpatient services. We currently have the capability to provide most of these services for our clients, but we do not market ourselves

well as a hospital or a provider for disabled persons' health care needs. Additional inpatient bed allocation would be minimal for acute medical or surgical inpatient admissions. A major player would be Marketing--a new, expanded focus. The content of how expanded we would want this "program" to be can be limited only by our imagination and resources to be available in terms of finances, manpower, and physical space.

- b. 1) This program is directly in line with our mission to provide needed services to the disabled population (physical and cognitive). The issue is that we are not at present servicing to the fullest extent based on our mission and values.
- 2) The patient need is demonstrated by clientele report, repeat admissions, and our knowledge of the inadequacy of services available through other facilities not geared for this population's special needs.
- 3) Our strengths include our expertise gained through experience, research, and education. Also, less obvious and often untapped, is our ability to be flexible. Our capability to be flexible, however, is based on our team working.
- 4) Although our ability to be flexible is there, the practice at TIRR is often to be inflexible, and we experience a very cautious nature. Additionally, we are quite experienced in working within the team concept but nonetheless maintain departmental "kingdoms".
- 5) Competition is virtually nonexistent to provide "full services" to this patient population.
- 6) Options for sponsorship are unknown but can definitely be pursued through sources aimed at a) prevention of disabling injuries or conditions and b) provision of efficient, high-quality services to the disabled.
- 7) As is the case with 6) above, this is the direction for the future.
- 8) Especially in terms of outpatient care, these types of services may be available with increasing trend of reimbursement as well as the industry trend in the way services are being provided.

- 9) Rehabilitation must be seen as a process, not a singularly achieved or short-term accomplishment. A disability (physical or cognitive) is a lifelong experience impacted by frequent change. Developments must be made to anticipate changes and meet the needs created through change.
- c. Three years from now, should TIRR implement a full-service mission for disability, we would gain prominence locally and nationally as a quality provider of services, not built on past achievements alone, but also on our ongoing reputation as an active, progressive institution fulfilling our mission and exhibiting our values. Most certainly, from the viewpoint of the disabled population, we would be an institution dedicated to providing services that meet their needs fully, not halfway or intermittently.
1. Program Y -- "Young Strokes". An increasing number of relatively young (younger than age 40) persons are experiencing cardiovascular accidents (CVA's). There is continuing research in strokes, and most rehabilitation units within hospitals are servicing stroke patients. However, the young individual who has had a CVA frequently has different needs and should be singled out for a different plan of rehabilitation.
 - a. Resource requirements: therapy services, bed allocation, counseling services, research endeavors, medical direction.
 - b.
 - 1) This program is in line with TIRR's mission and values.
 - 2) These patients are being "mainstreamed" with other stroke patients and frequently in an environment of older patients with a variety of problems; i.e. orthopedic surgeries, "general rehabilitation".
 - 3) Our research experience should enable us to begin to investigate this incidence. We would need to develop therapy and nursing services to provide specific services for this patient population.
 - 4) Our stroke service is weak in development and execution. We would have to break with the past and current methodology of stroke service and create a new program.

- 5) Competition is primarily with the other "general rehabilitation" units. Our focus would be directed at a particular type of stroke patient, and we would be known as a center of research and service for this designated group.
 - 6) Grant funds for research, as well as reimbursement from third party payors, would provide financial support. (For this age group there is less coverage by Medicare-only).
- c. We do not want to be known as a general rehabilitation facility but must be aware of the need to gain recognition as a center of expertise and excellence in certain enterprises (i.e. ventilator care). The "young stroke" is an untapped area of rehabilitation and should be productive in terms of research, education, patient outcome, and economic impact.
3. In regard to the Sub-acute program, we must define our service as succinctly as possible and very carefully. We also need to separate geographically as quickly as possible. TIRR hospital must remain known (and become known in many cases) for acute rehabilitation. Due to public perceptions (and perceptions of health care professionals, also), sub-acute programs are viewed as long-term care, more maintenance oriented programs. Therefore, having a sub-acute program on site will dilute our mission as the hospital branch of the system and impact recruitment of staff. It will also affect the way referring agencies perceive our services.
 4. Based on the number of brain injuries occurring in our geographic area, we need to focus on services in this realm. Our process of development needs to be aimed at what "separates us from the pack". Competition is very heavy in this area (mainly, locally, from Del Oro and the Neurobehavioral Institute-Laurelwood). Based on time constraints, I cannot define a precise program here, but I am most interested in discussing potentials. We need to review inpatient services as well as day programs.
 5. Program: Rehabilitation for the Spanish-speaking Client. Development of this "program" has been attempted in the past, but it failed. There is a demonstrated need. We must evaluate the reasons for the previous failure and plan with that data in mind.

Strengths: the need, our rehabilitation experience and expertise

Weaknesses: availability of staff; educational resources; financial reimbursement

Competition: nonexistent

Sponsorship: grant-study funds

Trends: cultural diversity in terms of programming and meeting particular population needs

Outcome: Recognition as a center of service meeting this need--local, national, and international recognition.

6.

Program: Rehabilitation Education for Health Care Providers. We can "export" our expertise and knowledge. There is not a regional center providing educational services to the health care community. RIC does a lot in educational provision, but it is not easily accessible and often utilizes a "canned" approach.

Resource requirements: availability of educators, funds

Relevance to mission: TIRR is a provider of education to persons with disability. This program would enable us to educate others so that the disabled population could be better served. This idea is inherent in our values.

Strengths: our experience and expertise

Weaknesses: We do not "share" our knowledge in a measurable way. We need to provide in-house programs (time, parking constraints) and take our programs "on the road" (cost, human resources).

Competition: Regionally, there are only various workshops available to health care professionals. No institution is known as a center of education in the sense of provider.

Sponsorship: participant costs, educational/research grants

Trends: Due to lack of direction and knowledge, the disabled population is being served without quality. Developments are supporting the need for TIRR to be on the cutting edge of competition, and few can provide the educational services of which we are capable.

Outcome: a regional center of educational opportunity

Strategic Plan, Survey I
April 15, 1991
Page 6

I look forward to dialog in strategic planning. We need to set the groundwork as an executive group to arrive at a consensus of philosophy and prioritization, and we need to develop supportive team building. I believe there are times when we lose sight of our mission and consciously choose to act not in the best interest of the "whole picture". This is a great opportunity for us to focus on the appropriate direction(s) to pursue.

CS46-044:kcl
4-19-91

MEMORANDUM

DATE: April 15, 1991

TO: Charles Beall
President and CEO

FROM: Karen A. Hart
Vice President for Education

RE: 1991 Strategic Planning: Education

The information presented is reflective of two very recent meetings of representatives from the TIRR clinical departments, a staff needs assessment completed the last quarter of 1990, the continuing educational planning group meetings of 1991 and the budget planning meetings in 1990 and 1991. I have not recently had the opportunity to have a specific conversation with the TIRR Program Physicians regarding educational planning.

TIRR has a program of educational activities in each of the following areas:

1. patient/family education
2. staff development and communication
3. academic training
4. continuing education
5. educational resources
6. educational materials development
7. community (general public) education

For the purposes of the strategic planning process, each of the above seven areas will be treated as a "program." At this initial stage, I am merely reporting ideas in the above areas. I have made no real effort at developing, prioritizing or screening out any suggestions.

I. Patient/Family Education

Current methods/activities used to provide patient education include: one-to-one teaching e.g., staff member to patient and family; group teaching in RAPS and modules for the SCI program; Family Night for BI program; written handouts on specific subjects for all programs; patient and family manuals for SCI and BI programs; and teaching videos and slide presentations used in conjunction with one-to-one or group instruction. It is the consensus that these activities should

be maintained and that the activities that have been successful for one program should be considered as models for developing activities in other programs.

A suggestion for planning is:

**Patient and Family Education Series for
Pediatrics, TBI, and Amputee Programs**

The RAPS and Modules that have been utilized in the SCI Program serve as models. TIRR's other patients programs require the same attention.

a. Resource requirements:

- 1) Time is required from Nursing Education staff and specific diagnosis trained nurse and therapists to develop the series, write the material and teach.
- 2) Pediatric teaching models and appropriate audio-visuals need to be purchased.
- 3) Education staff are required to coordinate the development of new materials, for handout revisions and to design teaching assessments.

- b. 1) Relevance to TIRR clinical mission: Education of all our patients and families is a main TIRR mission.
- 2) Relevance to patient needs: Patients and families have a need to obtain complete and consistent information that is presented in a well thought out manner. The group educational process also facilitates the bringing together of individuals with similar problems.
- 3) TIRR strengths in support of program: TIRR staff have planned and implemented this approach for the SCI program and the staff with such expertise are available in the pediatric, BI and Amputee programs.
- 4) Addressing TIRR weaknesses: TIRR does not provide consistent, quality educational opportunities for all patients and families. In many cases it is up to the patient or family to seek out information. We know this kind of series works, we just need to develop it for all programs as a part of program development.

- 5) Program relation to competition: TIRR's educational programs set it above our competition. We set the standard when we systematically design and package our educational activities.
 - 6) Known sponsorship options: RAPS and modules are billed to patients.
 - 7) Program relationship to health care and disability policy trends: Unknown
 - 8) Program relationship to health care financing and industry trends: Unknown
 - 9) Program relationship to trends and expected developments in rehab: Shorter hospital stays and longer life expectancies for persons with disabilities mean that patients and families will have to accept more responsibility for their own care. Educational resources are needed to do this.
- c. Effects of program implementation: TIRR can increase its reputation in the area of education since packaged programs such as this are in scarce supply.

II. Staff Development and Communications

Current activities include the production of a weekly communication (TIRR Mid-Week) and a monthly newsletter (TIRR Talk) for employees. These are produced entirely in-house and have been very well received and should continue. Staff development programs include department specific inservices such as Third Tuesday (a grand rounds presentation on a BI related subject) and hospital-wide training programs such as C.A.R.E., CPR training, Employee Annual Update, TeleCARE and Employee Assistant Program Training. We have had considerable growth in activities in this area in 1990 and 1991 and these should continue.

Specific suggestions include:

Centralized Database Management of TIRR Staff Development Activities

This program involves the central collection and then distribution of all staff development and inservice activities conducted at TIRR. Reports could be printed for individuals, for departments or by specific subject. The database would facilitate reporting to CARF, JCAH, granting sources and for surveys. Currently this information is collected through sign in sheets in the department where the inservice is held. We

have found that many activities that are done go unrecorded because no system exists. There is not good follow up to ensure that every staff member is up-to-date.

a. Resource requirements:

- 1) An available or customized program must be purchased or developed.
- 2) A portion of an FTE of a data entry person is required to follow up, enter data and generate reports.

b. 1) Relevance to TIRR clinical mission: This program assists in assuring that TIRR staff are well trained and of the highest quality possible for our patients.

2) Relevance to patient needs: Patients deserve to have competent, trained staff as their care givers.

3) TIRR strengths in support program: TIRR offers many staff development programs in which staff participate.

4) Addressing TIRR weaknesses: Staff are often unaware of the number of activities in which they have participated in a year's time. A database can give individual staff listings of these activities. When we are asked to provide documentation of staff development activity, we must currently go to each department and count. The database can allow for the data to be reported in a variety of formats; e.g., by department, by subject, by individual.

5) Program relation to competition: We can report to potential staff, referrers and families that our staff have an average of X amount of update training per year. It is useful as a retention tool to report to an employee the amount of training he/she participates in at TIRR.

6) Known sponsorship options: Unknown

7) Program relationship to health care and disability policy trends: Hospitals are being held more accountable for their employees inservice on new equipment, safety and many other subjects.

8) Program relationship to health care financing and industry trends: Less money available to travel, trend towards using aides and agency staff all

speaking to the need for better documentation of staff training.

- 9) Program relationship to trends and expected developments in rehab: As nurses, PT's and OT's are in demand, this database can assist as a recruitment and retention tool. Also, JCAH, CARF and other agencies will continue to ask for documentation.

- c. Effects of program implementation: This database will enable us to regularly report information in a variety of formats. This information can be utilized for recruitment and retention, to make management decisions, to document the amount of training, who is being trained, and what subject areas are addressed in training.



Wellness Program for Employees

Recent emphasis on safety and our Workman's Compensation classification emphasize a need to educate our employees and offer programs that support the importance of staying well.

a. Resource requirements:

- 1) Space for aerobics, showers, exercise equipment, basketball, etc. for disabled and non-disabled employees.
- 2) Designated staff to organize and "hype" the program.

- b. 1) Relevance to TIRR clinical mission: Teamwork is facilitated through such programs. Patients and staff can participate together in some programs; e.g., nutrition, strengthening, stretching.

- 2) Relevance to patient needs: Healthy staff are required to treat patients. We are role models to patients. If we do not take care of ourselves, how can we teach patients to?

- 3) TIRR strengths in support of program: N/A

- 4) Addressing TIRR weaknesses: We have had many staff illnesses and injuries.

- 5) Program relation to competition: Many other workplaces offer such programs.

- 6) Known sponsorship options: Operations, enrollment fees.
 - 7) Program relationship to health care and disability policy trends: Unknown
 - 8) Program relationship to health care financing and industry trends: Unknown
 - 9) Program relationship to trends and expected developments in rehab: Rehab is very stressful and there is much burn-out. Every effort should be made to retain staff in the field as well as at TIRR.
- c. Effects of program implementation: Happier staff, more cross-discipline and cross-team camaraderie, fewer injuries and healthier staff.

III. Academic Training

TIRR is an academic training site for students in many of the clinical and research programs. Cooperative agreements exist with surrounding universities such as TWU, UH, and UT for TIRR to provide on-site affiliations. In addition, many professional staff regularly provide lectures to classes of OT, PT, nursing, ITC students. These lectures are provided at no cost in response to the request of the university instructor.

Suggestions include the maintenance of the above and:

Proactive TIRR Involvement with PT, OT and Nursing Schools

- a. Resource requirements: Clinical staff with teaching skills.
- b.
 - 1) Relevance to TIRR clinical mission: This program may be essential to insure the availability of an adequate number of trained graduates from which staff can be selected.
 - 2) Relevance to patient needs: Staff who are involved in teaching must stay current in their field and offer patients state-of-the-art care.
 - 3) TIRR strengths in support of program: Staff with these skills are currently TIRR employees.
 - 4) Addressing TIRR weaknesses: We are having great difficulty in recruiting PT, OT and Nursing staff.

If we are the instructors, the students will be receiving instruction in our methods and philosophies even before becoming employees. Staff at risk for burn-out may find relief in the opportunity to teach.

- 5) Program relation to competition: With TIRR staff as instructors, student learn our approaches. When graduates begin to seek employment, TIRR is perceived as the place where their skills are best used.
 - 6) Known sponsorship options: We could have university faculty treat patients as reciprocity in PT and OT. The faculty would get clinical experience and we would teach.
 - 7) Program relationship to health care and disability policy trends: Unknown
 - 8) Program relationship to health care financing and industry trends: Unknown
 - 9) Program relationship to trends and expected developments in rehab: Staff shortages are expected to continue.
- c. Effects of program implementation: TIRR would have first hand knowledge of the best students and would have shorter orientation time with new graduates. Staff would have opportunities to teach as well as provide clinical care and thus retention would increase.

IV. Continuing Education

The CE plan begun in 1991 includes a process whereby the clinical department managers and the medical director meet annually to identify a number of national, regional or local courses to be offered by TIRR programs or departments. These courses must be in line with the TIRR annual goals. When the topic area is selected, the managers identify a planning group for each conference. The planning and implementation of these courses are then coordinated by the Division of Education. The course fees are set with the goal that the course will recover its cost.

There is consensus that this planning format should continue and that with long range planning, these conference topics can be planned for several years in advance. For the first three years, the new tower conference center will serve as a trial regarding the success of the conferences as measured by attendance and financial success. This should provide the necessary basis for the planning of an education center in the

next tower. Future topics that have been suggested for these one to two- day conferences include:

Inhibitory Casting for Children and Adults
Driving with a Disability
Team Approach to Brain Injury Management
Comprehensive Management of the Disabled Child

In addition, two different ideas surfaced for planning consideration:

**Establishment and Marketing of TIRR as a Training
Site for Elementary and Secondary School Personnel**

The elementary and secondary schools are finding themselves responsible for children who have been injured once those children have been discharged from hospital care, children who never received adequate treatment, and children who were born with disabilities that have not been addressed before in the school setting. The schools are also finding themselves unprepared to deal with the problems, whether physical, cognitive, or social, that these children present. School personnel frequently contact us seeking assistance for information and suggestions.

- a. Resource requirements: Education staff to match school needs with the expert TIRR staff and clinical staff time.
- b.
 - 1) Relevance to TIRR clinical mission: As part of the pediatric patient continuum of care after discharge; may also be applicable to children who have never been hospitalized.
 - 2) Relevance to patient needs: This is perceived as an extreme need. After working so extensively with our head injured children in particular, it is frustrating to see them return to the school setting where they often are not placed appropriately and personnel are not aware of and/or able to deal with their special needs.
 - 3) TIRR strengths in support of program: Multidisciplinary approach with excellent staff and an established pediatric program.
 - 4) Addressing TIRR weakness: We need to build a stronger liaison with the school systems for the benefit of the children we see in our clinical practice and for the benefit of those who may need but will never receive services at a rehabilitation facility.

- 5) Program relation to competition: Interaction with the school system is generally on an individual basis. Any type of formal, ongoing training outreach programs for the schools conducted by other facilities is unknown.
- 6) Known sponsorship options: The Southwest Regional Brain Injury grant should be helpful in addressing the head injured child. Possible options for other disorders is unknown, but the BI program could serve as a model as it develops.
- 7) Program relationship to health care and disability policy trends: It is federal law that each child be provided with appropriate services in the schools; however, the limited financial and personnel resources available makes this very difficult for educators.
- 8) Program relationship to health care financing and industry trends: Many children are not covered under any type of insurance, and, therefore, the schools are their only option for services. CIDC is limited in terms of what they cover and for how long, so again the schools find themselves as primary providers. Given that it is a federal law that each child be provided with appropriate services through the schools, many conscientious teachers, speech pathologists, and other related personnel are very concerned about providing appropriate services as they are able, given their limited resources.
- 9) Program relationship to trends and expected developments in rehab: A rehab facility cannot stand alone. It is imperative that we interact with the other providers who also have responsibility for the children.

c. Effects of program implementation:

- 1) Improved care for our kids beyond the hospital.
- 2) Enhanced relationship with the schools that would facilitate transition back to the school setting.
- 3) Potential benefit for kids who cannot afford rehabilitation.
- 4) Increased community awareness of disability and the need for community involvement.

Neurodevelopmental Treatment (NDT) Certification Course

This is a three-week course on the use of NDT for adults. This course could be offered as staff development for TIRR staff and as continuing education and for a fee to outside staff. Maximum enrollment is 20, and if offered at TIRR, many staff could attend and more patients could benefit from the approach.

- a. Resource requirements: X funds to pay instructor and expenses, staff time to attend, advertising to enroll a full class, education staff time to plan and coordinate.
- b.
 - 1) Relevance to TIRR clinical mission: NDT is a treatment technique for use with neurologically damaged patients.
 - 2) Relevance to patient needs: Although some of our therapists are NDT certified, more are needed to meet patient needs.
 - 3) TIRR strengths in support of program: We have enough patients to warrant having several NDT trained staff.
 - 4) Addressing TIRR weaknesses: With additional trained staff more patients can benefit and scheduling flexibility is increased.
 - 5) Program relation to competition: Patients and families are aware of this technique and inquire as to whether our staff are NDT certified.
 - 6) Known sponsorship options: Unknown
 - 7) Program relationship to health care and disability policy trends: Unknown
 - 8) Program relationship to health care financing and industry trends: Unknown
 - 9) Program relationship to trends and expected developments in rehab: Unknown
- c. Effects of program implementation: Better patient care, more flexibility in scheduling patients with a therapist trained to meet their needs. May also facilitate staff retention.

V. Educational Resources

As a service to TIRR hospital and its staff members, the Division of Education is the centralized source for all meeting space scheduling, audiovisual equipment check-out, photography and video production, graphic design production, storage of slides, photos and videos, TIRR library center, and for the printing of materials in the Print Shop. In addition with 1990 funding from the ETF of the PVA, the Division has designed a database to catalog all AV materials for persons with SCI. This database can print its entire content into a printed compendium and it can be queried for specific information on an identified topic. This is a resource available to patients, staff and others.

Long term planning should include:

**Education Center with AV Equipment,
Division Staff, Library and Conference Space**

- a. Resource requirements: Space for conference center, break-out rooms, AV equipment, eight staff officers and larger library space.
- b.
 - 1) Relevance to TIRR clinical mission: Physically centralizing these services will more efficiently serve educational needs.
 - 2) Relevance to patient needs: Library close to other areas permits patients to utilize AV equipment to view videos in the library.
 - 3) TIRR strengths in support of program: These services are all currently available, they now need to be located together.
 - 4) Addressing TIRR weaknesses: New conference center has weaknesses in design due to originally being an ICU. No staff space is provided so users and staff must travel from first floor to second floor to obtain assistance. AV equipment must be kept on first and on second floors to meet staff needs.
 - 5) Program relation to competition: N/A
 - 6) Known sponsorship options: N/A
 - 7) Program relationship to health care and disability policy trends: N/A
 - 8) Program relationship to health care financing and industry trends: N/A
 - 9) Program relationship to trends and expected

developments in rehab: N/A

- c. Effects of program implementation: More security over AV equipment, greater efficiency of staff, better utilization of library and its materials by patients and staff.

Development of the TIRR Library

The library space is so small and in a noisy location that the environment is not conducive to learning. In addition, the materials need to be

sorted in such a way that patients can easily identify materials useful to them.

- a. Resource requirements: Larger library space, librarian station within library, study carrells in library, computer search station, wheelchair accessible layout, funds for more patient material, full-time library staff.
- b. 1) Relevance to TIRR clinical mission: Education for staff and patients.
- 2) Relevance to patient needs: Patients' learning style preferences may include independent study. Inpatients and outpatients can benefit.
- 3) TIRR strengths in support of program: We subscribe to many journals and have them available for staff and patients.
- 4) Addressing TIRR weaknesses: TIRR has very limited space for staff to pursue quiet activity. Meeting space must be scheduled even for a single person to view a video. This plan would give an opportunity for staff to do research and self-study. Patients can barely move around in the current space.
- 5) Program relation to competition: Most rehab hospitals provide a learning area for staff. Rehab units as part of larger hospitals also have such facilities.
- 6) Known sponsorship options: Unknown
- 7) Program relationship to health care and disability policy trends: Self-instruction is necessary to stay abreast of health care. There are so many journals one cannot subscribe to them all. Patients and staff will have to take an active role in their education to keep up.

- 8) Program relationship to health care financing and industry trends: Unknown
- 9) Program relationship to trends and expected developments in rehab: Unknown
- c. Effects of program implementation: Better educated staff. Patients aware of resources and a sense that TIRR is the place to get them.
Development of a Media Production Department

The photography, graphic design and printing functions should be brought together physically and a manager should be recruited with sufficient graphic design skills to handle the increased workload. Enhanced video skills are needed to handle the demand for production.

- a. Resource requirements: Purchase computer and printer for graphic design, recruit department manager, provide space for print shop, dark room, studio, graphics and supply storage, obtain video expertise.
- b. Effects of program implementation: This would result in more efficient, one-stop service for staff and foster turn around on services. In addition, work that is currently being sent out of TIRR could be handled internally and more cost efficiently. The Vice President for Education could spend less time on day-to-day operations of these individuals and use her skills in program development.

VI. Educational Materials Development

As a routine, a quarterly newsletter (TIRR Connection) is published that is targeted for patients and families served by all TIRR Programs. The newsletter is mailed to all 10,000 TIRR former inpatients and outpatients and to Marketing Department's list of referrers. The development of most educational material is funded by grants and has predominantly been on spinal cord injury and independent living. Materials that have been developed include printed workbooks and manuals, slide/tape programs, audiotapes with accompanying booklets, and videotapes. Departments have also developed a multitude of handouts that are distributed to patients, families or students.

Suggestions for development include:

A planned mechanism for the standardized development of all patient/family handout material.

Development of workbooks and videos from conference

topics.

Development of videos on Sexuality and Disability.

Spanish translation and production of all patient educational materials.

VII. Community Education

TIRR's current community education efforts are varied and scattered throughout all departments. The Division provides educational tours on request. Each tour is preceded by a presentation on career options in rehabilitation, injury prevention, or the rehabilitation process.

Although TIRR's Injury Prevention Program is not within the Division of Education per se, it is a program that should continue.

Two additional suggestions involve the development of:

Speakers' Bureau of TIRR Employees

Speakers from any of the Departments who have presentations that may be given to community, philanthropic organizations, etc., could register with the Division of Education. They would be available to provide these talks as a public service.

- a. Resource requirements: Education staff time to coordinate the program, printed brochures, speakers and their time.
- b.
 - 1) Relevance to TIRR clinical mission: Education component.
 - 2) Relevance to patient needs: Effects would be increased community awareness and potential donations.
 - 3) TIRR strengths in support of program: Many professionals are involved in innovative work.
 - 4) Addressing TIRR weaknesses: We need to strengthen our link with the community outside of the Medical Center. We are not very well known locally.
 - 5) Program relation to competition: This is done primarily in psychiatric and general hospitals.
 - 6) Known sponsorship options: Unknown

- 7) Program relationship to health care and disability policy trends: Increase public awareness of and involvement in disability management.
- 8) Program relationship to health care financing and industry trends: Same as above.
- 9) Program relationship to trends and expected developments in rehab: Involvement of the community is only going to increase in the coming years, given the fiscal and social climate.

c. Effects of program implementation:

- 1) Indirect positive effects on patient care through community awareness, possible donations.
- 2) Makes TIRR a recognizable name in the community (People tend to remember the generosity of an institution that provides something for free).

Series of Mini-Seminars on Options
Available for the Disabled

Professionals, community members, disabled individuals and their families and friends are often unaware of options available to them at TIRR. A series of one-hour sessions could be arranged that discuss wheelchairs, repairs, driving, equipment, specialized seating, etc.

- a. Resource requirements: Education staff to coordinate and produce brochures, Marketing staff to plan and announce, Clinical staff to provide the sessions.
- b.
 - 1) Relevance to TIRR clinical mission: Contributes to offering opportunity for disabled people to maximize their independence.
 - 2) Relevance to patient needs: Patients can develop problems after discharge and be unaware that there are solutions. Those who never received rehab may not know where to get information.
 - 3) TIRR strengths in support of program: Knowledgeable staff are available.
 - 4) Addressing TIRR weaknesses: TIRR is not very well known in the community. By advertising our name associated with these topics, we may become better recognized. In addition we will be making people aware of special services, not just the diagnoses we serve.

- 5) Program relation to competition: Unknown
 - 6) Known sponsorship options: Unknown
 - 7) Program relationship to health care and disability policy trends: Unknown
 - 8) Program relationship to health care financing and industry trends: Unknown
 - 9) Program relationship to trends and expected developments in rehab: Unknown
- c. Effects of program implementation: Increase in referrals for specialized services, greater recognition of TIRR in the community, increase in donations as more people learn what we do.

KAH:dd

MEMORANDUM

TO: Lex Frieden
FROM: Marcus J. Fuhrer, Ph.D.
DATE: April 22, 1991

MJ

Because of my own clerical error, the enclosed submission from Thorkild Engen for the strategic planning document for TIRR research was not passed on to you. That error is corrected herewith. Also enclosed is a modified third page of "Functional Strategic Planning for TIRR Research" that now includes a reference to Thork's material. If possible, I would appreciate your substituting this page for the one you have.

action: sent 4-22
cc: T. Engen, C.O.

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.

PROPOSAL

TITLE

DEVELOPMENT OF AN NONINVASIVE ADJUSTABLE CERVICAL SPINE IMMOBILIZER

T. ENGEN
DEPARTMENT OF ORTHOTICS

PRESENT PROBLEMS WITH CURRENT SYSTEMS

It is well known that present methods of immobilizing the cervical region of the spine after traumatic injury are not very effective.

The halo device, which is far and away the most commonly used method of immobilization, was first introduced in 1959. It has remained substantially the same in the ensuing 23 years with little or no improvement. Among its several disadvantages are the following:

- a. Because the application of the halo device is an invasive procedure, the site of the halo pins can become infected necessitating changing the location of the pins and treating the infection.
- b. The thoracic vest or jacket made from plaster of paris or plastic often becomes very uncomfortable because of the weight and lack of air circulation. Thus, patient acceptance of the device is often poor and modifications and adjustments are necessary.

- c. Hygiene is difficult to observe, and skin irritations under the jacket can occur. In particular, the spinal cord injured person with anesthetic skin is at high risk when wearing the vest.
- d. Sequestial x-rays of the fracture can be difficult to obtain because of halo frame obstruction.
- e. Movement is not so restricted as it was originally thought to be. Koch and Nickel stated in the report of a study of six patients wearing halo vests that an average of 31% of normal cervical spine motion was observed. Compression and distraction forces can vary by as much as 30 pounds (Coop, Maravilla, et al).
- f. In additon to adjustments required to enhance patient comfort, halo pins also have to be readjusted in many cases because they have a tendence to loosen even when properly applied.
- g. Adding to patient rejection of the halo device is its unsightly appearance.

IMPORTANT CONSIDERATIONS FOR FUTURE DESIGN

Work done on cervical spine immobilization orthoses has not adequately taken into account the adjustability features necessary to accommodate to specific head configurations.

Equally as important is the need for adjustment as body position changes from lying to sitting to standing. In all these instances, gravitational forces alter the supportive body contour and posture.

Very little, if any, design consideration has been given to immobilization of the cervical spine to accommodate the optimum position of the head for a given fracture.

Therefore, it is the specific objective of this project to develop an orthotic cervical spine immobilizer that will incorporate the following characteristics:

- a. A light external supportive system, non-invasive and not attached to the skeletal structure.
- b. A design that can be applied at the time and site of trauma providing maximum head stability with utmost simplicity.
- c. Designed with maximum adjustability adaptable to any body, neck and/or head configuration.
- d. A pneumatic sensor controlled inflatable interface between frame support and skin surface that will provide constant stability for head, neck and upper trunk, regardless of position of body whether standing, sitting, or lying down.

- e. Designed to present a more modern, streamlined appearance, being lightweight and more comfortable to wear and permitting a better degree of personal hygiene.

It is anticipated that such improved device will be more effective in accomplishing the desired ligament and bone healing with resultant cervical spine stability in a manner more acceptable to the wearer than is now the case. In addition, it will afford the physician greater refinement in the patient's management according to the type of fracture present.

MEMORANDUM

TO: Lex Frieden

FROM: Mark Fuhrer

DATE: April 15, 1991

MF

Enclosed is strategic planning material for TIRR research requested in your memo of April 1. In view of the short preparation time allotted, it should be viewed as a provisional document which will be expanded and refined.

FUNCTIONAL STRATEGIC PLANNING FOR TIRR RESEARCH (M.J.F., 4/15/91)

Preface

Tenets. The approach to planning outlined below rests upon a number of tenets which need to be made explicit. The plan that is based upon these tenets will be successful to the extent that they are correct and are accepted. These tenets are:

1. Means must be devised of obtaining knowledgeable commitment to TIRR's research by its most senior leadership so that they can provide their judgment and support.

2. TIRR's strategic planning for research should be done in concert with the Division of Rehabilitation of the Department of Physical Medicine and Rehabilitation of Baylor College of Medicine. TIRR's research program should not operate independently of the Division or, on the other hand, be only a passive reflection of that faculty's research interests.

3. Because TIRR's research program sets it apart from many other rehabilitation facilities both locally and nationally, TIRR's research accomplishments should be exploited in its public relations activities aimed at patients, sponsors, and professionals.

4. TIRR research must pay its own way, with approximately 90% of its financing coming from external research funding sources (most but not all being federal), with the remainder coming from philanthropic sources and from the TIRR operating budget. The latter sources are required to support preliminary investigations that are requisite to competing for external funding, to provide salary support for critical personnel when successive external grants are not perfectly synchronized, and to provide start-up financing for newly recruited investigators.

5. Available federal financing for medical rehabilitation research will continue to track a distinct growth curve, a notable new source being the National Center for Medical Rehabilitation Research in the National Institutes of Health.

6. By virtue of paying its way, research should have fair call upon TIRR resources, most crucially regarding space. The provision of needed space is the single best indicator of TIRR's actual commitment to research. Other required support includes access to TIRR clinical data, cooperation of TIRR technical support departments, and assistance of the Business Office related to grants management.

Assumptions. In deciding how to approach functional strategic planning for research at TIRR, a number of assumptions were adopted that, too, need to be made explicit.

1. In planning for research, full cognizance must be taken of plans for TIRR clinical programs. The justification of a particular research program rests to a significant extent upon its relevance to one or more clinical programs at TIRR. Strategic planning for research must remain incomplete, therefore, until clinical program planning is at an advanced stage.

2. TIRR's organized research efforts should not be limited either to self-standing research programs that are independent of any clinical program or department or to research programs that are wholly subsumed within a particular clinical program or clinical department. Both kinds of organized research efforts are essential. The self-standing research programs should be viewed as core programs that are expected to provide technical assistance to several clinical departments and programs. Current examples of such core (self-standing) programs include Rehabilitation Services Research (Drs. Rintala, Hart, and Fuhrer), Rehabilitation Engineering (Dr. Krouskop), and Independent Living (Drs. Nosek and Fuhrer). Interacting with the self-standing, core area research programs should be nuclei of research capability and activity that exist in each clinical program and clinical department of TIRR. Naturally, the scope and vigor of research will vary among the departments and clinical programs and will wax and wane considerably over time for particular programs or departments.

3. The relatively few core research programs at TIRR need to provide reasonable coverage of the major investigative areas represented by TIRR clinical programs. At a minimum, those core research programs should include rehabilitation engineering, rehabilitation services research, applied physiology, clinical biochemistry, behavioral medicine, and independent living research.

Possible Future Research Directions

Described on the pages that follow are a number of programmatic research possibilities that have been formulated by many of the individuals who are responsible for TIRR's current research program. Included are:

1. Interventional Spasticity and Pain Management Research Center, submitted by Paul Loubser, M.D.

2. ElectroTherapeutics Center, submitted by Paul Loubser, M.D.

3. Research Program on Sequelae of Spinal Cord Injury in Females, submitted by Gladys Rodriguez, M.S.

4. Personal Assistance Services, submitted by Margaret A. Nosek, Ph.D.

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.

FUNCTIONAL STRATEGIC PLANNING PROCESS PROPOSAL

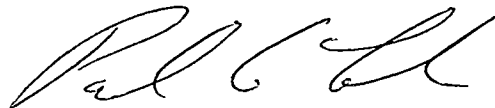
Interventional Spasticity and Pain Management Research Center. (Phenol neurolysis, intrathecal baclofen, DCS, etc.)

1. Chronic spasticity and pain are significant problems among the TIRR patient population. Many patients with disability have problems pertaining to chronic pain and several patients with head injury and spinal cord injury present with spasticity. Chronic pain also occurs among patients with amputations. Therefore, this program serves a large patient base at TIRR, and also could serve a large patient base that is presently not served by TIRR. This program should be developed intensively, because there are very few centers elsewhere in the south of the country that are in a position to provide a comparable service within a rehabilitation setting. The program will be focused also on research, with emphasis on measuring short-term and long-term outcome.

- a. In order for this program to be effective, it will need additional administrative support in the form of an administrative secretary, a research associate, preferably at a Ph.D. level, as well as an assigned Registered Nurse. The necessary administrative support in the form of equipment will also be necessary.
- b.
 - 1.) This program serves TIRR's overall mission clearly, because it is focused on the clinical programs and departments that are already in place, augmenting or strengthening existing research activities. It also could draw other patients requiring these services to TIRR, so that in turn they could also participate in the primary programs and departments.
 - 2.) There is a clear need for this type of service within the community. Urologists, Neurosurgeons, Orthopedists need to be informed of this particular program so that they can refer patients. Information is desperately needed from a research standpoint as to how these modalities affect patient's functional abilities.
 - 3.) TIRR's strengths are in the fact that it has a very good national reputation, with an excellent track-record in research funding. The experience is in place to apply the methods of established rehabilitation research to this proposed area, which also has a stable, established track-record at TIRR.
 - 4.) The present weakness at TIRR is that it is predominately an institution marketing its clinical program-based activities. The interventional-based services such as intrathecal pharmacology are not adequately marketed or developed.

- 5.) A program of this type would make TIRR completely unique from other rehabilitation hospitals. At present, the field of rehabilitation is becoming more and more competitive. TIRR needs to develop other programs that are not available in other centers. TIRR's Anesthesia Service therefore makes it unique in this fashion.
 - 6.) 95% of the interventions provided are reimbursable by insurance sponsors. With the exception of newer treatments such as intrathecal baclofen, financial sponsorship is obtained on a case-by-case basis. The goals of this program fit very clearly into the new criteria of medical rehabilitation research proposed by the NIH.
 - 7.) Based on the report of the NIH regarding medical rehabilitation research, this type of program would have a very strong priority rating, since it is proposing to perform long-term assessments on patients receiving these interventions, in turn effectively assessing their response and making recommendations regarding other treatments.
 - 8.) In certain instances, if promising treatment modalities come along, this program will be in a position to objectively evaluate these treatment modalities and make recommendations to the health care financing administration regarding funding. This program would also serve to work with rehabilitation professionals in providing services within reasonable economic framework. Existing treatment modalities could be improved and expanded on. Key individuals interested in collaborating may be identified.
 - 9.) The field of rehabilitation clearly needs to become more multidisciplinary at TIRR. TIRR should also look into the feasibility of exploring the concept of networking with other physicians and the "industry".
- c. As stated above, a program of this type would make TIRR completely unique from other institutions. This is because very few rehabilitation hospitals have anesthesiologists who are interested in working with spasticity and pain problems using a rehabilitation model. It is anticipated that this program would treat approximately 400 to 500 patients per year.

4/12/91
DATE


Paul G. Loubser, M.D.
Director of Anesthesia Services

FUNCTIONAL STRATEGIC PLANNING PROCESS PROPOSAL

ElectroTherapeutics Center.

1. The use of electrical stimulation for the treatment of various conditions is an ideal project for TIRR. Clearly, electrical stimulation has been used for many years for a variety of conditions with some success. However, TIRR is in a unique position to study this in detail, since we have various rehabilitation professionals and therefore could develop a center focussed on this modality quite easily. The following areas may be considered for study - circulation, decubitus ulcers, FES, NMS, fracture healing enhancement, wound healing, nerve regeneration.

- a. This program will require a research associate, preferably at a Ph.D., level as well as an administrative secretary in order to facilitate development and implementation of the various multidisciplinary components.
- b.
 - 1.) Several years ago, TIRR looked into the feasibility of using electrical stimulation for healing of decubitus ulcers. This is presently funded by the NIDRR in Michigan, but already some basic research has been conducted by several researchers at TIRR in the field of circulation improvement induced by electrical stimulation. This program would serve as a valuable resource base for new grants provided by institutions other than the NIDRR.
 - 2.) Patients served by this center would be those with wounds, poor circulation and paralysis. They would need to be treated and followed on a regular basis.
 - 3.) Since TIRR is a rehabilitation hospital and clearly involved in various areas with these types of patient problems, it's strengths are that it is in a unique position to develop this modality. This research program would augment existing clinical programs. There would be many "spin-offs" in which independent researchers could study specific problems using electrical stimulation.
 - 4.) Unfortunately, TIRR's weakness is its inability to step outside of clinical programs already in place. This is due to the heavy emphasis placed on physiatry-based programs.

- 5.) The uniqueness of this program would again place TIRR way ahead of other competitive hospitals, as well as make it very unique from a research standpoint. This type of activity is ideally a rehabilitation-based problem, impacting various aspects of short-term and long-term outcome.
 - 6.) It is proposed that grants be sought from not only private agencies, but also from the NIH.
 - 7.) Electrical stimulation is a cheap and inexpensive form of treatment which may used on an outpatient basis. It therefore provides an alternative to expensive treatments such as reconstructive surgery or pharmacologic agents. This should have impact on how patients are treated in the future.
 - 8.) Clearly, insurance sponsorship and the industry is attempting to find ways to decrease health care expenditures. This program clearly meets these goals.
 - 9.) This program is an ideal program within the field of rehabilitation medicine since it effects various professions and different disciplines serving the rehabilitation field.
- c. If this program were allowed to be developed, in a few years TIRR could be answering many very important questions with regard to this modality and clearly establish a role for the practical application of this treatment modality in various conditions. This is an extremely broad-based activity that would allow for the true interaction of researchers, trainees and related staff.

4/12/91
DATE



Paul G. Loubser, M.D.
Director of Anesthesia Services

"Functional Strategic Planning Process"

Gladys P. Rodriguez, M.S.

9 April 1991

1. Research program on sequelae of spinal cord injury in females.

The spinal cord injury (SCI) population is preponderantly male. Practically all the human research documenting the consequences of SCI has been carried out on male SCI patients and the assumption has been made that the findings would apply equally to men and women. Yet, women's endocrine system is quite different from the male's. Collagen metabolism is greatly altered by SCI. Collagen metabolism is regulated by the endocrine system. Collagen is the principal component of skin and bone, which are very responsive to the presence of androgens and estrogens. Female SCI are less prone to pressure ulcers. Women in general are more prone to osteoporosis in the postmenopausal years. Valuable insights would be gained on the consequences of SCI and the etiology of secondary complications by comparing the after effects of SCI in the two sexes.

The questions to be answered about female SCI would be:

- i) What is the magnitude and duration of increased urinary excretion of collagen metabolites in acute SCI?
- ii) Does the excretion of glucosyl-galactosyl hydroxylysine (a marker of skin collagen degradation) increase in association with the presence of a pressure ulcer?
- iii) Is this increase much smaller or of the same magnitude of that observed in male SCI?
- iv) Is the increase large enough to be used as a physiological signal of increased risk of pressure ulcer development?
- v) Does the onset of the menopause lead to an increase in the urinary excretion of galactosyl hydroxylysine (a marker for bone collagen degradation)?
- vi) Could the increase in galactosyl hydroxylysine excretion be used as a signal to institute aggressive therapies to prevent additional bone loss?
- vii) Bone density should be measured periodically to document the role of weight bearing in the patterns of bone loss in the postmenopausal period. Do female SCI lose bone mainly in their spine or in their extremities?

- a. In order to execute this program TIRR needs to expand and streamline the patient data base. A standardized format for the History and Physical and the Discharge Summary needs to be developed so that all the essential information is always included and it is entered in a uniform way. In this manner, retrieval of information can be simplified and accuracy is maintained.

Provision should be made for research laboratories to be housed at TIRR. The present conditions with the laboratories so far from TIRR are extremely inefficient; leading to enormous waste of time, effort, and money; and making it very difficult for researchers to interact with the clinical staff.

- b.
 - (1) This program has a direct bearing on the implementation of TIRR's mission to achieve a maximum state of health for persons with physical disabilities. The information obtained by this research program would be instrumental in preventing the occurrence or recurrence of pressure ulcers and minimizing the incidence of fractures.
 - (2) This research program will help to minimize rehospitalizations by identifying factors that influence the development of pressure ulcers and fractures.
 - (3) TIRR has the resources to reach a large segment of the SCI population both male and female so that recruiting subjects for the several projects in the program should not be difficult.
 - (4) This program will make women with disabilities aware that TIRR does not intend to ignore them.
 - (6) NIH is particularly interested in promoting research into women's health problems and is asking researchers to make a special effort to include women in their research populations.
 - (9) SCI incidence among women has been on the rise, therefore it is pertinent to find out if the sequelae is or is not similar in the two sexes, rather than assume that it is.
- c. TIRR will have contributed to improving the health care and quality of life of women with disabilities. TIRR's reputation will be enhanced as an institution on the cutting edge of research and always willing to broaden its horizons.

TIRR RESEARCH PLAN -- PROGRAM PROPOSAL

submitted by Margaret A. Nosek, Ph.D.

PROGRAM TITLE: Personal Assistance Services

a. A personal assistance services program at TIRR could be offered using various administrative options:

1. Establish a subsidiary home health agency through TIRR Systems that would offer the continuum of personal assistance services (from skilled nursing services through consumer directed attendant services) according to best practices identified through research,

2. Establish a collaborative relationship with an existing home health agency but with TIRR influencing policy and procedures (e.g. re consumer control, training requirements) for the services it refers for its patients.

Other resource requirements would include staff for training service providers, quality control evaluators, and researchers to investigate the impact of model services on long term patient outcomes.

b.1. Research at ILRU conducted under a 3-year NIDRR grant has shown that adequate personal assistance services tend to improve independence, productivity, and health in persons with severe physical disabilities. These three outcomes are specifically mentioned in the TIRR mission statement.

b.2. National research has shown that 7.7 million people with disabilities need assistance with activities of daily living and that 79% of those receive this assistance from family. Research at ILRU has shown that in many cases, especially for individuals with quadriplegia, the effect on family of being the sole source of assistance is significantly negative, both economically and emotionally. A recent ILRU survey of staff of 5 medical rehab facilities showed that arrangements where family assistance is supplemented with paid assistance from outside the family are associated with the best health maintenance, yet funding is rarely available to finance such arrangements.

b.3. TIRR strengths in research in this area have already been demonstrated. Strengths in training of service providing personnel are evident in an in-patient setting and could be easily applied to home based service settings.

b.4. TIRR regularly discharges patients with a referral to a home health agency for personal assistance services. Satisfaction with these services is generally low; personnel are not trained in how to assist persons with high level spinal cord injury or brain injury, there is a high rate of turnover, and services are so expensive that when third party resources are exhausted, individuals must rely on family or resort to a nursing home. This is a serious problem, and TIRR is currently powerless to help.

b.5. There are numerous home health agencies in Houston, but none offer services at a reasonable cost or offer the option of consumer control of services (e.g. setting hours of service, selecting and terminating assistants).

b.6. Personal assistance services can be financed by Medicare, Medicaid, Title I of the Rehab Act, Veterans benefits, Older American Act, and private resources. Research in this area has been funded in the past by NIDRR and private foundations.

b.7. Personal assistance services are a significant part of the health care continuum. For many, it is a life sustaining service. There is currently a strong movement to establish a national personal assistance service system.

b.8. There is a strong trend toward home based services as a more cost effective and consumer oriented option than institutionally based services.

b.9. Rehabilitation has always focused on community integration and empowerment of the individual. Personal assistance services are a lynch pin for the achievement of these goals for persons with severe physical disabilities. The recent funding of research in this area by NIDRR and the initiation of new personal assistance demonstration projects by the Texas Rehab Commission and the Texas Department of Human Services reflect its increasing attractiveness as a service option.

c. If TIRR could offer its ex-patients (and the residents of Houston) an affordable and easily accessible avenue for obtaining quality personal assistance from outside their family, there could be a greatly expanded opportunity for increased productivity and independence among persons who are currently restricted to homes or nursing facilities. It could also be expected that the incidence of preventable health problems would decrease.

TIRR RESEARCH PLAN -- PROGRAM PROPOSAL

submitted by

Margaret A. Nosek, Ph.D.

PROGRAM TITLE: Cardiopulmonary Research and Development

a. A research and development program on the cardiac and pulmonary sequelae of long term neurological and neuromuscular impairments (spinal cord injury, brain injury, muscular dystrophy, polio, etc.) would require the following resources:

- at least one full time attending physician,
- a certain number of dedicated hospital beds,
- laboratory space for patient testing (including a sleep lab), product development, and med. tech. services,
- a consulting prosthodontist,
- equipment for conducting sleep studies and follow up in the home,
- space for in- and out-patient therapy
- a staff of qualified respiratory therapists, directed by a therapist thoroughly skilled in the latest techniques of pulmonary interventions,
- technicians skilled in product (e.g. masks) development,
- a staff of qualified physical therapists, directed by a therapist thoroughly skilled in the latest techniques of cardiac interventions,
- one or more Ph.D.s to direct research,
- research assistants,
- office space for all of the above.

b1. TIRR has its roots in respiratory care. One of its first missions was to provide state-of-the-art services to people who had had polio and who were respirator dependent. It fulfilled this mission with outstanding success and helped establish the reputation which TIRR enjoys today. Unfortunately, as the original moving forces behind this effort have moved on or retired and as the focus of TIRR's services and its target population have changed, the quality of cardiopulmonary services has diminished dramatically. TIRR's mission continues to be the delivery of quality rehabilitation services, yet this component of the array of such services is below TIRR's standard.

b2. Cardiac and pulmonary complications are a leading cause of death and secondary impairment among persons with long term neurological and neuromuscular impairments. Attitudes toward the use of pulmonary interventions are inconsistent, but generally negative. Although there is rarely hesitation in initiating the use of a respirator for persons who have lost pulmonary functioning due to accident or sudden illness, it is only very recently that persons with slowly progressive diseases, such as muscular dystrophy, have been advised to use respirators. Usually, for the latter, respirator use comes only after a serious illness or near death experience, and then takes the form

of tracheotomy rather than any of the array of less invasive options.

It is well known that weakening of pulmonary functioning is a common late effect of polio and other neuromuscular impairments. It is not known if similar effects can be experienced by persons with long term spinal cord or brain injury. The respiratory management of people with long term disabilities is truly ruled more by trial and error than by empirical knowledge.

In recent years there have been many advancements in respiratory interventions. Techniques for customizing nasal and oral/nasal masks have been developed in France and are currently being prescribed and produced in New York and Dallas. Houstonians who need such equipment but are unable to travel to these cities have as their options: 1) no intervention (especially for those not connected to TIRR or other resources for progressive medical services), 2) use of standardized equipment which is often ill-fitting and minimally effective, or 3) use of the much more drastic and less desirable option of tracheotomy, even though a much less invasive intervention might suffice.

b3. Aside from the strength of its past service reputation, TIRR currently offers state-of-the-art respiratory services and education to persons with spinal cord and brain injury.

b4. The consulting physicians who have essentially replaced Dr. Gunyon Harrison in the treatment of TIRR's respiratory patients (usually neuromuscular) offer traditional services and are not well informed of current developments in mask technology. Even if they knew of these developments and were willing to prescribe them, there are no resources in Houston to produce them. There is no research being conducted at TIRR in this area. There is no space currently designated for this type of research or service provision.

b5. High quality, though traditional, respiratory services are available in several TMC hospitals, especially St. Luke's. An excellent, state-of-the-art respiratory center is located at the Dallas Rehabilitation Institute under Dr. Vladislav and Sue Sorter, respiratory therapist.

b6. This program of service would pay for itself through usual fees for service. Research could be funded through the new division of medical rehabilitation in NIH.

b7. Health care and disability policy trends as well as developments in the field of rehabilitation are toward least invasive treatment options and home based care. The most prevalent treatment for persons with respiratory insufficiency is currently tracheotomy, an option which is often more radical than necessary, which increases the responsibility of home care givers, and which ironically often renders individuals ineligible

for entry into nursing homes. For those persons who could benefit from less radical options in respiratory interventions, considerable cost savings would result.

b8. See b7.

b9. See b7.

c. If more were known about the timely and effective use of respirators, if it were more known and accepted that the use of respirators with mask technology were a viable option for persons with respiratory complications from long term disability, and if such services and products were generally available, there would be significantly fewer premature deaths from respiratory failure and the quality of life of persons in these situations would greatly improve.

REHABILITATION ENGINEERING - PRODUCT DEVELOPMENT

An ongoing program to transfer the results of innovative activities at TIRR into commercial products. This program will make TIRR better known for its innovative work in other clinical facilities and has the potential to produce income for TIRR.

- a. Needed resources: During the next three years, two additional staff people will be needed to give the program the critical mass required to work efficiently. An additional 540 - 630 sq ft of space will also be needed to office the people and as lab space.
- b. This program helps TIRR maximize its return on the investment that has been made in research. Devices and ideas that improve patient care and hospital management can be evaluated, developed and commercialized through this program.

TIRR has been a leader in the development of technologies that are useful in the field of rehabilitation. By building on the competence of the established researchers at TIRR it will be possible to expand the scope of people who will benefit from the work that is done at TIRR.

The results of this program will be natural focal points for marketing the innovative services that are available at TIRR. Also by naming the products, it will be possible to put TIRR's name in front of more people more often.

By demonstrating the cutting edge technology that is available to people treated at TIRR, this program may help influence referrals to TIRR's clinical programs.

Sponsorship for this activity could be shared by companies that will become involved with the product commercialization as well as royalties that are generated by the products that are marketed through the program.

- c. The expected outcomes from this program include: better use of research results, increased name recognition for TIRR in the home care and extended care spheres of care, stabilization of the Rehabilitation Engineering program, and income for the development of future products.

REHABILITATION ENGINEERING - PRESSURE SORE PREVENTION

There is a growing interest in pressure sore prevention in nursing homes and in home health care and there are still many questions about the efficacy of different approaches to preventing pressure sores.

- a. Resources: Most of the resources required to do the needed studies are already at TIRR. What will be needed is release time for people in clinical departments to help prepare proposals for outside funding and for meetings to bring the researchers together to discuss, plan and evaluate progress.
- b. This program would build on TIRR's reputation in pressure sore research and care. Many innovative studies have been done here in the past and new projects in this area would maintain TIRR's status in the field.

Patients at TIRR benefit directly from the opportunities to use the latest study results in new clinical practices that result from studies of pressure sore prevention.

The results of such studies could be used by professionals who provide care in extended care facilities and home care environments. This would increase the name power of TIRR.

Possible sponsors for this work include pressure relief product manufacturers, NIDRR, Center for Nursing Research, NIH, AARP, CDC.

REHABILITATION ENGINEERING - PRODUCT DEMONSTRATION CENTER

Development of a store front where high tech devices could be examined and evaluated by patients and professionals without having to buy or lease the equipment before its efficacy can be established.

- a. Resources: SPACE approximately 2500 sq ft for showing equipment, storing it and demonstrating it. Equipment for use in the center and staff for the center.
- b. This program would make it easier for patients to become informed consumers who are buying equipment that fits their needs and fulfills their desires. This could be a service that is sold to patients from other facilities and would make TIRR a very attractive place to introduce new products.

Sponsors for the work might include the equipment manufacturers, consumer groups who could man the facility, local foundations.

This activity could lead to increased visibility for TIRR and draw increased numbers of outpatients who wish to replace or upgrade equipment.

Functional Strategic Planning Regarding TIRR Research

Rehabilitation Services Research Program

Program Heads: Diana Rintala, Ph.D.; Karen Hart, Ph.D.; and Marcus J. Fuhrer, Ph.D.

Background

Rehabilitation services research is concerned with enhancing our knowledge base concerning the organization, provision, financing, and outcomes of rehabilitation services. Among issues central to this area of investigation are availability, access, efficiency, effectiveness, and quality of medical rehabilitation services. Consumers of the knowledge generated by such research include providers, payers, and consumers of service.

Rehabilitation services research is among the most rapidly developing areas within medical rehabilitation. Its growth is due to burgeoning development of the medical rehabilitation industry nationally and to the fact that this area of research has been largely neglected until the past few years. Currently, it is being assigned high priority by the National Institute on Disability and Rehabilitation Research and by the Centers for Disease Control. Preliminary planning documents relevant to the new National Center for Medical Rehabilitation Center within the National Institutes of Health make it clear that rehabilitation services research will figure prominently in the funding plans of that new agency.

Ongoing research of the present TIRR Rehabilitation Services Research Program include identifying risk factors for unplanned rehospitalization following discharge from inpatient rehabilitation at TIRR, comparison of outcomes of patients who received model system spinal cord injury services and those who received services under other auspices, identifying the distinct rehabilitation needs of women with spinal cord injury, documenting the unmet service needs of persons with spinal cord injury who are living in the community, and identification of new services that are needed for persons who are aging with a physical disability.

Objectives of the TIRR Rehabilitation Services Research Program

The overall goal of this TIRR research program is and should continue to be support of the services research needs of TIRR clinical programs. Examples of questions to be addressed for particular clinical programs include the following:

What are the costs and benefits of specific services?

To what extent are those services meeting the needs of the target population of persons with disabilities, and how can those needs be met even more effectively?

What are the relationships between achievement of the program's inpatient rehabilitation goals and achievement of its long-term outcome goals following rehabilitation?

Another goal of the TIRR Rehabilitation Services Research Program is to provide research training both at the pre- and post-doctoral levels.

MEMORANDUM

TO: Dr. Marc Fuhrer's

FROM: L. Don Lehmkuhl, PhD

DATE: April 15, 1991

RE: Ideas for incorporation into TIRR Long Range Research Plan

1. Pharmacologic Management of Early and Late Effects of Traumatic Brain Injury

A. Early Management

Research projects will be designed to discover appropriate types, dosages and windows of opportunity for minimizing the secondary damage to neural tissues in the vicinity of nerve cells whose contents have been released into the extracellular fluid by direct trauma. Some of these previously intracellular substances are known to attack viable cell membranes nearby during subsequent hours unless inactivated. Thus the extent and severity of initial damage can expand as cascades of new toxic intracellular substances are released and cause further damage. These events can seriously reduce the potential amount of functional recovery. The Brain Injury Program will encourage and support collaboration with Medical School scientists who have the methods and techniques available to examine possible mechanisms of action of promising pharmacologic agents and our physicians will collaborate in clinical studies with neurosurgeons to test the efficacy of promising agents.

B. Late Management

Research projects will be designed to test the efficacy of various types, dosages and windows of opportunity for minimizing certain problems frequently evident in persons who have experienced traumatic Brain Injury. The problems include: seizures, short-term memory, decreased ability to recognize own limitations and decreased ability to self-monitor and correct socially inappropriate behaviors. Recent advances in understanding the neuropharmacologic bases for interactions among various major communication and control centers of the brain have opened new possibilities for influencing brain functions by manipulating neuropharmacologic agents.

2. Models of Community Supports for Living and Working Following Traumatic Brain Injury

Research projects will be designed to demonstrate and test the cost: benefits of exemplary community-based programs for re-integration of persons recovering from traumatic brain injuries (TBI) into the community and structuring the types, amounts and timing of supports needed by the TBI survivor to continue to live and work in the community as a contributing member of society. In this process we will develop collaborative arrangements with other programs within and outside of TIRR.

3. Injury Prevention

Research and Demonstration projects will be undertaken to increase the awareness of the public and about steps that they can take to reduce the risk of acquiring an injury to their own brain or spinal cord. Target groups will be defined (e.g., elementary school children) and strategies will be determined for promoting a sense of personal responsibility for reducing the risk of serious injury. In the process we will develop coalitions with major family support and advocacy groups and prevention programs (i.e., Head injury Associations, Mothers Against Drunk Driving, Students Against Drunk Driving, Head Smart, Think First).

CLUSTER ANALYSIS (ROUGH)

Diagnosis Related Programs

Brain Injury
Spinal Cord Injury
Amputee Program
Stroke
Scoliosis

Generic Patient Services

Ob/Gyn
Psychology/Psychiatry/Neuropsychiatry
Arts/Recreation
Vocational
Pain
Pediatrics
Pressure Management
Surgery/Restorative Surgery
Urology
Rehab V
Spanish language/Spanish Interpretation
Consultation/Evaluation
Rehabilitation Technology/Rehabilitation Engineering

Related Programs

Day Hospital
Sub-acute Hospital
Wellness Program

Generic Support Services

Collections Office
Computerized medications Records System
Enhanced Management systems/data
Marketing
Speakers Bureau
Day care for children of staff
Computerized purchase orders
Enhanced transportation services
Research support

Outpatient Services

Enhanced outpatient clinic program

Cluster Analysis

Page 2 --

Community-Based Services (Outpatient)

Home health
Patient outreach
Respite care
Case management
Supplies service
Personal assistance services/attendant care
Prevention services
Wellness services
Driver training
Camping activities
Vocational services
Managed care program

Residential Program

Transitional/independent living
Residential/housing

Facilities

Clinic exam rooms/dental, eye
Technology demonstration lab
Day hospital
Sub-acute hospital
Swimming pool
Recreation Center
Library
Communications center
Remote Clinic
Additional vehicles

Research

Research support
Pain/spasticity
ElectroTherapeutics center
Spinal cord injury
Personal assistance services
Cardiopulmonary Research and development
Product development
Technology demonstration lab
Pressure management
Brain injury - pharmacological research
Brain injury - communications
Prevention
Prosthetics and orthotics

Cluster Analysis

Page 3 --

Education

Patient

Family

Staff

Community

Academic

Continuing education

Materials development

Resource center

Closed circuit television

Allied health provider

CPR

Personal care attendants

School personnel

PROGRAM PROPOSALS

CATHY BONTKE & LARRY HORN

1. The incidence of brain injuries of all etiologies is increasing.
2. Comprehensive outpatient and home health services will need to be developed.
3. There needs to be the development of evaluation and cross consultations among programs.
4. We need to develop Spanish-speaking teams.
5. Consultation services for disabled patients need to be strengthened and developed.
6. We need to be ready for additional research funding via a research support services plan.
7. Transportation System
8. Evaluation Program
9. Outpatient Treatment
10. Development of a "Ronald McDonald Type" residence for visiting families and patients
11. Spanish language teams
12. Specially equipped examination rooms for eye evaluations, otolaryngology and dental consultants
13. Case management across the continuum of care
14. Cross consultation services
15. Medical psychiatric unit
16. Creative arts program/enhanced therapeutic recreation
17. Research support services
18. Residential program
19. Respite care program
20. Vocational services
21. Home health services
22. Outreach program

ED CARTER

1. Rehabilitation Engineering - first floor workshop/showroom.
2. Outpatient Services - Plan to move out of, but near to TMC. Computerize SCI care.
3. Central Materials - Develop mail order business, pick-up window. Critique of patient equipment.
4. Education - Closed circuit t.v. at bedside or nursing unit linked to Central Communications Center. Educational tapes to play for distant hospitals over the phone.
5. Personnel - Establish workstations within TIRR for visible employment of severely handicapped for marketing purposes.

PROGRAM PROPOSALS

Page 2 --

ED CARTER, CONT'D.

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7. Marketing - Balance priorities between TBI, SCI and other programs. Exhibit at every TMA meeting. Consider forming a neurotrauma consortium.
8. Spinal Cord Injury Program - Geographically separated spinal cord injury beds with assigned teams for teaching, etc. Organize a functional medical chart. Re-establish organized preventive statistical program. Develop a "pool" or monetary source to support otherwise unfundable hi tech areas. Specify a central office with Assistant Administrator to follow through on special projects. Organize family representatives (TIRR reps) in all major and some minor cities in Texas. Centralize patient monitoring on each nursing unit similar to ICU programs, at night, especially for high risk patients.
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BILL DONOVAN

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1. The Amputee Program
 2. OB/GYN

MARK FUHRER

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1. Interventional spasticity and Pain Management Research Center
 2. ElectroTherapeutics Center
 3. Research Program on Sequelae of Spinal Cord Injury in Females
 4. Personal Assistance Services
 5. Cardiopulmonary Research and Development
 6. Rehabilitation Engineering--Product Development
 7. Rehabilitation Engineering--Pressure Sore Prevention
 8. Product Demonstration Center
 9. Rehabilitation Services Research Program
 10. Pharmacologic Management of Early and Late Effects of Traumatic Brain Injury

Page 3 --

11. Models of Community Supports for Living and Working Following Traumatic Brain Injury
12. Injury Prevention
13. Development of a Noninvasive Adjustable Cervical Spine Immobilizer

1. Identify and market some components of our programs under the "Wellness Concept"
2. Outpatient Treatment and Administrative Services
3. Aid in the development of a philosophy for the Pediatric Program
4. Research and Education Service in Physical Therapy
5. Home health care agency
6. Space development and allocation
7. Tissue pressure management program
8. Subsidizing patients during van training (grant/Foundation support)
9. Rehab technology service delivery
10. Expansion of driving program
11. Expand the Surgery Program
12. Provide a more comprehensive medical program (inpatients and outpatients)
13. Provide clinical support for research
14. Adaptive communication equipment loaner/rental program, with concomitant expansion of the existing equipment
15. Educational training site for elementary and secondary school personnel
16. Speakers' Bureau of TIRR employees
17. Professional staff education: Educational/travel funds
18. Day Care for TIRR employees' children
19. Comprehensive rehabilitation services
20. Spanish-English translator/interpreter for Hospital
21. Psychology and/or psychiatric services for spanish-speaking and pediatrics
22. Hospital-wide state-of-the-art order entry and computerization
23. Investigation into alternative modes of ventilation for high quadriplegia and neuro-muscular disease
24. Expand Radiology, Surgery, Urology, and Urodynamics Services
25. Indoor Swimming Pool - Swimming Programs
26. TIRR Community Recreation Center
27. Therapeutic Van
28. Larger Therapeutic Recreation Room
29. Summer Camp for kids

PROGRAM PROPOSALS

Page 4 --

KAREN HART

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1. Patient/family education
 2. Staff development and Communication
 3. Academic training
 4. Continuing education
 5. Educational resources
 6. Educational materials development
 7. Community (general public) education

FRANCES PENDERGRAFT

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1. Community Out-Reach Program "Community Case Manager"
 2. Vocational Program - Inpatient, Outpatient (Sheltered Workshop)
 3. Transitional Living Center/Outpatient Treatment (CARP)
 4. Employment Resource Center in the Challenge Program
 5. Development of Satellite Challenge Program or Development of the Challenge Program Model
 6. Develop a more responsive transportation system for The Challenge Program
 7. Establish a Collections Office on the first floor for clients whose accounts are "self pay"
 8. Enhance services offered through Outpatient Clinic
 9. Enhance transportation for outpatients to and from therapies and visits to TIRR
 10. Computerize medication histories
 11. Develop a systematic plan to include residential/housing resources in TIRR's continuum of services

DELBERT RUDY

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- by
1. Urology Clinic
 2. Inpatient Urology Care/Surgery
 3. Urodynamics
 4. Pediatric Voiding Dysfunction Clinic (e.g. myelodysplasia)
 5. Urology Research

PROGRAM PROPOSALS

Page 5 --

CHERYL SOHRABIAN

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1. Maintain all current programs
 2. Rehab V development as "full services" for the disabled population (physical and cognitive)
 3. Program Y--Young Strokes
 4. Sub-acute Program
 5. Brain Injuries Program
 6. Rehabilitation for the Spanish-speaking Client
 7. Rehabilitation Education for Health Care Providers

CHARLOTTE STELLY-SEITZ

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1. Educational Seminars
 2. Pediatric Team Retreat
 3. Therapeutic Summer Camp
 4. Outreach Managed Health Care Coordinator
 5. Scoliosis screening
 6. CPR training for families
 7. Day Hospital
 8. Pediatric Research
 9. Medicaid/EPSTD
 10. Respite care
 11. Spanish-speaking nurses

LF:rf

~~Program~~
 ser OB/Gyn
 diag BI
 ser psych
 ser Csts/sec
 ser Voc III

diag SCI
 diag amp
 ser pain
 ser pedi
 ser pressure
 ser surg
 ser w/o II

diag stroke

— Rehab V
 — Day Hosp
 — Sub Acute

diag scdi

— wellness

— Spanish III

— consults III

~~Research~~
 pain/apas
 electro

P - SCI
 H - AHE

Cardio

↳ prodder

↳ Demo lab

↳ ↳ pressure

↳ ↳ w/ sup II

P - BI - Pharm

H - BI - Comm

H - prevention

↳ trace

P - PT

P - w/o

P - pedi

technology RE

Outpatient

Outpt, III

support services

collections of
comp. med

myt. - data

inhibiting
speakers for

day care
comp. PD

~~of~~

transpo III

facil

clin. exam rooms

dentals, eye
space

dema lab, day hosp.

pool

rec center

sub acute

library

comm. center

Home &

home health II

outreach I

respite I

reid II

case - mg

supplies

~~of~~ P&S
prevention

wellness

direct, 1

camping /

transitional

voc

managed care

smo clinic

ed m

-patient

-family

-staff

-academics

(E)

-materials dept.

-resource etc.

-community

-CCTV

-allied health providers

-CPR

-attendants

-school personnel