

THE COMMUNITY ADAPTIVE PATTERNS ASSESSMENT:
ITS PREDICTIVE VALIDITY AND EFFECTIVENESS AS A CLINICAL
INTERVENTION TOOL FOR DISCHARGE PLANNING
WITH SPINAL CORD INJURED PATIENTS

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To the Dean for Graduate Studies and Research:

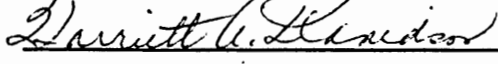
I am submitting herewith a thesis written by Marilyn K. Wooton entitled "The Community Adaptive Patterns Assessment: Its Predictive Validity and Effectiveness as a Clinical Intervention Tool for Discharge Planning with Spinal Cord Injured Patients." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in occupational therapy.

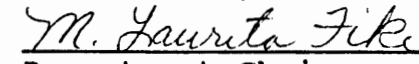


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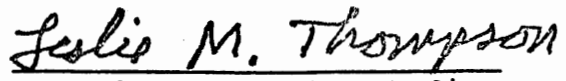




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ABSTRACT

The Community Adaptive Patterns Assessment: Its Predictive Validity and Effectiveness as a Clinical Intervention Tool for Discharge Planning with Spinal Cord Injured Patients.

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This study investigated the predictive validity of the Community Adaptive Patterns Assessment (CAPA) and its usefulness as an intervention for discharge planning. Twenty adult spinal cord injured patients admitted for follow-up at The Institute for Rehabilitation and Research in Houston, Texas, were sequentially assigned to two groups. Group A subjects received the CAPA as a pretest before discharge and as a posttest 3 months after discharge. Group B subjects received only the posttest CAPA.

Predictive validity was supported as the pretest CAPAs of group A subjects predicted 85% of the items identified in their posttest CAPAs. The effectiveness of the CAPA as a discharge planning tool was not supported by a statistical comparison of group A and group B posttest CAPA scores. Qualitative data from the CAPA were useful in gathering follow-up information about people with spinal cord injuries and documenting changes in their adaptive patterns over time.

TABLE OF CONTENTS

APPROVAL	ii
ACKNOWLEDGMENT	iii
ABSTRACT	iv
LIST OF TABLES	vii
LIST OF FIGURES	ix
Chapter	
I. INTRODUCTION	1
Statement of the Problem	1
Statement of the Purpose	5
Statement of the Significance	6
Hypotheses	7
Definition of Terms	7
Limitations	8
Assumptions	9
II. REVIEW OF LITERATURE	10
III. METHOD	14
Subjects	14
Design	19
Materials	19
Procedure	23
IV. RESULTS	27
V. DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS ...	40
REFERENCES	51

TABLE OF CONTENTS

APPENDIXES	53
A. Human Subjects Review Committee Approval Letters	54
B. The Evaluation of Personal Independence	55
C. The Community Adaptive Patterns Assessment	56
D. Consent Form Sample	58
E. EPI Scores Raw Data for Subjects in Groups A and B	61
F. A Comparison of Potential Assets, Potential Losses, and Recommendations Items Identified in the Pretest and Posttest CAPAs of Group A and Used to Test Predictive Validity	63
G. CAPA Scores Raw Data for Group A and Group B	83

LIST OF TABLES

Table	Page
1. Characteristics of Group A and Group B	16
2. The Schedule of Tests for Group A and Group B	24
3. Results of the Mann-Whitney <i>U</i> Test Comparing the Scores of Several CAPA Test Items for Group A and Group B	30
E-1. The EPI Scores of Subjects in Group A	61
E-2. The EPI Scores of Subjects in Group B	62
F-1. A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 2 in Group A.	64
F-2. A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 4 in Group A	66
F-3. A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 6 in Group A	68
F-4. A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 8 in Group A	70
F-5. A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 10 in Group A	72
F-6. A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 12 in Group A	74

LIST OF TABLES

Table	Page
F-7. A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 14 in Group A	76
F-8. A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 16 in Group A	78
F-9. A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 18 in Group A	80
F-10. A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 20 in Group A	82

LIST OF FIGURES

Figure	Page
1. A comparison of the activity style most used of group A and group B	33
2. A comparison of the mobility mode most frequently used for group A and group B	34
3. A comparison of the most frequent distance traveled for group A and group B	35
4. A comparison of the engagement in valued activities scores for group A and group B	36
5. A comparison of the social interaction quotient scores of group A and group B	37
6. A comparison of the support received scores for group A and group B	38
7. A comparison of the support given scores for group A and group B	39
G-1. The CAPA pretest scores for group A	84
G-2. The CAPA posttest scores for group A	85
G-3. The CAPA scores for group B	86

CHAPTER I

INTRODUCTION

A spinal cord injury causes sudden, unexpected life changes. Basic functions, such as walking and dressing oneself, are affected as well as family and social relationships. Adapting to these changes is an ongoing process not completed by the time of discharge from an initial rehabilitation program. Consequently, there is a need for a discharge planning instrument that examines the continuing adaptive patterns used by spinal cord injured persons to manage their altered life situations.

Occupational therapy (OT) has traditionally centered discharge planning around a patient's physical needs such as independent living skills, mobility, and equipment. With its philosophy based in holistic treatment, occupational therapy discharge planning should include the relationship of a patient's function, mobility, and roles to the community in which he or she will be living. The Community Adaptive Patterns Assessment (CAPA) is designed to document community adaptive patterns before and following illness or injury, identify potential losses that result, and develop with the patient alternative solutions to problem areas (Spencer & Davidson, 1989a).

Statement of the Problem

Rehabilitation of the spinal cord injured person is not confined to an

professional prepares the patient and his or her family to function outside of the hospital setting by using standardized discharge criteria to enable the health professional to make an objective discharge decision." The cost containment priority of today's health care emphasizes the importance of efficient discharge planning that has the potential to reduce the use of expensive hospital resources and lower medical costs. Also, discharge planning is crucial for the increasing number of people surviving with chronic disabilities, such as spinal cord injuries, and requiring planning for independent living instead of high cost institutional living.

In most health care facilities, discharge planning addresses patient placement, continued medical care, and use of community resources. Occupational therapy typically focuses on home evaluations and home programs. Rehabilitation centers place a different emphasis on discharge planning than acute care centers. For the spinal cord injured patient in a rehabilitation center, prescribed equipment may be extensive. Instructions for use and care of equipment are needed in addition to sitting schedules and sitting pressure management guidelines. Following a rehabilitation admission, a home program of exercises and activities to increase strength, endurance, and range of motion may be provided if the patient has not reached full potential in these areas or has undergone a change in physical status. Home evaluations may be conducted by patient or family report as site visits can be prohibitive in cost.

With all the complex physical issues of a spinal cord injury, the psychosocial needs of patients may not receive sufficient attention in occupational therapy discharge planning. Discharge planning may be at risk of becoming merely a summary of achievements made during hospitalization rather than a plan projecting into the future. Frequently, there is little specific documentation of the effect the patient's preinjury roles, relationships, and environment have on discharge planning. Discharge procedures are ineffective if home programs of exercises and equipment are discarded because they do not meet patients' needs or fit into schedules followed at home. Therapists need to understand human adaptive patterns more fully and "assess and treat individuals not as isolated entities but as part of an interactive system that includes the individual and his or her environment" (Spencer & Davidson, 1989a, p. 1). Questions need to be answered about how patients will function in their home and community. Can they access the places of importance to them? Can they continue their roles as parents, neighbors, and coworkers in their previous manner, or will they need to make adaptive changes? Levine and Gitlin (1990) state that occupational therapists lack the educational training:

to evaluate the environment and a client's culture, interests, goals, and roles in order to promote an optimal fit between the selected adaptation and the client's needs. The emphasis instead has been on the client's dysfunction and the assignment of equipment or other adaptations to

promote independent functional ability (p. 923).

A comprehensive discharge instrument that integrates patients' function, roles, values, and adaptive patterns in the community in addition to their physical needs is needed by OT. The CAPA is an assessment developed for clinical use in discharge planning for acute care, rehabilitation, and home-health practices.

Statement of the Purpose

This study investigated the use of the CAPA as a discharge planning tool for spinal cord injured patients admitted for services other than initial rehabilitation to a regional model spinal cord injury treatment center, The Institute for Rehabilitation and Research (TIRR) in Houston, Texas. One purpose of this study was to determine if the CAPA, when used as an occupational therapy intervention for discharge planning along with existing OT discharge procedures for spinal cord injured patients, accurately predicted the potential assets, potential losses, and recommendations that patients encountered in activities, mobility, and roles and relationships upon returning to their communities. This aspect of the study was designed to assess the predictive validity of the CAPA that was determined by comparing the potential assets, potential losses, and recommendations categories of the CAPA given pre-discharge with those of the CAPA given 3 months postdischarge.

A second purpose was to determine if the subjects who received the CAPA

as part of discharge planning showed an increase in adaptive patterns by scoring higher on the follow-up CAPA than subjects who received only existing OT discharge planning. A higher score reflects more engagement in valued activities, mobility, and social interactions. The Evaluation of Personal Independence (EPI) was used to determine if there was a significant difference in functional status between the two groups.

Statement of the Significance

The significance of this study was to add to the body of research being conducted on the CAPA. The CAPA could provide a discharge planning intervention tool that addresses more than independent living skills and mobility. The CAPA adds elements that evaluate patients' abilities to function and adapt in relation to their environment. Using the CAPA in discharge planning also provides follow-up information such as whether patients are using the skills they learned in therapy, their degree of mobility, what roles and relationships they continue to engage in, and their level of satisfaction with their adaptive patterns. Little follow-up information is available on what occurs after initial discharge. Follow-up data provide outcome information that may be the true measure of a successful rehabilitation program.

This study was also significant because, as Gillette (1991) points out, developing and defining instruments or assessments for performance measurement is one of the six research priorities recognized by the American

Occupational Therapy Association (AOTA) and the American Occupational Therapy Foundation (AOTF). She also cites the profession's need to develop interventions that provide predictable outcomes, determine the conditions for success of these interventions, and define the level of therapist competency required to use them. In addition to being an assessment, the CAPA was designed to be used for intervention. This study attempted to establish both its predictive validity and its effectiveness as a discharge planning intervention with a spinal cord injured population.

Hypotheses

1. The predischarge CAPA will predict 85% of the potential assets, potential losses, and recommendations in community adaptive patterns identified by the postdischarge CAPA.
2. There will be a difference significant at the .05 level between the final CAPA scores of group A, which receive the CAPA as a discharge planning intervention and a community follow-up assessment, and the final CAPA scores of group B, which only receive the CAPA as a follow-up assessment 3 months after discharge.

Definition of Terms

Adaption: the ongoing process individuals use to interact with and adjust to their environment. Adaptive patterns were operationally defined for this

study as the activity patterns, mobility patterns, and roles and relationships identified in the CAPA.

Potential gains: possible new adaptive patterns that are defined by the subject, not by an external source. These gains emerged from the interview interaction between the subject and the investigator and were recorded on the CAPA score sheets.

Potential losses: possible losses in adaptive patterns defined by the subject, not by an external source. These losses emerged from the interview interaction between the subject and the investigator and were recorded on the CAPA score sheets.

Recommendations: the alternative solutions to problem areas or desired goals of the subject. Recommendations emerged from the interview interaction between the subject and the investigator and were identified by the subject as desirable and feasible. They were recorded on the CAPA score sheets.

Predictive validity: the "extent to which test results agree with a future criterion or outcome. A follow-up study of the subject's later performance is required" (Asher, 1989, p. 6). In this study predictive validity was measured by comparing predischage predictions with postdischarge follow-up results documented by the CAPA.

Limitations

Data were gathered on spinal cord injured patients from one regional

model spinal cord injury treatment center in a southwest city. Since the number of subjects was small and many variables were not controlled, the results cannot be generalized to a broader population of spinal cord injured people. Neither do the results definitively establish cause and effect.

Assumptions

The assumptions were made that all subjects used English as their primary language and were truthful in reporting their activities, mobility, and roles and relationships.

CHAPTER II

REVIEW OF LITERATURE

"Rehabilitation is the process of teaching people to live with their disability in their own environment" (Trieschmann, 1988, p. 26). According to Albretch and Higgins (cited in Trieschmann, 1988), rehabilitation centers both measure success and decide discharge dates based on the physical skills accomplished by a patient. Trieschmann (1988) further states that although these physical skills such as activities of daily living (ADL) and mobility are important, the ability to relate interpersonally has more impact on attaining satisfaction in life for both disabled and non-disabled people. Both should define being successful adults by the same criteria, "one who accepts himself and is able to interact socially with his world in order to realize some if not all of his dreams" (Trieschmann, 1988, p. 147).

Trieschmann (1988) points out that in completing an initial rehabilitation program, a spinal cord injured person has accomplished some basic ADL and mobility skills needed for survival. She identifies two further areas of function that are necessary to resume a self-satisfying life style. One is harmonious living that is "the maintenance of a stable living environment. Required here are all of the social skills that we use in order to cope with and find satisfaction from society, family, friends, and one's attendant" (Trieschmann, 1988, p. 197).

Productivity is also needed and includes "vocational endeavors, education, family roles, community activities, scholarly and artistic endeavors, and avocational and recreational pursuits" (Trieschmann, 1988, p. 197). Outcomes of the rehabilitation process should be measured by the degree of community integration using the same standards of survival, harmonious living, and productivity that are used with non-disabled adults. Despite this being professed in the philosophy of rehabilitation, it is not followed in practice (Trieschmann, 1988). Mulcahey (1992) points out in his study of the experience of returning to school for four adolescents with spinal cord injuries, that discharge evaluations measuring ADL skills do not necessarily indicate successful rehabilitation. For rehabilitation to be considered successful, patients must return to their community and "resume meaningful lifestyles. The enactment of daily roles that satisfy a sense of self and meaning . . . should be the end goal in all rehabilitation efforts" (Mulcahey, 1992, p. 311). Yerxa and Locker (1990) point out that although OT in rehabilitation programs emphasizes independence in daily living skills, little is known about either what happens to patients once they leave OT and reenter the community or how their daily lives compare with those of non-disabled people. "Perhaps we should prepare people with severe and chronic disabilities to be effective managers of their time and environmental resources rather than expect them to spend time on their own self-maintenance activities" (Yerxa & Locker, 1990, p. 32).

Because of the cost-containment measures pervasive in health care, very often there is not time during the initial rehabilitation program to do more than address survival skills and basic ADL. Therefore, rehabilitation is an ongoing service requiring readmissions for follow-up and further training when the teaching of such things as problem solving and social skills are more aptly addressed (Trombly & Versluys, 1989). What actually occurs, according to Richards (1986), is that patients are discharged after a short initial rehabilitation to communities that have few support systems and do not understand the specialized needs of spinal cord injured people. Patients must adjust on their own without the support of rehabilitation center staff. This situation supports the desirability of transitional living centers where advanced living skills can be taught.

According to Frieden and Cole (1985), occupational therapists have the theoretical framework to "help clients analyze their lifestyles in terms of the relationship between activities and roles and to understand how what they do shapes who they are" (p. 738). Frieden and Cole (1985) also point out how a loss of physical competencies does not have to mean a loss in previous roles if the client can substitute other activity competencies. For example, being a good husband involves other activities that can be substituted for mowing the lawn and making home repairs. According to Trieschmann (1988), "in terms of severity of disability, there is no evidence that higher levels of injury and

greater functional limitations lead to a poorer adjustment of SCI" (p. 267).

Most occupational therapy departments have detailed discharge planning procedures, but only nursing and social service have published significantly in this area. There is little reference in published occupational therapy literature to discharge planning or the procedures and assessments used in discharge planning. The American Hospital Association's "Patient's Bill of Rights" (cited in Shamansky, Boase, & Horn, 1984) includes statements regarding patients' rights to reasonable continuity of care and to be informed of their continuing health requirements after discharge. DeRienzo (1985) says the most comprehensive discharge planning in rehabilitation uses an interdisciplinary team approach. She identifies the six stages of the discharge planning process as initial assessment of needs, planning or goal setting including patient education, consultation with other health professionals, implementation of plans, and progress reporting and evaluation that include documentation.

Many evaluations exist for ADL, leisure activities, roles and habits, and adaptive skills (Asher, 1989). However, a critical analysis shows that they lack the comprehensive interrelation of activity patterns, mobility patterns, and roles and relationships that the CAPA develops.

CHAPTER III

METHOD

Subjects

Subjects consisted of twenty spinal cord injured patients admitted to TIRR in Houston, Texas. The criteria for selecting subjects included patients who (a) planned discharge to home or an independent living situation, (b) used English as their primary language, (c) had no documented cognitive deficits and communicated accurately past and current information, (d) were eighteen years of age or older, and (e) voluntarily signed an informed consent form during the initial interview. Criteria excluded newly injured patients admitted for initial rehabilitation and patients dependent on a respirator. Level and completeness of the spinal cord lesion, gender, race, education, economic status, geographical location, and family constellation were not controlled in the study. Except for the criterion excluding initial rehabilitation admissions, reasons for admission were not controlled in order to obtain enough subjects since the number of spinal cord admissions at the time of the study was small.

The 20 subjects were sequentially assigned to two groups, group A and group B, each consisting of 10 subjects. Table 1 provides demographic information about the two groups. It shows the number of subjects with quadriplegia and paraplegia and gives the number of males, females, incomplete

lesions, and plastic surgery admissions for each group. Table 1 indicates that most of the subjects in both groups were male. Group A had more subjects with quadriplegia and fewer with paraplegia than group B. Also, more subjects with paraplegia were admitted for plastic surgery on pressure sores, and group B was a younger group with more single subjects.

Table 1

Characteristics of Group A and Group B

Characteristics	No. of subjects	
	Group A	Group B
Quadriplegia	6	4
Males	5	4
Females	1	0
Incomplete lesion	3	2
Plastic surgery admission	2	0
Paraplegia	4	6
Males	3	5
Females	1	1
Incomplete lesion	1	0
Plastic surgery admission	3	4

(table continues)

Characteristics	No. of subjects	
	Group A	Group B
Age		
18 - 30 years old	2	5
31 - 40 years old	4	3
41 - 50 years old	3	2
51 - 60 years old	1	0
Time Since Onset		
0 - 11 months	2	3
1 - 2 years	2	1
3 - 5 years	0	0
6 - 10 years	3	3
11 - 15 years	0	2
16 - 20 years	2	1
21 - 25 years	1	0
(table continues)		

Characteristics	No. of subjects	
	Group A	Group B
Ethnic Group		
Black	2	3
White	6	6
Hispanic	2	1
Marital Status		
Married	4	2
Single	2	7
Divorced	4	0
Widowed	0	1

Design

A quasi-experimental design with a nonequivalent control group was used. Group A received the CAPA as a pretest and as a discharge planning intervention during their hospital admission. Group A also received the CAPA as a posttest 3 months after discharge. Group B received only the posttest CAPA. Both groups received routine TIRR OT discharge procedures. The EPI, a functional assessment of independent living skills, was administered by each subject's TIRR occupational therapist during the admission. The EPI scores of group A and group B were compared to determine if the two groups had similar functional levels. The study attempted to demonstrate the predictive validity of the CAPA by comparing the pretest and posttest scores of group A. The differences between the posttest CAPA scores of the two groups were analyzed to determine if the benefit of the CAPA in discharge planning was significant.

As originally designed, this study was part of a larger study in which another graduate student would investigate the construct validity of the CAPA and participate in the data gathering. Due to the lack of appropriate subjects and the time constraints of the other student, changes were made in the criteria for subjects and in the procedures. These changes were approved during the defense of the proposal for this study.

Materials

The assessments used in this study include the EPI (see Appendix B) and

the CAPA (see Appendix C). The Craig Handicap Assessment and Reporting Technique (CHART) and the Functional Independence Measure (FIM) were used only in the collaborating student's project with four subjects.

The EPI was developed at TIRR by the occupational therapy and physical therapy departments. It has been used by these departments for over 25 years. It was developed to provide a numeric and graphic representation of a patient's functional ability.

This evaluation is divided into stationary activities, evaluated by occupational therapy, and moving activities, evaluated by physical therapy. Only the occupational therapy evaluation was used in this study. The stationary activities evaluation is further divided into communications, eating, hygiene, miscellaneous, and dressing categories. There are 49 activities evaluated. Some of these activities are gathered under a general category, resulting in a list of 24 items to be scored.

Scoring uses muscle testing grades that are assigned a value. This value is then multiplied by a factor based on the amount of time required for someone else to do the activity if the patient cannot do it independently. The result is a numeric value. By comparing the patient's total score to the total possible score for each category, a therapist can determine the percentage of the activity the patient can perform. A scoring manual accompanies the test and explains what skills a patient must perform for each activity to receive a certain score.

The CAPA was developed under The Neighborhood Environments Research Project conducted at Texas Woman's University (TWU) by faculty members Jean Spencer, PhD, OTR, and Harriett Davidson, MA, OTR. The CAPA measures three areas of "person-environmental interaction within the community" (Spencer & Davidson, 1989a, p. 2). The areas are (a) activity patterns, (b) mobility patterns, and (c) roles and relationships. Three TWU graduate students pilot tested the CAPA with stroke patients. Cameron (1991) studied stroke patients at a rehabilitation facility, Stokes (1990) studied those in a home health care program, and Crow (1990) studied a Hispanic population. Studies of the CAPA's clinical usefulness are currently being conducted as a part of the American Occupational Therapy Foundation Physical Disabilities Research Symposium. Spencer and Davidson (1989b) state the purpose of the CAPA as:

to assess community-based adaptive patterns in daily community life habitually used by the individual before onset of disability, to assess what changes might be needed for discharge planning, and to assess adaptive patterns in community living following discharge and return to the community (p. 1).

According to Spencer and Davidson (1989a), the instrument weights losses in adaptive patterns by calculating the frequency of use and the value to patient and others for each pattern. The weighting of potential problem areas

allows the therapist to prioritize interventions. Spencer and Davidson further state that advantages of the CAPA include:

(1) It integrates information about a number of variables in an interactive way which are usually considered in isolation. It thus looks simultaneously at basic ADLs, instrumental ADLs, work and leisure activities as they interact with mobility patterns and with roles, relationships and social support exchanges.

(2) It expands the notion of environment beyond the home or workplace which are traditionally assessed by therapists to consider person-environment interaction at a community level where many of the major adaptive problems occur. The concept of environment is operationalized to include a number of specific variables. This allows the therapist to pinpoint adaptive problems more concretely than is the case in instruments which consider the environment globally such as the Occupational Performance History.

(3) It is designed to be efficient to administer in a clinical situation including discharge planning from acute care and rehabilitation facilities and in home health practice. It thus offers a crucial advantage to clinicians over other multivariable integrated assessments . . . which are useful for research but impractical clinically because of the lengthy interview process required (pp. 2-3).

Procedure

Spinal cord injured patients admitted for reasons other than initial rehabilitation were identified from the TIRR Detailed Census computer printout. From this list, potential subjects meeting all the criteria for participation were identified by chart review. Demographic data and the scores from the EPI given by the patient's occupational therapist were also gathered from the chart.

Shortly after a potential subject's admission, the investigator held a preliminary interview to explain the study and obtain his or her signature on the informed consent form (see Appendix D). Immediately following the preliminary interview, the subject was given an identifying code number and sequentially assigned to one of two groups, group A or group B. Three times sequential assignments were impeded by unscheduled early discharges. These three subjects had to be assigned to group B out of sequence in order not to lose any available subjects.

Both groups received routine TIRR OT discharge procedures. These discharge procedures typically include a summary of the patient's progress during rehabilitation with a functional reevaluation; finalization of the patient's equipment needs; and home instructions for equipment and its care, a sitting program, and exercises and activities to be continued at home. Group A received the CAPA in addition to regular TIRR OT discharge procedures.

Group B received only the regular TIRR OT discharge procedures. Three months after discharge, both groups received follow-up interviews by telephone during which the CAPA was administered. Table 2 presents the schedule of tests each group received. All interviews were approximately one hour in length. Some interviews with verbose subjects lasted longer, and some interviews had to be interrupted and continued later.

Table 2

The Schedule of Tests for Group A and Group B

Group A	Group B
Predischarge	Predischarge
EPI	EPI
CAPA	
TIRR OT discharge	TIRR OT discharge
Postdischarge	Postdischarge
CAPA	CAPA

With each subject in group A, the investigator scheduled the first interview to administer the CAPA. The CAPA was scored and a second

interview held during which the results of the CAPA were discussed and recommendations for problem areas explored by the subject with the investigator. The investigator first discussed any of her recommendations with the subject's primary TIRR occupational therapist. An interactive dialogue was used for the interviews. Observation notes about the dialogue were recorded to document the collaborative process between the patient and investigator. Follow-up data were obtained by asking subjects to reflect about (a) when major life changes occurred following their initial spinal cord injury; (b) the effect of these changes on their adaption; (c) how satisfied they are with their present activities, mobility, and roles and relationships; and (d) what would improve their satisfaction?

The postdischarge administration of the CAPA was conducted by telephone interview 3 months after discharge. The CAPA was scored. With the results of the first CAPA available, the investigator then held a second telephone discussion of recommendations and solutions.

The problems of time constraints and lack of subjects changed the study's procedure from the original design. The early collaboration of two investigators, one giving the pretest and one the posttest, was discontinued after six subjects were interviewed by the first investigator and four subjects followed-up by the second investigator. With the loss of the second investigator, a blind administration of the posttest CAPA was not possible. Conducting the posttest

in a home visit also ceased. A follow-up telephone interview was substituted since available subjects came from a broad geographical area.

CHAPTER IV

RESULTS

A *t* test was used to compare the EPI scores of each group (see Appendix E for EPI raw data) to determine differences in functional levels. With a probability not significant at the .05 level ($t = -0.4086$, $df = 18$, $p = 0.6877$) the conclusion was made that the EPI showed no significant difference between the functional levels of groups A and B.

Data for determining predictive validity were obtained by listing group A potential assets, potential losses, and recommendations items identified in the predischarge and postdischarge CAPAs and the interview logs. These items emerged from the interview interaction between the subject and the investigator. They were defined as important by the subject, not by an external source. Additional sources of information, such as the subject's family and current documentation in the medical chart, were not readily accessible to the investigator. Identified items were compared to:

1. Calculate the percent of potential assets and potential losses items identified on the predischarge CAPA that were also identified on the postdischarge CAPA.
2. Calculate the percent of recommendations made before discharge that were either followed, abandoned, or changed postdischarge.

The raw data on these items are contained in Appendix F. The results showed that 100% of the assets, 100% of the losses, and 88% of the recommendations were identified in both administrations of the CAPA. Three recommendations identified in the postdischarge CAPAs were not recognized in the corresponding predischARGE CAPAs, which resulted in the 88% for recommendations. The hypothesis that the predischARGE CAPA would predict 85% of the potential assets, potential losses, and recommendations in community adaptive patterns identified by the postdischarge CAPA was accepted.

The second purpose of the study was to determine if the CAPA was a beneficial intervention tool in discharge planning. The postdischarge CAPA scores for both groups A and B (see Appendix G for CAPA scores raw data) were tested for statistically significant differences to determine if group A, which received the CAPA as a discharge planning intervention, scored higher than group B. The Mann-Whitney *U* test, a nonparametric statistical test, was used since scores were ordinal scale data, the sample size was small, and it was not known if data were normally distributed or the variance homogeneous. The Mann-Whitney *U* test was run on each test item comparing group A scores with group B scores. The tests showed that all items had a probability of greater than .05. There was no significant difference between the CAPA scores of group A and group B. Therefore, the hypothesis that there would be a difference

significant at the .05 level between the final CAPA scores of group A, which received the CAPA as a discharge planning intervention and a community follow-up assessment, and the final CAPA score of group B, which received only the CAPA as a follow-up assessment 3 months after discharge, was rejected. Table 3 summarizes the results of the Mann-Whitney *U* tests on the scores for several more notable CAPA items.

Table 3

Results of the Mann-Whitney U Test Comparing the Scores of Several CAPA Test Items for Group A and Group B.

CAPA test item	Mean rank group A	Mean rank group B	U	Z	P
Engagement valued activities	11.45	9.55	59.50	0.714	0.475
Most frequent distance	11.65	9.35	61.50	0.866	0.387
Social interaction quotient	11.90	9.10	64.00	1.055	0.292
Support received score	12.05	8.95	65.50	1.168	0.243
Support given score	11.11	9.00	55.00	0.812	0.416

Comparisons of group A and group B scores for several CAPA test items are presented in the graphs of Figure 1 through Figure 7. Although there were

no statistically significant differences in any test items, the graphs provide information about the two groups.

Figure 1 shows that both groups did more activities alone than with others. Moreover, they had someone do the activity for them instead of someone helping them. The needs help category was not the most frequent activity style for any subject.

Figure 2 shows, as may be expected with a spinal cord injury, that no subjects used walking or riding the bus as their primary means of mobility. Driving was used by more group B subjects and riding by more group A subjects. The category of other included those confined to bed because of pressure sores.

Figure 3 shows that most travel occurred either close to home or farther than 6 miles away. Group A subjects traveled more in the greater than 6 miles range, and group B subjects traveled closer to home in the 0 - 1 mile range.

The comparison of engagement in valued activities scores presented in Figure 4 shows that, with one exception, group B scores were lower than group A scores. This may suggest slightly less, but not statistically significant, time and value placed on activities by group B.

Figure 5 shows that group B had lower social interaction scores, with three exceptions. This was supported in Figure 1 by their doing more activities alone and being less dependent than group A. They also drive more, perhaps

alone, while group A rides more, which requires another person.

Figure 6 also shows lower scores for group B in support received, with three exceptions. However, support given scores in Figure 7 show a closer balance between the high and low scores of the two groups.

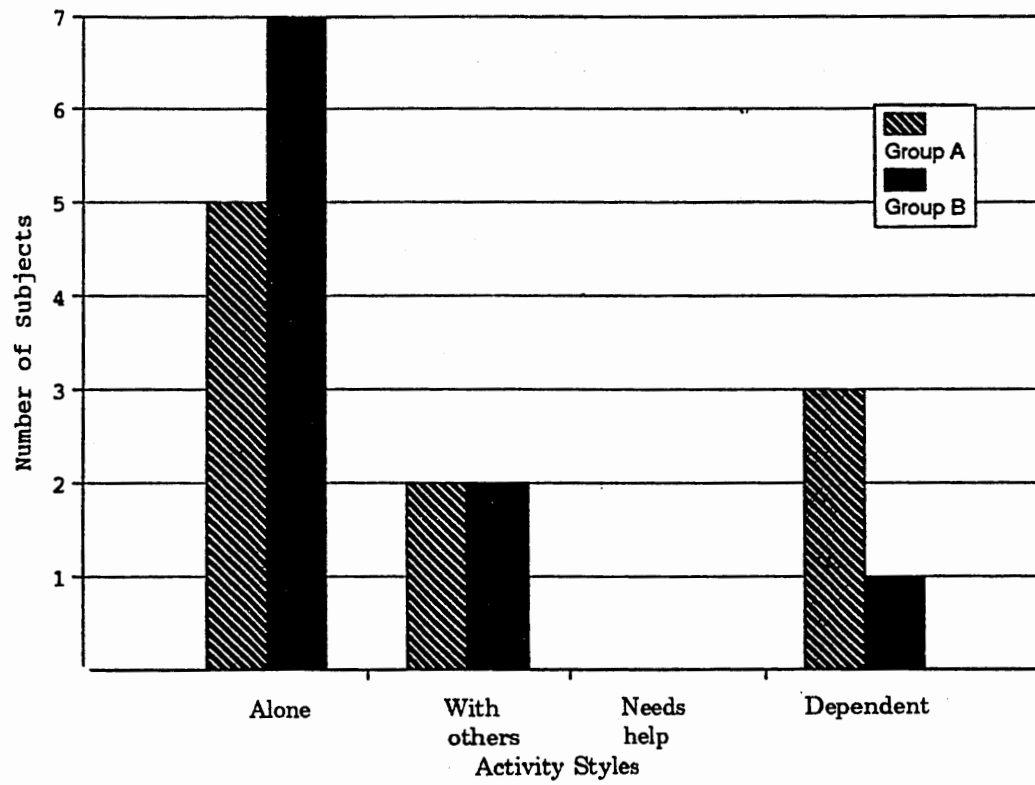


Figure 1. A comparison of the activity style most used of group A and group B.

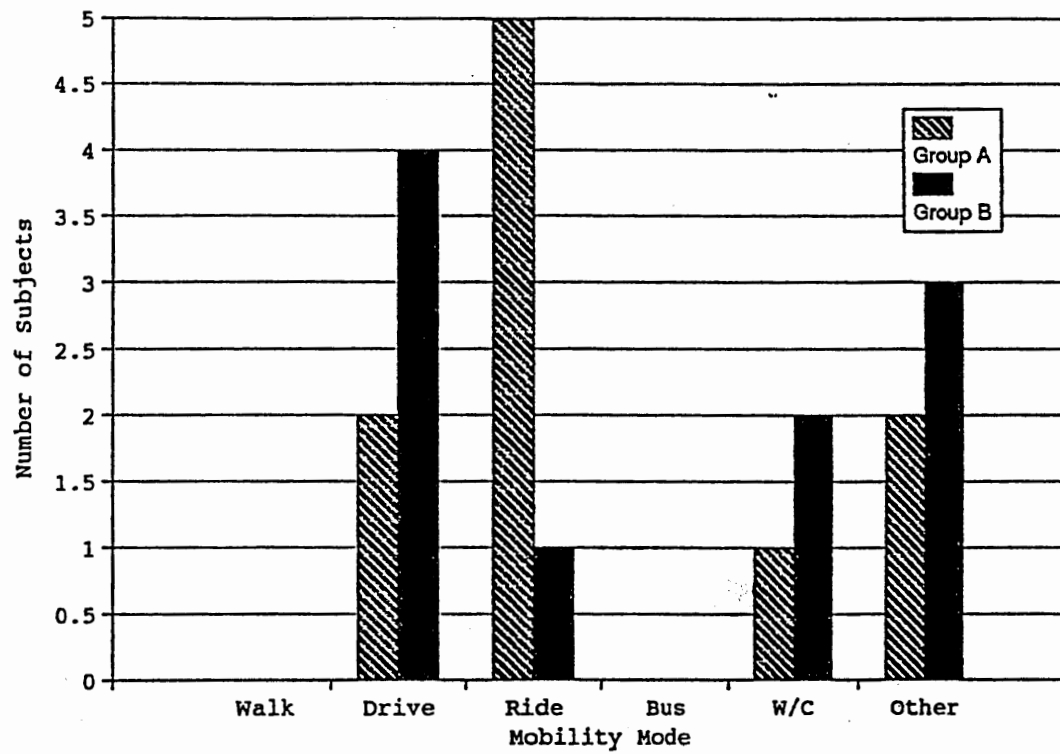


Figure 2. A comparison of the mobility mode most frequently used for group A and group B.

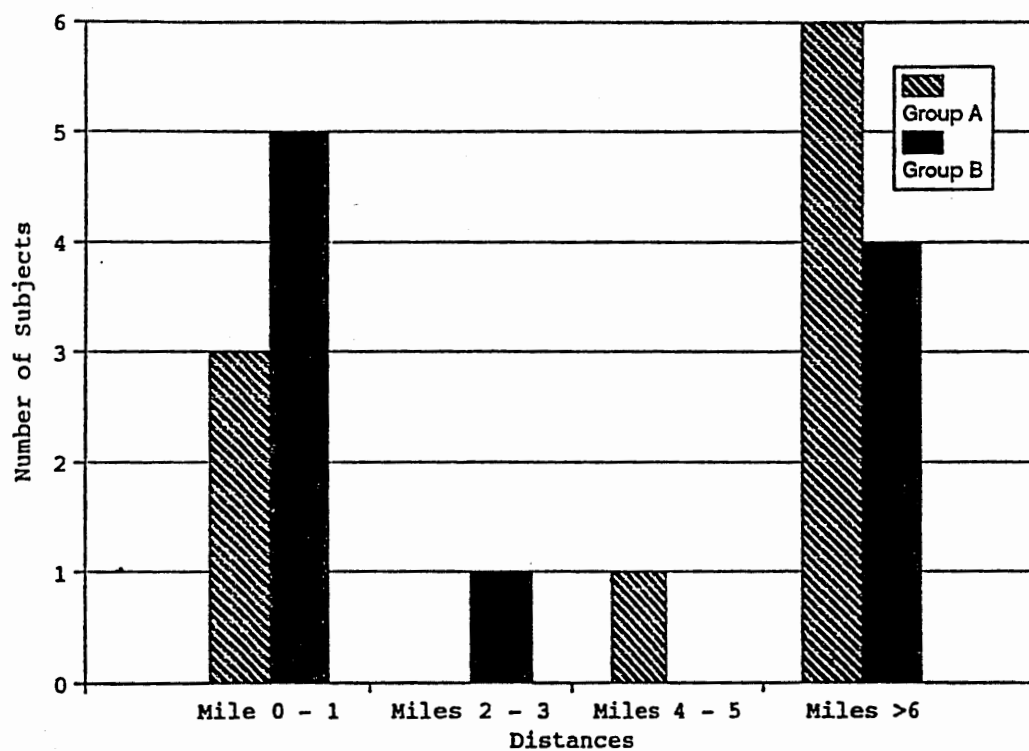


Figure 3. A comparison of the most frequent distance traveled for group A and group B.

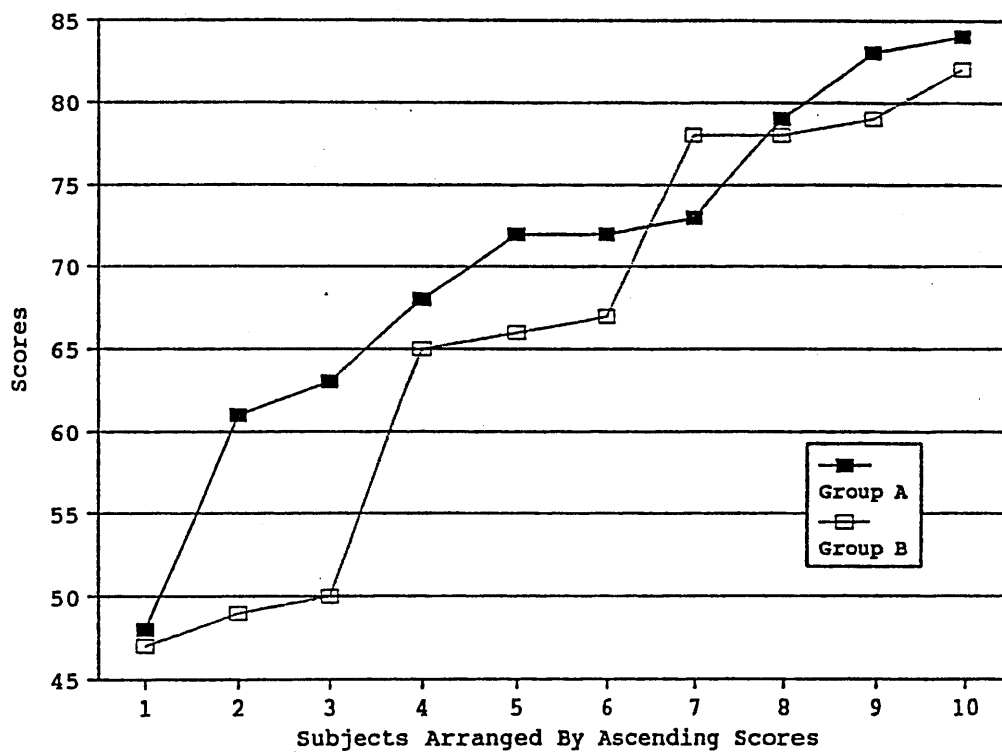


Figure 4. A comparison of the engagement in valued activities scores for group A and group B.

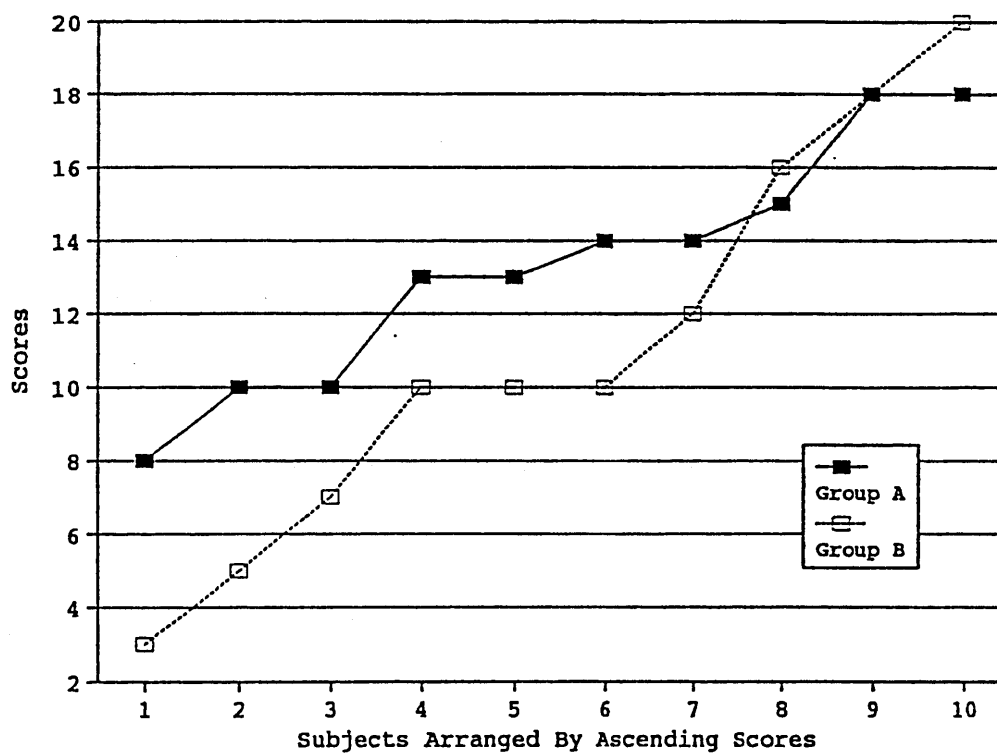


Figure 5. A comparison of the social interaction quotient scores of group A and group B.

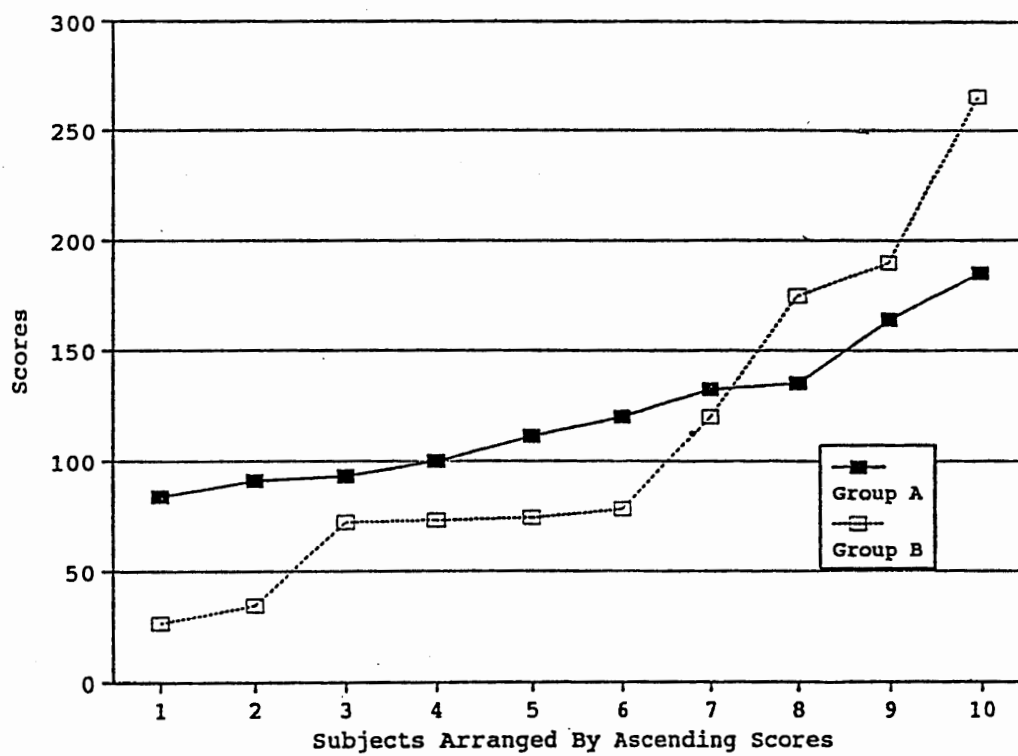


Figure 6. A comparison of the support received scores for group A and group B.

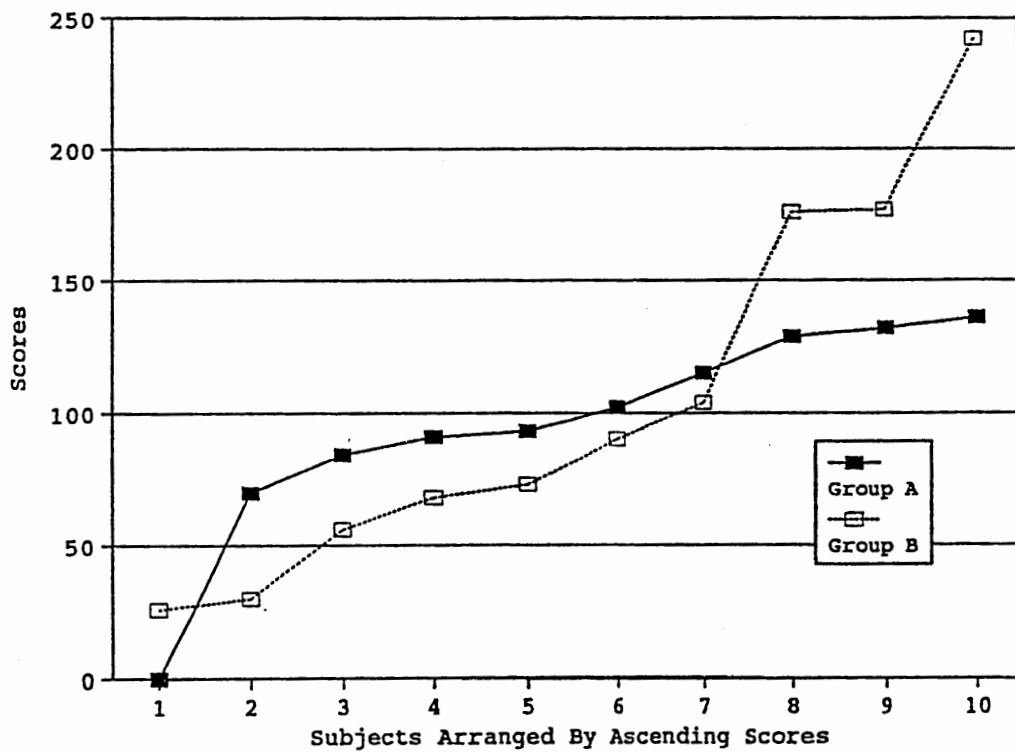


Figure 7. A comparison of the support given scores for group A and group B.

CHAPTER V

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

The results of this study supported the predictive validity of the CAPA but did not find substantial evidence to support the benefit of the CAPA as a discharge planning intervention. Accepting the predictive validity of the CAPA is important to promote use of the CAPA in predicting patients' future performance based on their strengths and weaknesses in community adaptive patterns and to use this information in discussing recommendations and alternative solutions to identified problems.

Several observations were made in examining the data for predictive validity. Assets, losses, and recommendations often remained unchanged from the predischARGE to the postdischarge CAPA. Three months may not be sufficient time to make changes or to follow recommendations. This was true for patients who were either not sitting or on limited sitting schedules after 3 months because of pressure sores that had not completely healed. Also, the inability to administer the postdischarge CAPA blindly, with a second investigator, might have biased the results. The investigator had the information from the first CAPA available and could verify all assets, losses, and recommendations. Results showed that when two investigators were conducting the study, one recommendation was made by the second investigator that had

not been identified by the first investigator. The interview's interactive dialogue used open-ended questions to identify new problems and solutions in an attempt to reduce this bias and allow the subject to identify information missed in the predischARGE interview.

The effectiveness of the CAPA as a discharge planning intervention was not statistically supported. This may have been caused in part by the changes in design made in selecting subjects and in procedures. Patients admitted for initial rehabilitation, the original choice for subjects, could not be used as they were already involved in two research projects. The second choice of using patients admitted for advanced functional training did not provide a sufficient number of subjects. Financial payment for follow-up or reevaluation is difficult to obtain unless a patient has an acute medical problem such as a pressure sore. Consequently, all patients admitted for any reason except initial rehabilitation were studied. This convenience sample provided few controls.

Time constraints of the second investigator resulted in the study continuing with one investigator. Consequently, blind administration and home visits to administer the postdischarge CAPA were lost. However, the telephone interviews were a more efficient postdischarge procedure. Of the six subjects studied under two investigators, two subjects refused to participate in the home visit despite agreeing to the procedure before signing the consent form. Both of these subjects, along with all other subjects, participated in the postdischarge

administration of the CAPA by telephone interview with the first investigator. Based on the original refusal of two subjects to the home visit, it is questionable whether cooperation would have been as high if the home visits had continued. Additionally, with the loss of the second interviewer, the procedure was simplified and only the CAPA was given in follow-up. Originally, the CAPA, FIM, and CHART were to be given which might have involved more time than the subjects were willing to contribute once home. The telephone interviews did have the disadvantage of not allowing the investigator to read non-verbal language during the interview. Actually seeing the subject might have provided more clues about whether recommendations such as sitting instructions were truly being followed.

The most significant obstacle to obtaining more positive results was that the investigator was not part of the rehabilitation team. The investigator had little authority or substantive influence on the discharge process or in making recommendations. Using a subject's treating therapist as an investigator in the study may have provided more influence with the subject and allowed for better follow-up on recommendations. A treating therapist has more ongoing opportunity to investigate potential assets and losses than the hour interview used in this study provided. Participation of a staff therapist would have allowed the CAPA to actually be a part of the treatment team's discharge planning instead of being an outside event. The regular TIRR OT discharge

procedures were the largest influence on the subject, and the CAPA was not recognized as a part of the process.

The follow-up interval of 3 months did not allow sufficient time for change to occur with some subjects. Living arrangements, attendant care, and simple equipment needs are recommendations quickly achieved. However, skin healing, more technologically advanced equipment, and vocational goals take longer. Restricted sitting, due to unhealed pressure sores, limited change in nine of the subjects. In summary, the study would have benefitted from a tighter design using a more homogeneous group of subjects, two investigators so the posttest could be administered blindly, investigators who were part of the treatment team, and a longer follow-up period to allow more change in adaptive patterns.

The inability to statistically support the effectiveness of the CAPA as a discharge planning tool does not negate its clinical usefulness. The CAPA gathers highly pertinent information for OT in a holistic approach that goes beyond the medical model of treatment. This student has incorporated the type of questioning presented in the CAPA into her patient evaluations. This has resulted in her treatments becoming more oriented to the needs patients have in returning to their living situations and environments. The CAPA collects information useable in the clinical reasoning process. It documents adaptive patterns over time in an easily retrievable manner that expedites gathering

follow-up information. Little follow-up information is presently available and would be valuable to prove the benefit of OT treatment.

The CAPA was a useful and pertinent assessment for all the subjects participating in this study. The CAPA was beneficial in documenting changes in adaptive patterns over time for patients admitted for a variety of reasons, with different lengths of time since onset of injury, and with different levels of injury. All undergo adaptive processes even when, as in the case of two subjects, they can walk again. These adaptive processes continue over extended time. The two walking spinal cord injured people studied had several issues still to be resolved 3 and 6 months after being injured. Adaption is still important many years after injury. Two patients, both injured over 10 years, accomplished their goals to move away from their families and into their own apartments. Other subjects had established comfortable lifestyles that continued despite disruptions of 2 years confined to bed with pressure sores. If just documenting ongoing adaptive patterns, the CAPA could be administered at any designated interval. However, if the CAPA is to be used as an intervention to make recommendations and find solutions in adaptive changes, an ideal time to administer the CAPA would be difficult to establish because of individual differences among patients and the difficulty in predicting when change will occur. The life of a disabled person is like the life of anyone; it has its ups and downs, periods of great gains and times of set-backs. Change, whether in

physical status or as an acute medical problem, usually is the cause of a patient's admission to the hospital. In this situation, the CAPA could be used as a routine reassessment in a rehabilitation facility after establishing a baseline of information during initial rehabilitation.

The interactive dialogue used in the interviews allowed the information gathered to be a collaborative process between the interviewer and the subject. Subjects were able to identify their potential losses and their goals either independently or by answering the interviewer's open-ended questions. Solutions were often made by the interviewer confirming that the subjects knew the resources, such as their social worker or the driving program coordinator, available to help them resolve their problems. Subjects were often slow to provide more than brief answers to questions. They had to be reassured that there were no right or wrong answers, just what was true for them. Most subjects participated more in the interview as it progressed and they relaxed.

Some trends were observed in the study. As confirmed in the literature review, the recently injured patients concentrated on survival skills. Those subjects injured less than a year had physical status goals such as walking, improving strength, performing ADL, and driving. They still had hope of recovery and uncertainty about their future. Some of those injured for longer periods of time could identify specific events that changed their attitudes and acceptance of their disability. These events included being discharged from the

rehabilitation center and going home to face the real world again. Others said adaption was a gradual process. Some refused to acknowledge any problem adapting after their injury.

The study also showed that those subjects who were working had returned to work very shortly after their discharge from rehabilitation and had a prior connection to their workplace. It was still too early to consider a vocation for some subjects who expressed desire to return to work but had no explicit plans to achieve this goal. Others had not worked since their injury and had no interest in a job.

Nine subjects had pressure sores and of these, eight had been confined to bed for 1 to 2 years. Data about the adaptive processes to deal with such extended bed rest suggest additional research. Most of these subjects reported themselves as independent in self-care activities although they were questioned about the month before admission in which they were confined to bed and required assistance at least in obtaining items needed for activities. They seemed to retain the concept of their independence despite needing help with their care. Also, they may have been trying to impress the investigator.

This study fostered several ideas for changes in the CAPA. Like others who have used the CAPA, this student found it to be a very long assessment. Familiarity with the test shortened the administration time. Scoring, however, took even longer than giving the test. Adapting the assessment to a computer

spreadsheet program could simplify the administration and the computer would perform the scoring calculations. Entering data immediately into a laptop computer, portable to patients' rooms, would simplify recording data even more. It would be difficult to input the interactive dialogue, however, and that may have to be added later along with the assets, losses, and recommendations.

Also, there is too much repetition in the scoresheets. There are six different pages to record assets, losses, recommendations, or solutions. As previously mentioned, recording this data could be simplified by using a computer spreadsheet or word processing program with table generating capabilities. Data retrieved from a database into a table, chart, or graph would allow easy visual comparison among the categories of information. This may be especially useful in comparing future administrations of the test and looking at change. The raw data on the assets, losses, and recommendations in this study were recorded in a table (Appendix F) by using a computer word processing software program.

Others working with the CAPA have suggested that the qualitative data could be omitted to shorten the test. If these data are already included in departmental routine documentation, to include them on the CAPA would be redundant. However, qualitative data are often omitted from documentation developed to meet Medicare, payment, and legal requirements. It is valuable information that records what was accomplished with the patient and provides

information necessary for follow-up. A long form of the CAPA, containing qualitative data, and a short form, omitting it, may provide the alternative needed.

Subjects expressed the most difficulty in answering the roles and relationships questions. The problem may not be with the design or questions but more often with the personal nature of the information requested. It was difficult for some subjects to grade the importance to others categories, and one subject refused to answer those questions. Other additions to the CAPA include adding student and housewife to the activity grid under work. One subject considered being a housewife her full-time job. Her family agreed when she was confined to bed, and they had to perform her duties. Several subjects wanted to put their pets under caregiving as they highly regarded their role of providing for their animals. The high number of patients with pressure sores in the study may indicate a need to include skin care under basic ADL, perhaps under grooming. The importance of good skin care cannot be overemphasized when the cost, in both time and money, of skin breakdown is considered. Treischmann (1988, p. 272) relates the importance of skin care to accepting responsibility for one's own body. Also, telephone is listed on the activity grid; but other means of communication, such as writing and computers, are not included. With one subject, letter writing became highly important in value and time. Computer skills were valued by two subjects, one at school, and one in

home business management. On the mobility grid, school needs to be added under workplace. Classmates could be added under the role category on the roles and relationships grid. These items can be added as appropriate in the free space provided on the scoring grids.

The CAPA offers opportunities for future research. Appropriate spinal cord injured subjects for future research include those with pressure sores, the aging, the newly injured, and those needing reevaluation of their functional skills. Nine subjects were admitted with pressure sores and two more developed skin problems during hospitalization or immediately after discharge. This high number suggests a need for more research with this population. With the use of follow-up studies, it may be possible to determine factors that lead to skin breakdown and identify methods to combat their influence. Four subjects had been injured for over 15 years; five subjects were over 40 years old; and one subject was over 50 years old. The effects of aging on a spinal cord injured person are still unknown and a subject for research. Further studies using the CAPA beginning with initial rehabilitation programs and continuing through reevaluation assessments would document patients' adaptive processes to spinal cord injuries over time. Such studies could provide information on the differences in adaptive patterns related to such factors as level of injury, sex, timing of vocational planning, and changing socialization patterns.

This study contributes to the research being conducted on the CAPA.

The CAPA contains clinical data useful in discharge planning, records follow-up information, and documents changes in adaptive patterns over time. It is a valuable assessment for use in occupational therapy.

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APPENDIXES

Appendix A

Human Subjects Review Committee Approval Letters

TEXAS WOMAN'S UNIVERSITY
DENTON DALLAS HOUSTON
HUMAN SUBJECTS REVIEW COMMITTEE - HOUSTON CENTER

HSRC APPROVAL FORM

Name of Investigator(s): Jean Spencer, Ph.D. Harriett Davidson, M.A.

Social Security Number(s): 478-54-9175 462-56-8150

Name of Research Advisor(s): _____

Address: Texas Woman's University

School of Occupational Therapy

Your study entitled: The Effectiveness of the Community Adaptive
Patterns Assessment as an Intervention Tool for
Discharge Planning with a Spinal Cord Injured Population
(The applicant must complete the top portion of this form)

has been reviewed by the Human Subjects Review Committee - Houston Center and it appears to meet our requirements in regard to protection of the individual's rights.

Please be reminded that both the University and the Department of Health and Human Services regulations typically require that signatures indicating informed consent be obtained from all human subjects in your study. These are to be filed with the Human Subjects Review Committee Chairman. Any exception to this requirement is noted below. Furthermore, according to HHS regulations, another review by the HSRC is required if your project changes or if it extends beyond one year from this date of approval.

Any special provisions pertaining to your study are noted below:

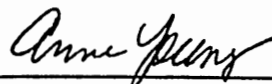
_____ Add to informed consent form: "I understand that the return of my questionnaire constitutes my informed consent to act as a subject in this research".

_____ The filing of signatures of subjects with the Human Subjects Review Committee is not required.

_____ Other: see attached sheet.

☒ No special provisions apply.

Sincerely,



Anne Young, Ed.D.
Chairperson, HSRC - Houston Center

6/19/91
Date

TEXAS WOMAN'S UNIVERSITY
DENTON DALLAS HOUSTON

HUMAN SUBJECTS REVIEW COMMITTEE - HOUSTON CENTER

HUMAN SUBJECTS REVIEW COMMITTEE REPORT FORM

APPLICANT'S NAME: Jean Spencer, Ph.D. Harriett Davidson, M.A.

PROPOSAL TITLE: The Effectiveness of the Community Adaptive
Pattern Assessment as an Intervention Tool for Discharge

Planning with a Spinal Cord Injured Population
(applicant must complete top portion of this form)

COMMENTS: _____

DATE: 6-18-91

William P. Hunter
Disapprove

Approve

William R. Gould
Disapprove

Approve

Damon Canille
Disapprove

Approve

Betty A. Hochmeyer
Disapprove

Approve

David E. Wright
Disapprove

Approve

TIRR Research Committee Decisions Regarding Project Proposals

Date: September 9, 1991

Dear Ms. Garber:

On September 6, 1991, the Research Committee of TIRR considered your project proposal, "The Community Adaptive Patterns Assessment: It's predictive validity and effectiveness as a clinical intervention tool" and reached the following decisions in line with the Institutional guidelines of HS.

1. Approval X

Approval with the following modifications ____ (for reasons, see attached sheet)

2. Disapproval ____ (for reasons, see attached sheet)

3. Review of your project will be required

- a. After each subject's exposure ____
- b. Quarterly ____
- c. Semi-annually ____
- d. Annually XX
- e. For changes in protocol XX
- f. As problems or complications emerge XX
- g. Other ____

4. Method for continuing review of your project:
(We shall remind you)

- a. Questionnaire (sample enclosed) XX
- b. New Protocol ____
- c. Interview with Principal Investigator ____

Sincerely yours,



Chairman, Research Committee

9/9/91

Date

Appendix B

The Evaluation of Personal Independence

OT EVALUATION OF PERSONAL INDEPENDENCE

APPARATUS:

___ w/c	___ recl chair
___ handsplints	___ lapboard
___ breathing aid	___ crutches
___ adap equip	___ cane
___ mouth stick	___ braces
___ positioner	___ corset
___ mech lift	___ sl board
___ car controls	___ slings
___ mod env	___ feeders

COMMENTS:

Date _____
Therapist _____

N	G	F	P	T	O	X	Y	X	Y	Y	Y	STATIONARY ACTIVITIES	
												10	Ability to signal
												20	Speak adequately
												5	Write signature
												15	Write or type 10 wpm
												15	Read and turn pages
												10	Complete phone call
___/300												COMMUNICATIONS	
												10	Eat with fingers
												10	Eat with spoon or fork
												10	Drink from cup/glass
												2	Butter bread
												10	Cut meat
												10	Move dishes
___/208												EATING	
												2	Use handkerchief
												5	Wash hands and face
												6	Brush teeth
												5	Groom hair
												5	Shave or make-up
___/92												HYGIENE	
												5	Orth/prosth. on/off
												10	Sitting
___/60												MISCELLANEOUS	
												5	Shoes and stockings on/off
												5	Slacks or skirt on/off
												5	Jacket on/off
												5	Slipover garment on/off
												2	Trunk support on/off
___/88												DRESSING	
___/748												TOTAL STATIONARY ACTIVITIES	

PATIENT STAMP

Appendix C

The Community Adaptive Patterns Assessment

COMMUNITY ADAPTIVE PATTERNS ASSESSMENT

**DEVELOPED BY THE
NEIGHBORHOOD ENVIRONMENTS PROJECT GROUP**

**SCHOOL OF OCCUPATIONAL THERAPY
TEXAS WOMAN'S UNIVERSITY**

**JEAN SPENCER,PH.D.,OTR AND HARRIETT DAVIDSON,M.A.,OTR
PROJECT CO-DIRECTORS**

CAPA

COMMUNITY ADAPTIVE PATTERNS ASSESSMENT SUGGESTED QUESTIONS

PURPOSE: to assess community-based adaptive patterns in daily community life habitually used by the individual before onset of disability, to assess what changes might be needed for discharge planning, and to assess adaptive patterns in community living following discharge and return to the community. It is anticipated that this assessment can be introduced at several points in the rehabilitation process:

1. During hospitalization before discharge, the therapist will ask questions about how the patient participated in daily activities just before onset of the illness or injury and she will fill in the first sections of the three grids. (If there has been a period of gradual decline rather than a precipitous event that brought the persons to occupational therapy, the therapist will note this on the Demographic Data Sheet, item 12.) The therapist will then use information from her clinical assessments and other data sources to predict potential losses of prior adaptive patterns and note in "potential losses column". She will finally ask specific questions of the patient to determine potential gains in the way of resources not used but available in the community and she will note these in the "potential gains" column. Based upon these findings, she will make recommendations for changes in the adaptive patterns the patient uses in community living.

2. Following discharge during home health program, it is assumed that the patient is still in the recovery phase; the therapist may initially contact the patient at this point or may continue work begun in the hospital. The CAPA is asked in the same way; that is, the patient is asked about how he used to do things before the illness or injury.

3. In a rehabilitation program, whether inpatient or outpatient, the therapist is still seeking information about prior patterns and the need to alter patterns. The CAPA is asked in the same way as in 1. and 2. above.

The follow-up interviews, to examine the adaptation processes of the patient, will be done at two subsequent points.

1. Following a time period in the community of about three months, the therapist is interested in seeing whether her predictions and recommendations have been accurate; she will ask how the client has been doing things during the past month. She will seek information about problems that are occurring at the moment as well as potential problems not yet encountered. She will search again for potential gains still available or newly available but not yet used.

2. Following a period of maximum rehabilitation (this would be a different time length for different problems), the questions would be asked, again for the way things were done during the last month, and the person is monitored for actual continuing problems and further potential gain.

The person being interviewed must be able to communicate verbally and must have adequate memory to report accurately on past and current events. A mental status screener (formal or informal) is recommended prior to deciding to use this assessment.

The interviewer is given a set of recommended questions designed to gain information about activities, mobility patterns, and roles and relationships and will record the responses on the appropriate grid: Activity Grid (AG), Mobility Grid (MG) or Roles and Relationships Grid (RG). Some of the information needed on the demographic sheet and the grids may be gained

CAPA

from the patient's chart or from routine assessment of the patient. This may be filled in and the patient does not need to be asked to repeat the information.

PRELIMINARY STEP:

Prior to the interview, the therapist gives the patient a copy of the Daily Schedule (Parts I and II) and explains that she will be asking him about the ways he has been doing things in his everyday life and it will help him answer the questions if he has filled out a daily schedule and answered some questions about how he feels about the things he does every day. If he is able to fill it out independently, she leaves it with him; if he appears to need help, she asks him to do it together with a family member or other person who is available. He is asked to bring it with him to the interview.

INTRODUCTION: (SAY SOMETHING LIKE)

The questions I am going to ask are about how you have been accustomed to doing things that are important to you, and with whom and where you have been doing them just before onset of your stroke/during the last month. Your answers will help us to plan for any changes in how you might want or need to do things /help us determine whether the planned changes have been helpful. If you get tired during this time, we will stop and rest awhile.

First I will ask you some general questions. (Answers to these questions will be placed on the Demographic Data Sheet. Other answers required on the Demographic Data Sheet can be obtained from the chart).

1. *Tell me about your living arrangements?*

Do you rent or own?

Is it one-story or two-story?

Do you live alone or with someone? If with someone, who?

Do you live in a rural area_____?

town_____

urban_____

suburban_____?

Describe your neighborhood: (e.g., location of church, store, etc.; security, services, etc.)

2. *Are you the primary income-producer for the household? (yes or no)*

3. *What assistive devices do you use in daily activities?*

For communication?

4. *How would you rate your general state of health? Has this changed quickly or gradually over a period of time?*

ACTIVITY PATTERNS

ACTIVITIES

STAGE ONE (*this refers to all the questions relating to columns 1-6 in the Activities Grid*)

CAPA

1. Tell me which of the following things you do.

(On activity grid, ask each of the activities within the categories of work, leisure, basic ADL, and instrumental ADL). Check NO in column 2 for each that is not done. List the most important leisure activities identified by the patient (up to 5) in the blank spaces in column 1b. Note: an interviewer may prefer to take one activity at a time and follow the questioning horizontally across each row of the Activity Grid and the Mobility Grid instead of down each column).

2. Now I am going to ask you about how and with whom you have been doing these things during the past month.

(On activity grid, ask the following questions for each of the activities that does not have a NO checked.)

3. Do you do this alone or in the company of someone else? (Check appropriate box under column 3. If the person customarily does the activity alone, check alone. If it is customarily done in the company of others, check with others.

4. Does someone help you or do this for you? (Write the name of the person in the appropriate box under column 3, either "person helps" or "person does for". Note: there will be one check in either alone or with others, and there may or may not be a check in either person helps or person does for)

5. Do you use an assistive device? (If yes, check appropriate box in column 4 and note device used)

6. About how many hours each (7-day) week do you spend working? In leisure activities? Eating your meals? Doing your basic daily living activities? (list as needed) Using the telephone? Doing your instrumental activities? (list as needed) Resting? (Write in number of hours per week for each activity or activity block in the time column in column 5.) (It may be difficult for the subject to estimate on a weekly basis; if so, ask for daily times and calculate the weekly total.)

Time code: 5=>40 hours per week
 4=20-39 hours per week
 3=10-19 hours per week
 2=0-9 hours per week
 1= done occasionally but not on a regular basis

Note: if there seems to be a real imbalance in one or more of these areas, the therapist seeks further information that may indicate a need to explore time spent in individual activities or that may be written in the "potential loss" or "potential gain" column.

7. How important is it to you that you do this work, engage in leisure, do your instrumental ADL? (Write in value code for each category in column 6, "to self". Note any impressions you have about what aspects of activity are valued under comments.)

Value Code: 3=very important
 2=somewhat important
 1=not important at all

(Ask the following question ONLY ONCE for the whole set of activities):

CAPA

7. *How important do you think it is to the people close to you that you continue to do these things? (Write in value code in single block at bottom of column 6 "to others". If it seems important to explore, the interviewer has the option of asking about the importance of individual activities to others and may enter them in the to other column)*

STAGE TWO (after completing the above questioning, the therapist takes some time to search available clinical data to fill in the potential loss column, looking for potential barriers to future engagement in daily activity.

When she has analyzed clinical assessment data, questioned the patient and the family and other professional team members, she identifies activities that she predicts the client will be unable to continue doing and notes in the column "potential loss".

She then gathers data for the column "potential gain" by accessing the same sources noted above. She asks the patients questions such as:

9. *If you were unable to work/engage in leisure activities/engage in social activities are there other things that you could do that you would find satisfying? (Write in specific activity in potential gain column)*
10. *If you were unable to do this (BADL, IADL) is there someone who would help you do them/do them for you? (Write in person in potential gain column)*

Recommendations for adaptive strategies are written in the recommendations column.

MOBILITY

STAGE ONE (this refers to all questions in columns 1-4 on the Mobility Grid)

On the Mobility Grid, mark NO for any activities that were checked no on the Activity Grid. Then ask questions about the activities that were done by the patient.

Say something like:

Now I am going to ask you some questions about how you travel to the places you want or need to go.

11. *When you go to (the activity site), how do you get there? (Check walk, drive, ride in the "method of mobility" box, column 3. If ride is checked, write in box with whom. Check walk or wheelchair only if these are major means of mobility to locations outside home.)*
12. *About how far away is it (in miles)? (Write number of miles in appropriate box in distance column 4. If it is less than one mile, write in number of blocks)*

CAPA

Ask the following two questions only one time each.

13. *How satisfied are you in general with walking/driving/riding to get where you want to go?*
(Write in satisfaction code in the blank at the bottom of the grid, after general satisfaction with mode [self])
14. *How satisfactory do you think your walking/riding/driving is to the people who are close to you?*
(Write in satisfaction code in blank at the bottom of the grid, after general satisfaction with mode [others])

STAGE TWO (at this stage the therapist stops the interview and collects data for the gains and losses columns. She again searches available clinical sources to identify potential loss and potential gain.

In the potential loss column the therapist writes in the appropriate columns the sites to which she believes the client will be unable to go using present mode of mobility. She may also ask the client whether he feels he will be able to continue using that mode of mobility.

In the potential gain column the therapist seeks information that would identify resources potentially available to the client which have not yet been used. She asks the patient such questions as:

16. *If you could not use (present mode of mobility) to go to (site), are there other alternatives you could use?* (Write mode in potential gain column)

In the recommendations column the therapist makes recommendations for adaptive strategies in the community.

ROLES AND RELATIONSHIPS

STAGE ONE (refers to the part of the interview in which information is gathered for the Roles and Relationships Grid in columns 1-6)

The therapist checks NO for those individuals with whom the client does not interact (that is, if the person is not married, spouse would be checked NO; if the person does not work, coworker would be checked NO, etc). The therapist also records the information about instrumental support from the "assistance, person" column of the activity grid; and potential instrumental support from the potential gain column of the activity grid. Then the therapist asks such questions as:

Next I would like to ask about your interactions with other people as you carry out your activities.

17. *Where do you get together with (coworker, spouse, family, friends, neighbors, organizations, paid attendants, helping professionals)?* (Check "home" or "outside" under "location" in column 3)

CAPA

18. *When you get together with (coworkers, spouse, family, friend, neighbors, organizations, paid attendant, helping professional), is the primary purpose to do an activity or to visit? (For activity, enter name of activity in "activity" column; if activity is visiting, check in the column to indicate whether in person or by telephone)*
19. *Whom do you rely on for emotional support? Financial support? Instrumental support? (Give examples if needed; check types in appropriate boxes) How many times in the past month were these kinds of support provided? (Write in code for times per week in appropriate column.)*
20. *How important is it to you that others give you this support? (Write in value code under column 5 "value to self". Note any impressions you have about what aspects of support are valued under comments.)*
21. *For whom do you provide emotional support? Financial support? Instrumental support? (Check types in appropriate boxes under column 6) How often do you provide this support? (Write in code for times per week in appropriate column.)*
22. *How important is it to others that you give this support to them? (Write in value code under column 6 in "value to others".)*

Note: If there is someone on whom the patient depends a great deal, the therapist should inquire in more depth, as this has implications for the potential gain information. There are also important implications if someone else relies heavily upon the person.

STAGE TWO (this refers to the termination of the interview process and the informal gathering of data about potential loss of activity components or potential resources not yet used.

In the potential loss column, the therapist will search clinical assessment data and interview others to find information to help identify factors that will predict difficulty in the patient's maintaining these roles and interactions because of mobility problems, cognitive problems, motor problems, motivational problems, behavioral problems, cultural beliefs, or communication problems. The therapist might also elicit from the client or from others changes in attitudes of others towards interacting with the client following the illness or injury.

The therapist asks the client about potential gains by such questions as:

23. *Are there people/organizations other than those with whom you are currently interacting, who might provide emotional or financial support? (Write in the appropriate block in potential gains column)*

The therapist makes recommendations for adaptive strategies in the recommendations column.

After filling out all three grids, the therapist completes the score sheet according to directions.

FOLLOWUP

About three months following discharge, the therapist will conduct a second interview, asking the same questions as those asked during the first interview. The therapist asks about activities performed "during the last month". The therapist compares the responses and seeks to determine whether the recommended changes in patterns were made and whether they have proved satisfying and functional. If recommended changes were not made, the therapists looks at what solutions were developed, why, and how effective and satisfying they are proving.

INTERPRETATION OF RESULTS

Earlier research has suggested three major adaptive patterns characterized by differences in living arrangements and household composition, mode of transportation used to reach key resources, kinds of social support exchanged, and coping style of the individual. They are:

1. **Independent autonomous**, characterized by living alone or with a spouse, driving oneself or riding with a spouse to important locations, relatively infrequent exchange of social support with family or neighbors, and a self-reliant coping style.

2. **Interdependent with family**, characterized by living in an extended family household with children and often with grandchildren and spouse. Transportation is usually provided with the elderly person as a passenger in a car owned by the family with occasional use of public transportation. There are frequent exchanges of social support within the family in which elderly parents and children each assume important responsibilities in managing the household. Subjects with this pattern usually report a coping style in which others are often consulted or relied upon. This pattern has two variations--one in which children live in a home owned by the elderly person or couple, and one in which the elderly person(s) live in a home owned by the children.

3. **Interdependent with neighbors**, characterized by living alone or with family (often a spouse or sibling rather than children), use of public transportation as a primary mode, and frequent exchanges of social support with neighbors. The coping style usually involves consulting others.

The scores provide information about whether activities are primarily done alone or with others, with help or independently, and the relative values of work, leisure, daily living, and rest activities. They provide information about the most frequently used mobility mode(s), and the satisfactoriness of that mode, as well as a radius for most frequently used resources. It also provides information about the richness of the social network; how many persons and how often the individual visits with and does things with other persons, and what kinds of social support is given and received. It is assumed that some balance needs to exist between the giving and receiving of the social support, although some cultural values appear to accept that an older person gives more when younger and receives more when older.

The predictions of potential losses are based upon the clinical judgment of the therapist who has done a complete evaluation of the clients' occupational performance and performance components. Prediction of potential gains is based upon questions asked of the client's responses and the family's (others') responses to similar questions, and possibly information from other health care professionals.

CAPA SCORING

Activity Grid

1. Convert hours/week (column 5) into time code (column 5) by referring to time code. For example, if the number in the hrs/wk box is 54, this is coded as 5

Time Code: 5=≥40 hours per week
 4=20-39 hours per week
 3= 10-19 hours per week
 2=0-9 hours per week
 1=done occasionally but not on a regular basis

2. Calculate the importance score in column 6 (#) by multiplying time code by value code, and place in # box. For example, if the time code is a 4 and the importance to self is 3, the score in the # box is 12.

Value code: 3=very important
 2=somewhat important
 1=not at all important

3. Below each occupational category under columns 5 and 6 you are asked to calculate total activity value and place in box. For example, the patient might have had a 12 work value for fulltime employment and no parttime or volunteer work. Thus the total work value is 12.

Work value=work value to self code ____ x time code=____=____.
Leisure value=leisure value to self code ____ x time code ____ = ____
ADL value = ADL value to self code x time code = ____
Rest value=rest value to self code ____ x time code ____ = ____

4. In row f, total the number of checks in the boxes for "total alone", "total with others", "with help", "done for", and "# devices".

5. Activity style continuum is determined by examining the numbers in the boxes at the bottom of column 3 and selecting the highest numbered category for social style and independence style. The style most frequently used is that with the highest number.

Activity style continuum (social)= ____ alone, ____ with others
Activity style most frequently used (independent)=____ with help, or ____ with someone doing the activity for the person.

6. The total engagement of activities score is determined by summing subscores for work value, leisure value, ADL value, and rest value. (ADL value is calculated by summing BADL and IADL value subscores and dividing by two.)

Total engagement of valued activities score= work value____+ leisure value____+ ADL value____+ rest value____=____. Value to others is an optional category and is considered in overall planning, but is not calculated in the total engagement score.

Mobility Grid

7. Total the number of checks in the boxes at the bottom of column 3 (total walk, drive, ride, bus, wheelchair, and other). The mobility mode most frequently used is that which has the highest number of checks.

8. Calculate the individual's satisfaction with mode by asking the individual how satisfactory he finds his current mode(s) of travel. Calculate the general satisfaction with mode of others who are closely involved with the patient. The general satisfaction is the average of the two.

Satisfaction code: 3=very satisfactory
 2= somewhat satisfactory
 1=not satisfying at all

9. Calculate the number of sites in each mileage range (in column 4, distance in miles) and record as resource density. (If a mileage range is recorded in a box, select the highest number of the range. For example, if the patient said that the distance in miles for general shopping is 4-6 miles, place it in the category for ≥6 miles.

Roles and Relationships Grid

10. In the "total" row, calculate total number of checks in column 3,4,5, and 6.

11. For social interaction quotient, sum total number of checks in activity boxes and total number of checks in telephone visits box and total visits in person.

12. For social support received, sum the number of people (roles) checked giving support (each person counts just once) and sum kinds of support (each type of support [emotional, financial, instrumental] counts once). The importance score is obtained by counting the total frequency of any one type of social support x the value code.

Value code: 3=very important
 2=somewhat important
 1=not at all important).

Support received score= sum of (number of people providing support_____ x number of kinds of support received) + (importance score).

Support given score= sum of (number of people to whom support is given)_____ x number of kinds of support received) + (importance score).

CAPA Score Sheet

Fill in scores for major categories and subcategories on the CAPA SCORE SHEET. Scores from initial (pre-discharge) assessment will be filled in; potential losses and potential assets will be noted, and recommendations made to the patient and/or family for changes in adaptive patterns. At a point about three months later the therapist will reinterview the patient, placing date and new scores in column 6. Current solution being used by the patient will be noted, and a check will be made in one of the last three columns (8, 9, or 10). On the Qualitative Data Sheet 2, analysis of whether the solution was that recommended by the therapist, or whether another solution was used, and its relative satisfactoriness to the patient and its relative value as seen by the therapist. On the Qualitative Data Sheet 2, the therapist will reflect on general questions about the utility, the practicality, the validity of the CAPA.

Subject Code _____
Initial _____ Follow Up _____
Date _____

CAPA DEMOGRAPHIC DATA SHEET

1. Place of Birth:

United States _____ Foreign Country _____

2. Ethnic Group:

Black _____ White _____

Hispanic _____ Oriental _____

3. Diagnosis:

4. Age: _____

5. Sex:

Female _____ Male _____

6. Marital Status:

Married _____ Single _____

Divorced _____ Widowed _____

7. Family (how many):

Sons _____ Daughters _____ Sisters _____ Brothers _____

Nieces _____ Nephews _____ Cousins _____

Where do they live? _____

8. Tell me about your living arrangements?

*Do you rent _____

or own _____?

Is it one-story _____?

two-story _____?

Do you live alone _____?

With someone _____? If yes, who? _____

Do you live in a rural area_____?

town_____

urban_____

suburban_____?

Describe your neighborhood: (e.g., location of church, store, etc.; security, services, etc.)____

9. Are you the primary income-producer for the household?

yes_____

no_____

10. What assistive devices do you use in daily activities? _____

For communication?_____

For mobility inside your home? _____

11. How would you rate your general state of health?

12. Has the problem that brought you here been a sudden life change, or have your difficulties been going on over a period of time? (Please describe how your health has changed.)

DAILY SCHEDULE							
Time	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
6-7							
7-8							
8-9							
9-10							
10-11							
11-12							
12-1							
1-2							
2-3							
3-4							
4-5							
5-6							
6-7							
7-8							
8-9							
9-10							
10-11							
11-12							
12-1							
1-2							
2-3							
3-4							
4-5							
5-6							

Part I

Directions: List in detail all activities which are a part of your day in a typical week at home:____in hospital:____ other:____

PART II

Directions: List each activity (once) that you included in Part I. Use as many sheets as necessary. Rate all activities according to the rating scale attached.

- A. I do this because I want to and
1. I'm glad I do it; it's good for me
2. I wish I didn't do it (or so much of it)
3. I'd like to do more of this
- B. I do this because others want me to do this and
1. I'm glad I do it; it's good for me
2. I don't want to do it
- C. I do this because I should, and
1. I'm glad I do it; it's good for me
2. I wish I didn't have to do it
3. I'd like to do more of this
- D. I
1. do this alone
2. do this with others
3. wish there was someone who did this with me

ACTIVITY	CODES (insert 1,2,or 3 under the letter)				Percentage of time figured per day for
	A	B	C	D	1. ADL
1.					2. Work
2.					3. Leisure
3.					4. Rest and Sleep
4.					
5.					
6.					
7.					
8.					
9.					
10.					

Activity Grid 1 2 3 4 5 6
 subject code Initial follow up date

Activity	No	Activity Style Continuum			Assist Device	Hrs/Wk	Time Code	Importance To Self	Importance To Others
		Alone	With Others	Person Helps For					
a. Work									
Paid Employ, Full								X	=
Paid Employ, Part								X	=
Volunteer Work								X	=
Total		Work		Value					
b. Leisure									
1.								X	=
2.								X	=
3.								X	=
4.								X	=
5.								X	=
Total		Leis		Value					
c. Instrumental ADL									
Shopping, General								X	=
Shopping, Groceries								X	=
Health Care								X	=
Cooking								X	=
Home Maintenance								X	=
Personal Finances								X	=
Caregiving								X	=
Total		IADL		Value					
d. Basic ADL									
Eating Meals								X	=
Dressing								X	=
Bathing								X	=
Grooming								X	=
Using Toilet								X	=
Taking Medication								X	=
Using the Telephone								X	=
Total		BADL		Value					
e. Resting (Day + Night)									
								X	=
f. Totals									
Total Alone	Total W/Oth	Total W/Help	Total Done For	Total # Device	Value to Others				

Comments:

subject code _____
 Initial _____ follow up _____
 date _____

Activity Grid Losses, Gains, Recommendations

Activity	Potential Losses	Follow up	Potential Gains	Follow up	Recommendations	Follow up
a. Work						
Paid Employ, Full						
Paid Employ, Part						
Volunteer Work						
b. Leisure						
1.						
2.						
3.						
4.						
5.						
c. Instrumental ADL						
Shopping, General						
Shopping, Groceries						
Health Care						
Cooking						
Home Maintenance						
Personal Finances						
Caregiving						
d. Basic ADL						
Eating Meals						
Dressing						
Bathing						
Grooming						
Using Toilet						
Taking Medication						
Using the Telephone						

Mobility Grid

1 2 3 4

subject code Initial followup date

Site	No	Method of Mobility				Distance In Miles if > 1 mi, in blocks	
		Walk	Drive	Ride Car	Bus		W/C
a. Workplace							
Paid Employ, Full							
Paid Employ, Part							
Volunteer Work							
b. Leisure							
1.							
2.							
3.							
4.							
5.							
c. Instrumental ADL							
Shopping, General							
Shopping, Grocery							
Health Care Site							
Pharmacy							
Bank							
Care Site							
d. Other							
e. Totals		Total Walk	Total Drive	Total Ride	Total Bus	Total W/C	Total Other

General satisfaction with mode (self) _____
 General satisfaction with mode (others) _____

Comments: _____

subject code _____
initial _____ follow up _____
date _____

Site	Potential Losses	Follow up	Potential Gains	Follow up	Recommendations
a. Workplace					
Paid Employ, Full					
Paid Employ, Part					
Volunteer Work					
b. Leisure					
1.					
2.					
3.					
4.					
5.					
c. Instrumental ADL					
Shopping, General					
Shopping, Grocery					
Health Care Site					
Pharmacy					
Bank					
Care Site					
d. Other					

Roles and Relationships Grid

subject code _____ Initial _____ follow up _____ date _____

1 Role	2 N O	3 Location		4 Social Interaction			5 Social Exchange Received					6 Social Exchange Given																			
		Home	Out side	Activity	Mode	Visit by tele	Visit in Perso	Emotional	Financial	Instrumental	Times per week	Value to self	#	Emotional	Financial	Instrumental	Times per week	Value to others	#												
a. Coworker																															
b. Spouse																															
c. Family																															
d. Friend																															
e. Neighbor																															
f. Organization																															
Church																															
g. Paid Attendant																															
h. Helping Professional																															
TOTAL NO.																															

Comments:

Roles and Relationships Grid, Losses and Gains

Initial _____ follow up _____ subject code _____
 date _____

Role	Potential Losses	Follo wup	Potential Gains	Follo wup	Recommendations	Follo wup
a. Coworker						
b. Spouse						
c. Family						
d. Friend						
e. Neighbor						
f. Organization						
Church						
g. Paid						
Attendant						
h. Helping						
Professional						

subject code _____
initial ____ follow up ____
date _____

CAPA Score Sheet

[illegible]

subject code _____
 initial _____ follow up _____
 date _____

CAPA QUALITATIVE DATA SHEET 1
 Analysis of New Solutions Developed by Patient

Solution: (describe the solution; may include omitting the task)	How Developed: (source of solution: own idea, read, TV, peers, therapist)	Why Developed: (time constraints, difficulty, values, purpose/need)	Patient's Perceptions: (purpose served? working well for pt? satisfactory to important other?)	Therapist's Judgment: (purpose served? safe? physical or anecdotal evidence of inefficient or unhealthful practice?)

subject code _____
initial ____ follow up ____
date _____

CAPA QUALITATIVE DATA SHEET 2 THERAPIST REFLECTIONS ON CAPA

1. How well did it work?

How does it fit with or overlap other current assessments?

How much training and skill is required?

2. Is it practical?

Easy to administer?

Time required (specify)?

Easy to record?

3. Is it useful?

Clinical application in discharge planning? (specify useful and non-useful sections.

Did you use this tool beyond research?

Does CAPA help make better interventions?

4. Is it valid?

Does CAPA appear to tell me what I need to know about patients' functioning in the community?

What important information was missing?

What information was not needed?

Do guesses made before administration of CAPA agree with CAPA data?

Do recommendations made by other therapists agree with those prompted by CAPA?

Appendix D

Consent Form Sample

Consent for Participation in the
Community Adaptive Patterns Assessment
(Texas Woman's University)

I, _____, agree to participate in the Community Adaptive Patterns Assessment research project to help occupational therapists develop a tool to better understand community adaptive patterns of the spinal cord injured person and to determine if this tool is beneficial in discharge planning. I understand that the following individuals will be involved as researchers: Jean Cole Spencer, Ph.D., OTR, Harriett Davidson, M.A., OTR, research advisors; and Mary Platt, RN, Marilyn Wooton, OTR, student research assistants. This will be done with the cooperation of a registered occupational therapist working at The Institute for Rehabilitation and Research (TIRR).

I understand that this assessment is designed to explore and help the therapist understand my activity patterns, mobility patterns, and roles and relationships prior to my spinal cord injury and immediately following discharge from The Institute for Rehabilitation and Research. I understand that this interview will be performed in conjunction with occupational therapy through The Institute for Rehabilitation and Research, but I will not be charged for the interviews, the Community Adaptive Patterns Assessment (CAPA), the Functional Independence Measure (FIM), or the Craig Handicap Assessment and Reporting Technique (CHART) administered by the research assistants.

There will be two interviews during the two weeks before my discharge from The Institute for Rehabilitation and Research and two follow-up interviews at my place of residence held two to three months after discharge. Each interview will last about one hour. The first interview held before my discharge will use the Community Adaptive Patterns Assessment to gather information about my activities, mobility, and roles and relationships before my injury. The second pre-discharge interview will examine potential changes in these areas. The first follow-up interview will gather information on my activities, mobility, and roles and relationships since discharge from TIRR, and I will be given both the Community Adaptive Patterns Assessment and the Craig Handicap Assessment and Reporting Technique. The second follow-up interview will examine my independent living skills using the Functional Independence Measure in addition to exploring potential changes in my activities, mobility, and roles and relationships.

I understand that the risks of this study include: (1) possible breach of confidentiality, (2) possible emotional discomfort in answering a few of the

questions, (3) possible fatigue before completing the entire interview, (4) possible discomfort from being interviewed in my home or place of residence.

The procedures for minimizing the above risks have been explained to me. These include: (1) I understand that, when completed, the interview forms will be kept in a locked cabinet at Texas Woman's University. I will be given a code number, and my name will not appear on the interview form. The results of the study will be reported without using names. (2) If I feel uncomfortable due to any question(s), I will not be required to respond. (3) If I feel tired, I can request a period of rest before continuing answering the questions. (4) I understand that the two follow up interviews held at my place of residence will be scheduled in advance at my convenience two to three months following my discharge from The Institute for Rehabilitation and Research.

I understand that I will not benefit directly from the project. Indirect benefits include an increased understanding of the community adaptive patterns of the person with a spinal cord injury including their activities, mobility, and roles and relationships.

I understand that my participation is voluntary and that I may withdraw my consent to participate at any time during the course of this study without adverse effect on my treatment at this rehabilitation center.

In the unlikely event of physical injury resulting from this study, neither Texas Woman's University nor The Institute for Rehabilitation and Research is able to offer financial compensation or to absorb the costs of medical treatment. However, first aid care will be provided as necessary.

I have been told that at any time during the study I may call Dr. Jean Spencer (713-794-2131) or Harriett Davidson (713-794-2130) with any questions.

Signature of Research Participant

Date

Signature of Witness

Date

Appendix E

EPI Scores Raw Data for Subjects in Groups A and B

Table E-1

The EPI Scores of Subjects in Group A

Group A					
Communi- cation	Eating	Hygiene	Dressing	Miscell- aneous	Total
270	144	71	10	40	535
255	106	64	10	45	480
300	208	92	88	20	748
265	156	69	8	20	518
300	208	92	32	60	692
300	208	69	38	20	635
290	198	92	58	40	678
285	208	92	88	60	733
290	208	66	38	20	622
255	112	62	28	55	512

Table E-2

The EPI Scores of Subjects in Group B

Group B					
Communi- cation	Eating	Hygiene	Dressing	Miscell- aneous	Total
270	208	92	78	20	708
300	208	69	38	20	635
225	156	69	68	30	548
290	208	69	38	20	625
300	208	92	88	60	748
300	208	92	88	60	748
215	10	2	0	35	262
290	208	92	88	60	738
275	56	69	64	60	624
300	208	92	88	60	748

Appendix F

A Comparison of Potential Assets, Potential Losses, and Recommendations

Items Identified in the Pretest and Posttest CAPAs of Group A and

Used to Test Predictive Validity.

Table F-1

A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 2 in Group A.

Potential assets	
Pretest	Posttest
Can live at a transitional living center with attendant care	Is living at a transitional living center
Will start sitting program	No sitting as skin not healed
Potential losses	
Pretest	Posttest
Bed confinement due to pressure sores decreased activity, mobility, socialization	Remains a problem
Needs a new seat cushion	Remains a problem
(table continues)	

Recommendations followed

Pretest**Posttest**

**Discharge to transitional living
center****Accomplished**

Recommendations ongoing

**Pressure evaluation by OT to
determine best seat cushion.****Will accomplish when starts sitting****Follow OT sitting program and skin
precautions .****Will accomplish when starts sitting**

Table F-2

A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 4 in Group A.

Potential assets	
Pretest	Posttest
Skin almost healed which will allow sitting and improve all losses	Skin healed; resumed sitting; activities, mobility, and socialization improved
Has a full time job	Has returned to work
Has license and own vehicle	Has resumed driving
Potential Losses	
Pretest	Posttest
Bed confinement due to pressure sores decreased activity, mobility, socialization	Healed skin and resumed sitting resolved decreased activity, mobility, and socialization
(table continues)	

Recommendations followed

Pretest**Posttest**

Follow OT sitting program and skin
precautions

Is limiting sitting and following
skin precautions

This recommendation was missed
in the pretest

Wants to date, will schedule social
activities so work will not
interfere

Table F-3

A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 6 in Group A.

Potential assets	
Pretest	Posttest
Has attendant assistance at home	Attendant assistance continues
Former employer still interested	Consider job retraining in future
Identified under losses	Drives van from wheelchair
Identified under losses	Adapted hunting and fishing equipment
Potential losses	
Pretest	Posttest
Decreased mobility, cannot get motorized wheelchair in truck	Resolved, see assets
Cannot hunt or fish	Resolved, see assets
Needs help with some ADL	Still has attendant care
Cannot perform old job	Work is a future consideration
(table continues)	

Recommendations followed

Pretest

Posttest

Purchase a van

Accomplished

Refer to TIRR driving program for
driving training

Accomplished

Refer to orthotics department for
adaptive hunting and fishing
equipment

Accomplished

Patient interested in strengthening
and continuing physical exercise

Goes to gym to work out

Recommendations ongoing

Job retraining

Will contact TRC when ready

Table F-4

A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 8 in Group A.

Potential assets	
Pretest	Posttest
Family and friends are supportive, family does care	Has attendant care to relieve family caretaking
Reports TRC would adapt a van	Not yet ready to consider
Potential losses	
Pretest	Posttest
Bed confinement due to pressure sores decreased activity, mobility, socialization	Remains a problem as skin not healed
Unable to drive, no license or vehicle	Remains a problem
Family doing care	Has attendant and visiting nurse
(table continues)	

Recommendations followed

Pretest**Posttest**

Follow OT sitting program and skin Followed
precautions

Talk to social worker about Has attendant
attendant assistance

Recommendations ongoing

Talk to OT about driving program Will accomplish when starts sitting

Table F-5

A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 10 in Group A.

Potential assets	
Pretest	Posttest
Mother helps with care	Mother helping less
Has a van and can drive when sits	Is driving and gets out with friends
Potential Losses	
Pretest	Posttest
Bed confinement due to pressure sores decreased activity, mobility, and socialization	Activities, mobility, and socialization have all improved since sitting resumed
Recommendations followed	
Pretest	Posttest
Follow OT sitting program	Followed
This recommendation was missed	Attendant and visiting nurse care
(table continues)	

Recommendations ongoing

Consider leatherwork as avocation No finances at present time

Table F-6

A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 12 in Group A.

Potential Assets	
Pretest	Posttest
Has homebound teacher, interested in continuing education	Continues homebound schooling
Supportive family, parents do care	Family continues to be supportive
Potential losses	
Pretest	Posttest
Recent, high level injury limits function, activities and mobility	Remains a problem
Spasms interfere with function	Spasms under control medically
Home schooling limits socialization	Remains a problem
Needs van to transport motorized wheelchair and to drive	Remains a problem
(table continues)	

 Recommendations followed

 Pretest

 Posttest

Talk with social worker about
getting an attendant

Has an attendant

Follow OT and PT home
strengthening programs

Followed

 Recommendations ongoing

Talk to OT about driving program

Has to get license before he can
enter driving program

Consider getting a computer

No finances for computer now

Consider getting van so he can get
around in motorized wheelchair
and increase socialization

No finances for van right now

Table F-7

A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 14 in Group A.

Potential assets	
Pretest	Posttest
Old employer still interested in his return to work	Employer no longer interested, subject will contact TRC about job retraining when physically ready to return to work
Identified in recommendations	Has started new avocation of raising chickens, easier for him than hunting and fishing
Potential losses	
Pretest	Posttest
Recent decrease in ability to walk	Walking is improving
Not driving because wants to use feet not hand controls	Remains a problem (table continues)

Potential losses

Pretest

Posttest

Has not been able to continue
hobbies of fishing and hunting

No transportation or companions for
fishing and hunting

Recommendations followed

Pretest

Posttest

Discuss alternate avocational
interests with OT

Subject found new interest in
raising chickens

Exercise program for strengthening

Follows PT home program

Recommendations ongoing

OT driving evaluation

Waiting to see if legs strengthen
enough for driving

Explore vocational interests when
ready

Will need job retraining when
ready to return to work

Table F-8

A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 16 in Group A.

Potential assets	
Pretest	Posttest
Supportive family	Supportive family
Has maid and home health aide	Still has maid and aide
Potential losses	
Pretest	Posttest
Autonomic dysreflexia interferes with sitting and activities	Autonomic dysreflexia improved and does not interfere as much
Recommendations followed	
Pretest	Posttest
If dysreflexia controlled, OT can increase sitting schedule	Sitting time has increased and dysreflexia is better
(table continues)	

Recommendations followed

Pretest

Posttest

Developing a pressure sore, follow

Followed

OT sitting program and skin

precautions

Received new orthosis, wheelchair,

OT refurbish orthosis and order

and cushion

new wheelchair and cushion

Recommendations ongoing

Consider use of computer at home

Finances prohibit purchase of

computer at this time

Table F-9

A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 18 in Group A.

Potential assets	
Pretest	Posttest
Social life is family centered	Social life remains family centered
Supportive family, family helps with care and household chores	Has attendant for dependent care, has resumed homemaking
Potential losses	
Pretest	Posttest
Bed confinement due to pressure sores decreased activity, mobility, and socialization	Sitting has improved independence in activities but leg cast prevents transfer into vehicle and driving, mobility and socialization are still decreased
Pressure sores have prevented continuing vocation	Remains a problem
(table continues)	

 Recommendations followed

 Pretest

 Posttest

Follow OT sitting program and skin precautions	Followed
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 Recommendations ongoing

Consider purchasing a van so could drive from the wheelchair	Will reevaluate driving situation once leg cast removed
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Table F-10

A Comparison of the Pretest and Posttest Potential Assets, Potential Losses, and Recommendations Identified for Subject Number 20 in Group A.

Potential assets	
Pretest	Posttest
Has attendant care	Continues to have help
Brother helps as needed	Brother continues to help
Potential losses	
Pretest	Posttest
Spasms caused pressure sores and decreased activities and mobility	Spasms continue to interfere
Recommendations followed	
Pretest	Posttest
Follow sitting and skin precautions	Followed
Follow OT strengthening program	Reports getting stronger
Missed this recommendation	Writing campaign for financial coverage for spasticity surgery

Appendix G

CAPA Scores Raw Data for Group A and Group B

CAPA PRETEST SCORES FOR GROUP A										
SUBJECT #	2	4	6	8	10	12	14	16	18	20
ACTIVITY SCORES										
Activity Style Most Used A lone, O thers, D ependent	A	A	A	D	A	O	A	D	A	O
activities done alone	6	19	9	5	11	6	10	5	7	8
activities with others	4	4	5	6	2	9	8	7	3	8
activities needs help	4	1	3	4	3	7	0	3	5	3
activities dependent	4	1	4	6	4	7	0	8	4	5
Engagement Valued Activities	49	86	65	52	58	63	75	67	74	74
work value	0	15	0	0	0	9	0	0	0	3
leisure value	9	16	6	12	17	26	19	27	30	24
ADL value	25	40	44	25	26	17	41	25	29	32
rest value	15	15	15	15	15	10	15	15	15	15
MOBILITY SCORES										
Mobility Most Frequently Used D rive, R ide, W/C, O ther	O	D	R	O	O	R	R	R	O	R
walk score	0	0	0	0	0	0	2	0	0	0
drive score	0	8	0	0	0	0	0	0	0	0
ride score	0	0	2	1	0	3	7	7	0	7
bus score	1	0	2	0	0	0	0	0	0	0
wheelchair score	0	3	1	0	0	3	0	3	0	3
other score (bed)	3	0	0	1	3	1	0	1	4	2
Satisfaction With Mode Score	1	2	2	2	1	2	2	3	1	3
Resource Density										
0-1 mile score	3	3	1	1	2	3	2	2	2	3
2-3 mile score	0	0	0	0	0	0	0	0	0	1
4-5 mile score	0	5	0	0	0	3	1	1	0	1
> 6 mile score	1	3	3	1	1	0	6	7	1	5
Most Frequent Distance Used	0	4-5	>6	0	0	5	>6	>6	0	>6
ROLES AND RELATIONSHIPS										
Social Interaction Quotient	15	11	7	10	8	10	15	10	12	17
total activities	5	3	4	4	2	5	5	3	3	5
total visits by telephone	4	3	1	2	3	2	4	3	4	5
total visits in person	6	5	2	4	3	3	6	4	5	7
Support Received Score	143	105	91	73	42	100	111	84	114	178
number of people	7	6	5	4	3	5	6	4	6	7
number of kinds of support	11	10	8	7	4	11	9	9	10	16
importance score	66	45	51	45	30	45	57	48	54	66
Support Given Score	?	111	91	61	42	70	129	84	126	136
number of people	?	6	5	4	3	5	6	4	6	7
number of kinds of support	?	11	8	4	4	5	12	9	12	10
importance score	?	45	51	45	30	45	57	48	54	66

Figure G-1. The CAPA pretest scores for group A.

CAPA POSTTEST SCORES FOR GROUP A										
SUBJECT #	2	4	6	8	10	12	14	16	18	20
ACTIVITY SCORES										
Activity Style Most Used A lone, O thers, D ependent	D	A	A	D	A	O	A	D	A	O
activities done alone	5	16	8	5	11	5	11	5	11	10
activities with others	3	4	7	6	6	8	8	8	4	10
activities needs help	3	1	4	3	1	7	0	3	2	2
activities dependent	7	0	4	7	2	7	4	8	2	7
Engagement Valued Activities	48	72	73	61	72	63	83	68	79	84
work value	0	15	0	0	0	9	0	0	0	3
leisure value	9	11	18	22	21	26	27	27	30	35
ADL value	24	31	40	24	36	17	41	26	34	31
rest value	15	15	15	15	15	10	15	15	15	15
MOBILITY SCORES										
Mobility Most Frequently Used D rive, R ide, W/C, O ther	O	D	D	O	R	R	R	R	W/C	R
walk score	0	0	0	0	0	0	3	0	0	0
drive score	0	9	6	0	0	0	0	0	0	0
ride score	0	1	0	0	6	3	6	7	0	7
bus score	1	0	0	1	0	0	0	0	1	0
wheelchair score	0	1	1	0	1	3	0	3	3	4
other score (bed)	3	0	0	2	1	1	0	1	1	2
Satisfaction With Mode Score	1	3	3	2	3	2	3	3	1	3
Resource Density										
0-1 mile score	3	0	1	2	1	3	2	2	3	3
2-3 mile score	0	0	0	0	0	0	0	0	0	1
4-5 mile score	0	1	1	0	0	3	0	1	0	1
> 6 mile score	1	7	5	1	6	0	2	5	1	5
Most Frequent Distance Used	0	>6	>6	0	>6	5	>6	>6	0	>6
ROLES AND RELATIONSHIPS										
Social Interaction Quotient	18	15	8	14	13	10	13	10	14	18
total activities	5	5	4	6	5	5	5	3	4	6
total visits by telephone	5	3	2	2	3	2	2	3	4	5
total visits in person	8	7	2	6	5	3	6	4	6	7
Support Received Score	164	135	91	132	93	100	111	84	120	185
number of people	8	7	5	6	6	5	6	4	6	7
number of kinds of support	13	11	8	11	7	11	9	9	10	17
importance score	16	58	51	66	51	45	57	48	60	66
Support Given Score	?	115	91	102	93	70	129	84	132	136
number of people	?	6	5	6	6	5	6	4	6	7
number of kinds of support	?	12	8	6	7	5	12	9	12	10
importance score	?	43	51	66	51	45	57	48	60	66

Figure G-2. The CAPA posttest scores for group A.

CAPA SCORES FOR GROUP B										
SUBJECT #	1	3	5	7	9	11	13	15	17	19
ACTIVITY SCORES										
Activity Style Most Used A lone, O thers, D ependent	O	O	A	A	A	A	D	A	A	A
activities done alone	4	7	14	10	9	11	2	11	7	12
activities with others	8	11	5	2	0	7	7	4	2	6
activities needs help	3	4	0	5	1	0	3	0	5	1
activities dependent	5	2	0	4	5	4	9	4	4	3
Engagement Valued Activities	82	79	49	66	50	78	47	78	65	67
work value	12	17	3	9	0	0	0	0	12	6
leisure value	24	15	22	20	16	39	10	27	14	14
ADL value	31	32	21	22	22	24	22	36	24	32
rest value	15	15	3	15	12	15	15	15	15	15
MOBILITY SCORES										
Mobility Most Frequently Used D rive, R ide, W/C, O ther	R	D	D	O	W/C	D	O	W/C	O	D
walk score	0	0	1	0	0	0	0	0	0	0
drive score	0	9	8	0	0	5	0	0	0	7
ride score	8	4	0	0	1	0	1	0	0	0
bus score	0	0	0	1	0	0	0	1	1	0
wheelchair score	1	1	0	0	3	2	0	6	0	2
other score (bed)	0	0	0	3	2	0	1	1	2	0
Satisfaction With Mode Score	3	3	3	1	3	3	1	2	1	3
Resource Density										
0-1 mile score	1	2	2	3	3	2	1	6	2	2
2-3 mile score	0	9	1	0	0	0	0	0	0	0
4-5 mile score	1	0	3	0	0	0	0	0	0	0
> 6 mile score	7	0	4	1	1	5	0	1	1	8
Most Frequent Distance Used	>6	3	>6	0	0	>6	0	0	0	>6
ROLES AND RELATIONSHIPS										
Social Interaction Quotient	16	12	20	7	3	10	5	10	18	10
total activities	7	6	7	2	1	3	2	2	5	4
total visits by telephone	3	0	5	1	0	3	1	3	6	2
total visits in person	6	6	8	4	2	4	2	5	7	4
Support Received Score	175	120	266	73	26	72	34	78	190	74
number of people	7	6	10	4	2	4	2	5	7	4
number of kinds of support	16	11	20	7	4	9	5	7	16	8
importance score	63	54	66	45	18	36	24	43	78	42
Support Given Score	177	104	242	73	26	56	30	68	176	90
number of people	7	6	10	4	2	4	2	5	7	4
number of kinds of support	17	10	17	7	4	5	3	5	14	12
importance score	58	54	72	45	18	36	24	43	78	42

Figure G-3. The CAPA scores for group B.