CALIFORNIA STATE UNIVERSITY, NORTHRIDGE

REHABILITATION INPATIENT FOLLOW-UP,
Evaluation in a Rehabilitation Center.

A graduate project submitted in partial satisfaction of the requirements for the degree of Master of Public Health in Community Health Education

by

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ABSTRACT

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The purpose of this project was to conduct a follow-up study on patients discharged from the Northridge Rehabilitation Center to assess the post-hospitalization status of the patients in the physical, social, psychological, and vocational areas. An attempt was made to assess the effectiveness of the systems of delivery of health services, the multiple measures of outcome to determine measures of success of the programs, and educational implications.

The primary purpose of the study included an attempt to assess

1 - the patient's physical, social, psychological, and vocational status within one year after receiving inpatient services;

2 - the degree to which the former patient was satisfied with the services he had received at the Rehabilitation
3 - the cost/benefit of the service;
4 - the relationship of rehabilitation success/failure to the medical and demographic characteristics of the 1974 population.

This study included a systematic sampling of discharged patients within the 1974 calendar year. Follow-up procedures included a 73-item survey for dealing with personal data, relevant information from the hospital records, the patient's evaluation of services, his status prior to the onset of disability, and his physical, social, psychological, community health needs, and vocational status at follow-up. Each follow-up interview was conducted in the patient's home environment, if at all possible. There were only two interviewers, thus maximizing interview consistency.

In addition to the 73-items included in the survey, 10 Likert-type scaled items were computed to provide an outcome measure defined as "rehabilitation success." The results were summarized into five areas:
1 - satisfaction with services
2 - effectiveness of services
3 - costs
4 - aftercare
5 - variables related to success

It was concluded from this study that the patients felt they had been successful in two areas: social
relationships, and self-consciousness about disability. They felt they had been unsuccessful in all other areas: employment status, physical functioning, self-care, activities outside the home, knowledge about condition, participation in family affairs, independent attitude and affective outlook. In addition, only 20% of the patients interviewed were using any community resources following discharge from the hospital. Results would seem to indicate that in-hospital education and referrals lack continuity in specific instructions and documented referrals. Many patients do not understand their disease, its implications, the community resources available, or how to utilize them appropriately. Based on preliminary findings and continued evaluations, additional educational programs are being made available to each patient and a method of conducting an on-going follow-up evaluation and community resource referral system is being established.
CHAPTER I
INTRODUCTION
TO
Rehabilitation of the disabled

The physically disabled have been identified throughout history as a group to be set apart from the rest of the population. More than 22 million persons, or 11.5 percent of the civilian, noninstitutionalized population of the United States, have been limited in their activities due to chronic health conditions. The conditions that patients are treated for in one institution, Northridge Rehabilitation Center, are: Cerebral Vascular Accident, Dominant Hemisphere, Non-Dominant Hemisphere, Post-traumatic Brain Syndrome, Parkinson's Disease, Pulmonary Disability, Paraparesis, Thoraco-Lumbar, Traumatic, Quadriparies, Rheumatoid Arthritis, Post-Polio, Cerebral Palsy, Multiple Sclerosis, Leg bone Fractures or operations and other diagnoses.

Northridge Hospital is an acute care hospital, located in the San Fernando Valley and has an intensive rehabilitation center which provides both inpatient and outpatient services. The inpatient program is conducted in a 20-bed unit that will soon be expanded to a 50-bed unit. This
center provides rehabilitation programs which include many therapies and advanced techniques in this field.

The specialty of rehabilitation is a new field compared to other areas in medicine, since it has only been available in the last 50 years.

The field of rehabilitation had its inception as a public program in 1920, with the Smith Fess Act, The Civilian Vocational Rehabilitation Act, which was to encourage states to undertake rehabilitation services for disabled civilians. The current legislation, the Rehabilitation Act of 1973 has dualistic purposes. It furthers humanitarian objectives by providing services to severely handicapped individuals. On the economic side, this bill keeps the Federal vocational rehabilitation programs focused on its original and proper purpose, that of preparing people for meaningful jobs, rather than burdening that program with broad new medical or welfare functions better performed elsewhere.

Almost any illness will result in the need for some kinds of adjustment by the patient and his family and in the routine of the home. However, there are some illnesses, that result in a degree of permanent disability. As a result, lasting, and perhaps extensive, personal and environmental change is needed to enable patients to cope with the new physical and mental limitations encountered. Rehabilitation services are provided in several types of
facilities, including hospitals, rehabilitation centers, institutes, schools for specific disabilities, sheltered workshops, vocational training schools and even at home with home health programs providing occupational therapy, physical therapy, and speech therapy. These services within institutions may be provided on an inpatient basis or an outpatient schedule. The usual schedule of therapies begins with the patient being institutionalized, progresses to an outpatient program and finally to a home health program.

In rehabilitation programs there have been numerous professionals involved in a team approach to the physical functioning of the patient. Members of these teams have included physicians, nurses, social workers, physical therapists, occupational therapists, recreational therapists, speech and hearing therapists, vocational counselors, and additional staff available as necessary, including psychologists and psychiatrists.

A follow-up study is an important part of the treatment on a unit such as the rehabilitation center. When a patient is involved with several therapies, and the hospitalization is long and involved with numerous goals, the patient should continue to be followed by the center after discharge to evaluate the effectiveness of his rehabilitation program and his return to community and family living. A follow-up study also is necessary to
determine if the services of the center are achieving their desired results and whether or not the patient benefits by the services. Therefore, a follow-up study serves three purposes: to monitor the patient in his new environment, to determine accountability and evaluation, and to determine where educational input might have an effect upon the services and/or patient.

There are many reasons why a follow-up study should be conducted on patients discharged from an intensive rehabilitation program. These reasons include the need to determine whether services are achieving their desired results, and whether the patients are utilizing referrals of existing community resources advantageously. The data needed must come from the former patients or clients of current programs who are now in a position to provide valuable feedback regarding the effectiveness of the services and the use and availability of community health resources to see what further help they might need. All of these outcomes have educational implications.

There are specific targets that should be used for the evaluation efforts. Those used in the Spain Rehabilitation Center are most appropriate.

1. To what extent have the pre-conceived objectives of the staff been achieved (Program effectiveness)?

2. What expenditure of time, energy, and materials were required to obtain these objectives (costs)?

3. Are they still in need of services which are not
being provided in their home communities?  

The National Council on Rehabilitation has presented the following definition of rehabilitation of the disabled: "restoration of the handicapped to the fullest physical, mental, social, vocational, and economic usefulness of which he is capable." Rehabilitation involves a combination of disciplines, techniques, and specialized facilities to provide physical restoration, psychological adjustment, vocational counseling, training, and placement. The general philosophy of rehabilitation was well summarized in principles from the proceedings of a conference of psychologists in the field.

These may be considered evaluation criteria and should be considered in establishing a rehabilitation center program.

1. Every human being has an inalienable value and is worthy of respect for his own sake.

2. Every person has membership in society and rehabilitation should cultivate his full acceptance.

3. The assets of the person should be emphasized, supported, and developed.

4. Reality factors should be stressed in helping the person to cope with his environment.

5. Comprehensive treatment involves the "whole person" because life-areas are interdependent.

6. Treatment should vary and be flexible to deal with the special characteristics of each person.

7. Each person should assume as much initiative and participation as possible in the rehabilitation plan and its execution.
8. Society should be responsible through all possible public and private agencies for the providing of services and opportunities to the disabled.

9. Rehabilitation programs must be conducted with interdisciplinary and interagency integration.

10. Rehabilitation is a continuous process that applies as long as help is needed.

11. Psychological and personal reactions of the individual are everpresent and often crucial.

12. The rehabilitation process is complex and must be subject to constant reexamination - for each individual and for the program as a whole.

Purpose of Study

The purpose of this study was to conduct a follow-up study on patients discharged from the Northridge Hospital Rehabilitation Center to assess the post-hospitalization status of the patients in the physical, social, psychological, and vocational areas. An attempt was made to assess the effectiveness of the systems of delivery of health services, the multiple measures of outcome to determine measures of success of the programs, and educational implications.

This study was modeled after one conducted at the Spain Rehabilitation Center, Birmingham, Alabama.

Study Focus

This study did not formulate hypotheses, but instead focused on the following questions:

1. What is the patient's physical, social, psychological, and vocational status with 12 months after receiving inpatient services?
2. To what degree is the former patient satisfied with the services he had received at the Rehabilitation Center?

3. What is the extent of utilization of community health resources and additional referrals desired?

4. What is the cost/benefit of the services?

5. What is the relationship of rehabilitation success/failure to the medical and demographic characteristics of the 1974 population?

Definition of Terms:

1. Northridge Hospital Rehabilitation Services. Occupational Therapy, Physical Therapy, Speech Therapy, Social Services, Vocational Counseling, Recreational Therapy, Nursing Services, and various Physician Services.

2. Cerebrovascular accident. (CVA) Destruction of brain substance resulting from intracerebral hemorrhage, thrombosis, embolism, or vascular insufficiency.

3. Cerebral Palsy. (C.P.) This term describes the condition of a heterogeneous group of patients whose Central Nervous System has been damaged in utero, at birth, or in early life. The resulting physical and mental defects may not be fully evident for several years.

4. Multiple Sclerosis. (M.S.) Organic disease of the central nervous system. Tremors appear during movement of the limbs and disappear at rest. Occasionally a static tremor of the head may be present.

5. NHF, NHRC. These initials are for Northridge Hospital Foundation and Northridge Hospital Rehabilitation Center.

6. Follow-up. This is the process of contacting patients after discharge to determine their status, needs and success.

7. Occupational Therapy. (O.T.) Therapy involving the exercise of the small muscles of the body.

8. Physical Therapy. (P.T.) Therapy given on the Rehabilitation Unit involving the exercise of the large muscles of the body.
9. **Forced Expiration Volume (F.E.V.)** Amount of air expelled from lungs after normal expiration has occurred.

10. **Pulmonary Disease.** Illness involving the lungs and respiratory system.

11. **Official or Public Agencies.** These agencies are Federally Funded, such as the Department of Health, Education and Welfare, Children's Bureau, and Rehabilitation Services Administration.

12. **Voluntary, or non-profit agencies.** These are legally incorporated agencies as non-profit organizations on the local, state, or national level and which are supported by funds solicited from the public. Examples are: American Cancer Society, American Diabetes Association, and American Institute of Family Relations.

13. **Health-related organizations.** Welfare and social agencies. These agencies are not primarily devoted to health, but they directly affect the health agencies through their control of resources, primarily patients and money. Example: Department of Public Social Services.
CHAPTER II
REVIEW OF THE LITERATURE

In reviewing the literature there seemed to be very few follow-up studies conducted by rehabilitation centers, although the importance of such data has been recognized as being necessary, both by the patient and the rehabilitation centers that are trying to improve care, services and success. It is this "success" that can be measured in many ways.

The Spain Rehabilitation Center, Birmingham, Alabama, study by Stanley J. Smits was done on the entire 1968 inpatient hospital population of that Center. The final version of the survey included sections dealing with personal data, relevant information from the hospital records, the patient's evaluation, and his physical, social, psychological and vocational status at follow-up. The results were summarized into five areas: (1) Satisfaction with services, (2) Effectiveness of services, (3) Costs, (4) Aftercare, and (5) Variables related to success.

Through this study the Center learned how well it was doing in 1968 and the patient groups for whom their services needed improvement. In addition, the survey made the Center vividly aware of the need for follow-up
services in the community. It was learned that health care services for the severely disabled must be continued in the home community. This study also suggested the need for a combination of vocational and recreational experiences in the home community with age being a major determinant of which of the two should receive the greater emphasis.

In another study, the psychological reactions to physical disability were described. This survey underscored the fact that a successful physical rehabilitation program ultimately depended on psychological adaptations. It was determined that if these adaptations did not occur, the ultimate goals of rehabilitation could not occur. If a patient needed psychotherapy, it may be that he would not be ready for an intensive rehabilitation program until he reached a certain level of understanding and acceptance of himself.

This same study dealt with the intrinsic factors affecting responses: age, onset, prognosis, previous personality, intelligence, aptitude and interest, and the present degree of physical dependency. It also covered the external factors determining adjustment, which included: the psychological environment, physical environment, economic conditions, social expectations and community resources. The responses of patients to disability were varied. Esther Lucile Grown referred to patients as "people in trouble." The person who goes to
a hospital for simple tests has a loss of identity and role activity, the loss of home and familiar objects. If admitted to a hospital, there is the additional loss of friends and family except during visiting hours. Also, patients lose their strength and physical endurance due to hospitalization, diagnostic tests, and the dependent role they are forced to adopt. The person with a chronic disability has all these losses to deal with, plus an additional loss - the permanent loss of a function.

The patient with a condition that will create a permanent disability has a multifaceted adjustment ahead. While his basic problem is physical, his more important problems relate to his future. Financial needs, vocational needs, housing requirements, transportation availability and psychosocial adjustment all take precedence at one time or another. Responses of health personnel are important and can be divided between personal responses and therapeutic responses. But finally, in order for the patient to develop self-esteem, he needs to become a co-manager of his care. Patient participation can become the key to vital psychological adjustment. It may even motivate early participation in plans for the future. Since motivation comes from within, it is the job of the health professional to find out what interests will be stimulating to the patient. What is it that he would really like to learn and do? The more a plan is based on input from patients, the more helpful the health counsel-
In a study by Cornelia Heijn, M. D., and Carl V. Granger, M. D., the causes of rehabilitation failure were demonstrated. Depression may cause a patient to feel that any rehabilitation is pointless and limit the effectiveness of his effort. Patients with dependent or masochistic character traits may similarly reject rehabilitation efforts because, paradoxically, they experience illness or disability itself as gratifying. In some situations, the gratifications from secondary gain may preclude successful rehabilitation. Approaches to management of such problems have been outlined by others.

For some patients the real losses are so great or else the absence of social supports is such that they are too overwhelmed to endure through the process of rehabilitation. Maintaining hope may sometimes lead to the avoidance of the topic of prognosis and without knowledge of this, a patient may not have experienced the disappointment of giving up aspects of his prior adjustment. Thus, he would not have been able to appropriately consider other options still open in a now more restrictive world.

Newly disabled patients should not be expected to become fully involved in all aspects of rehabilitation. The patient may be poorly motivated until he has passed through the phase of grief and mourning and can come to terms with permanent disability. As the mourning process
proceeds, one may observe a gradual shifting of interest towards full involvement.

Public health personnel in various community studies have disclosed the lack of coordination among agency referrals. This has caused problems for disabled people discharged from institutions who should have numerous community agency referrals at their disposal. Robert N. Wilson in a study of health action in twenty-one cities has discussed what was identified as the chief health concerns. The most prominent issue appeared to not involve a specific disease entity, but rather the coordination of facilities to provide care for a variety of illnesses. The application of service to those populations most in need of it often seemed haphazard and irrational against a pattern of overlapping functions. There was less than optimal use of extant capacities. In addition, there was a proliferation of agencies for preventive and therapeutic efforts. Study after study revealed the necessity of coordinating these community health services to the needs of the community for better health care services now and in the future.

The newly disabled patients who need community services should be allowed to participate in the decisions as to what programs are needed and what locations would serve the most people. Most health programs are designed by professionals for the benefit of those with the health needs. Educational programs are good in terms of per-
suading local citizens to do certain things in the interest of better health. But follow-up surveys are always an essential part of any health care agency providing good services. A more traditional approach is necessary sometimes, for example, the studies done by sociologists, which had delineating stages through which such action programs go. Robert Wilson related community structure to the community's efforts to deal with its perceived health problems while Smolensky and Haar viewed community organization as a means toward solving community health problems.

The Miller-Form theory of issue outcome had been summarized and tested successfully in Denver, Colorado, by Hansen. The theory was based on the proposition that the combined social force of three factors brought about a community decision on a general issue. These factors were: 1) The critically activated parts of the institutional power structure, which are aligned for or against the issue proposition; 2) The power arrangement of the community power complex, which may be unstructured, semi-structured, or unified on either side of the issue; and 3) Top influential solidarity and activity. If the top influentials were a single, exclusive, elite or autonomous power, the outcome would be forecast by an analysis of their stand on the issue. If the top influentials were not the exclusive elite type, their degree of activity on
either side of the issue becomes a relevant variable.

Barth and Johnson have given leads for developing a typology of social issues. They have sought to pick dimensions generic to all issues and to relate theoretically variations in each dimension to variations in patterns of influencing behavior.

It is justifiable that more studies will need to be done in the area of follow-up to determine the needs of the patients involved and more research to investigate the best possible way of setting up the health care programs that are indicated as imperative to the return of optimum health of the patients involved.

There have been studies done on the individual diseases that have been included in this study and several will be cited, but very few studies included more than one disease. Chronically disabled people have a lot of the same basic needs in regard to community health services and many could be provided under the auspices of the same program.

A one year follow-up study on the multidiscipline treatment of chronic pulmonary insufficiency was conducted by Gerald L. Baum, David Agel, E. H. Chester, G. Schey, E. Aneteola, P. Buch, R. Bahler, and M. Wendt. This study was supported by a grant from the Social and Rehabilitation Services, Department of Health, Education and Welfare. The study explored the functional status of the patients and decided that of the many disasters re-
sulting from chronic obstructive lung disease, physical
disability is second only to death in importance to the
patient, his family, and his community. Because of poor
understanding of etiologic factors and their relationship
to ultimate physical impairment, corrective treatment of
the physiological abnormalities had been ineffective. Lung
transplantation offered no immediate hope to reverse the
disabling underlying disease. Treatment efforts, there­
fore, were directed towards attempts to rehabilitate
chronic pulmonary insufficiency patients in addition to
maintaining their symptomatic treatment with the usual
procedures and medications.

Several reports recently discussed the possibility of
combining physical and pharmacological treatment programs
which included an attempt to evaluate reemployment poten­
tial on one hand and psychological characteristics on the
other.

In particular, Haas, Kimbel, Petty, and Bass each
reported the success of rehabilitation programs from the
aspect of better mobilization of their patients. In some
of these it appeared as if the work of breathing was
improved by the exercise programs while in others no
such findings were noted. This report by Baum et al.
represented a study aimed at evaluating the effect of a
combined physical, psychological, and vocational treatment
program on patients with disabling chronic obstructive
lung disease.
Twenty-four patients with chronic obstructive lung disease had entered into physical, psychological, and vocational rehabilitation program. Patients included in the study were unable to work because of dyspnea, had objective evidence of airway obstruction, had no other disabling disease, and an IQ of at least 85 or above. The patients were interviewed by a psychiatrist and social worker, were tested physiologically and psychologically, treated intensively for four weeks, and then retested. After this, the patients were followed in the outpatient clinic at monthly intervals. At the end of one year physiological and psychological tests were redone, work status noted, and adjustment, both to life situation and disability, were evaluated.

Of 23 patients entered into a rehabilitation program, 21 were followed to the one-year point. Ten of the patients were working full- or part-time at the one-year follow-up. Physiological evaluation showed no change in either pulmonary or cardiac variables comparing one-year with pre-program data except for a decrease in FEV. Performance in one year did not correlate with the degree of impairment at the outset of the study. This performance did seem to relate, however, to the psychological factors of depression, anxiety, and body preoccupation. Future rehabilitation programs should, they stated, be constructed so as to give major support to the psycho-
logical factors of depression, anxiety, and body preoccupation. Future rehabilitation programs should, they stated, be constructed so as to give major support to the psychological aspects contributing to disability in patients with chronic obstructive lung disease.

A twelve-month survey was made in general practice in an English town, to determine the incidence of incapacitating disease in patients over 65 years old. Among the 885 patients in this age group, were three times as many women as men. Fifty-six of the group (6.3 percent) had diseases which rendered them totally incapacitated. They were cared for in their homes by interested relatives, friends, or landladies. This study was conducted by B. Bendkowski, M. D. in Leigh-on-Sea, Essex, England during 1966-1967. The diseases causing incapacities in this study were cerebral arteriosclerosis, ischaemic heart disease, rheumatic diseases, blindness, chronic bronchitis with emphysema, hemiplegia, anaemia, bronchial asthma and pulmonary tuberculosis. These diseases and the care of elderly patients in their homes were discussed.

Old patients seemed to get the best treatment in their homes. They know the familiar corners of their rooms, furniture, views from the windows, and their neighbors. But it was important that they have willing relatives or friends to look after them. A family doctor gave them adequate medical care with the full cooperation.
of ancillary services.

There were increasing difficulties in finding residential accommodations for elderly patients with chronic diseases. Barbara Robb's book, "Sans Everything", focused public attention on the increased need for medical and social services for elderly people and the need for night sitting-in services for elderly patients with acute diseases.

Wylie has conducted numerous studies regarding cerebral vascular accidents. Among those are studies and articles published on age and long-term hospital care following a CVA, issues in measuring results of action programs, factors influencing CVA patients to seek rehabilitative care and gauging the response of stroke patients to rehabilitation. In one study, age and the rehabilitation care of stroke he conducted a study over a nine year period on 1,223 patients with cerebral vascular accidents who had been admitted to Montebello State Hospital, a chronic disease institution.

The findings of this study consistently reflected an adverse influence of rising age on the response of CVA patients to rehabilitation. The older patients (over 65) were more disabled on admission, improved less often while in the hospital and died more often than the younger patients. However, the better response of the younger patients did not reduce their length of stay in the hospital (21-23 weeks).
Wylie has stated that it would be unfair, however, for clinicians to reject for rehabilitation all older patients because of these disadvantages, since the adjustment analysis had shown one way (number of hospital-weeks of care required to obtain a living and improved patient) in which priorities can be balanced for different age groups. It would be premature, however, to apply these figures widely until larger groups of patients are studied in different rehabilitation centers. This can be done quickly if it is agreed that scientific rather than intuitive guidelines for selecting patients deserve urgent attention.

A study on the life history of the stroke syndrome was conducted by Michael B. Miller, M. D., F. A. C. P., in which recovery of function, prognosis and mortality rates were discussed, with inclusion of data from some of the better reports in the literature. The clinical life history of the stroke syndrome and meaningful studies on prognosis have been almost impossible to carry out completely in general medical practice, in community hospitals, or in specialized rehabilitation centers as currently constituted. When criteria for admission to health-care facilities excluded patients with any degree of organic brain syndrome as being "poor risks" or having "poor rehabilitation potential," this obviously resulted in biased studies.
Since patients with cerebral infarcts and organic brain syndrome comprise an important segment of the stroke problem, their inclusion in clinical studies dealing with stroke rehabilitation and prognosis is mandatory. All facilities handling this type of patient should be brought into the mainstream of medical knowledge if significant studies of the physical, psychiatric and social problems of stroke patients are to be evaluated properly.

This study concluded that a standardized nomenclature for the various syndromes of cerebral ischemia was long overdue.

Osteoarthritis and rheumatoid arthritis of the hip were each discussed with regard to clinical considerations, radiographic findings, and available operative procedures in a study by Jack Stevans, M. D. For patients with rheumatoid arthritis, selection is the more important, and difficulties arise from a lack of the same extensive background of clinical experience against which to review a particular patient's clinical state. The importance of a team approach to the arthritic patient was emphasized, with participation in the team by a rheumatologist or internist, orthopedic surgeon, physical therapist, occupational therapist, social service worker and vocational rehabilitation counselor. This survey also showed that there is a pressing need for specialized teams in this area of medicine.
In the Overs Study\textsuperscript{19} three different approaches to the social aspects of the stroke impairment were presented. The first was primarily a sociological approach at an abstract level and described the societal and family setting within which the coping with the stroke problem occurred. On all the variables selected as possible areas for role changes the families were noticeably reluctant to make any fundamental changes. There did not seem to be any greater degree of role changing in those 21 families exposed to "intensive" counseling than in the other families. This study did not conclude whether role changes were indicative of adjustment to a stroke. However, it concluded that family members must perceive the way society expects them to behave, before they can decide on their appropriate roles. To expect persons of advanced age, low education, and impaired physical and mental functioning to reallocate their family roles in a manner directly contradictory to the norms of the society in general is presumptuous.

The second approach presented selected data from a four-year research and demonstration study (Overs and Healy, 1971) on the effectiveness of rehabilitation counseling in helping families with stroke patients. In this part family coping limits were discussed, the question of probability of value change in a stroke population, the impact of psychological therapy on stroke patients was reviewed and community action was encouraged. They con-
cluded that it is unrealistic to expect a counselor to
expect effect major changes in the life style of families after
a catastrophe like a stroke, that if retirement income
is adequate, a period of two years is about the usual
length of time for personal adjustment to retirement to
be achieved and that most families indicated that by two
years after the stroke they had reached some sort of an
equilibrium with their surroundings.

The third approach described concrete things the
counselor could do to help, such as, establish an activi-
ties program in the community, give documented information
about the nature of the stroke disability, given informa-
tion about community resources, advise patients about
adaptive devices in the home, give counseling about
transportation possibilities and encourage the use of
sub-professional personnel.

The Joint Committee for Stroke Facilities conducted a
survey and included in their recommendations of the study
20
group were: further research should be performed to
determine asymptomatic patients with treatable predis-
posing factors, programs of education should be designed
to heighten public awareness of the known risk factors, for
more education concerning the urgency of recognizing
and treating significant symptoms in asymptomatic patients
and that all pertinent deliverers of health care should
be coordinated in discharge planning and follow-up of
the patient.
Summary

Many deficiencies in the care and rehabilitation of disabled patients have been noted in the literature. Many of these deficiencies seem amenable to correction by educational efforts. However, more funds must be provided for educational programs for the disabled, both in the hospital and in the community. In addition, more emphasis needs to be focused on preventative medicine and measures.

More research is needed to determine why people of different social classes have different patterns of rehabilitation utilization. Along with this is a need to have a better understanding of the feelings of the disabled by health personnel who must deal with these feelings. Continuing education programs could assist personnel in developing skills of communication and insight into one's own reactions to disability.
CHAPTER III
RESEARCH METHODS

Purpose of Study

The purpose of this study was to conduct a follow-up study on patients discharged from the Northridge Hospital Rehabilitation Center to assess the post-hospitalization status of the patients in the physical, social, psychological, and vocational areas, in an attempt to assess the effectiveness of the systems of delivery of health services and to determine educational implications.

Description of Sample

A systematic sample was taken of all inpatients in 1974 of the Northridge Hospital Rehabilitation Center, and 143 were selected to participate in this follow-up study. Each patient was contacted by phone to ask for their cooperation in participating in the survey and to schedule the interview. Out of 143 selected to participate it was possible to reach 104 patients, fifty-three men and fifty-one women. The demographic statistics and characteristics collected from this data are presented in Table 2.

The participants also were divided into various disease categories to assess the types and percentages
treated in each category. (See Table 1.)

Data Collection

Each former patient was personally interviewed in order to elicit response to a 73 item questionnaire. (See Appendix A) Existing records were used to obtain the basic demographic information and medical history. The personal interview was chosen because it is an accepted tool of social scientific survey research.

Each interview lasted approximately one hour, but varied in time from 45 minutes to one hour and a half. The survey instrument included sections dealing with personal data, relevant information from the hospital records, the patient's evaluation of the Rehabilitation Center's services, his status prior to the onset of disability, his physical, social, psychological and vocational status at follow-up, and his need and/or desire for community health referrals to appropriate agencies. Interviews were conducted in patients' homes whenever possible. Interviews were conducted in the Rehabilitation Center for those who were continuing to receive outpatient services. When home interviews were not possible, due to distance or unavailability or time, then the interview was conducted by phone. Interviews were conducted from September, 1974, through April, 1975. The interviewer kept a narrative record of observations as well as comments made by the patient which were not covered by the survey form.
TABLE 1
MEDICAL DIAGNOSES OF THE 1974 NORTHRIDGE REHABILITATION CENTER INPATIENTS

<table>
<thead>
<tr>
<th>Rank</th>
<th>Diagnosis</th>
<th>No.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CVA, Dominant and Non-Dominant Hemisphere</td>
<td>40</td>
<td>38.5%</td>
</tr>
<tr>
<td>2</td>
<td>Pulmonary, respiratory</td>
<td>23</td>
<td>22.1%</td>
</tr>
<tr>
<td>3</td>
<td>Other: Fractures, Polio, Cerebral Palsy, post knee surgery, multiple sclerosis, and other surgery, arthritis</td>
<td>23</td>
<td>22.1%</td>
</tr>
<tr>
<td>4</td>
<td>Brain damage, injury or surgery, craniotomy</td>
<td>9</td>
<td>9.0%</td>
</tr>
<tr>
<td>5</td>
<td>Spinal cord injury, quadriparesis, traumatic, paraparesis, traumatic, thoraco-lumbar, traumatic</td>
<td>7</td>
<td>7.0%</td>
</tr>
<tr>
<td>6</td>
<td>Amputations</td>
<td>2</td>
<td>2.0%</td>
</tr>
<tr>
<td></td>
<td>Totals</td>
<td>104</td>
<td>100.7%</td>
</tr>
</tbody>
</table>
TABLE 1.1

COST OF HOSPITALIZATION IN THE NORTHRIDGE REHABILITATION CENTER

Costs of hospitalization in the NRC were paid by:

Social Security Administration .. 33 patients (59%)
Medi-Cal ......................... 8 patients (14.3%)
Private insurance and other ...... 15 patients (27%)

But in breaking down the actual dollar amount:

Social Security Administration paid ........ $124,065.
Medi-Cal .................................................. 40,665.
Private insurance and other ............. 52,803.

These figures represent a sampling of 56 patients costs of hospitalization from the original sample of 104 patients interviewed.
## TABLE 2

**SELECTED DEMOGRAPHIC CHARACTERISTICS OF REHABILITATION PATIENTS AT NRC DURING 1974**

<table>
<thead>
<tr>
<th>Characteristics/Categories</th>
<th>No.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Age at Admission to NHRC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Not recorded</td>
<td>5</td>
<td>4.8%</td>
</tr>
<tr>
<td>(b) Under 30</td>
<td>7</td>
<td>6.7%</td>
</tr>
<tr>
<td>(c) 31-40</td>
<td>6</td>
<td>5.8%</td>
</tr>
<tr>
<td>(d) 41-50</td>
<td>14</td>
<td>13.5%</td>
</tr>
<tr>
<td>(e) 51-60</td>
<td>20</td>
<td>19.2%</td>
</tr>
<tr>
<td>(f) 61-70</td>
<td>25</td>
<td>24.0%</td>
</tr>
<tr>
<td>(g) 71-80</td>
<td>22</td>
<td>21.2%</td>
</tr>
<tr>
<td>(h) 81 and over</td>
<td>5</td>
<td>4.8%</td>
</tr>
<tr>
<td>Totals</td>
<td>104</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Mean = 61.5

II. Status at Followup in 1975

<table>
<thead>
<tr>
<th>No.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Out of state resident, or unable to locate</td>
<td>19</td>
</tr>
<tr>
<td>(b) Deceased</td>
<td>20</td>
</tr>
<tr>
<td>(c) Alive and participated</td>
<td>104</td>
</tr>
<tr>
<td>Totals</td>
<td>143</td>
</tr>
</tbody>
</table>

III. Readmissions to NHRC

<table>
<thead>
<tr>
<th>No.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) None</td>
<td>63</td>
</tr>
<tr>
<td>(b) One</td>
<td>28</td>
</tr>
<tr>
<td>(c) Two</td>
<td>11</td>
</tr>
<tr>
<td>(d) Three</td>
<td>2</td>
</tr>
<tr>
<td>Totals</td>
<td>104</td>
</tr>
</tbody>
</table>
Each patient who expressed a desire for additional community health referrals or had other questions needing answers were referred back to the Social Services Department in Northridge Hospital. They were contacted individually by a social worker.

Whenever possible the patient was always interviewed. However, when the patient was too ill, or in another hospital, or unable to communicate, then the closest family member was asked if they felt they could answer the questions regarding the Rehabilitation Center. In all but one case, the family member was able to complete the interview. However, these answers were not included in the statistics tabulated regarding rehabilitation success. Just the demographic information was used.

Included among the survey items were ten Likert-type items which were summed to provide an outcome measure which was operationally defined as "rehabilitation success."

These ten variables of success are:

1. Employment status
2. Physical functioning
3. Self-care
4. Activities outside home
5. Self-consciousness
6. Knowledge about condition
7. Social relationships
8. Participation in family
9. Independent attitude
10. Affective outlook

These variables were selected to measure the patient's physical, social, psychological, and vocational status,
and it was felt to be superior to the narrow outcome measures used in most attempts to quantify success.

The patients were further qualified by diagnosis, and these were divided into six categories: CVA, Spinal Cord injuries, brain damage and brain surgery, respiratory and pulmonary diseases, amputations and other. Those included in the other category included fractures of the hip, polio patients, cerebral palsy, and multiple sclerosis patients. These diagnoses were ranked in (by percentages) order of occurrence and the number falling into each category. (See table 1.)

Graphs and charts were used to indicate the success areas, (See Table 3.) including the operational definition of rehabilitation success tables with ten different variables, (See Graph 1) rehabilitation success factor intercorrelations, (See Table 4.) satisfaction with the center's services at follow-up, (See Table 5.) and the selected demographic characteristics. (See Table 2.)
CHAPTER IV
SURVEY RESULTS AND INTERPRETATIONS

The data were analyzed to determine the degree of success in rehabilitation and what portion of the changes was attributed to the program.

Demographic Statistics

The total number of patients considered for the survey was 143. Of this, 20 (13.99%) were deceased, and 19 could not be contacted, (13.29%). Thus, the total number of patients included in the survey was 104. The average patient age was 61.5 years. (See Table 2.)

This was considerably higher than the average age of any other study group listed in the review of the literature. In the Spain study the average age was 51.7 years. This factor should be considered in determining criteria for success. Since patients in this age group (50% are above 60 years of age) are almost in the "retired" category, securing a job may not be considered as an appropriate rehabilitative criterion for success. (See Table 2.)

A separate survey on 56 patients was conducted to determine the average length of stay per patient. This was determined to be 28 days. This figure was consider-
ably less than most of the studies in the literature review. For example, the average total stay in the Spain study was 60.8 days. This may be attributed to the fact that the highest number of any one disease in the Spain study was 56 rheumatoid arthritis (22%) a chronic, long term illness. In this study, that disease fell into the lowest category by percentages. (6%)

Sixty-three patients had only one admission to the N.H.R.C., and a total of 41 patients had to be re-admitted for one or more hospitalizations. (See Table 2.)

With the team approach to patient care in the rehabilitation center there should be multiple objectives for the patients. Most of the studies in the review of the literature used a single measure of success and ignored the need for multiple measures of outcome. The Spain Study used ten Likert-type scaled items which were scored and totaled to provide a numerical index of success which was broad in scope. While the 10 goals may not have applied to all patients, they were judged in the Spain Study, to provide an unbiased cross-sample of patient and staff objectives. These same 10 items were used in this study, and each item was scaled from "1" which indicated "complete failure" through to "5" which indicated "complete success." The following items, in combination, constituted the operational definition of rehabilitation success for the Northridge Hospital Rehabilitation Center program of services:
1. What is the employment status of the patient at the present time?

2. Compared with when the patient was admitted to the NHRC, how would he describe his present level of physical functioning?

3. How well can the patient care for his personal needs?

4. How often does the patient engage in activities outside the home at the present time?

5. How does the patient feel about his disability when he goes outside the home at the present time?

6. How well does the patient understand his condition?

7. How extensive are the social relationships of the patient?

8. To what extent does the patient participate in family affairs?

9. To what degree does the patient want to be independent?

10. What is the patient's present affective outlook?

Interviewer scored each item by checking one of the five scaled alternatives stated in the survey form. The results are shown in Table 3. The means and standard deviations show that "success" as measured by these items varied among the former patients. Using "3" as the demarcation between success and failure, the total group of patients was successful in only two areas, the highest being in the area of social relationships. However, it showed that the patients were unsuccessful in most areas the least success being shown in the area of employment status. (See Graph 1)

This measure included the patient's physical, social,
TABLE 3
OPERATIONAL DEFINITION OF REHABILITATION SUCCESS
AMONG SELECTED VARIABLES FOR NRC PATIENTS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Employment Status</td>
<td>1.6</td>
<td>1.0</td>
</tr>
<tr>
<td>2) Physical Functioning</td>
<td>2.0</td>
<td>1.1</td>
</tr>
<tr>
<td>3) Self Care</td>
<td>2.3</td>
<td>1.3</td>
</tr>
<tr>
<td>4) Activities Outside Home</td>
<td>2.5</td>
<td>1.6</td>
</tr>
<tr>
<td>5) Self-consciousness</td>
<td>3.0</td>
<td>1.6</td>
</tr>
<tr>
<td>6) Knowledge about Condition</td>
<td>2.1</td>
<td>1.3</td>
</tr>
<tr>
<td>7) Social Relationships</td>
<td>3.2</td>
<td>1.2</td>
</tr>
<tr>
<td>8) Participation in Family</td>
<td>2.4</td>
<td>1.4</td>
</tr>
<tr>
<td>9) Independent Attitude</td>
<td>1.5</td>
<td>1.1</td>
</tr>
<tr>
<td>10) Affective Outlook</td>
<td>2.7</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Total Patients Interviewed = 104

Each item was scored by checking one of the five scaled alternatives stated in the survey form. The results are shown in Table 3. "Success" as measured by these items varied among the former patients. Using "3.0" as the demarcation between success and failure, the total group was only successful in the following areas:

1) Self-consciousness  
2) Social Relationships

The patients were not successful in the following areas:

1) Vocational  
2) Activities Outside The Home  
3) Physical Functioning  
4) Affective Outlook  
5) Self Care  
6) Knowledge About Condition  
7) Participation in Family  
8) Independent Attitude
GRAPH 1

REHABILITATION RESULTS AT FOLLOWUP

Failure

Employment Status

Physical Functioning

Self Care

Activities outside the Home

Self-consciousness about Disability

Knowledge about Condition

Social Relationships

Participation in Family Affairs

Independent Attitude

Affective Outlook

Success

* Mean For All 104 Patients On Each Scale
psychological, and vocational statuses.

The NHRC was somewhat unsuccessful in the areas of vocational adjustment and self-care regarding the disability (Table 3); and corroborated by the data and interpretations of the Spain Rehabilitation Study.

Costs

The average cost per day per patient was $140, the average cost per patient stay was $3,884, and the costs were paid by various agencies. (See Table 1,1)

There were no private paying patients found in this survey. The cost of these services were probably prohibitive for the individual to meet without some form of insurance.

There are other costs involved in having a disability and 44 patients indicated that they had spent a little more than $500 each to modify their places of residence in order to accommodate their conditions. Several more indicated they would spend money to make changes if they could afford it. More than 50% were paying out additional money monthly for extra costs of living such as transportation, nursing care, oxygen, housekeeping services, medications not covered by insurance, medical supplies, equipment rentals, and furniture.

Residences

Sixty percent of the residences in the sample were individual dwelling units, 20% were apartments or
duplexes, 2.8% were single rooms; 7.7% were living in nursing homes and 5.8% in the homes of relatives.

Sixty-two percent of the patients were able to return to their homes without having to make any modifications, 25% had to make minor modifications and 3.8% had to make major modifications, while 3.8% had been forced to move. Of the patients who had to modify their homes, 19.2% spent up to $500, 6.7% spent from $500 to $1,000, and 12% spent above $1,000. In the Overs Study 70% of all patients interviewed had made some household changes.

Because of their handicaps, patients were ineligible for most board and care homes in the area when they were discharged. It would be beneficial to these patients if there were a board and care home available to people with disabilities, both on a temporary and a permanent basis. Many patients need a transition period to adjust to living with their disability, and learning to adapt to new social relationships with new activities. These former patients would not feel so isolated and alone then, since many, even though they return to their prior living accommodations and family become socially isolated. Many patients stated that the only time they left their homes was once a month to visit their doctor.

**Education and Technical Training**

In answer to the question, "Have you ever received
any technical training?" the following responses were elicited. 12.5% indicated they had completed technical or trade school, none were currently engaged in such training, 2% had initiated such training, but had not completed it, 78% had never had such training, and 5.7% did not respond to the question. This would indicate the majority of the patients were unskilled prior to hospitalization and had little formal training.

Because the average patient age was 61.5 there will be fewer patients seeking jobs at discharge than when the average patient age is lower. The average age of the patients in this study are almost at retirement age and many had not been working prior to admission since they had a chronic disability. However, vocational counseling, along with psychological counseling should be available to each patient. If the patient is not ready for these services while hospitalized, it should be made available to him after discharge, as an outpatient. Under the current Medicare-Medi-Cal system, residents of this type of board and care home would also be eligible for nursing care, home health aid program, O.T., P.T., Speech and Social Services. In a setting such as this, patients would be encouraged to dispel feelings of loneliness and have the opportunity to draw strength from similarly affected persons.

Groups should be organized for the disabled, where they can participate with others after discharge. A
### TABLE 4

**REHABILITATION SUCCESS FACTOR INTERCORRELATIONS**

(N=104)

<table>
<thead>
<tr>
<th>Success Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>8</td>
</tr>
<tr>
<td>9</td>
</tr>
<tr>
<td>10</td>
</tr>
</tbody>
</table>

**Variable Code:**

1. Employment Status
2. Physical Functioning
3. Self Care
4. Activities Outside Home
5. Self-consciousness
6. Knowledge About Condition
7. Social relationships
8. Participation in Family
9. Independent Attitude
10. Affective Outlook

Any correlation above .25 is significant. (α = .05)

* Significant
TABLE 5
SATISFACTION WITH NHF SERVICES AT FOLLOW-UP BY FORMER REHABILITATION PATIENTS

<table>
<thead>
<tr>
<th>Questions and Responses Categories</th>
<th>No.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To what extent were these (your) objectives accomplished?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Completely..................</td>
<td>19</td>
<td>18.3%</td>
</tr>
<tr>
<td>(b) Partly.......................</td>
<td>74</td>
<td>71.2%</td>
</tr>
<tr>
<td>(c) Not at all...................</td>
<td>10</td>
<td>10.0%</td>
</tr>
<tr>
<td>(d) Don't know...................</td>
<td>1</td>
<td>.9%</td>
</tr>
<tr>
<td>2. Could these objectives have been accomplished as well in another way?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Yes..........................</td>
<td>10</td>
<td>10.0%</td>
</tr>
<tr>
<td>(b) No...........................</td>
<td>72</td>
<td>69.2%</td>
</tr>
<tr>
<td>(c) Don't know...................</td>
<td>19</td>
<td>18.3%</td>
</tr>
<tr>
<td>(d) Not recorded..................</td>
<td>3</td>
<td>2.9%</td>
</tr>
<tr>
<td>3. Would you recommend the Northridge Rehabilitation Center to a friend who needed treatment?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Yes..........................</td>
<td>89</td>
<td>85.6%</td>
</tr>
<tr>
<td>(b) No...........................</td>
<td>4</td>
<td>3.8%</td>
</tr>
<tr>
<td>(c) Not recorded..................</td>
<td>11</td>
<td>10.6%</td>
</tr>
</tbody>
</table>

The high degree of satisfaction on the part of the 1974 Northridge Hospital Rehabilitation Center inpatients with the services they received is evident in this table. The extremely high percentage who would recommend the Northridge Hospital Rehabilitation Center to a friend who needed treatment (85.6%) places the whole question of patient satisfaction in perspective.

And 70% felt their objectives could not have been met in any other way while 71% felt they had partly accomplished their objectives, and 18% felt their objectives had been met completely. The small percentage expressing dissatisfaction with the services said they should have received additional medical help (5%).
TABLE 6
SELECTED SIGNIFICANT CORRELATIONS

<table>
<thead>
<tr>
<th>Correlation Coefficient</th>
<th>Significant Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>.60</td>
<td>8,9 Participation in family -</td>
</tr>
<tr>
<td></td>
<td>Independent Attitude</td>
</tr>
<tr>
<td>.50</td>
<td>4,7 Activities Outside Home -</td>
</tr>
<tr>
<td></td>
<td>Social Relationships</td>
</tr>
<tr>
<td>.49</td>
<td>6,9 Knowledge About Condition -</td>
</tr>
<tr>
<td></td>
<td>Independent Attitude</td>
</tr>
<tr>
<td>.47</td>
<td>6,8 Knowledge about condition -</td>
</tr>
<tr>
<td></td>
<td>Participation in Family</td>
</tr>
<tr>
<td>.46</td>
<td>3,4 Self Care - Activities Outside Home</td>
</tr>
<tr>
<td>.45</td>
<td>3,9 Self Care - Independent Attitude</td>
</tr>
<tr>
<td>.45</td>
<td>3,8 Self Care - Participation in Family</td>
</tr>
<tr>
<td>.44</td>
<td>2,4 Physical Functioning -</td>
</tr>
<tr>
<td></td>
<td>Activities Outside Home</td>
</tr>
<tr>
<td>.42</td>
<td>7,10 Social Relationships -</td>
</tr>
<tr>
<td></td>
<td>Affective Outlook</td>
</tr>
<tr>
<td>.41</td>
<td>8,10 Participation in Family -</td>
</tr>
<tr>
<td></td>
<td>Affective Outlook</td>
</tr>
</tbody>
</table>

The probabilities are less of these happening by chance alone above the .25 level at $\alpha = .05$. 
program of this type is located at the Stroke Resocialization Program at Northridge Hospital. In this group the patients meet once a week and participate in activities they have planned and coordinated or they visit, play cards, pool and socialize.

The following significantly correlated variables were selected for detailed comments (See Table 7.):

*Patients knowledge about condition and participation in family affairs.* (.47) This significant correlation indicates that the role of the family must be taken into consideration when dealing with the long term care of the disabled. If patient knowledge is low, then participation in family affairs will be low. Efforts must be made to include the family in the treatment plan. The Spain Study came to the same conclusions. Health education programs set up in the hospital and community for patients should not only include, but insist, that family members attend as part of the total education of the patient in regard to his health care plan and learning to live with his disability.

*Independent attitude and self-care.* (.45) According to Heijm this demonstrates that persons attitudes, beliefs and values are important in fostering self-esteem and ego-strengthening, and deal with the patients emotional level. Thus the patient who will feel very independent in self-care will also be involved in the social activities of the
TABLE 7
DISTRIBUTION OF
USE OF COMMUNITY HEALTH SERVICES
BY PATIENTS AFTER DISCHARGE FROM THE NRC

<table>
<thead>
<tr>
<th>Service Area</th>
<th>Received (Yes)</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDICAL</td>
<td>54</td>
<td>45</td>
</tr>
<tr>
<td>SOCIAL</td>
<td>10</td>
<td>85</td>
</tr>
<tr>
<td>PSYCHOLOGICAL</td>
<td>8</td>
<td>85</td>
</tr>
<tr>
<td>ECONOMIC</td>
<td>7</td>
<td>87</td>
</tr>
<tr>
<td>VOCATIONAL</td>
<td>4</td>
<td>89</td>
</tr>
<tr>
<td>EDUCATIONAL</td>
<td>3</td>
<td>90</td>
</tr>
</tbody>
</table>

These answers were elicited to the question, "Since your discharge from Northridge Hospital Rehabilitation Center, have you received, or are you presently receiving services in any of the above categories?". The total number of responses in the yes column indicated 42 yes responses using community resources, but a further check revealed these 42 responses involved only 22 people. Thus, approximately 20% were utilizing available community health resources.
family and the family should be encouraged to be supportive of this attitude and strive for additional independence. Group therapy sessions have been suggested for disabled patients in a rehabilitation center. The family should be able to participate in this group or perhaps have a separate group just for family members. Also a psychiatrist should be made available to the family throughout the patient’s hospitalization and even after discharge. A good affective outlook was correlated with participation in family activities (.41), and this relationship takes into consideration the problems of everyday living, the enforced early retirement and the extra longevity that is afforded the patient. In the survey by Overs, one of the most important factors in having a good affective outlook is age and family relations. The provision of family support and encouragement during a disabling illness will allow for a better personal adjustment on the part of the patient.

These variables are dependent upon each other in encouraging the values that are needed for a successful rehabilitation program, maintaining self-respect independence with the family and outside relationships. According to Wylie good insight helps change attitudes and achieve personal growth and increase activities. The role of the family in the adjustment of the disabled has been significantly correlated with self-care and with knowledge about condition (.45) The family must
facilitate the patient's rehabilitation or they will not allow him to become as independent as possible and the importance of aftercare services is shown in the Overs Study to provide social relationships and increased activities away from home and is directly related to having independent attitudes and good social relationships.

Knowledge about condition was significantly correlated with independent attitude, (.49) which indicates the patient's need for receiving good, reliable, accurate information in terminology he can understand. Heinj's survey determined that the rehabilitation staff should take every precaution to develop trust and confidence in the patient and help him to acquire knowledge and understanding of causative factors which influence his present state of health. Health care personnel should be educating the patient so as to help him understand the meaning of his diagnosis or surgical procedure and helping him plan activities which will promote and prevent occurrence of harmful sequelae. However, this should not be on a hit or miss basis, but rather an established or planned program of education for the patients and specific personnel in charge of the education program.

The staff should also encourage the understanding of the importance of follow-up health care and participating with family in home care planning and decision-making.
Amount of involvement in activities outside the home was significantly correlated with self-care (.46) and indicates, according to Wylie, an intense need to reconfirm and reorganize role relationships with spouse and family. Also, patients need to be given a chance to experience success in learning to cope with their disability.

Activities outside the home was also significantly correlated with social relationships (.50) which can according to Overs indicate a dependence upon the need for the patients to learn to cope with their feelings, fear, anger, denial, irritability, anxiety, depression, financial worries, frustration, concerns and emotional problems to obtain understanding from the family and friends and restructure their self-image. Families must sometimes reshuffle the roles within their family structure. If successful, then the patient with good social relationships will have many outside activities. In this area the families are usually encouraging independence rather than having the patient remain in his sick dependent role.

In the Overs Study, the significance of various social activities in the rehabilitation of disabled patients was established.

Participation in family activities is highly correlated with affective outlook (.41) and participation
This shows there is a definite relationship to having a good self-concept with his perception of the role he can perform and what others in the environment expect him to be able to conform to. His attitude will depend on how well he can judge what his capabilities are and will depend upon how well he will do in group settings.

Overs' subjects were found to differ in success of rehabilitation according to the extent to which they viewed themselves as disabled. If others expected the patient to contribute to the proper functioning of family activities, then he was more likely to improve. A major theoretical assumption of Overs' project was that families must make decisions about patient care and safety, and these decisions can lead to maladjustment if the different family members have different perceptions of the extent of the patient's ability to participate in family activities.

Many of these correlations found to be significant in this study were also significant in several other studies reviewed in the literature. This corroborates with previous results is significant. (See Table 8)
<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation</th>
<th>Comments Relating To Other Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment Status</td>
<td>1.61</td>
<td>This is expected to be low due to the average patients age, 61.5 years, as compared to the Spain Study mean of 2.35 where the average age was 41.54.</td>
</tr>
<tr>
<td>Physical Functioning</td>
<td>2.02</td>
<td>This is low probably due to high average patient age and the greatest percentage of disease was in the CVA category which leaves the most disability, whereas the Spain Study was successful (3.38) and the highest disease category was arthritis.</td>
</tr>
<tr>
<td>Self Care</td>
<td>2.30</td>
<td>This is low probably due to the fact that physical functioning and affective outlook are also unsuccessful.</td>
</tr>
<tr>
<td>Activities Outside the Home</td>
<td>2.53</td>
<td>Low, probably due to age, diagnosis and lack of independent attitude and good affective outlook. The Spain Study showed success in all these areas.</td>
</tr>
<tr>
<td>Self-consciousness About Disability</td>
<td>3.0</td>
<td>Indicates patient's acceptance of awareness of disability. Each patient is seen by a social worker for a complete evaluation and feelings of self-consciousness are discussed.</td>
</tr>
<tr>
<td>Knowledge About Condition</td>
<td>2.0</td>
<td>Low, probably due to the lack of adequate education, information and community services referrals.</td>
</tr>
<tr>
<td>Social Relationships</td>
<td>3.2</td>
<td>Indicates successful relationships. This was also true in the Spain Study, and probably due to the intensive recreational therapy program and social services availability.</td>
</tr>
<tr>
<td>Participation in Family Affairs</td>
<td>2.3</td>
<td>Low due to family's response to condition and patients level of physical functioning.</td>
</tr>
<tr>
<td>Independent Attitude</td>
<td>1.5</td>
<td>Low due to patients perception of his limitations, attitudes and values.</td>
</tr>
<tr>
<td>Affective Outlook</td>
<td>2.65</td>
<td>Expected to be low when physical functioning and independence are low.</td>
</tr>
</tbody>
</table>
CHAPTER V

IMPLICATIONS FOR COMMUNITY HEALTH EDUCATION

Conclusions

A list of community resources should always be made available to each patient and family because an effective public information program will direct attention to the risk factors involved with various illnesses, explain the preventative actions that might be taken, provide accurate information on the nature of each illness and its management, disseminate accurate information about the care and facilities available in the community, and stimulate acceptance of the disabled person by the family and by the community.

Community resources vary from area to area, but in the San Fernando Valley there are numerous agencies available to assist aged, handicapped, poor and lonely people. Very few (22) patients in this study responded affirmatively to the use of any of the resources available in this area. (See Table 6.) The patients either were not aware that specific agencies such as Easter Seals, Cancer Society, Rebounder and Fish existed or did not know how to use them. In many cases they had heard about the various agencies through the social worker or the vocational counselor, but did not initiate contact with them for the following reasons: generalized fear, a lack
of transportation, fear of financial cost; they thought no one cared, they felt people would make fun of them; the family dissuaded patient from calling, they were too tired, they were unwilling to accept help from anyone; or they didn't want something for nothing. One patient said, "They'd call me if they were interested." Some didn't feel help was needed, were afraid to talk to strangers, or only wanted to see people they knew before their disability, etc.

According to the report of the Joint Committee for 20 Stroke Facilities, stroke should be attacked at both the preventive and treatment levels. Thus, the community must be well-informed about the nature of the disease and its prevention and care, as well as the resources which are or should be available. This means education - education not only to transmit information and to teach skills for dealing with the many problems, but also to effect attitudinal changes. The educational techniques and content will differ for various groups.

The goals for health education intervention are to disseminate information about and to change attitudes and behavior toward stroke prevention and care. Since habitual modes of reacting to health and health practices become deeply ingrained and resist change, programs must be planned with this difficulty in mind. Educational techniques need to be tailored for various ethnic, cultural,
social, language, and age groups. Some people may perceive the recommended changes in attitudes and behavior as a threat to their ethnic identity. Thus, their help should be sought early in the planning stages. To be effective, public education needs to be cogent and reinforced over time. The programs need to include basic data on stroke, on each disease, the possibilities for prevention, risk factors and their control, early signs of stroke, the care of stroke patients, associated disabilities, and the availability of facilities to manage all stages of the illness. Information needs to be included for the families and their roles.

Insurance policies should include preventative programs as well as better coverage for rehabilitation. Many policies today do not cover this type of expense and there are no benefits even for P.T. or O.T. Many patients in the survey (15%), stated that they left the Rehabilitation Center due to lack of additional insurance benefits and not because they felt they had reached their goals. Other comments by patients were that there could have been more staff available and better use of available staff. Nurses shouldn't have to be doing clerical work and other non-nursing administrative functions.

Medicare and Medi-Cal should make funds available to provide home health aides for all patients recently discharged from an acute hospital, especially a rehabili-
tation center, so that they may be properly followed and cared for at home for a temporary period. Many patients expressed a desire for this (40). This would be less expense than the cost of a nursing home for the same period of time and most patients prefer to be at home among family, friends and familiar surroundings. After this initial period of adjustment, a home health care team member should visit each patient at least once a month to re-evaluate and re-assess the situation.

A follow-up interview should be conducted on every patient within six months of discharge. A similar questionnaire should be developed for relatives and/or family members of patients to determine their attitudes, since many family members are asked to make decisions regarding patient care and safety and they will need to have a realistic expectation of the extent of the patient's disability as well as ability.

During these home visits the family members should be assisted in developing realistic expectations in order to preclude rejection of the gains of the rehabilitation therapies no matter how small they may seem to be. They should also be given adequate information about illness and community resources and help develop additional lacking resources.

Training programs need to be set up for staff to educate them in the principles of each disease and its rehabilitation care. The staff should also be encouraged
to explore, develop, and implement expanded roles so that they may be challenged by the opportunity of utilizing their abilities in providing better care. Health care professional practices should be extended to include appropriate education so that competence may be established.

Early and intensive rehabilitation treatment should be readily available to everyone, since it increases the chances of survival and recovery, and in many cases, hastens the patient's return to usefulness.

Public education should be increased in the area of identifying risk factors in all diseases requiring extensive rehabilitation. Many patients in the survey did not use community resources that were available even when they knew about them. Such factors as lack of transportation, lack of a family member or friend to accompany them, and lack of self-confidence, contributed to the failure to use the community resources.

Almost all of the patients in nursing homes expressed a desire for a follow-up visit from the rehabilitation center for continued evaluation. They did not feel that the nursing homes were encouraging independence and they felt abandoned.

Recommendations

The resources available for the disabled need to be determined and a current listing should be kept. Continuation of support for on-going epidemiological studies
should be encouraged. Additional programs for education should be established both for patients and staff with more structure and based on objectives; such on-going programs should be evaluated in terms of these objectives and goals.

Additional social services should be made available to the patients after discharge since so many indicated problems in the areas of role changes, sexual dysfunction, emotional problems, problems of dependency, and the fear of families in taking patients home from the hospital.

More re-socialization groups should be established similar to the one currently sponsored for stroke patients by Northridge Hospital. This program, however, is staffed by volunteers, and is only for stroke or brain damaged patients.

Additional groups such as the stroke re-socialization programs should be established for all disabilities so the handicapped have a place to go where they can meet people with similar problems and lend each other emotional support.

Health authorities should identify and evaluate the adequacy of strategically placed rehabilitation centers.

If such recommendations are followed, the chances are greater that better health care would be provided to all patients, with better use of community health agencies, a greater understanding of each specific illness would be
obtained by patient, families and staff. The possibilities would be increased that there would be more coordination of services and follow-up for a greater chance of returning the handicapped patient to the community as a useful contributing member.
FOOTNOTES


19 Overs, Robert and Healy, John R., "Stoke Patients: Their Spouses, Families and the Community," Medical and Psychological Aspects of Disability.

ADDITIONAL BIBLIOGRAPHY

Bernard, J. Ph.D., Thompson, L.F., R.N., M.S., Sociology
Nurses and Their Patients In A Modern Society, C.V.
Mosby Co., 1970

Freeman, Howard E., Levine, Sol., Reeder, L.G., Handbook of
Medical Sociology. Prentice-Hall, N. J. 1972

Goldiamond, Israel, "A Diary of Self-Modification,"
Psychology Today, November, 1973

Kaluger, George, Ph.D, and Unkovic, Charles M., Ph.D,
Psychology and Sociology, C. V. Mosby Co., Saint Louis,
1969.

Wadsworth Publishing Co., Inc., Belmont, California

Pared, Howard J., Crisis Intervention: Selected Readings,
Family Service Association of America, 1965.

Parsons, Talcott and Fox, Renee, "Illness, Therapy and The
Modern Urban American Family." The Family. Edited by

Shellhase, Leslie and Shellhase, Fern, "Role of the Family
in Rehabilitation," Social Casework, #53 (November,
1972):544-549

Sneden, Lawrence E., Ph.D., Poverty: A Psychosocial
Analysis, McCutchan Publishing Co., Berkeley, California,
1970.
APPENDIX A

FOLLOW-UP STUDY

Pre-Survey Information

I. Demographic Data:

1. Name: ________________________________

2. I.D.#: ________________________________

3. Address: ________________________________
   City: ____________________ County: ____________________
   State: ____________________ Zip Code: ____________________

4. Telephone #: ____________________ 5. Date of Birth: ______


II. Hospital Record:

9. Chart #: __________ 10. Date Admitted: ______

11. Age When Your Condition Began: ____________________

12. Age When Admitted Here: ____________________

13. Admitting Service: ____________________

14. Referral Source (Include doctor's name): ______

15. Diagnosis at Discharge: ____________________
   Code #: ____________________

16. No. of Re-Admissions: ______ 17. Total # Days as Inpatient: ______

18. Total cost of Hospitalization: ____________________

19. Costs Paid by: ____________________
20. Date of Last Discharge

Survey Information

I. Setting:

21. Date of Interview:_______ 22. Place:_________

23. Respondent:____________________________________

If not patient,
   a. Relationship to patient:________________________
   b. Reason for respondent other than patient:

II. Satisfaction with Services:

24. Why, in patient's view, was he admitted to
   N.H.R.C.; what were the objectives as seen by
   him?___________________________________________

   To what extent were these objectives accomplished?

   1. Completely
   2. Almost completely
   3. Somewhat
   4. Very little
   5. Not at all

25. Could these objectives have been accomplished
   as well in another way:

   1. Yes
   2. No
   3. Don't know

26. Would you recommend the N.H.R.C. to a friend
   who needed treatment?

   1. Yes
   2. No
   3. Don't know
III. Community Health Services:

Since your discharge from N.H.R.C. have you received or are you presently receiving services in any of the categories listed below? If you have needed any of them but have been unable to obtain them, please tell me as we go through the list.

<table>
<thead>
<tr>
<th>Service Area</th>
<th>Received (Yes/No)</th>
<th>Obtainable</th>
</tr>
</thead>
<tbody>
<tr>
<td>27. Medical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. Social</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. Psychological</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. Economic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. Vocational</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. Educational</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Inquire further regarding any unobtainable services to see if we can arrange for help that is currently needed.)

IV. Vocational Status:

33. What is the patient's current status with the State Vocational Rehabilitation Agency?
   1. Never activated
   2. Employed
   3. Active
   4. Reactivated
   5. Unemployed

34. What is the employment status of the patient at the present time?
   1. Unemployed
   2. In training status; retired.
   3. Homemaker; part-time employment up to 20 hours per week; volunteer activities of consistent nature
4. Part-time employment of between 20 and 35 hours per week
5. Employed full-time

35. If unemployed, why?
1. Age
2. Medical problems
3. Layoff from job, temporary
4. Lack of available jobs
5. Other: (Describe)

36. If employed now, how did you get your job?
1. Former employer
2. Self, friend, relative
3. State Employment Agency
4. Private employment agency
5. Vocational Rehabilitation Counselor
6. Other: (Describe)

V. Life Style Variables:

37. What is the highest level job you've ever held?
1. Higher executive large prop., major prof.
2. Business Manager middle prop., lesser prof.
3. Administrative personnel, small business, minor prof.
4. Clerical and sales, little business, technician
5. Skilled manual employee, small farmer
6. Machine operator, semi-skilled employee, tenant farmer
7. Unskilled employee, sharecropper, unemployed

38. Have you ever received any technical or trade school training?
1. Has completed technical or trade school training
2. Presently engaged in such training
3. Initiated such training, did not complete
4. Has never had such training

39. How much education have you had?
1. Graduate professional training
2. College graduate
3. Partial college training
4. High school graduate
5. Partial high school training
6. Junior high (7-9)
7. Less than 7 years of training.

40. Type of residence?

1. Single family dwelling
2. Apartment or duplex
3. Room
4. Nursing home
5. In home of relative
6. Other institution
7. Other: (Describe)

41. Has there been a change or modification in your residence because of your impairment?

1. No change
2. Minor modifications
3. Major modifications
4. Forced to move
5. Moved and modified

42. Has there been a change or modification in your residence because of your equipment?

1. No change
2. Minor modifications
3. Major modifications
4. Forced to move.
5. Moved and modified

43. Are stairs a problem to you?

1. Yes
2. No
3. Slight
4. Need an elevator

44. Estimated cost, overall, of modification in residence:

1. No modification
2. Up to $500
3. $500 to $1,000
4. $1,000 to $5,000
5. $5,000 and above
45. Do you have extra costs of living now because of your impairment e.g. transportation, housekeeper, nursing care, oxygen, medication, etc. If yes, please estimate the extra costs on a monthly basis:

1. None, i.e. answer is "no" to #43.
2. Up to $50
3. $50 to $100
4. $100 to $200
5. Over $200 per month

46. Size of family:

1. Patient is not a member of a family group
2. Patient and spouse only
3. Member of family of 3-4
4. Member of family of 5-6
5. Member of family of 7 or more

47. Primary source of family income:

1. Earnings by patient
2. Earnings by other family members
3. Compensation for disability
4. Regular retirement benefits
5. Other compensation (unemployment, VA, sick leave, etc.)

48. Monthly earnings by patient: $__________

49. Monthly compensation for disability: $__________

VI. Physical, Social, Family Functioning Levels:

50. Compared to before you were admitted to the N.H.F.R.C., how would you describe your present level of physical functioning?

1. Great improvement
2. Some improvement
3. No change
4. Some deterioration
5. Great deterioration

51. How well can you care for your personal needs?
1. Attends to all personal needs
2. Needs only minimal help
3. Partial self-care; feeds and dresses self some
4. Needs help for a majority of personal care activities
5. Nearly total, or total, dependence

52. How often do you engage in activities outside the home at the present time?

1. Twice or more weekly
2. Once weekly
3. Once monthly
4. Less than once a month
5. Never, or almost never

53. The actual limitations of my impairment are such that:

1. It has not changed my former schedule of going out
2. It has made going out somewhat more difficult, but I still go
3. It is much more difficult but I go anyway
4. It is so difficult for me that I rarely go out anymore
5. I cannot go out at all anymore

54. How often did you engage in activities outside of the home before your condition?

1. Twice or more weekly
2. Once weekly
3. Once monthly
4. Less than once a month
5. Never or almost never

55. What kinds of activities do you engage in around the house, and would you describe these as light, moderate or heavy?

1. Housework
2. Yard work
3. Hobbies

56. Have these changed since your stay in N.H.R.C.?
1. About the same
2. More vigorous
3. Less vigorous
4. Appreciably less

57. How far do you walk regularly?
1. Less than 1 block
2. 1 block
3. 2-3 blocks
4. Appreciably more

58. How do you feel about your impairment when you go outside the home?
1. I am hardly aware of it
2. I am always aware of it.
3. It bothers me somewhat
4. It really bothers me a lot
5. I bothers me so much that I rarely go out

59. How well do you understand your condition?
1. I know or understand completely
2. I know quite a bit, but would like to know more
3. I know enough about it
4. I know something about it
5. I know almost nothing about it

60. What equipment do you have and who prescribed it?
1. Respirator
2. Oxygen support system
3. Walkers, or other assistive devices
4. Other__________________________

61. How often do you use the equipment prescribed by N.H.R.C.?
1. As prescribed _________ x day
2. Less often _________ x day
3. More often _________ x day

62. Do you understand and follow the training program prescribed for you by N.H.R.C.?
1. Understand and follow
2. Understand and don't follow
3. Don't understand and follow

4. Don't understand and don't follow

5. Want more information

63. Do you smoke? If so, how much?

1. Less than \( \frac{1}{2} \) pack/day
2. \( \frac{1}{2} \) - 1 pack/day
3. 1 - 2 packs/day
4. More than 2 packs/day

64. If yes to #63, are you aware of the Smoke Counseling Clinics?

65. Would you attend such a clinic?

66. Have you even smoked? If so, when did you quit and how much did you smoke?

1. Less than \( \frac{1}{2} \) pack/day
2. \( \frac{1}{2} \) - 1 pack/day
3. 1 - 2 packs/day
4. More than 2 packs/day

67. The patient's family lets him, or her, do:

1. Practically everything that he can do for himself
2. Most things that he can do for himself
3. Some things that he can do for himself
4. Few things that he can do for himself
5. Practically nothing that he can do for himself

68. The social relationships of the patient can be described as:

1. Extensive friendships
2. Frequent friendships
3. Some friendships
4. Few friendships
5. Isolated except for immediate family

69. The family's relationship may be described as:

1. Consistently positive
2. Usually positive
3. About half positive, half negative
4. Usually negative
5. Consistently negative
70. How actively helpful is the family of your rehabilitation?

1. Highly contributory
2. Usually helpful
3. Sometimes helpful
4. Often harmful
5. Highly detrimental

71. Patient's participation in family affairs may be described as:

1. Highly participatory
2. Quite active
3. Somewhat active
4. Quite passive
5. Totally passive

72. The patient wants to be:

1. As independent as possible
2. Quite independent
3. Half independent, half dependent
4. Quite dependent
5. Completely cared for and dependent

73. Your present emotional outlook is:

1. Consistently positive
2. Usually positive
3. Vacillates between positive and negative
4. Usually pessimistic and depressed
5. Consistently pessimistic and depressed