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PREMATURE TERMINATION IN DAY TREATMENT: A COMPARATIVE STUDY
OF THE OUTCOME OF CHRONIC MENTAL PATIENTS WHO DROP OUT

University of Washington

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Premature Termination in Day Treatment:
A Comparative Study of the Outcome of Chronic
Mental Patients Who Drop Out

by

RICHARD ARTHUR ANDERSON

A dissertation submitted in partial fulfillment of
the requirements for the degree of

Doctor of Philosophy

University of Washington

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Approved by

Gary B. Cox

Program Authorized
to Offer Degree

Social Welfare

Date

11/8/83

Doctoral Dissertation

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CHAPTER I

Research Problem

The term "aftercare" refers to formal support or treatment which is provided to psychiatric patients after a period of hospitalization. Day treatment is a category of aftercare which is usually provided in a group format and uses a psycho-social approach to social and instrumental skill building. In contrast to drug therapy which seeks to reduce negative symptoms of mental illness such as bizarre behavior, delusional thinking, paranoia, and hallucinations, day treatment is designed to reduce symptoms such as social isolation, ambivalence, non-productivity, and lack of initiative.

Day treatment has quickly become a major vehicle for providing ongoing therapy and support for the chronically mentally ill in the community. While the term "Day Treatment" has come to represent a generic category of numerous and varying approaches to helping this population, the basic goals are similar. Day treatment programs seek to enhance the individual's readjustment to community life and reintegrate him/her into natural social networks.

Generally, clients are referred to day treatment programs from other types of inpatient or outpatient therapy. The referral agents, usually mental health professionals, make a judgement that the individual needs a moderately structured treatment program which will enable him/her to acquire basic instrumental, social and in some cases vocational skills necessary for successfully interacting with the community. These chronic patients are known to be socially isolated, unskilled, unemployed, living on a minimum income and dealing with high levels of intrapersonal psychological stress. Given these facts, it seems logical to assume that the chronically mentally ill would embrace a program such as day treatment which offers them skill building, social interaction, long term support and a road to employment in a relatively flexible outpatient treatment environment. While day treatment has enjoyed increasing popularity and phenomenal growth as a major aftercare program, there remains a large segment of the chronic mental patient population in the community that totally rejects this treatment, either by refusing to enroll in the program after a referral has been made, or by dropping out of the program prematurely. It is difficult to determine what the base rate for premature terminations from day treatment is, because often the literature does not distinguish among different types of aftercare programs in looking at this problem (5, 118). The label "aftercare

program" might include any one or a combination of the following components: a) home visits by a social worker or public health nurse, b) medication checks in an outpatient clinic, c) case management by mental health workers, d) membership in a community support system, e) day treatment programs, f) outpatient group or individual therapy, g) vocational training, h) membership in a social club for chronic patients, i) structured, supervised housing. This leaves the reader confused as to what program the client is leaving. Several studies however, (39, 119) have examined day treatment specifically, and in these studies percentages of dropouts have varied from 30-65%.

Why should we be concerned about premature dropouts in day treatment? There are several reasons. First, given our present state of knowledge, we have no practical way of distinguishing between those people who will remain and those people who will drop out based on preprogram variables. Therefore, dropping out is costly in terms of the direct service resources which are consumed and possibly wasted in processing clients into programs on a very short term basis. In addition, other clients who may be more interested in treatment must be placed on waiting lists to receive services and are therefore temporarily deprived of needed help. Our program evaluations typically assess the progress of clients who remain in treatment and

ignore the outcome of those who have dropped out. Thus, we are evaluating our treatment effectiveness with only half the population referred to the program. Finally, since we know little about what happens to the clients who drop out of day treatment, we don't know whether they constitute a high risk group which should be offered alternative services or a low risk group not in need of further treatment.

One measure of outcome for chronic mental patients is the number of rehospitalizations required. The rehospitalization rate or "relapse rate" among the chronically mentally ill is very high, approaching 50% within one year of discharge (4). This frequently leads legislators and other policy makers to charge that the aftercare programs we utilize are ineffective. Clinicians counter by claiming that if only comprehensive aftercare could be provided to all chronic mental patients at the time they enter the community, their relapse rate could be significantly reduced. This claim has been supported by the outcome of several model programs. The successful model programs however, are sometimes accused of taking only the "cream" of the crop in terms of level of functioning (71). If this criticism is valid, it identifies a sampling issue which effects the external validity of efforts to assess treatment efficacy. As

stated above, we can not know whether clients who are referred to a day treatment program are being treated effectively when we have no followup on nearly half of them. Since we don't know how program dropouts differ from remainders on either outcome or preprogram variables, we don't know whether we are treating only the best functioning clients and ignoring the needs of the rest. We must ask whether we are losing individuals who function at a lower level of adjustment , or whether the clients who drop out of day treatment are less in need of the treatment and services offered in these programs. Do they go on to become better integrated in the community than their counterparts who remain in the day treatment program or do they seek different services and have different needs which would be better met through alternative programming? It has been suggested (10,58) that many of the young or newer chronic mental patients tend to become lost to the system or else they move laterally through many systems, frustrating the efforts of caregivers and treatment providers in a series of short term relationships with little accountability or efficacy. If this is true, then we must address communication and service coordination issues across multiple systems.

In summary, day treatment, as a major psycho-social treatment modality, seeks to aid a large segment of the chronically mentally ill in readjusting and reintegrating into community life. A large proportion of seemingly appropriate candidates for this service in fact reject it fairly soon after admission into these programs. It is important for us to know whether these premature terminators are successfully reintegrating into the community. It is also important to know whether they constitute an identifiable group or groups based on preprogram variables, so that more appropriate referrals can be defined. In order to know what alternative services, if any, should be planned for this group, we need to know how they are presently utilizing community services. In defining their needs we can determine whether or not they can be met by existing treatment resources.

CHAPTER II

Literature Review

Hundreds of papers have been written on the topic of premature termination from psychotherapeutic treatment. This literature covers a variety of treatment conditions, environments and definitions of dropping out. It will be helpful to immediately discuss the different definitions of dropping out used by the authors in order to decide which are pertinent to this review. Comparative dropout rates from several kinds of psychiatric treatment programs described in this review are provided in Table 1.

Definitions

Dropping out may refer to the following situations: a) clients who attend treatment sessions one or more times but who drop out prior to the designated term of the program, b) clients who attend therapy session(s) but terminate without staff approval, c) clients who drop out with therapist approval but prior to realizing adequate benefit, d) clients who are referred to treatment but never attend, e) patients who go AWOL from inpatient treatment but

TABLE 1

COMPARATIVE DROPOUT RATES FROM SEVERAL KINDS
OF PSYCHIATRIC TREATMENT PROGRAMS

<u>Study</u>	<u>Program</u>	<u>Dropout Rate (%)</u>
Altman, et. al. (3)	Inpatient psychiatric therapy	3.6
Atkinson (7)	"	12.3
Daniels, et. al (33)	"	11.3
Meyer, et. al. (80)	"	15.0
Stuen, et. al. (109)	"	14.0
Pratt, et. al. (93)	Outpatient alcohol treatment	63.0
Baekeland & Lundwall (13)	Review of inpatient alcohol treatment	13.7 - 39.2
Baekeland, et. al (12)	Outpatient alcohol treatment	52 - 75
Miller, et. al. (83)	Inpatient alcohol treatment	25
Fiestor & Rudestam (46)	Outpatient psychotherapy	37 - 45
Overall & Aronson (90)	"	57
Rogers (96)	"	61 - 70
Freedman, et. al. (49)	"	40
Raskin & Dyson (94)	Aftercare for chronic mentally ill	69
Monti, et. al. (85)	"	64
Wolkon & Tanaka (120)	"	59
Beard, et. al. (16)	"	65
Blume, et. al. (19)	"	30

return, f) patients who "elope" from inpatient treatment and never return and who are subsequently discharged AMA. The first conditions "a" and "b" are most relevant to the problem of premature termination in day treatment. It is generally accepted that in order to drop out of treatment or terminate, one must have actually begun the relationship with the program. It should be acknowledged that the condition "d" may represent a substantial problem but it is a different circumstance which requires a different set of questions than will be addressed in this study.

The preoccupation with dropping out of treatment has mostly been concerned with prediction. The rationale for pursuing this course of inquiry is well stated by Baekeland and Lundwell (13, p. 739):

Thus, it is clear that the treatment of many chronic conditions is hampered by so many patients failing to persevere in treatment. Such a state of affairs is of particular concern at the present time, which is marked by a simultaneous rapid increase in treatment expectations and treatment costs. Typically, most clinics have more applicants than they can treat. Hence, before treatment starts it seems all the more important to be able to quickly and

efficiently distinguish the patient likely to persevere from one who is not, and it is equally important to identify the clinic and treatment factors that promote patient attrition so that they can be changed.

Inpatient Psychiatric Treatment Programs

As the era of locked wards and large proportions of involuntary admissions was phased out of inpatient psychiatric treatment, researchers and clinicians began to become concerned with those patients who merely walked away from the institution, the elopers and AWOL'ers who left the hospital against medical advice (AMA). The studies began to describe the extent of the problem and then correlated AMA's with patient variables. AMA rates of 3.6% to 15% were common in these studies (3, 7, 33, 80, 109, 114). Basic demographic variables such as age, sex, religion, socio-economic status, employment, marital status and family situation were used as independent variables. Then biographical variables such as type of admissions, diagnosis, duration of illness, past hospitalizations and history of alcohol problems were added. Some researchers (27, 33, 109) began to look at program variables and process characteristics as independent variables

influencing AMA's, such as ward environment, patient-therapist relationship, participation of family, mutuality of treatment goals and expectations, patient-staff ratio, and type of treatment.

Based on their review of studies done in inpatient psychiatric settings, Baekeland and Lundwall (13) conclude that the eloper can be characterized as a young male who has been coerced into treatment and has a previous history of hospitalizations and elopements. Elopers tend to deny their illness, have sociopathic features and be resentful and distrustful.

Reported Outcome of Dropouts from Inpatient Psychiatric Treatment.

The question of differential outcomes for elopers was explored by a number of researchers (3, 27, 43, 80, 100, 114) who report mixed findings. Tuckman and Lovell (114) found no difference in readmission rates after a twelve month followup of patients who went AMA versus patients who remained hospitalized for the prescribed period. They concluded that being hospitalized a briefer period of time would not significantly increase the chances of being rehospitalized. Fabrick, et. al., (43) used a self report followup measure in looking at AMA's and found that their

post hospital personal adjustment, employment record, and social relations with family were significantly worse than the group who remained in treatment. Pam, et. al., (92) found that a control group of patients was significantly better when measured on social adjustment in a pre-post design, while the "self-discharged" group had not improved on that dimension. In contrast, Scheer and Barton (100) using matched control subjects found no evidence that AMA discharge was associated with poor outcome, at least at three and six months followup intervals.

A two year followup study of AMA patients by Meyer, et. al., (80) disputes the notion that patients who left AMA were necessarily treatment failures. In this study, it was found that a majority of the AMA's believed that their adjustment since leaving was improved and that hospitalization had been helpful. Half of them felt that the AMA decision was the right choice and represented a "new lease on life." Cancro, et. al., (27) called elopment a self discharge gesture noting that 65-77% of elopers return within 24 hours. They concluded that need for psychological distance was an important variable to consider in treatment.

This area of the literature is particularly confusing because of the highly variable definitions of dropping out, e.g., AMA, elopement, AWOL, etc., and the lack of consistent standards for assessing outcome in terms of either categories of adjustment or standardization of the instruments used. Thus, meaningful comparison is difficult, and generalizations not necessarily appropriate.

Dropping Out of Alcohol Treatment Programs.

In alcohol programs, dropout rates have varied dramatically between inpatient settings which have a mean of 8% (13) and outpatient settings which range from 52-75% within one month (12).

Miller, et. al., (83) found that younger alcoholics with disrupted interpersonal relations, marital separation and a history of psychiatric illness were at a higher risk to drop out. They were more often coerced into treatment and had a longer history of drinking and a pattern of quitting.

Baekeland and Lundwell (13) report in their review that low SES, social isolation and poor motivation are frequently mentioned as significant correlates of dropping out of alcohol treatment. Various personality inventory

measurements such as the MMPI, Edwards Personal Preference Schedule (EPPS) and Sixteen Personality Factor Questionnaire (16 PF), however, did not correlate with or predict drop out groups.

The Baekeland et. al., study (12) is especially noteworthy in that it differentiates between immediate, rapid and slow drop outs, treating them as distinct groups apart from clinic attenders rather than assuming that clinic attenders and dropouts need only be categorized dichotomously. It was their impression that the factors associated with these four groups were quite different.

Pratt, et. al., (93) tried to predict clinic attendance from perception of inpatient ward atmosphere using Moos' Ward Atmosphere Scale (WAS). In this study, 63% of those patients referred to the outpatient clinic never attended. The main problem in using the WAS was that different people perceived the same ward in a different light whether or not the ward in fact had those qualities. Attenders perceived more autonomy than non-attenders. These results must be interpreted with caution because "non-attenders" are not necessarily the same group as "dropouts."

Outcome of Dropouts from Alcohol Programs

In the Baekeland, et. al. study (12), immediate dropouts had a lower proportion of kept appointments and of abstinent appointments (those when clients had not been drinking) than either of the other dropout groups. Prior abstinence was a poor predictor of outcome. Chaney (29) in a therapeutic outcome study of alcoholics in a VVA outpatient program found a significant positive relationship between length of aftercare and a) employment, b) time elapsed to first relapse, and c) number of days drinking. Miller, et. al., (83) conducted social adjustment ratings after two weeks which showed that alcoholics who dropped out were more irresponsible, shy, isolated and less motivated. Thus, the alcohol program dropout literature consistently reports poorer outcome for dropouts compared to treatment remainers.

Dropping Out of Outpatient Psychotherapy

The dropout literature associated with outpatient psychotherapy is further complicated due to variations in treatment frequency. For example, should treatment duration be counted as number of sessions, number of weeks, or number of months? Generally, the studies report this variable as number of interviews. Garfield (54) reviewed a

number of early studies on premature termination and reported that the median length of treatment was about six interviews with two thirds of the subjects in therapy for less than ten interviews. Subsequent reviews of this subject (54) concur with this finding that there is a clustering around six interviews as the median length of treatment. A recent study of community mental health centers (46) reported that 37-45% of eligible adult outpatients unilaterally terminate after the first or second session. Overall and Aronson (90) reported an exceptionally high drop out rate (57%) after the first session in a group of lower SES clients.

Another troublesome variable is the definition of drop out itself. The majority of researchers chose some arbitrary figure such as 4, 6, 8 or 12 interviews as a cutoff point to distinguish between treatment remainers and treatment dropouts. Others (45) defined dropouts as anyone who failed to return for a scheduled interview or who dropped out of treatment contrary to the therapists' judgement that further treatment was needed. There has been no resolution of this problem to date but there have been further attempts to categorize within the dropout group.

Outcome of Leaving Psychotherapy

Freedman, et. al., (49) compared the extreme groups of treatment discontinuers (less than 1 month) versus continuers (greater than 8 months) and found significant differences among a group of ambulatory schizophrenics on an adaptive responses index based on personality and situational variables which were observed and rated during the first clinic contact. Brandt (20) points out that many studies do not differentiate between client initiated dropouts and therapist initiated dropouts. The concern with the definition of dropout becomes more meaningful when one returns to the original rationale for pursuing this area as a research endeavor. We are trying to identify the clients who will persevere in treatment. There is an inherent assumption in this literature that duration of treatment is necessarily correlated with positive outcome and that those who have dropped out early have received little or no benefit. These notions are disputed by a number of researchers. Luborsky, et. al., (78) in their review conclude that there is no explicit evidence that staying in psychotherapy is consistently related to the amount of gain a person makes.

In an extensive study of dropout rates and results of psychotherapy in government aided mental hygiene clinics (State and V.A. clinics), Rogers (96) reported on almost 11,000 patients in 53 clinics. Data were collected over a ten year period and found to be consistent. The shape of the dropout curve looked remarkably similar for all clinics. Roger's cumulative data showed that less than 40% of the referrals were actually treated, that 71% of those 40% were judged improved and that the mean number of interviews was 12.9. In Roger's study "interviews" often meant medication evaluations only and thus did not necessarily mean drop out from psychotherapy. The improvement rate was not related to the length of treatment.

Acosta (1), looking for differences between whites, blacks and Chicanos in reasons for premature termination asked terminators why they stopped. The three ethnic groups did not differ significantly in their responses. The categories in rank order were as follows: 1) negative attitude toward the therapist, 24%, 2.5) therapy of no benefit, 19%, 2.5) environmental constraints, 19%, 4) self perceived improvement, 18%, 5) appointment mix-up, 8%, 6) situational impediments, 7%, and 7) perceived therapist's termination, 5%. The author notes the large percentage of dropouts who perceived adequate improvement (18%) who would

normally be assumed to be treatment failures simply because this information was not available to the therapist.

Summary of Correlates of Dropping Out of Psychotherapy

In the outpatient psychotherapy literature three distinct classes of variables emerge which were evaluated in reference to dropping out: a) client variables, b) therapist variables and c) interactional variables. Under the category of client variables are 1) demographic and situational factors, 2) clinical factors such as the diagnostic categories of depression, anxiety, paranoia, alcoholism, sociopathy, 3) psychological variables such as motivation, psychological mindedness, need for approval and locus of control. Under the category of therapist variables are sex, experience, race, change in therapist, interest and use of medication. The third category, interactional variables includes mutual attractiveness, therapist-patient similarity, discrepant treatment expectations and dependency within the relationship. Brandt, et. al., (20) concluded that a) sex, age and marital status of clients consistently did not differentiate between dropouts and remainers and b) the only variables which did consistently differentiate between these groups were personality characteristics.

Garfield (54), also reviewed research pertaining to continuation in psychotherapy. He found a positive relationship between social class and length of stay, educational level and length of stay but no consistent relationship between variables such as age, sex, and diagnosis with dropping out. He also suggests that attributes and expectations of clients as well as the attitudes and personality of the therapist may affect premature termination by acting singly or in combination.

In attempting to correct inappropriate client expectations for treatment and to prepare them for treatment several researchers have used pretherapy training techniques. The results have been positive in some studies but have shown no effect in others in reducing premature termination (54).

Another question which has received attention in the psychotherapy literature is whether or not clients who drop out seek treatment elsewhere. Reiss and Brandt (95) assert that a considerable number of pretherapy dropouts do not reject psychotherapy as such, but reject it only at a given clinic. These pseudo-rejectors undergo treatment somewhere else. They accuse researchers of confusing pretherapy dropouts with premature terminators and treating them as one group. Garfield (53) disputes the assumptions and generalizations made by Reiss and Brandt arguing that

pretherapy dropouts have been distinguished from premature terminators. He asserts that the fact that one third of the former group seeks help elsewhere in no way refutes the fact that the majority get no treatment or that the majority of the latter group do not seek help elsewhere. Acosta (1) reported that among premature dropouts only 32% of whites, 12% of blacks and 12% of Mexican Americans sought help elsewhere. Both Garfield's and Acosta's comments suggest that there is strong evidence that a large porportion of clients do not respond to traditional therapies. Garfield specifically recommends that we consider alternative therapies for the "reluctant" client.

Dropout Rates and Utilization of Community Aftercare Programs By the Chronically Mentally Ill.

Since the early 1960's, clinicians and researchers have been concerned about the high relapse rates of chronic mental patients discharged into the community. Anthony, et. al., (4, 6) established base rates for recidivism in rehospitalization at 35-50% for one year post discharge and 51-75% for two years post discharge. In response to the problem of poor community adjustment of this population, efforts were made to develop appropriate transitional services, comprehensive aftercare programs, and to strengthen the coordination and continuity of the multiple

systems available for support and treatment.

An excellent example of the frustrated efforts to make the new system work is provided by Raskin and Dyson (94). In this study, they explore the events leading to readmission to hospital care for a number of chronic patients.

At the time of discharge from the hospital prior to each patient's key admission, aftercare had been arranged for all 45 patients. However, at the time of the patient's key admission, an average of seven months later, only 14 patients (31%) were still in treatment; 16 patients had never begun treatment, 11 patients had become involved in treatment, but had 'dropped out,' and 4 patients had been discharged from aftercare.
(p. 356)

In exploring the reasons for dropping out of aftercare with the subjects, the researchers concluded that increasing hopelessness about the chronic difficulties of their lives led seven of the eleven dropout patients to terminate treatment. When therapists began to share the patients' hopelessness, they were allowed to slip out of treatment. It appears that the major form of aftercare in this study was medication followup.

One might expect that with the increasing specificity and sophistication in aftercare programming developed in the last 15 years, the pattern of dropping out would be altered and reduced from the time of Raskin and Dyson's 1968 study but in many cases it hasn't. For example, one recent psychoeducational program which gathered outcome data in a controlled experiment described patient attrition from the program. There was no attempt to assess outcome for dropouts. Even in this well defined, highly specific, time limited program for chronic patients, 40% were lost before treatment was concluded and 64% were lost by followup. There are scores of research studies similar to this one testing the efficacy of a given treatment approach for the chronic mental patient but few people have systemically looked at outcome for the clients who drop out of these treatment programs. One exception is Wolkon, et. al., (119) who looked at outcome for treatment terminators from a psychosocial rehabilitation center in Cleveland. Self terminated clients spent significantly more time hospitalized over a one to two year followup period and had significantly lower social participation scores in the community at followup when compared to the group which used the program the most. Outcome differences were not significant when comparing the low and medium use groups with the dropout group.

In 1966, Wolkon and Tanaka (120) reported on the outcome of a social rehabilitation service for released psychiatric patients at Hill House in Cleveland. The description of the program sounds quite similar to present day treatment centers:

"Hill House is a nonresidential, transitional, social rehabilitation center for adults recently released (discharged or on trial visit) from psychiatric hospitals...Four areas of functioning are considered crucial to achieving independent community living: the ability to get along with others, the acceptance and performance of his role within the family unit, the ability to occupy his time in a productive manner, and the desire to improve himself by using appropriate community resources.

The major method of intervention is social group work....Transitional work projects are provided for those who need help in developing basic work habits." p. 54.

They reported that 59% of their members 'discontinued' within the first three months and that these individuals generally had fewer than five visits. The

rehospitalization rate for "members" was 27% after one year. There was a negative correlation between amount of attendance and rehospitalization rate. During the first year of followup 58% of the members had looked for work and half, or 29% had been employed.

In assessing the attendance patterns of Fountain House, the original club house model of psycho-social rehabilitation, Beard (16) found that 50% of the clients failed to make more than one visit and 65% made fewer than four visits. In looking at outcome it was determined that 72.5% of the rehospitalized subjects attended Fountain House three or less times.

Beard, et. al., (15) also reported a five year followup of the outcome of clients from Fountain House. They found that attendance was closely related to the incidence of rehospitalization with low or non attenders exhibiting a 77% rehospitalization rate during the followup period.

More recently, Blume, et. al., (19) reported a drop out rate of 30% from a community day treatment program that was provided in collaboration with an "adult homes" program for psychiatric patients in New York. They report that improvement in the clients' social behavior was most noticeable after four months of participation in the

program. The authors suggest that clients enrolled in day treatment facilities require a broader range of services than are available in many clinic treatment programs.

Brooks and Deane (23) followed 143 former Vermont State Hospital patients in the community over a five year period. They found that during one of those five years which they had selected to study in depth, 64% had had at least one contact with rehabilitation personnel. The average number of contacts was almost 25 or slightly over 2 per month. Anthony and Buell (5) reported that 49% of the discharged mental hospital patients in their study attended aftercare clinics and that generally contact was once per month. During the six month period following discharge clinic attenders had a relapse rate of 15.4% versus a 32.5% relapse rate for non-attenders.

A rather unique approach to looking at subgroups within a day treatment population was devised by Donovan (39). He divided remainers (68%) into two groups: a) extensive participants (26%) and b) limited participants (42%) and terminators, (32%) into two groups, a) classical, against therapist advice (18.5%) and b) non-classical, those referred out of the program by the therapist and recommended for residential placement by a counselor, (13.2%). The important innovation in this approach was

that two other relevant dimensions were considered, 1) intensity of participation rather than just duration and 2) patient versus therapist initiated termination rather than merely combining them into one group. Unfortunately, the researcher did not gather and correlate outcome data for these groups.

Lamb and Goertzel (69) surveyed a sample of chronic mental patients on SSI living in California and found that 23% of them received no mental health services. Of these 23%, 61% had no activities or contact with people outside their homes. Similarly, a one year followup study of chronic patients by Winston, et. al., (118) which netted only 54% of the sample found that twenty-two percent were not in aftercare services and that this group was rehospitalized significantly more often than those in aftercare. Caton (28), who surveyed a young adult chronic group found that only 17% complied fully with their post hospital treatment plan. She states that those people who did comply with the program were significantly more likely to remain in the community.

The earlier work of Brooks and Deane (23) five year followup of Vermont State Hospital patients was extended into a twenty year longitudinal study which was recently published by Harding and Ashikaga (58). The "Vermont

Story" as the study has been dubbed, began with an n of 269. Over the 20 year period of followup, 72 (26%) of the sample died. An additional 21 (8%) moved out of state, 7 (3%) could not be located and 4 (1.5%) were missing cases. This left a total n of 165. During the course of the study the overall percentage of clients using aftercare clinics declined from 64 to 54%. Thus, at the 20 year mark, 46% are non-attenders. The authors report that clinic use was heaviest in the first 5-7 years post discharge and declined thereafter. Aftercare clinic use is broken down into the following categories and relative frequencies:

Medication check 98%

Day Treatment 36%

Individual Therapy 22%

Group Therapy 2%

Couples Therapy 1%

Family Therapy 0%

It is interesting to note that 87 of the 89 individuals who still utilize community clinics from the twenty year cohort are receiving medications. It is not clear from this report however, how many clients of the 46% who are not utilizing community mental health centers might be receiving services from other community providers.

Age is suggested as an important variable in clinic use and outcome. Older patients used the clinics less frequently and their symptoms decreased over time. The authors hint that age may have a stabilizing influence over the debilitating process of schizophrenia. Lamb and Goertzel (69) also found that older patients in their study were rehospitalized significantly less; 15% of older patients relapsed versus 47% of the younger patients.

Utilization of transitional residential homes or boarding homes by the chronically mentally ill is high. Harding and Ashikaga (58) report that 40% of their sample were in boarding homes. Solomon, et. al., (104) report a declining utilization of boarding and transitional homes for their sample over an 18 month period. The clients they followed who used these homes dropped from an average 33% to 23% of the total. There was a subsequent rise in independent living from 14 to 31% suggesting that many of these people used board and care facilities as a

transitional resource. This utilization pattern is supported by Lamb (70) who found that over 6 months, 32 of 101 clients moved out of board and care homes and 10 of these people went on to independent living. Lamb, however, interprets this movement as an attempt at a geographical solution to internal problems. This rapid movement through residential care facilities may mirror the movement through aftercare programs. Spivack, et. al., (105) reported that 20% of their sample which was composed of chronic mental patients using an urban CMHC were living in boarding homes.

Outcome of Chronic Mental Patients Using Community Aftercare Services.

1. Rehospitalization rates and community tenure.

In a V.A. multihospital study, Linn, et. al., (75) reported that day treatment patients spent an average of 11% (78 days) of their time hospitalized over a two year period averaging 1.2 readmissions. Readmission rates for this group were 40% in one year and 55.5% in two years. Harding and Ashikaga (58) in their twenty year study reported that there was no significant difference in readmission rates between clinic users and non-users (this is not analogous to comparing remaining in treatment versus dropping out) but that clinic users were rated as

significantly more impaired on GAS scores. Because their data are divided into high, medium and low groups for most variables, it is difficult to compare the absolute figures to other studies, but during the first five years of followup the mean number of readmissions for all subjects was 2.4. In contrast, Anthony and Buell (5) reported a 15% readmission rate for attenders versus 32% rate for non-attenders over a very brief followup period of 6 months. Winston, et. al., (118) also found significantly lower readmission rates for clinic attenders (20%) versus nonattenders (52%). In looking at the diagnosis of schizophrenia alone, the differences are even more profound with 25% of attenders relapsing compared to 67% of nonattenders relapsing. A summary of rehospitalization rates of aftercare attenders and nonattenders is provided in Table 2.

In a review of the recidivism studies, Anthony, et. al., (6) reported an inverse relationship between recidivism and use of aftercare clinic services among the more chronic patients. In a similar review of transitional facilities such as rehabilitation centers or half-way houses they found that recidivism was consistently less for those clients who use used those facilities until they drop out or leave. Recidivism was also reduced for clients who use transitional persons as "enablers" who provide skills

TABLE 2

SAMPLE REHOSPITALIZATION RATES OF
AFTERCARE ATTENDERS AND NON-ATTENDERS

<u>Study</u>	<u>Type of Aftercare</u>	<u>Rehospitalization Rates (%)</u>			
		<u>At 6 months</u>	<u>At 1 year</u>	<u>At 2 years</u>	
Linn, et. al. (75)	DTP and Drugs	A NA	A NA	A NA	
Anthony & Buell (5)	Any Aftercare	15 32	40 47	55.5 66.6	
Winston, et. al. (118)	Any Aftercare		20 52		
Kirk (68)	Any Aftercare			41 31	
Beard, et. al. (16)	Fountain House	19.5 35.2	35.6 51.9	46.3 64.	
Blume, et. al. (19)	DTP		19 35		
Wolkon, et. al. (119)	Hill House		33 36	41 43	

training, assistance and consultation. The Lodge Society (44) significantly increased time spent in the community compared to traditional aftercare programs and had its greatest effect on patients who had been hospitalized the longest.

Kirk (68) reported outcome statistics for 579 patients discharged from Kentucky State Hospitals. He found that when comparing the group which received aftercare (55%) with the group which received none, the patients who were rehospitalized most frequently were those with the most chronic histories. When controlling for chronicity however, the group which had six or more aftercare visits had lower rates of relapse. Increased frequency of visits was not found to be a positive factor in forestalling relapse, however.

Those studies which specifically looked at rehospitalization rates for premature dropouts or low attenders compared to high attenders in day treatment programs showed consistently higher rates of relapse for early drop outs (15, 16, 19, 79, 119, 120). Community tenure was not reported in these studies as a function of low versus high attendance. Wolkon, et. al., (119) however reported that "self terminated clients" spent significantly less time in the hospital when they were

rehospitalized.

On the basis of a five year followup, Beard, et. al., (15) suggest that rehospitalizations are not prevented but delayed. While the percentage of clients who relapsed that were exposed to psychosocial rehabilitation over that period was ultimately the same as the percentage of clients who relapsed and were not exposed to those services, the time to relapse and the amount of time spent hospitalized were significantly different between groups favoring the group in treatment.

2. Employment Rate and Occupational Status.

Full time employment rates for chronic mental patients have been established at 30-50% for six months followup, 20-30% for one year and 25% for 3-5 years followup (4). In the Vermont Story cohort, during the first five years, about 78% were employed either full or part time. Over the twenty year followup that rate dropped to 47% and the rate of full time continuous employment was about 14%. Full time employment for over six months of the year was 28%. The categories of employment or occupational status during the first five years were: 1) unskilled 55%, 2) semi-skilled 32%, and 3) skilled 13%. There was little shift between categories from pre to post hospitalization

periods. Anthony and Buell (5) found no difference in employment rates between clinic attenders and nonattenders. A V.A. nine month followup study of 957 discharged schizophrenic patients reported that about half were doing some kind of work and that pre-hospital work experience was the best predictor of post hospital work record (77). In the same study, 1254 V.A. staff were surveyed in regard to the emphasis they placed on work for chronic mental patients. Eighty-one percent thought it was moderately important that released patients spend their time working or doing something useful. The St. Louis Community Homes Program for chronic patients also reported about half of its clients working full or part time over a three year period (99). In the young adult chronic group, Caton (28) reported that 27% worked during a one year followup but only 12% worked full time. A summary of employment rates for aftercare attenders and nonattenders is provided in Table 3.

Summers (111) studied the characteristics of clients entering an aftercare clinic in Chicago and found that only 11% were employed either full or part time. He did not report outcome data for any period of time after joining the program. A large study of 1471 chronic patients participating in an NIMH community support program reported 25% of the clients working. The best single predictor of

TABLE 3

SAMPLE EMPLOYMENT RATES OF

AFTERCARE ATTENDERS AND NON-ATTENDERS

<u>Study</u>	<u>Type of Aftercare</u>	<u>Employment Rates (%)</u>				
		<u>At 6 months</u>		<u>At 1 year</u>	<u>At 2 years</u>	
Beard, et. al. (16)	Fountain House	A 29.0	NA 23.2	A NA	A 34.5	NA 26
Anthony, et. al. (4)	Review of Aftercare Studies	30-50		20-30		
Spivack, et. al. (105)	CMHC	20				
Caton (28)	Any Aftercare			27		
Test & Stein (113)	Training in Community Living			47	42	
Summers (111)	Any Aftercare	11				
Wolkon, et. al. (119)	Hill House	No significant difference in employment rates				

work related performance was the presence of somatic problems. Work status was predicted by a combination of 1) a basic living skills index, 2) behavioral problems, 3) somatic problems (112). Spivack, et. al., (105) using a sample of 99 chronic patients from an urban CMHC reported that about 20% were employed with 13% working more than half time.

Beard, et. al., (16) compared employment rates for experimental and control subjects in the Fountain House program. They found that over 4 quarterly evaluation periods the control subjects had a fairly steady rate of employment varying from 22.8% to 26.5% while the experimental group increased slightly each quarter from 26.9 to 34.5%. No studies were found which identified employment rates for treatment dropouts.

3. Social Adjustment and Quality of Life.

The Vermont Story reports that 80% of its long term subjects have adequate social support networks and that 67% show slight or no symptoms of impairment. Clinic users fared somewhat better than nonclinic users in this study in regard to social supports with 87% of users having adequate support compared to 72% of non clinic users, and in regard to symptom level with 70% of clinic users having

slight or no symptoms and 68% of non users having slight or no symptoms. The authors reported that the clinic worked in conjunction with the social support systems rather than in the absence of them (58).

Wolkon, et. al., (119) analysed social and instrumental role performance of rehabilitation clients by attendance pattern. They found that those people who were optimally involved in the program (maximum benefit terminations) had slightly higher instrumental role performance and significantly higher social role performance than a self-terminated group.

Blume, et. al., (19) found a significant difference in increase in symptomatology for clients involved in a day treatment program in New York. They compared an active day treatment group with a group of controls composed of drop outs and waiting list clients. Both groups increased in their ratings of psychiatric symptoms but the no treatment group increased four times as much as the active treatment group.

The St. Louis Community Homes Program (99) rated 75% of its clients as "normal" in social and recreational activity. Using the Katz scale, a followup study of clients discharged from a day hospital program found that

the subjects were still markedly impaired and more like patients than the normal population (62). In looking at chronic mental patients on SSI, Lamb and Goertzel (69) reported that 61% of those not receiving aftercare services had no activity or contact with others.

Summers (111) reports that among his sample of clients entering an aftercare program 58% were never married, 52% live alone, 36% have no one to contact in an emergency, 42% are on general assistance and only 11% work. In their V.A. multi-hospital study of day treatment results, Linn, et. al., (75) found that all ten centers improved the clients' social functioning when compared to drugs alone in aftercare. Less optimistically, Soloman, et. al., (104) reported that after 18 months of followup in a continuing care program, over half of the chronic patients were still doing little or nothing and that generally activity levels were well below that which therapists had predicted ahead of time. A summary of the findings regarding social adjustment is provided in Table 4.

4. Prediction of Aftercare Use, Outcome and Dropping Out of Aftercare Programs

TABLE 4

COMPARISON OF SOCIAL ADJUSTMENT
BETWEEN AFTERCARE ATTENDERS AND NON-ATTENDERS

<u>Study</u>	<u>Type of Aftercare</u>	<u>Period of Followup</u>	<u>Outcome</u>
Linn, et. al. (75)	DTP and Drugs	1 year and 2 years	Significant improvement at both intervals compared to drug only
Wolkon (119)	Hill House	3 years	No significant difference between high attenders, low attenders and controls
Blume (19)	DTP	14 months	Symptoms increased significantly more in control group
Sandall (99)	Community Group Homes	1 year	75% had normal levels of social and recreational adjustment

Research at Hill House in Cleveland (120) indicated that program involvement was related to two pre-program, individual characteristics. Blacks attended significantly fewer times than whites and members with multiple psychiatric hospitalizations attended significantly more than members with only one prior hospitalization.

Wolkon, et. al., (119) compared maximum benefit terminators to self terminators on the basis of demographic variables, diagnosis and biographical variables related to psychiatric illness. None of the variables were consistently related to the type of termination.

Harding and Ashikaga (58) found no clear predictors of clinic utilization in their twenty year study of chronic mental patients. Anthony and Buell (5) also concluded that demographic characteristics do not distinguish clinic attenders from non-attenders. Likewise, Winston, et. al., (118) found no significant difference between those who went into aftercare treatment and those who didn't using the variables of age, race, marital status or diagnosis but did find a sex difference with males dropping out more often. Donovan (39) reported that perception of family adjustment differentiated between dropping out and staying in day treatment with families who felt better adjusted being more likely to drop out. Variables related to the

prediction of aftercare use are summarized in Table 5.

The prediction of rehabilitation outcome has been attempted by a number of researchers. Anthony and Buell (5) and Anthony, Cohen and Vitalo (6) reported tht clinic attenders had fewer hospital readmissions. Rosenblatt and Meyer (97) in reviewing a number of past redicivism studies reported that number of previous admissions consistently predicted rehospitalization. Lorei and Gurel (77) and Anthony, Cohen and Vitalo (6) concluded that past behavior predicted future behavior in terms of both recidivism and post hospital employment.

In contrast, neither Beard, et. al., (15) nor Wolkon, et. al., (120) were able to find any significant relationship between pre-program, individual variables and relapse rates.

In predicting social adjustment, Heinemann, Yudin and Perlmutter (62) found that clients who were most recently discharged from day hospitals were less integrated. Tessler and Manderscheid (112) found that an index of basic living skills was predictive of social activity. In general, in hospital adjustment has not been predictive of post hospital adjustment and few authors have attempted to predict community social adjustment by looking at

TABLE 5

PREDICTION OF AFTERCARE USE

<u>Study</u>	<u>Type of Aftercare</u>	<u>Variables Related to Use</u>
Wolkon & Tanaka (120)	Hill House	Race, # Past Psychiatric Hospitalizations
Wolkon, et. al. (119)	Hill House	No sig. predictors
Harding & Ashikaga (58)	Any Aftercare Treatment	No sig. predictors
Winston, et. al. (118)	Any Aftercare Treatment	Sex

performance in aftercare programs.

Summary

Definitions of premature termination are highly varied in the literature. In the outpatient psychotherapy and alcohol literature the distinction between pre treatment dropouts and therapy dropouts is generally clear. In the studies on outpatient aftercare programs for the chronic mental patient the distinction between these two categories is rarely made. Instead, the majority of studies attempt to predict clinic attendance versus non attendance.

The problem of premature termination is clearly established throughout the range of literature with the lowest rates being reported in inpatient psychiatric treatment and the highest rates reported in outpatient alcohol programs. Drop out rates are high in all kinds of outpatient therapy and the drop out curves are very similar between programs (96). What is not always clear is for whom premature termination is a problem ; the client, the caregivers or society. Assumptions regarding treatment goals and arbitrary definitions of a minimum length of time in treatment as a prerequisite for successful treatment cloud the issue of what is really "premature". Long term studies of chronic patients in the community indicate that after an

initial period of heavy use of aftercare programming that may last for 5-7 years, nearly half of clients do not need ongoing support (58).

The importance of remaining in therapy and its differential effect on the individual is assessed through a number of outcome variables used as dependent measures. The variables most frequently chosen are: 1) rehospitalization rates, 2) community tenure, 3) employment rates, 4) presence of psychiatric symptoms and 5) social adjustment.

There is strong evidence that for chronic mental patients, staying in therapy in community aftercare programs is associated with lower relapse rates. Unfortunately, when looking at the community aftercare literature for this population the question asked in regard to aftercare attendance is more often one of deciding to join therapy rather than deciding whether to remain in therapy. The exception to this is when discussing chronic patients who reside in highly structured transitional facilities and group living situations. In these programs researchers have looked at outcome relative to remaining in treatment. In Fairweather Lodges, half-way houses, Fountain House Models, etc., positive outcome in terms of relapse, community tenure and employment are related to and dependent upon continued involvement with those programs.

Caregivers and society believe that work is an important success element even for chronic mental patients (77) but work rates remain low in this group for full time employment, varying from about 14-28% over the long term (58, 62). When including part time employment the percentage working increases by a factor of about two (58). Clinic attendance does not effect the rate of employment (5). Little is known about differential effects of dropping out on employment.

In the areas of psychiatric symptoms and social adjustment there are mixed reports on the status of the chronic population in general. More recent longitudinal studies (58) show that a majority of discharged mental hospital patients are making a positive community adjustment and have adequate interpersonal structures while a series of cross sectional reports characterize the chronic mental in the community as socially isolated, having little or no activity and economically destitute (105,108) . A number of aftercare studies show slight to moderate improvement in social adjustment at followup for those who attend but few have attempted to follow or assess the outcome of treatment dropouts.

Very few researchers have investigated why clients drop out of therapy by directly asking clients themselves why they terminate. Answers to this question have ranged from dissatisfaction with the therapist and pessimism about the benefits of the therapy to a perception of adequate improvement by the client.

Other researchers have attempted to answer the question of why clients terminate prematurely by exploring the many correlates of dropping out which have been identified by numerous prediction studies. Baekeland and Lundwell (13) have done the most comprehensive review to date on the problem of dropping out. They list 15 variables which have been important across a number of studies in predicting drop outs: age, sex, social isolation, social stability, symptom levels, aggressive and passive-aggressive behavior, sociopathic features, motivation, psychological mindedness, behavioral or perceptual dependence, therapist attitudes and behavior, family pathology and behavior, drug dependence and discrepant treatment experiences.

Specifically, in regard to aftercare programming for the chronic patient, this list of variables suggests several possible areas of further research study. First, several studies commented on the importance of the variable of age as being negatively related to movement through aftercare

programs and structured housing. Younger chronic patients are more geographically mobile and seem more elusive to caregivers than older chronic patients. We should ask whether this newly identified trend of increasing mobility among young chronic patients is a factor in dropping out of day treatment.

Secondly, social isolation and unaffiliation were uniformly recognized as important factors associated with clients who drop out (13). Social adjustment in general is worse for clients who don't attend aftercare programs (77). The presence of social interaction and attachment problems suggest that psychological distance within programs for the chronic patient is an important variable to study. Third, high symptom levels and aggressive behavior alienate clients from both caregivers and other clients. Since we have not investigated drop outs and remainers in terms of these variables, we have no knowledge of whether the presence of psychiatric symptoms might contribute to the drop out process. Fourth, it is possible that dropouts are less motivated to work for the kinds of outcome goals we are defining in our aftercare programs. Thus we need to ask whether there are discrepant treatment expectations which induce some clients to drop out and if so, whether other treatment goals would facilitate remaining in treatment. Fifth, is the group which is dropping out more

or less dependent than those who stay? Do they become involved with other kinds of services, do they move laterally through systems, or do they exist independently without using formal community support? Sixth, do families or other sources of social support play a significant role in determining continuation in treatment through their attitudes and behavior?

Explaining drop out patterns from aftercare programs for the chronically mentally ill also requires attention to the specific treatment modalities. Some programs are time limited and focused on specific skill gain while other programs may be open ended, indefinite support systems, ranging from medication evaluation to social clubs. In the latter, everyone is ultimately a drop out. Since not everyone needs indefinite care then not everyone who drops out should be assumed to be a treatment failure. Future research should allow for categories of dropping out which would reflect differential need for treatment. Future research should also address the possibility that people who drop out of long term aftercare programs at different stages may be reflecting categorically different reasons for remaining or leaving the programs.

Summary of Methodological Issues.

There are a number of important methodological issues which have been touched upon in this literature review. First, few studies have paid attention to sampling problems when evaluating the efficacy of aftercare programming for the chronically mentally ill. Researchers have not, for the most part differentiated between clients not referred, clients lost at referral, and clients who drop out of aftercare. When these groups are combined into a single category of "non-attenders" valuable information and understanding are lost. Dropping out is an important area for research in designing and evaluating programming for the chronic patient and should not be subsumed under more general rubrics. In addition, Test and Stein (113) recommend that as a minimum diagnosis, age, sex, education, SES, a measure of chronicity, age, and onset of illness all be specified. These characteristics of the population are important to control for in evaluating outcome research in regard to community care of the chronically mentally ill.

Second, research in predicting dropping out has consisted mainly of multivariate quantitative descriptive efforts which have not been well grounded in earlier exploratory research. There is a noticeable lack of depth or understanding of either motives for or the process of

dropping out. Investigators, with few exceptions, have totally avoided going to the clients themselves for direct, subjective data.

A third major issue is what I label partialization of the research problem. By this I refer to the tendency to choose parts of the problem to investigate in individual studies and then attempting to draw conclusions about the whole by combining the findings of individual studies. For example, some researchers looked at clinic utilization without assessing outcome. Others assessed outcome in terms of relapse and community tenure but ignored quality of life issues. This tends to leave the reader with doubts about the validity of the results when looking at the whole problem and the applicability of the conclusions. I am not suggesting that these studies are invalid or not useful in advancing the knowledge base. It seems clear however, that research in this area which ties outcome to utilization and treats outcome as a multivariate phenomenon is likely to be more useful. As a minimum, dependent variables in the area of outcome should include community tenure, employment and quality of life indices.

There is strong support for this position from Bachrach (9) and Test and Stein (113) who argue that outcome for chronic mental patients should go well beyond the standard

recidivism index. This single criterion is inadequate. They suggest that symptoms, social functioning living arrangements, daily living skills, employment and satisfaction are all important facets of community adjustment to be included in outcome measurement.

The fourth issue is concerned with increasing the reliability of the results by clearly specifying and defining the independent variable - the type of aftercare program. In designating a particular kind of aftercare program generalizability is decreased but the rigor of the investigation is increased.

Fifth, measurement of social adjustment and quality of life should be done with a reliable scale which is normed for the community in general. Since we are committed to community treatment and reintegration, it is important to be able to judge how these clinical groups compare to the population at large. For example, a questionnaire which simply asked respondents to rate themselves as improved, not improved or worse on a given item would not allow the investigator to draw conclusions about how the subjects compared to the norm. The scale must assess specific instrumental and role behaviors rather than change per se.

The length of time assessed at followup should be a minimum of one year and preferably two years. This period of time gives the investigator a better perspective of the cycles of illness which occur with the chronic patient which helps to decrease threats to the internal validity of the study. This also allows comparison with the majority of outcome studies conducted with this population. Assessment of baseline functioning should also follow an extended format for the same reasons given above.

The trend in research methodology continues to follow the dictum of "refine and specify" in advancing the knowledge base. If we accept this direction as a valid one then there are a number of useful recommendations one can follow in conducting research in the area of premature termination. First, the treatment being used must be well defined and categorized rather than just referred to as "aftercare". Second, the population of study must be homogeneous in regard to the definition of drop outs rather than a mixture of waiting list, non-attenders, and early drop outs. Third, baseline characteristics which are known to be related to outcome should be recorded, such as past history of dropping out, chronicity, diagnosis, age, etc. Fourth, multiple measures of outcome should be used to address a broad range of community adjustment. These outcome measures should be relevant to the program goals.

Fifth, both qualitative and quantitative measures should be use be used in assessing outcome in order to enhance the validity of the conclusions to be drawn from the research. Sixth, the followup period should be of sufficient duration to make equivalent comparisons to the literature and to be able to assess patterns in outcome over time. A minimum of one year and preferably two years or more is essential for followup.

CHAPTER III

Methodology

Research Questions and Hypotheses

The purpose of this study is to describe what happens to clients who drop out of day treatment prematurely, compared to those who remain in the program. This research is not intended to be an evaluation of the efficacy of day treatment programs. More specifically, it is not an attempt to infer causal relationships between participation in a day treatment program per se, and subsequent indices of client outcome. It is assumed that outcome is a product of the underlying individual characteristics of the clients, their past and present environment, the day treatment program, and subsequent service utilization. The intent of this study is to describe the outcomes of program attenders and program dropouts regardless of the multiple sources those outcomes may have. Patterns in the outcome data will be related to premature termination.

Since the focus of this study is outcome, the hypotheses are framed in terms of the major indices of successful community adjustment for the chronically mentally ill. The first three hypotheses are one-tailed because there is

enough evidence in the literature to suggest the direction of expected differences. While previous research has not demonstrated a difference in employment rate between clinic attenders and nonattenders, employment remains an important unexplored variable in looking at outcome for clinic dropouts. Therefore it has been included as a variable in the major hypotheses.

1. Dropouts have higher rates of hospital readmission than remainers.
2. Dropouts have lower community tenure rates than remainers.
3. Dropouts are not as well socially adjusted in the community as remainers.
4. There is a difference in the overall community adjustment between dropouts and remainers.
5. Dropouts use different kinds of community services than remainers.
6. There is a difference in the rate of employment between dropouts and remainers.

In describing differential outcome for these two groups it is important to assess differences in the salient background characteristics of the subjects which may contribute to outcome. At least 52 baseline variables are available to use for "explaining" outcome. These variables

are listed in Appendix A. Not all of these variables, however, will be used in the analyses. The following variables are considered to be the most important:

A. Demographics

1. Age
2. Education
3. Ethnicity
4. Sex
5. income

B. Diagnoses

1. First Diagnosis
2. Second Diagnosis

C. Present Social Adjustment

1. Marital Status
2. Residential Status
3. Occupation
4. Number in economic unit

D. Biographical Variables Relating to Chronicity

1. Number of arrests
2. Duration of problem drinking
3. Duration of street drug use
4. Number of suicide attempts

5. Number of Marriages
6. Age at first psychiatric admission
7. Number of psychiatric admissions
8. Duration of psychiatric hospitalizations
9. Duration of opt. psychiatric treatment
10. Years since last discharge from psychiatric hospitalization
11. Number of irregular discharges from inpt hospitalization
12. Number of different residences in the past 10 years
13. Number of psycho-social problems
14. Duration of longest employment
15. Duration of present employment

E. Use of Prescribed Psychotropic Drugs

In this investigation the two groups were compared for significant differences in regard to the baseline variables to determine whether any of these variables correlate with outcome. As suggested by the literature, the variables of age, duration of illness, number of previous hospitalizations, employment, and past history of dropping out are of particular interest in their relationship with outcome.

Research Plan

Human Subjects Review

Approval for this research protocol was received from both the University of Washington School of Social Work Human Subjects Review Committee and the University of Washington Human Subjects Review Committee. Further approval was required and received from the Veterans Administration Health Sciences Research and Development Committee and the Seattle VA Medical Center Health Sciences Research Department who reviewed the proposal for scientific merit. Copies of the letters of approval are in the appendices.

The Setting

Data for this retrospective study of the outcome of former day treatment clients from the Seattle VA Medical Center were collected from April 1, 1983 to July 1, 1983. The VA Day Treatment Program is designed to provide psycho-social and medical rehabilitation to chronically disabled veterans who are, or soon will be, ambulatory in the community. At the time of referral to the program, these veterans show little prospect of becoming socially or vocationally self sustaining. The program is administered by a clinical psychologist and staffed by a parttime psychiatrist, a

social worker, a nurse, and mental health aides. It is located on the grounds of the VA Medical Center, not far from downtown Seattle. It is distinguished programmatically from other specialized outpatient psychiatric services at the VA such as mental hygiene clinic and day hospital, in that it serves a special group of chronic mental patients who need intensive but flexible outpatient treatment and it is distinguished administratively in that its staff form a separate unit with a team approach.

The Seattle VA Day Treatment Program (DTP) is divided into two subprograms: 1) a socialization program held three afternoons per week where the therapeutic goal is maintenance or stability of functioning and 2) the "VIP" program based on a combination of psychoeducational and milieu therapy approaches which meets up to five days weekly, where the therapeutic goal is behavioral change. The clients determine which "courses" they will be taking in the VIP program and they determine the frequency of attendance within specified limits. Both subprograms are open-ended so there is no predetermined termination date. Clients who participate in the DTP are considered to be outpatients living in the community. Stated goals of the program include: 1) self sufficient living in the community 2) reduction in dysfunctionnal symptoms 3) reduction in the need for psychiatric care.

A composite sketch of a typical day in the Seattle V.A. DTP differs considerably depending upon whether the client is in the Social Center program or the "V.I.P." program of the DTP. The Social Center Program runs three days per week from 12:00 P.M. to 3:30 P.M. Beginning at noon there is a half hour medication group for those clients who need it. Between 12:30 and 1:30 the members attend a crafts program such as leather work, painting or candle making. Then, for the last hour, there is either a movie or a Bingo game. One afternoon per week a bus trip is substituted for the above schedule. The bus trip typically tours nearby industry, parks, or sightsees in areas of local interest.

In the "V.I.P." program the client has the option of attending from one to five days per week from 9:00 A.M. to 3:00 P.M. It is a psychoeducational model in that the clients are considered students and they choose courses to take from a core curriculum. On a typical Wednesday morning progress evaluation groups are held for the first one and a half hours. Each group is led by one staff member and has five or so "students". Each group spends this time evaluating individuals' progress toward specific goals during the past week. At 10:30, there is a half hour period for relaxing and refreshments.

Eleven to eleven thirty is set aside for a large community meeting with all the V.I.P. members and all the staff. This is a self led student government meeting. Topics of concern usually center around finances for events, election of officers, choosing volunteer projects, decisions on program policy and general announcements.

There is a half hour break for lunch from 11:30 to 12:00 and then at 12:00 there is a "Rap" group for voicing personal concerns. At 1:00 P.M. there is a choice of either a two hour volleyball class or a one hour relaxation class followed by music appreciation. Other class titles include anger management, bowling, dinner club, humor, discussion groups, assertiveness and weekend planning.

The Subjects

The potential subjects for this study were the cohort of 60 consecutive admissions to the Seattle DTP between February, 1980 and November, 1981. These veterans represent a mixed group in terms of age, sex, chronicity, and diagnosis but all were judged to be chronically mentally ill. All members of this sample completed the initial DTP evaluation and at least part of the orientation so that they all attended day treatment at least once. Thus all subjects can be considered to have initially entered into aftercare

treatment, and they do not fall into the category of referral failures. At the beginning of the present study, seven of the original sixty clients were still active in the DTP.

The Design

The 60 clients from the DTP who formed the cohort were placed in one of two groups representing either program remainers or program dropouts according to their length of stay in the program. Group membership defined the major independent variable in this study. Outcome data were collected on all clients who consented to participate in the study for the period beginning with the date each entered the DTP and ending on the date of the research interview. Thus the length of the period of followup differed from client to client according to the time of entry into the program.

Operational Definitions of Independent and Dependent Variables

Premature termination from day treatment is the major independent variable in this study. It is operationally defined as less than six weeks active participation in the Seattle VA DTP.

The dependent variables are the multiple measures of outcome which were proposed in the working hypotheses: 1) rehospitalization, 2) community tenure, 3) employment, 4) social adjustment, 5) utilization of community services, and 6) overall community adjustment.

The operational definitions of the six categories of outcome are listed below. The first, rehospitalization rate, was the number of hospitalizations for psychiatric reasons occurring during the followup period. The second, community tenure, was defined as the percentage of time spent living in the community versus the percentage of time spent hospitalized as an inpatient for psychiatric reasons during the followup period. Third, employment was measured as the percentage of time employed during the followup period. This measure was further categorized by per cent of fulltime paid work experience per week so that a person working 20 hours a week was considered to have worked 50% of the time while a person working 10 hours a week was scored as having worked 25% of the time. Work was also adjusted to reflect the length of time during followup (number of weeks) which the individual was employed. Fourth, social adjustment was assessed by scores received on the Denver Community Mental Health Questionnaire (22) a standardized community outcome instrument. In this study social adjustment is conceived of as a broad category

reflecting several indices of interpersonal adjustment. Specifically, social adjustment was determined by the responses to items 10-19 on the DCMHQ, scales 2-4 described below. Fifth, community service utilization was defined by the number, category and duration of community services used by the subjects. Community services included: 1) psycho-social treatment, 2) medical treatment, 3) structured or supervised residential support, 4) public health services or social services 5) financial support other than employment, 6) vocational training. The sixth dependent variable, overall community adjustment was operationalized as the total score values from all 12 adjustment scales of the Denver Community Mental Health Questionnaire. This variable is designed to represent a cross-sectional view of the subjects' quality of life. It is not meant to be an index of the preceding five dependent variables.

Data Collection

Pilot Data

As part of this investigation, pilot data were collected by the researcher prior to contacting any of the research subjects, in order to pretest both the interview format and the interview forms. Structured interviews were conducted

with three chronic mental patients who were known to have had multiple psychiatric hospitalizations. They were selected from the Seattle VA Medical Center Mental Hygiene Clinic. The total interview required about 30-45 minutes to complete. Interviewees were able to respond to all of the items in both questionnaire forms. They encountered difficulty in estimating how long they had utilized a given service or treatment but they were all able to make acceptable responses.

Baseline Data

Baseline data had been collected in the DTP at the time of each client's entry into the program and presently exist in the clinical records. These data were made available for use in this research by Jay Shapiro, Ph.D., Chief of the DTP, and by client consent. They had been collected by Morris Young, MSW, Psychology Technician in the DTP, who personally interviewed the veterans. These data, which are listed in Appendix A, represent the clients' demographic and biographic background. Mr. Young cross-checked client responses with data available in the clinical charts as much as possible.

Outcome Data

The first step in the process of collecting outcome data was to locate the veterans in the community. This was accomplished using VA resources. All of the veterans had clinical files and local admission files which listed their known address. In addition, many of the veterans were receiving V.A. financial assistance in the form of monthly checks. Thus, if the address in the clinical file was not current, a computer scan was run from a nationwide V.A. data base to ascertain the most recent mailing address from the financial records.

Once the clients were located contact was made via an introductory letter containing a client consent form and an explanation of the purpose and risks of participating in the study. This letter was sent from the VA by certified mail so that it was known whether it was received by the veteran, and so that his current address could be verified.

Participation was voluntary and there were no negative consequences for any individual as a result of deciding not to participate in the research. The prospective subjects were expected to indicate whether they would participate by returning their responses to the investigator in a prepaid, addressed envelope including a telephone number where they

could be reached to schedule an interview. The time period allowed for response was two weeks. The clients who indicated that they would participate were called within a few days for an appointment, and in most cases were interviewed within a week of their response. Clients who refused to participate were not contacted by the investigator. The introductory letters which were received by the clients as indicated by the return receipt, but not responded to by the prospective subjects were handled by either recontacting the clients by telephone or in person by the Psychology Technician or by the investigator to encourage them to either commit themselves or to decline participation in the research. In the cases where the introductory letter was undeliverable, more recent addresses were located and the process was repeated, in some cases as many as four times.

The Interviews

The interviews were conducted at the convenience of the clients in whatever setting they were most comfortable, whether that was in their own home, at the VA, or in some neutral setting. Most interviews required about an hour to complete. Any subjects who lived too far away to attend a personal interview were interviewed by telephone. Twenty-four of the interviews took place in the VA Medical

Center, 10 were conducted in the clients' homes, two were elsewhere in the community, and 5 were by telephone.

In 40 of the 41 cases interviews were conducted by the investigator himself. In one case the interview was conducted by the psychology technician from the DTP at the request of the client because the client reportedly felt uncomfortable talking to a stranger. The technician was instructed as to the interview format and in the use of the questionnaires by the investigator.

At the time of the interview the study was explained in detail, all questions were answered and subjects signed informed consent forms. They were initially given the date on which they began in the DTP and were asked to recall that particular program and time. Once the investigator was sure that it was clear to the subject which program was being discussed, the interview proceeded. Typically the amount of time spent in interview depended upon how quickly the subjects were able to make decisions and how complex their personal history was during the period of followup. Data concerning the number of rehospitalizations and the period of hospitalization were cross-checked with hospital records for completeness and reliability in all cases.

The Instruments

Instrumentation to collect the outcome data consisted of two structured interview forms. The first instrument was a structured interview questionnaire created for this study entitled "Recent Employment and Use of Community Services" (REUCS). This form assesses outcome from a longitudinal perspective and thus covers the full time period from entry into the DTP until the time of the interview. The interviewer's role was to assist the clients in reconstructing the events of the followup period which were in some cases over three years. A copy of this instrument is provided in the appendix.

The questions included in the Recent Employment and Use of Community Services Form specifically provided responses for the dependent variables of rehospitalization rate (question 1), community tenure (question 1), percentage of time employed (question 2), and community service utilization (questions 3-7). Duration of use of the services and number of services utilized was included in each category to determine whether there is a pattern of short term utilization across many types of services. Each subject was reminded several times during the administration of the REUCS portion of the interview that his responses pertained only to the period since he began day treatment.

Coding and Interview Instructions for the REUCS.

The duration of receipt of treatment services was coded in "weeks" except in cases where the client's involvement was less than one week. In that case it was coded in "days." Employment was coded as a percentage of full time based on 40 hours per week as full time employment.

"Other treatment programs" in question 3 was further defined to the subjects as outpatient psychiatric treatment such as day treatment, day hospital, mental hygiene clinic, group therapy, etc. The question remained open ended however, so that the subject had the opportunity to name treatments not mentioned by the interviewer. The subjects were encouraged to identify any treatment which might fit in that general category.

The use of medical services was coded as none (0), low (1) or high (2) based on frequency of use.

"How many times have you moved?" in question 9 referred only to changes in permanent residence, not to all moves in and out of the hospital.

As a test of the validity of the responses received on the REUCS, the investigator cross checked the results of the answers to question one with data available in the V.A. clinical records. Thus for all V.A. hospital psychiatric admissions, wherever they occurred, it was possible to determine the date and length of admission as well as the number of admissions for each subject.

The Denver Community Mental Health Questionnaire

The second instrument was Ciarlo's Denver Community Mental Health Questionnaire (DCMHQ) (22). The DCMHQ is a multi-dimensional outcome scale designed for use with the full range of outpatient mental health clients. It is available in both structured interview form and a self report version. In this study the interview version was used. Each question was read to each subject and he was asked to indicate which of the four choices best represented his response to that item. Since the test uses branching logic it was frequently possible to skip whole sections of questions which were not relevant. The 79 items in the questionnaire are grouped into 13 analytically derived scales. They are, in order in which they are listed: 1) Psychological distress, 2) Interpersonal isolation- Family, 3) Interpersonal Isolation-Friends, 4) Interpersonal aggression-Friends, 5) Productivity I (at

work), 13) Productivity II (at home), 6) Legal difficulties, 7) Public System Dependency, 8) Alcohol Abuse, 9) Drug use and negative Consequences, 10) Illegitimate Hard Drug use, 11) Illegitimate Soft Drug use, 12) Client Satisfaction. Lower scores on the DCMHQ subscales indicate higher functioning. Raw scores are transformed by use of tables to standard scores distributed with means of 50 and standard deviations of 5 , based on community norms. This instrument assesses a time frame of a month or less on most items and thus provides a "snapshot" of a broad range of outcomes at the time of interview.

In establishing the validity of the DCMHQ, Ciarlo and Reihman (22) reported a range of correlations across raters and scales which varied from .52 to .97. They concluded that client scores are in substantial agreement with scores obtained by independent interviewers and community informants among a mixed group of CMHC clients and former clients. In addition, in a personal communication, Dr. Ciarlo, who developed the DCMHQ, stated that the instrument is suitable for use with day treatment clients.

Both the DCMHQ and the REUCS questionnaires require only client responses. There were no clinical or global judgements to be made by the interviewer, which eliminated

a large proportion of the potential bias in this type of outcome study. The explanations given to the subjects and the structure of the interview was consistent across subjects.

The investigator attempted to stay "blind" as to the individual's group assignment during the interviews. No attempt was made to determine group membership until after all the outcome data had been collected. In reality however, the subjects sometimes revealed their group assignment during the interview by making remarks such as "but I was only in the program for one week...".

Analyses of the Results

All data were coded numerically and entered in a data file containing 70 variables on two computer systems (Digital Vax 11-780 series and the CDC Cyber 170-750 series) at the University of Washington. Both the SPSS and the BMD software statistical packages were used in analyzing the results. Hypothesis testing and group comparisons on baseline variables relied mainly on the student's t-test and chi square to assess group differences. Pearson product moment correlations were calculated in a bivariate correlation analysis between baseline and outcome variables. The Fisher exact probability test from the BMD

package was conducted on nominal level data which had small expected cell frequencies. A survival analysis from the SPSS package was used to compare group curves tracking the number of weeks to first psychiatric rehospitalization. ANOVAs were calculated for many of the group comparisons on baseline variables which had more than two categories. Finally, MANOVAs were run which included the DCMHQ's scales as the dependent variables. These were conducted in order to test for systematic differences between group scores which would emerge when looking at a group of values across a range of highly relevant subscales.

CHAPTER IV

Results

Completion Rates

Four (7%) of the clients had died during the followup period and 3 (5%) were currently incarcerated. These subjects were not included in the study. Of the 53 remaining clients, 41 (77%) agreed to participate, 7 (13%) refused to be interviewed, and 5 (9%) could not be located (see Table 6 for values).

No comparisons were made using baseline characteristics between the clients who participated in the research and the ones who didn't because the Human Subjects Review Committee refused to allow the investigator to use any of the information from the clinical files without client consent.

Sample Characteristics

Using 6 weeks participation as a cutoff point for premature termination dichotomized the total sample (n=60) into two unequal groups. The n for dropouts was 35 (58%) while the n for remainers was 25 (42%). Group membership was

TABLE 6
RESEARCH COMPLETION RATES FOR
DAY TREATMENT SAMPLE

<u>Category</u>	<u>n</u>	<u>Percentage</u>
Completed Interview	41	68
Deceased	4	7
Incarcerated	3	5
Refused to be Interviewed	7	12
Unable to locate	5	8

determined from existing patient records which document the history of the clients' involvement with the DTP. The response rate for the clients who participated in the study (n=41) did not differ between groups. The research sample was composed of 56% dropouts and 44% remainers, extremely close to the proportions in the total sample.

The sample was predominantly single, white, male and of course all were veterans (see Table 7 for values). The groups were fairly well educated with remainers averaging 12.5 years of school and dropouts averaging 12.9 years of school, both considerably higher than nationwide norms.

Sociodemographically there were several marked differences between the two research groups at baseline. All statistical tests are two-tailed unless otherwise noted. Chi-squared values are the corrected values unless otherwise noted. The dropouts were a great deal younger than the remainers ($t = 2.91$; $p = .007$). The dropouts' income was significantly higher, almost twice the amount of remainers' income ($t = -2.20$; $p = .023$). Residential status also differentiated the two groups. Remainers tended to live alone while dropouts lived in structured housing or with family or friends, (Kendall's Tau = 0.25403; $p = .0448$).

TABLE 7
 SOCIODEMOGRAPHIC CHARACTERISTICS OF GROUPS
 AT BASELINE

<u>Variables</u>	<u>Remainers</u> (n=18)	<u>Dropouts</u> (n=23)	<u>Sig. Level</u>
	<u>Values</u> (x)	<u>Values</u> (x)	
Age	44.5	34.5	.007
Education	12.5	12.9	.610
Ethnicity	(#)	(#)	.6431
White	16	19	
Black	2	2	
Asian	0	1	
Spanish American	0	1	
Sex			.3235
Male	18	20	
Female	0	3	
Income (\$/month)	339	602	.023
Marital Status			.6336
Single	7	13	
Divorced	7	5	
Married	3	3	
Separated	0	1	
Widowed	1	1	
Residential Status			.0448
Living Alone	7	4	
With Family or Friends	8	11	
Structured Housing			

The predominant diagnosis was schizophrenia. A total of 41.5% of the sample carried this as a primary diagnosis. The drop out group was significantly over represented with schizophrenic individuals, (raw chi-squared = 4.89; $p = .0269$).

The biographical variables usually related to chronicity in mental illness by and large did not distinguish program drop outs from remainers (see Table 8 for values). Those who terminated prematurely had experienced an average 4.3 psychiatric hospitalizations and had been inpatients for 7.3 months while the remainers averaged 3.9 hospitalizations and had spent 5.5 months hospitalized over their lifetimes. The number of irregular discharges recorded was actually higher for the program attenders but not significantly higher. Duration of street drug use was low for both groups while duration of problem drinking was quite high and equal for both groups. A majority of both groups used psychotropic medications and they had been unemployed 3.7 to 4.4 years. Age at first psychiatric admission was younger for the drop out group and number of suicide attempts was slightly higher. The duration of longest employment clearly differentiated the two groups however. Remainers had been employed an average 12.3 years while dropouts had worked only 4.9 years ($t = 2.60$; $p = .025$). The mean number of arrests at baseline is much

TABLE 8

DIAGNOSIS AND BIOGRAPHICAL VARIABLES
RELATED TO CHRONICITY

<u>Variables</u>	Remainers (n=18)	Dropouts (n=23)	<u>Sig. Level</u>
	<u>Value</u> (#)	<u>Value</u> (#)	
Diagnosis			.0269
Schizophrenia	4	13	
Non-Schizophrenia	14	10	
	(x)	(x)	
# of Arrests	5.1	1.6	.188
Duration of Problem Drinking (years)	24.4	22.9	.804
Duration Street Drug Use (years)	.89	.18	.442
# of Suicide Attempts	.44	.55	.754
# of Marriages	1.2	.70	.220
Age at First Psychiatric Admission	31.2	25.3	.111
# of Psychiatric Admissions	3.9	4.3	.752
Duration Hospitalized (mos.)	6.4	7.3	.740
Duration Outpatient Treatment (mos.)	5.5	7.3	.551
# of Irregular Discharges	.83	.57	.474
Duration of Longest Employment (years)	12.3	4.9	.025
Years Since Last Employed	3.7	4.4	.651
Use of Prescribed Psychotropic Medications (%)	61.1	82.6	.2354

higher for those who remained in treatment but this statistic is badly skewed due to an outlier in the remainers group. There is no statistically significant difference between these groups based on that variable.

Outcome

Due to the variable period of followup, it is important to note that the average number of months of followup was not different between groups. The mean length of the followup period for remainers was 27.4 while the mean for dropouts was 29.7. There were however, a number of highly significant differences between groups at the time of followup. The following numbered sections refer to the major dependent variables in this study.

1. Psychiatric Rehospitalization

Dropouts had significantly more rehospitalizations for psychiatric reasons ($t = -3.79$; $p = .002$). They also spent significantly more time hospitalized, ($t = -2.50$; $p = .015$). See Table 9 for values. The proportion of dropouts who were rehospitalized during readmission was nearly significantly greater (chi-squared = 3.685 1 df; $p = .0549$). The drop out group was also more transient with an average

TABLE 9

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MEAN VALUES OF OUTCOME VARIABLES
AT TIME OF FOLLOWUP

<u>Variables</u>	Remainers (n=18)	Dropouts (n=23)	<u>Sig. Level</u>
	<u>Value (x)</u>	<u>Value (x)</u>	
# Months in Followup Period	27.4	29.7	.293
# of Psychiatric Readmissions	.7	2.6	.002
# of Weeks to First Readmission	87.8	62.5	.072
% of Time Hospitalized	1.9	8.9	.015
% of Time Employed	7.3	9.7	.659
% Ever Rehospitalized	44.4	73.9	.054
% Ever Worked	27.8	39.1	.668
% Ever Used Other Outpatient Treatment	38.9	87.0	.003
# of Moves in Residence	1.0	2.6	.013
<u>DCMHQ Scales</u>			
# Name			
1. Psychological Distress	8.0	10.8	.135
2. Interpersonal Isolation - Family	7.6	6.1	.078
3. Interpersonal Isolation - Friends	5.9	6.5	.418
4. Interpersonal Aggression - Friends	.9	.9	.968
5. Productivity (work)	11.0	10.4	.567
13. Productivity (home)	8.8	10.6	.057
6. Legal Difficulties	0.0	0.1	.213
7. Public System Dependency	5.1	5.3	.769
8. Alcohol Abuse	2.0	2.1	.925
9. Drug Use & Neg. Consequences	4.5	5.1	.592
10. Illegitimate Hard Drug Use	0.0	0.1	.328
11. Illegitimate Soft Drug Use	0.2	0.1	.865
12. Satisfaction (with program)	4.2	7.0	.005

of 2.6 moves in primary residence versus 1.0 moves for the remainders. This difference was significant ($t = -2.46$; $p = .013$). The mean number of weeks to first readmission favored the group remaining in treatment by an average 25 weeks but did not reach statistical significance ($t = 1.82$; $p = .072$).

A survival analysis was conducted to compare group differences as to the number of weeks that a client "survived" in the community after admission to the DTP, before having to be readmitted to a psychiatric hospital. See Table 10 and Figure 1 for comparisons. The results of this test showed significant differences between groups (Lee-Desu statistic= 4.278, $p=.0386$). Those clients who remained in day treatment for six weeks or more survived significantly longer in the community than those who dropped out.

The SPSS program "Breakdown" was used to analyse the variable "number of psychiatric readmissions during followup period". This variable was broken down by residential status and group. An ANOVA was performed as part of the program to compare group differences. The results are listed in Table 11. The mean value for number of psychiatric admissions during followup was 1.36 for those clients living alone, 1.21 for those clients living

TABLE 10

ANALYSIS OF TIME TO FIRST
READMISSION BY GROUP

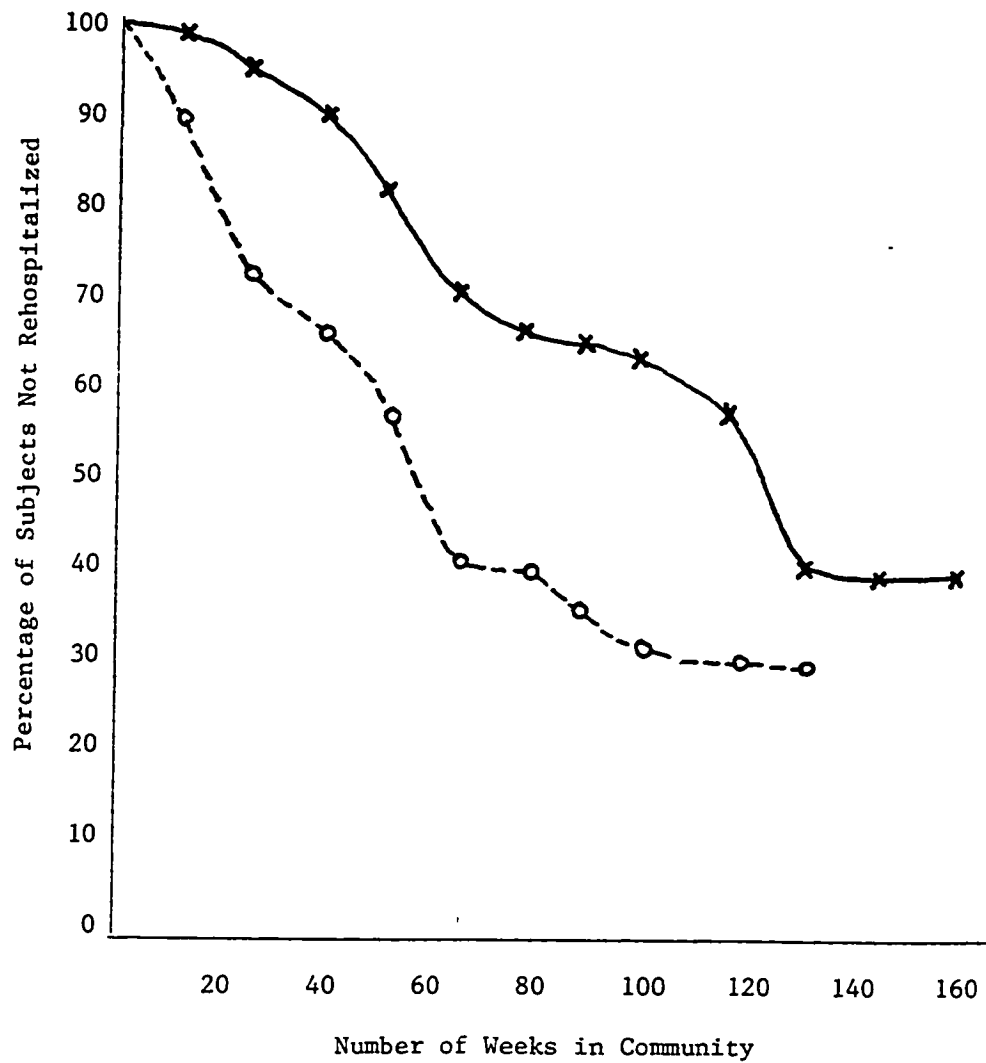
<u>Group</u>	<u>n</u>	Number <u>Uncensored</u>	Number <u>Censored</u>	Median Number <u>Weeks Surviving</u>
Remainers	18	8	10	120.50
Dropouts	22	16	6	56.33

Comparison of Group Experience of Time to First Rehospitalization

<u>Test</u>	<u>Value</u>	<u>Significance</u>
Lee-Desu	4.278	.0386

FIGURE 1

HOSPITALIZATION-FREE INTERVAL CURVES BY GROUP



Remainers = ----X----

Dropouts = -- o --

TABLE 11

BREAKDOWN OF NUMBER OF READMISSIONS
BY RESIDENCE CATEGORY AND GROUP

<u>Residence Category</u>	<u>Mean # of Readmissions</u>
Alone	1.36
With Family or Friends	1.21
Structured Housing	3.18
<u>Analysis of Variance</u>	<u>Main Effect of Residence</u>
F. Value = 3.58	Sig. of F = .0375
<u>Residence Category by Group</u>	
Alone	
Remainers	.85
Dropouts	2.25
With Family of Friends	
Remainers	.25
Dropouts	1.90
Structured Housing	
Remainers	1.66
Dropouts	3.75

with family or friends, and 3.18 for those living in structured housing. In all of these living situations the mean number of readmissions was markedly higher for the dropout group. The F value in the ANOVA for the residence main effect was 3.585 and the significance level was .0375.

2. Employment

Both the values representing employment during followup favored the drop out group. The percentage of individuals who were ever employed during the followup period, and the mean percentage of time employed were both greater for the drop out group, although the differences between groups did not reach statistical significance.

3. Use of Community Services and Outpatient Treatment

The clients' use of community services and outpatient treatment differed between groups (see Table 12 for values). The dropout group sought other forms of outpatient psychiatric care significantly more frequently than the remainers. Eighty-seven percent of the drop out group used other kinds of psychiatric treatment compared to 38.9% of the remainers, (chi-squared = 8.347 1 df; $p = .0039$). The predominant form of outpatient psychiatric care the premature termination group chose was the V.A.

TABLE 12
USE OF COMMUNITY SERVICES
DURING THE FOLLOWUP PERIOD

<u>Variable</u>	Remainers (n=18)	Dropouts (n=23)	<u>Sig. Level</u>
	<u>Value (x)</u>	<u>Value (x)</u>	
% Using MHC	27.8	68.2	.026
% Followup Period in MHC	66.9	77.5	.557
% Using Day Treatment	16.7	39.1	.2213
% Followup Period in Day Treatment	56.8	31.9	.483
% Using Day Hospital	16.7	4.3	.4301
% Followup Period in Day Hospital	18.9	.9	.248
% Using Alcohol Treatment	11.1	17.4	.905
% Followup Period in Alcohol Treatment	52.7	70.7	.781
% Using Halfway Housing	27.8	43.5	.4793
% Followup Period in Halfway Housing	45.6	45.3	.99
% Using Vocational Rehabilitation	22.2	17.4	1.0
% Followup Period in Vocational Rehabilitation	34.2	43.4	.767
% Using Social Services/Public Health Services	5.6	8.7	1.0
% Followup Period Using Social Services/Public Health Services	100.0	54.5	.5
% Use of Medical Services			
None	38.9	60.9	.0538
Low Use	27.8	26.1	
High Use	33.3	13.0	
% Use of Financial Support			
Any Category	94.4	87.0	.7859
V.A.	50.0	73.9	.2110
Social Security	22.2	30.4	.3151
Public Assistance	33.3	17.4	.4161
% Followup Period on Public Financial Support	60.97	77.63	.784

Mental Hygiene Clinic (68.2%). Once these clients entered the Mental Hygiene Clinic they tended to remain in treatment averaging 77.5% of the followup period as active clients. Thirty-nine percent of the drop out group tried day treatment at least once more during the followup period but they were only enrolled 32% of the time. Few individuals from either group used day hospital, social services, or public health services.

Clients who used alcohol treatment services also tended to stay in that treatment for a long period of time, remainers = 57% of the followup period and drop outs 70.7% of the followup period. Almost half of the premature terminators used halfway housing. They used this service an average of 45% of the followup period. About one fifth of day treatment clients from both groups used vocational rehabilitation programs but the drop outs tended to stay in the program longer than people from the remainers group.

The use of community medical services also differed between groups and was of borderline significance (Kendall's Tau = $-.24162$; $p = .0538$). The individuals who remained in day treatment were more likely to seek medical treatment and to use medical services more frequently than dropouts.

A high percentage of both groups were dependent on public sources of financial support - 94.4% of the remainers and 87% of the premature terminators. They relied on public support as their principal source of income through most of the followup period - 81% of the time for the remainers group and 78% of the time for the premature terminators group. The majority of both groups received V.A. financial support. The remainers tended to rely on Public Assistance for a secondary source of income while the drop out group more frequently received social security in addition to V.A. benefits. None of the differences in the use of public financial support by the two groups reached statistical significance.

The Fisher Exact Probability Test was used in comparing group differences on dichotomous variables which had small expected cell frequencies. The variables included were: 1) use of day hospital 2) use of alcohol counseling 3) use of vocational rehabilitation 4) use of social and public health services 5) Use of financial assistance from any source 6) use of social security financial assistance 7) use of public assistance and 9) sex. None of the results of these tests were significant.

The SPSS program "Breakdown" was also used to analyse the variable "% of followup time spent in mental hygiene clinic". This variable was broken down by residential status and group. An ANOVA was performed as part of the program to test for group differences. The mean values for the percentage of time spent in mental hygiene clinic were 15.66 for those clients living alone, 22.55 for those clients living with family or friends, and 75.88 for those clients living in structured housing (see Table 13). None of the dropouts who lived alone used a mental hygiene clinic. The mean use was substantially higher for DTP dropouts however, in both other residence categories. The between groups F value for the ANOVA was 9.53 and the level of significance was .0005.

4. Social Adjustment and Overall Community Functioning.

According to the results of the scores on the DCMHQ there are no significant differences in current social adjustment or community functioning between groups (see Table 9). The premature terminators scored moderately worse on the scales for psychological distress, interpersonal isolation from friends, productivity in the home, and public system dependency. Differences in productivity at home were of borderline significance ($t = -1.96$; $p = .057$). They scored about the same as remainders on the scales for interpersonal

TABLE 13

BREAKDOWN OF MENTAL HYGIENE CLINIC USE
BY RESIDENCE CATEGORY AND GROUP

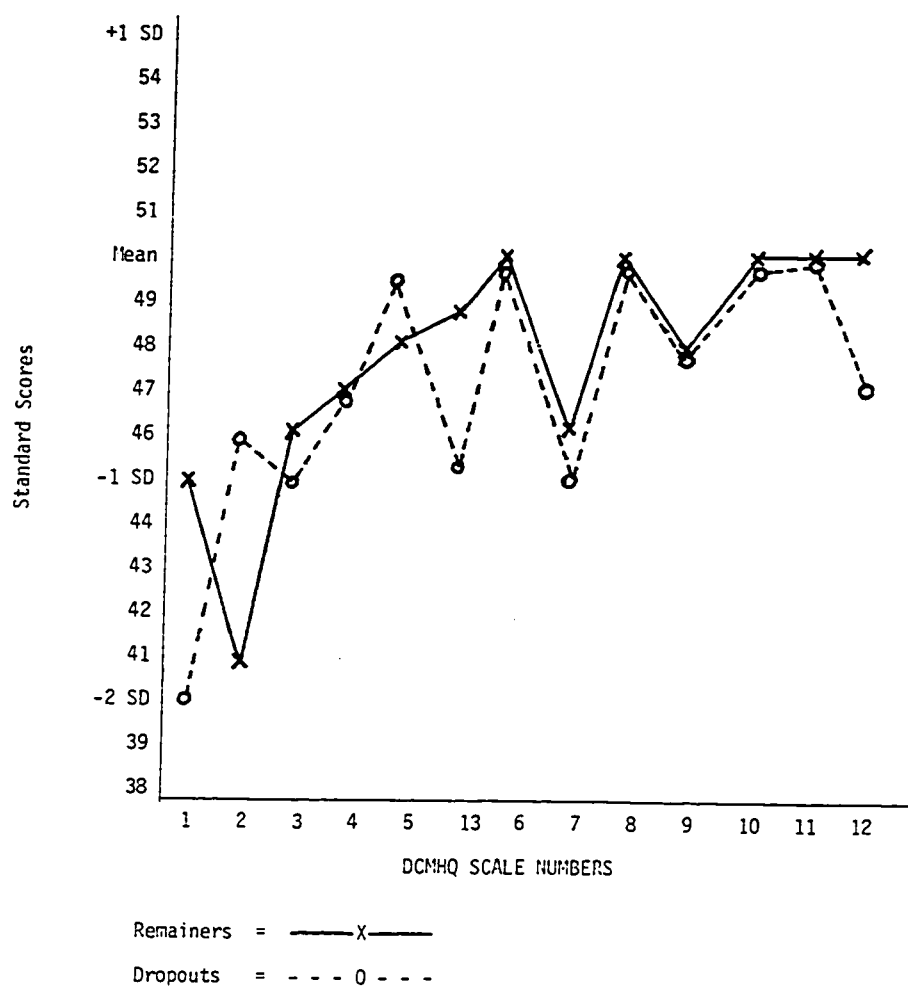
<u>Residence Category</u>	<u>Mean % Time MHC Used During Followup Period</u>
Alone	15.6
With Family or Friends	22.5
Structured Housing	75.8
<u>Analysis of Variance</u>	<u>Main Effect of Residence</u>
F Value = 9.53	Sig. of F = .0005
<u>Residence Category by Group</u>	<u>Mean % Time MHC Used During Followup Period</u>
Alone	
Remainers	22.3
Dropouts	0.0
With Family or Friends	
Remainers	7.8
Dropouts	33.2
Structured Housing	
Remainers	38.2
Dropouts	90.0

aggression against friends, illegitimate hard drug use, legal difficulties, alcohol abuse, drug use and negative consequences and illegitimate soft drug use. The drop outs scored moderately better than the remainers on two scales, interpersonal isolation from family and work productivity. The only significant difference between groups on any of the scales was on the program satisfaction subscale. Remainers registered significantly higher satisfaction with the DTP, ($t = -3.01$; $p = .005$).

While the differences in group performance are not pronounced on most of the Denver subscales, there is a clear pattern of below normal functioning for both groups on most of the scales. The DCMHQ was normed by randomly selecting 500 residents in the Greater Denver area for comparison. Each subscale has its own set of standard score equivalents. Neither of the groups scored above the norm on any of the scales. (See Figure 2). The DTP clients are currently experiencing a moderate degree of psychological distress, interpersonal isolation, public system dependency and a lack of productivity. They are not experiencing problems with drug or alcohol abuse, legal difficulties or interpersonal aggression. Those who use prescription drugs experience some negative side effects as a result of the dependency.

FIGURE 2

DCMHQ RESULTS IN STANDARD SCORE EQUIVALENTS



Scores on the Psychological Distress subscale and the Interpersonal Isolation-Family subscale were the most aberrant ranging from one to two standard deviations below the norm. Performance on the remainder of the scales varied from 0 to 1 standard deviations below the norm for both groups in a somewhat overlapping pattern.

A MANOVA program from SPSS was used to test for differences between groups across the set of scores on the DCMHQ subscales. In the first MANOVA the following subscales were included as dependent variables: 1) psychological distress 2) interpersonal isolation-family 3) interpersonal isolation- friends 4) interpersonal aggression 5) productivity at work 6) legal difficulties 7) public system dependency 8) drug use and negative consequences and 9) program satisfaction. The F values and probabilities associated with the multivariate test were not significant (see Table 14). A second MANOVA was run which included all of the above listed scales as dependent variables as well as the subscale named "productivity at home". In this run the eigenvalue problem failed to converge, so no multivariate tests were reported.

Relationship Between Baseline and Outcome Variables

TABLE 14

UNIVARIATE AND MULTIVARIATE ANALYSIS OF
DCMHQ RESULTS

Univariate F Tests

<u>Scale #</u>	<u>Scale Name</u>	<u>F</u>	<u>Sig. of F</u>
1	Psychological Distress	2.07	.157
2	Interpersonal Isolation - Family	3.28	.077
3	Interpersonal Isolation - Friends	.67	.416
4	Interpersonal Aggression - Friends	.00	.966
5	Productivity (at work)	.29	.587
6	Legal Difficulties	1.28	.265
7	Public System Dependency	.09	.764
9	Drug Use and Negative Consequences	.27	.603
12	Satisfaction (with program)	9.05	.005

Multivariate Test

<u>Test</u>	<u>Value</u>	<u>Approximate F</u>	<u>Sig. of F</u>
Hotellings	.533	1.836	.101

For descriptive and explanatory purposes, Pearson Correlations were run between all of the baseline variables with all of the outcome variables. Of all these correlational results, only those which represented significant relationships between baseline variables and those outcome variables which showed significant group differences will be reported. These correlation values are listed in Table 15. The outcome variables which showed group differences and were continuous variables were: number of readmissions, percent of time hospitalized, percent of time in MHC, and number of changes in residence. Moving in and out of the hospital was not scored as a change in residence. A move from the hospital to the community was only scored as a change if the client moved into a different home than he had left.

Age was negatively correlated with the number of changes in residence ($r = -.4286$, $p = .005$) and approached statistical significance in a negative correlation with number of readmissions, ($r = -.294$, $p = .062$). Younger clients tended to move more often and be rehospitalized more frequently. Age was also positively correlated with number of weeks to first readmission ($r = .3145$, $p = .048$) and use of medical services ($r = .4204$, $p = .006$). Age was negatively correlated with use of other outpatient psychiatric treatment ($r = -.4482$, $p = .003$) and rehospitalization during followup ($r =$

TABLE 15
CORRELATIONS OF SIGNIFICANT OUTCOME
AND BASELINE VARIABLES

	# Hosp. Readmis- sions	% Time Not in Hosp.	% Time in MHC	% Moves in Residence	Satisfaction with DTP
Age	-.2945 (41) p=.062	-.1721 (38) p=.302	-.2195 (40) p=.174	-.4286 (41) p=.005	-.0840 (41) p=.598
Sex	.1166 (41) p=.468	.1761 (38) p=.290	.3801 (40) p=.016	-.1584 (41) p=.322	.1337 (41) p=.405
Income	.2724 (41) p=.085	.0714 (38) p=.670	.1736 (40) p=.284	.1024 (41) p=.524	-.2223 (41) p=.162
Residential Status	.3118 (41) p=.047	.0084 (38) p=.960	.5168 (40) p=.001	.1639 (41) p=.306	-.0105 (41) p=.948
Age at First Admission	-.3248 (37) p=.050	-.1765 (34) p=.318	-.2486 (36) p=.144	-.3729 (37) p=.023	-.0832 (37) p=.624
# of Past Hospitalizations	.4589 (41) p=.003	.0444 (38) p=.791	.3710 (40) p=.018	.3205 (41) p=.041	.1229 (41) p=.444
Duration Psychiatric Hospitalization	.5404 (40) p=.000	.1072 (37) p=.528	.3760 (39) p=.018	.2967 (40) p=.063	.0714 (40) p=.661
# of Irregular Discharges	.2365 (41) p=.137	.2071 (38) p=.212	.0795 (40) p=.626	.3067 (41) p=.051	.2798 (41) p=.076
Duration of Longest Employment	-.2827 (41) p=.073	-.2440 (38) p=.140	-.2652 (30) p=.098	-.4111 (41) p=.008	-.2107 (41) p=.186
Use of Prescribed Drugs	.2986 (41) p=.058	.2887 (38) p=.079	.4774 (40) p=.002	.3004 (41) p=.056	.0892 (41) p=.579
# of Weeks in DTP	-.3828 (41) p=.013	-.3082 (38) p=.060	-.4135 (40) p=.008	-.3184 (41) p=.042	-.4110 (41) p=.008

-.3013, $p = .056$).

Income was positively related to number of readmissions, ($r = .3526$, $p = .026$) and residential status (scored as 1=living alone, 2=living with family or friend, 3=structured housing) was positively related to both number of readmissions ($r = .3118$, $p = .047$) and percent of time in MHC, ($r = .5168$, $p = .001$).

Age at first admission was negatively correlated with both number of readmissions, ($r = -.3248$, $p = .05$) and number of changes in residence, ($r = -.3729$, $p = .023$). Thus individuals who were first hospitalized at younger ages tended to have more readmissions and moved more frequently.

The number of past psychiatric admissions was positively related to the number of rehospitalizations during followup ($r = .4589$, $p = .003$), the use of MHC ($r = .3710$, $p = .018$), and the number of changes in residence ($r = .3205$, $p = .041$). The duration of past psychiatric hospitalizations was also positively correlated to the number of readmissions during followup ($r = .5404$, $p = .000$) and percent of time spent in MHC ($r = .3760$, $p = .018$).

The number of irregular discharges a person had had in the past from inpatient treatment was positively related to the number of changes in residence during followup ($r = .3067$, $p = .051$). Those people who had worked the longest in their past tended to move less often during followup ($r = -.4111$, $p = .008$).

The use of prescription psychotropic drugs at baseline was positively correlated with the use of mental hygiene clinic ($r = .4774$, $p = .002$). The number of weeks a client spent in the DTP was negatively correlated with the number of readmissions at followup ($r = -.3828$, $p = .008$). Thus the people who stayed in the DTP had fewer readmissions, used MHC less, were more stable in their residence and were more satisfied with the program.

CHAPTER V

Discussion

Major Hypotheses:

1. Dropouts have higher rates of psychiatric hospital readmission than program remainers.

The findings of this study strongly support the alternative hypothesis that DTP dropouts are rehospitalized more frequently than program remainers. This conclusion is consistent with the literature in that chronic mental patients who either don't enroll in aftercare treatment or who terminate prematurely have higher rates of psychiatric rehospitalization (15, 16, 19, 79, 119, 120).

This variable is a critical one in assessing aftercare because we assume that clients who do not need to be hospitalized are less "sick" and more independent. If they do not need to be rehospitalized these clients are obviously reintegrating and readjusting to community life.

Looking at rehospitalization rates alone however, does not give information about the amount of time spent hospitalized in a given followup period or about the

clients' quality of life while living in the community. It is possible for example, that a client could be rehospitalized once during a two year followup and spend 18 months in an inpatient setting while another client might be rehospitalized several times during the same followup period and yet spend only a few weeks hospitalized as an inpatient. Thus, the second dependent variable, community tenure, was included in order to evaluate the dimension of amount of time spent hospitalized, in combination with the rate of rehospitalization.

2. Dropouts have lower community tenure rates than remainers.

Consistent with the results of the first hypothesis and the literature (119) the findings of this study support acceptance of the alternative hypothesis that DTP dropouts spend less time living in the community and more time hospitalized than do program remainers. DTP dropouts become seriously impaired to the point of not being able to remain in the community more frequently and for longer periods of time than do program remainers.

An additional finding of this study is that program dropouts "survive" in the community for a shorter period of time. In the survival analysis group curves were plotted

which reflected the percentage of clients in each group who had not been rehospitalized at any given point during the followup period. The dropout group's curve showed consistently higher rates of rehospitalization during the three year period. This analysis includes a category called "censored" subjects. This refers to subjects who never relapse, but who drop out of the analysis at differing lengths of community tenure because of varying times of admission into the study. That is, because of different admission dates, subjects are at risk of readmission for different lengths of time. Subjects who are not readmitted are retained in the analysis for the full length of their risk period, and then dropped, or "censored" from the sample that was at risk for a longer duration of time. In this analysis, when conditional probabilities were calculated which took into account the variable of exposure to risk, the dropout group was found to have relapsed sooner than did the group of remainers.

The fact that premature terminators from day treatment are hospitalized more often, spend more time as inpatients and relapse sooner than program remainers identifies this group as a high risk category among chronic mental patients. Whatever the source of this negative outcome is, it is clear that these clients require more support and are more tenuously integrated in the community than those

patients who remain in day treatment.

3. Dropouts are not as well socially adjusted in the community as remainers.

There was no support for the alternative hypothesis that dropouts are less well socially adjusted. Instead, the findings of this study support acceptance of the null hypothesis of no current differences in social adjustment between groups. This finding is the result of a cross-sectional assessment of social adjustment based on a period of a month prior to the interview. It is an unexpected finding in that intuitively one would think that people who are prone to becoming psychiatrically disabled would have a poorer social adjustment in the community since social isolation and interpersonal problems are frequently reported adjuncts of mental illness. There is support for the notion that both dropouts and remainers are not well socially adjusted in the community though, because they scored below community norms on all of the scales included in this variable. This is consistent with other findings in the literature which report that chronic mental patients are socially isolated (69).

In Figure 2 one can see that the dropout group scored almost a full standard deviation above the remainers on the scale Interpersonal Isolation-Family. In addition, the number of weeks spent in the DTP was positively related to reported isolation from family. It is possible that dropouts are more dependent on their families for the day to day interpersonal interaction that remainers receive from the DTP.

4. There is a difference in the overall community adjustment between dropouts and remainers.

Little support was found for the alternative hypothesis of differences in overall community adjustment between groups. Using the DCMHQ as a multidimensional quality of life scale, there is only borderline evidence that DTP dropouts are faring any worse than program remainers while they are living in the community. One exception to this is the subscale representing psychological distress. The dropout group fell more than 1 standard deviation below the remainers group and 2 standard deviations below community norms with respect to this scale. This indicates that the dropout group is experiencing a significant amount of psychological discomfort compared to the general population and suggests that they are feeling more distress than the remainers. This level of discomfort may well influence an

individual's ability to tolerate the close and frequent interactions required by a program such as day treatment and ultimately may influence his decision to drop out.

Another exception is the nearly significant difference on the productivity at home scale, favoring the remainers. This result suggests that dropouts take less responsibility for tasks and instrumental functioning at home. Further, it suggests that these responsibilities must fall to other members of the household such as family, friends, or staff since DTP dropouts are less likely to live alone.

Neither group reported any significant problems with hard or soft drug abuse, alcohol abuse or legal difficulties within a month of being interviewed. It should be noted however, that three (5%) of the original sample were not included in this research because they were incarcerated at the time of the study. This is in itself a reportable outcome and supports the notion that the chronically mentally ill have legal difficulties. It is possible that several more of the clients of the original sample who were not located, were also incarcerated at the time of the study. There is no support for group differences however, in relation to these particular scales.

5. Dropouts use different kinds of community services than remainers.

a) Psychiatric Treatment

The findings of this study strongly support acceptance of the alternative hypothesis that dropouts do enroll in and use different kinds of community outpatient treatment services than remainers. Eighty seven percent of the DTP dropouts did not reject all aftercare treatment. They sought and used other kinds of outpatient psychiatric treatment, predominantly from the VA Mental Hygiene Clinic, as an alternative to the DTP. Generally clients are seen from once a week to once every few months in the Mental Hygiene Clinic, frequently for medication only. In fact, the use of prescription psychotropic drugs at baseline was highly positively correlated with the use of a mental hygiene clinic in this study. It is possible that the dropouts were seeking a "medication only" alternative to the DTP or at least an alternative which required less interpersonal or a briefer time commitment in order to stay in treatment. The fact that treatment dropouts from the DTP were not premature terminators from other types of aftercare was also an unexpected finding in this study. In fact, if one looks at the high proportion of dropouts in alternative aftercare programs and the high percentage of time spent in those programs, it appears that premature

terminators are using as much or more outpatient psychiatric support than DTP remainers.

b) Housing

In looking at different categories of residential support, one finds that the more structured the type of housing that is used by a client, the more likely he is to drop out of DTP and to use the Mental Hygiene Clinic. One possible explanation for the high use of the Mental Hygiene Clinic by clients living in structured housing is that usually group homes and halfway homes require their clients to participate in some form of psychiatric aftercare. A Mental Hygiene Clinic tends to be the least intrusive and demanding of aftercare alternatives and would thus be a likely choice for people who are compelled to attend aftercare.

c) Medical Services

DTP remainers used more community medical services than did dropouts. This may be explained in part by the difference in age between the two groups. DTP remainers were older and thus were possibly more likely to be in need of medical care. Support for this notion is reflected by the significant positive correlation between age and use of medical services.

d) Financial Assistance

Both groups were highly dependent on public sources of financial support. The premature terminators had a much higher mean monthly income though, and were less dependent on Public Assistance as a source of income. It is possible that many of the DTP remainers felt compelled to stay in the program in order to continue to receive financial benefits. In reality, those clients who were receiving welfare while in the DTP would also have been eligible to receive public assistance if they had regularly participated in other forms of psychiatric aftercare and had been considered disabled by the staff in those programs. Thus, secondary gain could be considered an incentive for remaining in aftercare but not necessarily a motive for remaining in day treatment specifically.

6. There is a difference in the rate of employment between dropouts and remainers.

The findings of this study support the acceptance of the null hypothesis of no differences between groups in rate of employment. This is consistent with the literature reviewed in regard to aftercare attenders versus non attenders (5). Employment rates actually favored the drop out group on both the REUCS interview and the employment

subscale of the DCMHQ. It should be noted that this particular V.A. Day Treatment Program is not vocationally oriented. In contrast, some other local day treatment programs work specifically towards developing or redeveloping employment skills and employment opportunities. Therefore, there may well be a selection bias operating against choosing clients who are vocationally motivated. Remaining in and participating regularly in the V.A. day treatment program may even preclude the possibility of simultaneous full time employment. It is curious that the remainers had significantly longer premorbid work histories than program dropouts, yet fared worse in becoming employed. Premorbid functioning has traditionally been a strong predictor of future behavior among the chronically mentally ill. One would expect the DTP remainers to excel in employment rates based on past history alone. It is also possible that age is a confounding factor when looking at length of previous employment. Since the remainers group is older, those individuals have had more time to have been employed.

Differences Between Groups at Baseline

Age

Age emerged as an important demographic variable in distinguishing between DTP remainers and dropouts. Premature terminators were considerably younger and more transient than remainers. This is consistent with the reports of the recent literature on young adult chronic mental patients (11, 101). These clients are described as geographically mobile and exceedingly frustrating to caregivers because of their short term relationship with treatment programs and their tendency to seek crisis intervention rather than intensive long term outpatient care. Since it has been suggested that the adjustment of the chronically mentally ill improves over time (58) however, age may well be a confounding variable which represents a maturation threat to the internal validity of this study.

Diagnosis

Diagnosis was also a significant variable in differentiating the groups at baseline. Dropouts were predominantly schizophrenic. Outcome, however, was not related to diagnosis. When the outcomes of schizophrenics and non-schizophrenics were compared, there were no significant correlations with the major dependent

variables. This is not consistent with the findings of Harrow, et. al., (59) who reported that during a 2.7 year followup only 14-17% of their schizophrenic study group were functioning effectively and that their functioning in all areas (adjustment, symptom levels and relapse rates) was significantly worse than that of non-schizophrenics.

Income

The mean monthly income of premature terminators at baseline was nearly twice that of DTP remainers. Veterans who receive full disability income from the V.A. frequently have monthly incomes in excess of \$1200 per month. It is possible that the higher income group is less motivated to make the kinds of changes and to achieve the goals advocated in the DTP.

Sex and Ethnicity

In this sample all the women, Spanish Americans and Asians dropped out of the DTP. Blacks were evenly divided with two in the dropout group and two in the remainers group. Since the numbers in these categories were small, it is not possible to draw conclusions about premature termination on the basis of sex and race. Clinically and administatively these findings require scrutiny by program directors

however, to assess whether the DTP is meeting the needs of women and minorities.

Residential Status

Clients who dropped out of the DTP tended to live in structured housing at the beginning of the study. People who need the support and supervision which structured housing offers are likely to be the same people who are at high risk for relapse. Clients who live with primary family members are not necessarily living in a supportive network. As Vaughn and Leff point out (115) families with high "expressed emotion" are likely to have a negative impact on chronic mental patients. At the same time, if they are living with family members rather than independently because they are not able to live alone either for financial or emotional reasons, then this is yet another factor which places these clients at higher risk for relapse.

Another explanation for the high correlation between structured housing and relapse is related to the tendency for discharge planners to place patients in structured housing settings after repeated failures in living in the community. The clients with high readmission rates are not trusted to live independently since clinicians fear non

compliance with treatment plans, and relatives become "burned out" in regard to taking responsibility for them.

Biographical Variables Associated with Chronicity

The biographical variables generally associated with and predictive of poor community adjustment did not differentiate DTP dropouts from remainers in this study. Number of past psychiatric hospitalizations, duration of past hospitalizations and even number of irregular discharges at baseline were not predictive of group outcomes. This finding is unexpected and puzzling. When looking at the whole sample, however, the variable of number of past hospitalizations was positively related to the number of readmissions during outcome. The duration of past hospitalizations at baseline was also positively related to the number of readmissions during the outcome period. It is noteworthy that time spent in the DTP was negatively correlated with being rehospitalized during followup and the number of readmissions during followup. This variable was also positively correlated with time to first readmission. These correlations support the notion that regardless of any arbitrary definition of premature termination, such as the six weeks figure used in this study, people who remain in the day treatment program tend to be readmitted to inpatient care less frequently and

remain well in the community longer.

In trying to understand the differential outcomes of DTP dropouts and remainers it becomes tempting to infer causality between program participation and outcome. This research study should not be interpreted as attempting to explain outcome. It is assumed that the groups were non equivalent at baseline and that differences which arose during the followup period could be due to any one, or a combination of a number of variables including: 1) individual characteristics, 2) environment, 3) past history, 4) program characteristics and personnel, 5) utilization of other community services, and 6) interactions of any of the above variables. Therefore, in this study, it was not possible to determine what contribution program participation made to the subjects' outcomes.

Speculation on Reasons for Dropping Out of Day Treatment

Although this study was not designed to answer the question of why individuals dropout of day treatment, and while no systematic data were collected which would permit firm conclusions to this question, nevertheless, it is possible to speculate about reasons for premature termination from day treatment.

During the course of the research interviews, the subjects offered spontaneous information about their perceptions of the DTP. In fact this was encouraged at the end of the interview when the investigator asked each subject, "Is there anything else you would like to add or discuss about the DTP which you think might be helpful to us?". It is clear from the results of the program satisfaction scale on the DCMHQ that the premature terminators were dissatisfied with their experiences. Their responses to the final interview question tended to fall into one of the following three categories:

1. "Day Treatment was O.K. but I really needed to get a job." A number of subjects reflected the feeling that they saw the DTP as a source of social interchange and activity but that their primary goal was to become employed either for financial or psychological reasons. They did not perceive the DTP as being able to help them towards that goal.
2. "I was pretty confused then; I really didn't know what I wanted." The subject responses which fell into this category reflected an absence of insight into the goals or purpose of the DTP at the time of entry and high personal, intrapsychic distress. Several of these subjects stated that in retrospect they believed that the DTP would have

been helpful to them if they had remained in it.

3. "I'm not a group person. I don't like talking about myself in front of a lot of strangers." These subjects seemed to feel alienated from and distrustful of both the other clients and the staff from the DTP. Some feared that the research project was in fact a scheme to try to re-engage them in the DTP. They wanted no part of the program and believed that it had nothing to offer them personally.

These categories were formed on the basis of subjective, qualitative data. They could serve as hypothesized subgroups forming the basis of future research aimed at discovering why so many clients drop out of day treatment. At the same time, program administrators and staff may be able to use this information in evaluating their programs' responsiveness to clients. For example, staff who screen day treatment candidates at the intake interview may want to discuss the subjects' expectations in regard to employment more thoroughly. Program administrators may want to reconsider their lack of a vocational training component and instead include elements which would prepare some clients for work at some point.

Intake staff could also pay more attention to the level of intrapsychic distress through the use of a brief printed test. Those clients who scored high in this category might be given special attention in the form of pre-therapy training which would be aimed at reducing confusion and uncertainty while increasing trust and a sense of continuity in entering the DTP.

Similarly, clients who have never had positive group or interpersonal interactions in outpatient psychiatric aftercare may need to confront and extinguish those fears as the first task in therapy if they are to be "hooked" into treatment. Clients with this particular concern or fear of group treatment could be targeted at intake, immediately linked with an individual case manager, and then placed in a pre-therapy group which would serve as an introduction to group therapy.

Validity of Subject Responses

One of the basic assumptions of the design of this investigation is that chronic mental patients can accurately recall their treatment experiences and use of community services over a period of 2-3 years. In order to test the validity of client responses, the investigator cross-checked item responses on two variables with

information available in the clinical charts. Since nearly all of the psychiatric hospitalizations were recorded in V.A. medical records along with dates of readmission and length of stay, it was convenient to use the number of psychiatric hospital readmissions and community tenure variables to test for response validity.

V.A. medical records were obtained and reviewed for all 41 subjects in the study. Thirty-seven (90.2%) reported the number of psychiatric readmissions they had had during followup accurately. The remaining four (9.8%) were accurate within one or two readmissions. In recalling the amount of time spent hospitalized during followup, thirty-two (78%) were able to estimate to within 1 week the period they had spent as an inpatient. The majority of those who were not completely accurate in their estimation of community tenure freely admitted at the time of interview that it was confusing or difficult for them to recall. In no case was there any evidence of deliberate misrepresentation of facts or truly gross errors. Given these results, it appears safe to conclude that these clients were capable of giving valid responses for this study.

Conclusions and Recommendations

Individuals who terminate prematurely from day treatment constitute a high risk group among chronic mental patients. They are more likely to relapse, more likely to relapse in a briefer period of time, and more likely to remain hospitalized for a longer period of time than individuals who remain in day treatment.

While it is sometimes easy for clinicians to label treatment dropouts as unmotivated, or unreachable and then assume that these clients do not want to be helped, this assumption is not warranted with respect to dropouts from day treatment. DTP dropouts readily seek other kinds of outpatient psychiatric aftercare which may be less demanding on them. They tend not to drop out of these alternative programs.

The first recommendation is that DTP dropouts continue to be followed in spite of their non-compliance, in an effort to facilitate their referral to other treatment programs. This process and continued linkage with the premature terminator should expedite and enhance his placement in another form of treatment hopefully obviating his need to return later, on his own, only when he has reached a state of crisis.

Although premature terminators from day treatment receive and participate in other kinds of outpatient aftercare they are still prone to relapse and rehospitalization. This finding implies that these clients are either less responsive to aftercare or that the aftercare they are choosing is less efficacious in forestalling relapse. Since the aftercare programs in which the dropouts are involved (predominantly mental hygiene clinics) are not sufficiently maintaining these clients in the community, we must either find ways of keeping them in day treatment or use other, more suitable programs. Treatment alternatives might include community support systems or variations of day treatment which are more oriented to work, such as the Fountain House Model.

Since premature terminators tend to live with family or in structured housing, the people who share their housing could serve as a valuable resource for coordinating treatment efforts. They might contribute to the therapeutic leverage staff could exert or they could be included in the therapy itself at some point.

Premature terminators can be considered part of the emerging diagnostic category of "young adult chronic mental patients." They seem to resist an investment in intensive therapeutic treatment and are transient in residence. They

are psychologically distressed, unproductive, and dependent. They are products of our new community mental health system. Finding ways to increase their commitment to therapy and at the same time decrease their dependence on and manipulation of multiple treatment and service resources is a major problem for researchers and clinicians. One way to increase commitment to therapy while decreasing dependence is to utilize programs which require active rather than passive participation of its members. Both the Fountain House Model and Fairweather Lodges have successfully used this approach. One way to decrease clients' abuse of mental health resources is to increase communication within the system. This can be accomplished by having a single point of responsibility such as a case manager who would carry out the long range treatment planning regardless of a client's involvement with, or rejection of programs or clinics within the mental health system.

Discovering the characteristics of premature terminators which predispose them to a poor outcome will aid clinicians in devising appropriate and efficacious treatment programs. Learning how to identify premature terminators early, and then following through with treatment planning even when the program is rejected by the clients, should help to eventually engage them in therapy. We can't assume that

day treatment is not the therapy of choice because it is initially rejected by the client. It is possible that the client is not prepared for the program or that the program is not responsive to the individual's needs.

The findings of this study must, of course, be interpreted in relation to the constraints of the sample and the day treatment program chosen for this research. The sample appears to be representative of the V.A. population of chronically mentally ill but not representative of chronic mental patients in general. For example, there are few women in this study. In addition, the day treatment program described is representative of some, but not all day treatment programs. Other programs differ considerably in content and climate. It is possible that the characterization of clients and their outcomes is specific to this program and this sample. Caution should be observed in generalizing these conclusions to other dissimilar populations and treatment regimens.

Questions for Future Research

1. What are the individual characteristics which lead to premature termination from day treatment?

Using the variables of age, diagnosis, residential status, income, and psychological distress, research in this area should help us to understand and identify potential dropouts.

2. What are the program characteristics which predispose clients to drop out?

Program variables such as client preparation for group process, climate, goals, and open endedness may contribute to the clients' decision to remain or drop out. This information is important to program managers who may wish to know how their programs effect clients' decision to terminate. It is possible that day treatment programs with different emphases attract and keep different kinds of clients.

3. Do day treatment programs with different treatment approaches e.g., a social support model, a psychoeducational model, or a work oriented model, produce different outcomes?

Work is an important source of self esteem. An experimental design including random assignment to treatment could test whether an emphasis on a work component in day treatment would increase employment rates and whether that

would effect other areas of social and community adjustment for the subjects.

4. What are the differences in social networks of day treatment dropouts compared to those who remain in day treatment? How are social networks related to group outcome?

This research indicates that there are differences in how isolated remainers and dropouts feel from their families and others. Knowing who dropouts use for social support and how they are used compared to remainers would help researchers to understand these differences. It could serve as a basis for making recommendations in regard to expanding or changing the networks of these clients.

5. What is the effect of age on outcome for premature terminators over a long period of time?

Many of the differences observed in this study between dropouts and remainers are related to the variable of age. It is important to find out whether one could expect these differences to diminish simply through the social and biological processes of maturation.

Although this research indicates that premature terminators from day treatment constitute a high risk group which is likely to relapse, it is also clear that these individuals recognize the fact that they need treatment in the community. Program managers should expect to encounter large numbers of program dropouts and plan for their needs as well as the needs of the clients who remain in day treatment.

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APPENDIX A

HUMAN SUBJECTS REVIEW COMMITTEE APPROVAL

HUMAN SUBJECTS OFFICE
JAN 10 1983
 Human Subjects Review Committee Approval

APPROVED
 MAR 24 1983 13-103-C
Investigator's Copy

CONFIDENTIAL
 Please type on supplemental sheets as needed. Submit a copy, including the signature page, and all relevant materials, such as consent forms, etc., to the Human Subjects Office. Students should submit a copy of their proposal, as well. For information call 543-0296.

I. [Application will be filed under name of Principal Investigator]
 Investigator: Richard Anderson, Ph.D. Department: SOCIAL WELFARE Mail Stop: 632 Telephone: 0895
 Associate: NONE *Doctoral candidate*

II. Names of other persons responsible for performing or supervising procedures:
 ADVISER: Gary B. Cox Ph.D. RESEARCH ASSOC. PROJ. PSYCHIATRY & BEHAVIORAL SCI.
TEL. 543 3996

III. Title of proposed activity: Premature Termination in Day Treatment: A Comparative Study of the Utilization of Community Services and the Outcome of Chronic Mental Patients Who Dropout.

IV. Beginning date of proposed activity: February 1, 1983

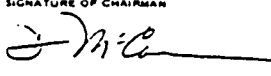
V. Grant and contract information. List all relevant grants and contracts. NA
 ATTACH (if available) (without budget) unless "other training grant."
 A. Activity related to: research grant, contract, fellowship, other training grant, other (specify) none (if "none," proceed to Section VI.) X
 B. Has proposal been submitted through Grant and Contract Services? Yes no
 C. Has award been made? Yes no
 D. Name of Principal Investigator shown (or to be shown) on proposal:
 E. Name of agency to which proposal was (or will be) submitted:
 F. If continuation (or already awarded), what is the agency's grant or contract number?
 G. Title of proposal shown (or to be shown) on CC-1 form:
 H. Inclusive dates of grant or contract:
 From 1-10-82 through 12-13-82
 I. Will activity be performed if funding is not received? Yes no

VI. Recommendations and action:

	Date	Approve	Disapprove
A. Department chairman <u>Scott Briar, Dean</u> Typed name, plus signature	<u>1-10-82</u>	<u>✓</u>	
B. Faculty sponsor <u>Gary Cox, Ph.D.</u> (if different) Typed name, plus signature	<u>12-13-82</u>	<u>✓</u>	
C. Human Subjects Review Committee <u>Robert Lee (q.w.)</u> Chairman's signature	<u>MAR 24 1983</u>	<u>✓</u>	

Subject to the following conditions:

Period of approval from JAN 10 1983 through MAR 24 1983
 Valid only if approved by the Human Subjects Review Committee

REPORT OF SUBCOMMITTEE ON HUMAN STUDIES		PROJECT OR PROGRAM TITLE Premature Termination in Day Treatment: A Comparative Study of the Utilization of Community Services and the Outcome of Chronic Mental Patients who Drop Out Seattle Veterans Administration Hospital	NUMBER 13-103-C
PRINCIPAL INVESTIGATOR'S NAME Mr. Richard Anderson		INSTITUTION OF SUBCOMMITTEE (or the equivalent body) University of Washington	
		DATE OF REVIEW 3-24-83	
This subcommittee has reviewed the above described project with respect to the rights and safety of the human subjects. The following are our findings:			
1. RISK (Check one) ☒ The planned research involves little foreseeable risk and the subjects safety is adequately protected unless the plan is modified. ☐ The foreseeable risk is justified by the potential benefit to the subjects or by the anticipated benefit to society and the plans include adequate and appropriate measures to reduce the risk insofar as feasible. ☐ The risk is justified but further measures seem advisable to protect the subject, including _____ ☐ The risk seems greater than can be justified by the research as planned and the project or program is not approved as presented.			
2. INFORMATION FOR THE SUBJECT (Check one) ☒ The information to be given the subjects (or their legal representatives) is complete and accurate enough for them to reach a valid decision concerning participation in the research. ☐ The information for the subjects as presented is incomplete or defective in that _____			
3. CONSENT METHOD (Check one) ☒ The format and manner of obtaining informed consent from the subjects (or their legal representatives) is satisfactory. ☐ The method of obtaining informed consent is defective in that _____			
4. FURTHER COMMENTS			
5. RECOMMENDATION (Check one) ☒ The project or program be approved as submitted. ☐ The plan or protocol be revised in keeping with our comments and resubmitted. ☐ The proposal as described be rejected.			SIGNATURE OF CHAIRMAN 

APPENDIX B
HEALTH SCIENCES RESEARCH AND DEVELOPMENT
COMMITTEE APPROVAL



Date: March 11, 1983

To: Richard Anderson, MSW

Memorandum

From: Thomas D. Koepsell, M.D., M.P.H.
Research Review Coordinator,
HSR&D Steering Committee

Subject: Review of "Premature Termination
in Day Treatment: A Comparative
Study of the Outcome of Chronic
Mental Patients Who Drop Out"

The Health Services Research and Development Steering Committee reviewed your research proposal, named above, at its March 11 meeting. I am happy to inform you that the proposal was unconditionally approved.

As is the Committee's usual procedure, there were two reviewers who supplied written critiques of the proposal for discussion at the meeting. Copies of these critiques are attached. In addition, there was discussion of several other issues at the meeting. Although you need not make any further changes to the proposal to satisfy the Committee, you may wish to consider some of the comments as you move toward implementation of your project.

Here is a summary of comments raised at the meeting:

1. Although the rationale for limiting the study sample to 60 subjects is clear, this does limit the power of the study to test the hypotheses proposed. If you find that subjects who entered the Day Treatment Program (DTP) early in your subject enrollment period are easily located, you could consider expanding the subject pool.
2. Your earlier proposal included a comparison of dropouts vs. remainers with regard to baseline characteristics on enrollment in the DTP. Although the Committee understands that this issue is to be addressed in a separate project, the results of that analysis should assist interpretation of your findings as to outcome differences between the two subject groups. It was suggested that you may wish to take known differences on baseline characteristics into account in your analysis.
3. You may wish to consider pilot testing your interview schedule on a sample of current DTP patients in order to assess how long it takes to administer. If so, you might consult Dr. Dennis Dennis of the DTP staff, who would be willing to assist you in making arrangements.
4. It appears that the Denver questionnaire you will use has not been tested for reliability when given in a personal interview format. You may wish to include a small substudy of its reliability in your protocol.
5. It would seem desirable if you could arrange to have at least some of your subjects interviewed or re-interviewed by someone other than yourself. This is to avoid any possible bias due to having all interviews administered by someone cognizant of and invested in the study hypotheses. Sometimes graduate students trade services on each other's research projects for just this reason.

The Committee members had many positive comments about your revised proposal, and the consensus was that it had been substantially strengthened.

The proposal will now be forwarded to the SVAMC Research and Development Committee automatically. Their review does not generally involve another assessment of scientific merit and, in view of your modest budgetary and institutional requirements, will surely result in approval. Once that has been granted and the University of Washington Human Subject Committee has given its approval, you can proceed with data collection.

Please let me know if I can be of any further help. We will follow the progress of your project with interest.

APPENDIX C

RESEARCH AND DEVELOPMENT PROJECT APPROVAL



Date: April 15, 1983

To: Richard Anderson, MSW (116DTP)
Project 001

Memorandum

From: Charlene Trent-Lewis
Research Projects Assistant (151)

Subj: Research and Development Project Approval

Your project entitled "Premature Termination in Day Treatment: A Comparative Study of the Outcome of Chronic Mental Patients who Drop Out"

was approved at the Research and Development Committee meeting on April 12, 1983. Before your project may begin, the following requirements need to be forwarded to the Research Administrative Office. I have checked the items which pertain to you below. Thank you for your prompt response.

Sincerely yours,

CHARLENE TRENT-LEWIS

Human Subjects Review Committee Review approval & protocol	[*]
Chief, Day Treatment would also be appropriate	X
Chief of Service approval	[]
Initial Project Data Report (forms attached)	[]
Please return by May 2, 1983	X
Investigational Drug Record (forms attached)	[]
Other	

Attach

INTRODUCTORY LETTER TO POTENTIAL SUBJECTS

Medical Center

4435 Beacon Avenue South
Seattle, WA 98108

Dear

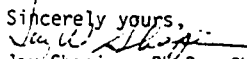
I am writing to inform you that a research study is being conducted by Richard Anderson, Ph.C., a staff social worker in the Seattle V.A. Mental Hygiene Clinic. He is interested in finding out how you and some other clients have been doing since you attended our Day Treatment Program here at the V.A.

This letter is being sent to you to invite you to participate in this study. Your contribution is very important to us. If you decide to participate, you will be interviewed by Mr. Anderson on one occasion. The interview takes approximately 30-45 minutes. There will be no additional interviews or requirements of you. All your responses will be confidential and you can choose not to respond to any of the questions.

The questions Mr. Anderson will ask you have to do with your hospitalization record, social adjustment, employment, and use of services since entering the day treatment program. Using this information, we hope to be able to modify the day treatment program to make it more responsive to client needs.

Your participation is completely voluntary. You may choose not to participate without fear of losing any services which are available to you through the V.A. If you would like to be included in this research, please indicate that decision below and write in a telephone number where Mr. Anderson can reach you to schedule an interview at your convenience. If you do not wish to be included in this research, please indicate that decision below. In either case, your response should be returned to the V.A. Medical Center in the envelope provided.

We appreciate your taking time to read and respond to this letter.

Sincerely yours,

 Jay Shapiro, Ph.D. Chief, DTP

_____ Yes, I wish to be included in the V.A. Research Study described.

_____ No, I do not wish to be included in the V.A. Research Study.

 Telephone Number

 Signature

 Date

In Reply Refer To

Please return this form in the envelope provided, within 10 days.
 If you live outside of the Seattle area, the interview can be conducted by telephone.

APPENDIX E
CLIENT CONSENT FORM

SEATTLE VA MEDICAL CENTER
and
UNIVERSITY OF WASHINGTON
CLIENT CONSENT FORM

PREMATURE TERMINATION FROM DAY TREATMENT

Investigator: Richard Anderson, MSW, PhC., Clinical Social Worker, Seattle VA Medical Center. Telephone: 762 1010 x422.

Advisor: Gary B. Cox PhD., Research Associate Professor, Department of Psychiatry and Behavioral Sciences, U.of W. Telephone: 543 3996.

PURPOSE AND BENEFITS

Some of the staff in the Seattle VA Day Treatment Program and myself are interested in finding out how things have gone for you since you attended the day treatment program here at the VA. We also want to know whether you have received services from any other place since leaving the program. Both staff and clients should benefit from this information since it will allow us to modify our program to make it more responsive to patient needs.

RISKS

Participating in this study will require less than an hour of your time. All of your responses will be confidential and will not be shared with other staff members. Only my advisor at the University of Washington and I will have access to your responses and they will be filed by code number rather than by your name. They will be kept in my private office under lock and key. After a period of one year the results will be destroyed and will not become a part of your permanent record.

PROCEDURE

In agreeing to participate in this study I will ask that you be personally interviewed by me on one occasion. There will be no further followup or additional questions. The interview will take place in whatever setting you choose whether that is the VA, your home or another place more comfortable to you. The interview will be scheduled at your convenience. I also need your permission to review your clinical chart to obtain information from your psychiatric record. I am interested in demographic information such as your age, marital status and sex, your diagnoses, and biographical information which may be related to your psychiatric illness such as the number and duration of hospitalizations, history of suicide attempts or

past arrests. The questions I will ask will specifically have to do with your hospitalization record, your employment record, your social adjustment, and your use of community services since entering day treatment.

You can choose not to participate in any part of the evaluation, not to answer any questions, or to withdraw from the study at any time without penalty or loss of services to which you are entitled. You will continue to receive agency services whether or not you agree to participate in this study. Please call Richard Anderson at the above number if you have any questions.

Signature of the Investigator, Date

SUBJECT'S STATEMENT

This study described above is clear to me and I voluntarily consent to participate in this activity. I have had an opportunity to ask questions I understand that future questions I may have about the research or my rights will be answered by the investigator or his advisor listed above.

Signature of the Client, Date

cc: Subject
Investigator's file

APPENDIX F
REUCS QUESTIONNAIRE

University of Washington
RECENT EMPLOYMENT
AND USE OF COMMUNITY SERVICES

Structured Interview Schedule
All of the following questions refer only to the period since you began the
DTP and not before.

1. How many times have you been rehospitalized for psychiatric reasons since
entering the DTP?

<u>Hospital?</u>	<u>City, State</u>	<u>Approximate date</u>	<u>Duration in days or weeks</u>
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2. Have you been employed since beginning the DTP?

<u>Where?</u>	<u>City, State</u>	<u>Parttime or Fulltime</u>	<u>Duration in days; weeks.</u>
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3. What other treatment programs have you used since beginning the DTP?

<u>Program?</u>	<u>City, State</u>	<u>Duration of Treatment?</u>
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4. What medical services have you used since beginning the DTP?

<u>Type of service or treatment</u>	<u>City, State</u>	<u>Duration?</u>
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5. What halfway homes, group homes, foster homes or boarding homes have you lived in?

<u>Type of home?</u>	<u>City, State</u>	<u>Duration? Weeks; months?</u>
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6. Have you been in a vocational rehabilitation program?

<u>What program?</u>	<u>City, State</u>	<u>Duration?</u>
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7. Have you used any social services or public health services since beginning the DTP? For example, caseworkers, public health nurses, homemakers or meals on wheels?

<u>Type of Service?</u>	<u>City, State</u>	<u>Duration?</u>
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8. What financial assistance have you received since beginning the DTP? For example, SS; SSI; V.A.; PA

<u>Source?</u>	<u>Duration</u>
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9. How many times have you moved since entering the DTP?

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These consist of pages:

149-157, DCMHQ QUESTIONNAIRE

**University
Microfilms
International**

300 N Zeeb Rd., Ann Arbor, MI 48106 (313) 761-4700

BIOGRAPHICAL NOTE

RICHARD ARTHUR ANDERSON

Date of Birth April 10, 1950

Place of Birth Glen Ridge, New Jersey

Education

Mt. Hermon School H.S. Diploma
Mt. Hermon, Mass.

Univ. of Delaware B.A. Psychology
Newark, Delaware

Portland State Univ. M.S.W. Clinical Social Work
Portland, Ore.