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CHRONIC MENTALLY ILL TREATMENT REFUSERS: AN EPIDEMIOLOGICAL STUDY AND DESCRIPTION OF A SERVICE DELIVERY PROGRAM

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CHRONIC MENTALLY ILL TREATMENT REFUSERS:
AN EPIDEMIOLOGICAL STUDY AND DESCRIPTION
OF A SERVICE DELIVERY PROGRAM

by

Gale Carla Carroll

A Dissertation Submitted to the Faculty of the
DEPARTMENT OF COUNSELING AND GUIDANCE
In Partial Fulfillment of the Requirements
For the Degree of
DOCTOR OF PHILOSOPHY
In the Graduate College
THE UNIVERSITY OF ARIZONA

1987
As members of the Final Examination Committee, we certify that we have read the dissertation prepared by Gale Carla Carroll entitled Chronic Mentally Ill Treatment Refusers: An Epidemiological Study and Description of A Service Delivery Program and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy.

Dr. Philip J. Lauver

Dr. Oscar C. Christensen

Dr. Betty Newlon

Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copy of the dissertation to the Graduate College.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

Dissertation Director
STATEMENT BY AUTHOR

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SIGNED: Yale Carlos Carroll
Compilation of the present study was accomplished with the assistance of many persons to whom the author wishes to express sincere gratitude.

My dissertation advisor, Dr. Philip Lauver, was a constant source of encouragement and intellectual stimulation throughout the many years of graduate work that culminates in this project. Appreciation is also expressed to my other committee members: Dr. Oscar Christensen for his encouragement; and Dr. Betty Newlon for her suggestions and critical evaluation.

This study was carried out at Kino Community Hospital, Social and Behavioral Services. Dr. Jose Santiago and Ms. Josefina Ahumada, ACSW, are recognized as innovative leaders on the new frontier of community treatment for the underserved CMI population. I am grateful for their inspirational expertise, as well as the generous staff time and material facilities that were provided.

Ms. Carol Margolis was invaluable as a research consultant, and Ms. Sheila Hughes provided expertise in styling and graphics that helped to simplify many tedious procedures.

My first professional mentor, Dr. Frederic Johnson, is recognized for the substantial role he played in helping me to appreciate, and to risk pursuing, my own aspirations.

Finally, and with great affection, I acknowledge my family. Josh and Mandy, without whom these arduous years would have been sheer
drudgery, were an endless source of serendipitous distractions and earthly contentments. And warm appreciation to Marvin, whose genuine valuing was a constant reminder to me that I was no more diminished by my failures and disappointments than I was enhanced by my successes.
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ABSTRACT

Professional literature in the past five years regarding the care and treatment of deinstitutionalized chronic mentally ill (CMI) persons has presented growing concerns that services for some CMI persons are inadequate or nonexistent. A number of previous authors have suggested that there may be a consistent, as opposed to a random, bias in the traditional mental health service delivery system whose services are contingent upon client characteristics that, in the very least, assume foresight, independence, initiative, and consistency. Lacking these qualities, clients may not seek services to which they are entitled or they may be frustrated in maintaining those services.

This study provides a description of a CMI population (n=142) that received outreach services from a small county psychiatric hospital. These clients were selected because they were evaluated as severely disturbed, potentially impulsive, and had a history of not following through with traditional mental health services, i.e., they did not make or keep prescribed appointments for therapy or education. This group served as a model against which to compare characteristics of the traditionally engaged clients. Previous authors as well as this study found that the dropout populations were younger, less compliant with prescribed anti-psychotic medication, engaged in more alcohol and drug use, were more likely to live independently and to be rehospitalized with greater frequency. Increased hospitalization also correlated with less functional independent living skills.
In other reported research several variables were found to discriminate the younger CMI. This study could only confirm an increase in substance abuse although several confounding factors are discussed.

Finally, the outreach program itself was examined, some services were quantified, and some were related to specific client characteristics. For instance, 40 percent of this CMI population was primarily reliant on their outreach worker for all transportation beyond walkable distances; and those clients receiving the most number of outpatient visits were those rated most rejecting of services and those with the poorest independent living skills. The treatment population was found to have reduced their total number of admissions and days hospitalized during the two-year period of investigation.
CHAPTER 1

INTRODUCTION

Background

The attitude of society towards individuals who display behaviors that are grossly deviant from accepted norms varies across time and cultures. These attitudes are a reflection of basic assumptions and underlying belief systems which, in turn, establish causal relations and attribution of responsibility for observed phenomenon. Some historical examples include archaeological evidence from the Stone Age of a crude surgical technique called "trephining." Sharp stones were used to puncture the skulls of troubled persons to allow the escape of evil spirits (Davison and Neale 1982). In the Middle Ages, mental illness was a sign of demonic possession. Burning was the usual method of driving out the satanic forces (Zilboorg and Henry 1941). By the seventeenth century, beliefs about insanity had changed from a theological model to a medical/psychological one. Hospitalization or asylum became available, as well as other forms of physiological treatment, such as blood-letting (Farina 1976).

These hospitals, or asylums, provided basic shelter and nutrition but had no way of controlling severely agitated patients. A variety of crude restraints were used with violent persons, while the more benignly bizarre could be observed for amusement purposes (Davison and Neale 1982). Serious moral concern and humanitarian ideals fostered by
Philippe Pinel in France spread to the United States in the early 1800s. Comfortable environments, caring staff, and religious instruction were optimistically provided to newly diagnosed patients in hopes of preventing long-term effects. This movement had little time to develop or to validate its claims, because increased immigration and poverty over the next several decades resulted in the need for bigger and cheaper public hospitals. The function of the state asylum became custodial care and community protection for the largest number at the lowest possible cost. In this kind of environment, there was no expectation of patient progress. Dependency was encouraged and necessary for efficient administrative functioning (Goffman 1961). Small, private asylums continued to offer humane and individualized therapeutic environments for those few who could afford the expense, but chronic mental illness became especially associated with lower socioeconomic status, since long-term care was beyond the financial means of all but a very few (Meyerson 1982).

"Renewed humanitarian interest as well as advances in psychotropic medications brought the problems of institutionalized patients to the public. The 1950s and 1960s initiated an era of optimistic belief in the potential for human growth that resulted in zealous opposition to the isolative, barren existence provided to the mentally ill. A system of community care was envisioned that would enable patients to reintegrate and to acquire stability through supportive assistance. Deinstitutionalization was an egalitarian movement and, like the concurrent civil rights activities of those
years, it symbolized social reforms aimed at destroying segregation and civil rights deprivations.

The care provided to chronically mentally ill persons (CMI) has changed dramatically in the past several decades as long-term hospitals ceased to provide services. The expectations that patients would find community support, that they would reassimilate and that they would function as independent members of society have not been completely fulfilled. As a result, the belief system of the society that pushed for community placement of the mentally ill is now being challenged. Several national organizations have recently been organized by families and professionals to raise the consciousness of citizens concerning the plight of the mentally ill who are ill-equipped to care for themselves in the community. Broad media attention is being given to the bag ladies and the soup kitchen transients shown bundled in overcoats in mid-July and claiming to have FBI transistors implanted in their brains.

Traditional treatment has not been successful in curing or even providing minimal assistance to many in need. Some professionals reflect most nostalgically on the safety and protection afforded by asylums (Drake and Wallach 1979).

**Purpose and Significance**

In lieu of turning back the clock, a preferred alternative is to increase research efforts. While genetic and biological causes for the diseases are being explored, the social scientists can investigate the prevalence and severity of the problem in the community. What is needed is increased information about the greater population living now outside
of institutions. The deinstitutionalization programs, as originally conceived, envisioned a local mental health care system that would provide adequate service; but today these local centers are found to be grossly underutilized or misutilized by a great portion of the chronic mentally ill population. The services being offered are of uncertain value, and even those are hard to get. Individuals who do not aggressively seek treatment by conforming to the bureaucratic needs of the mental health delivery system do not receive treatment and are said to have "fallen through the cracks." It is estimated that two out of three chronic mentally ill persons belong to this latter group, suggesting fairly prominent "cracks" (Lamb 1986). A major difficulty has been in gathering information on this elusive unserved population that would provide a basis and a direction for planning useful therapeutic strategies.

**Statement of the Problem**

Most descriptive efforts that have appeared in the wake of deinstitutionalization have focused on either those persons who have sought treatment and engaged in therapeutic programs or on those persons who are particularly visible by reason of criminal activity, vagrancy, or extreme disorganization. The visibility, then, of the client has determined whether they were included in sample populations being investigated. Considering that passivity and associability are major symptoms of chronicity, one must question the representativeness of these high profile groups. Bachrach (1984c, p. 577) speculates that CMI clients who are followed by traditional community mental health agencies
"constitute only a fraction of the universe and undoubtedly differ from the rest of the universe in some critical ways."

The purpose of this study was to describe the community living situations and selected psychosocial attributes of a group of chronic mentally ill persons who had been referred for outreach services at Kino Community Hospital because they failed to engage in other more traditional forms of treatment. Specifically this study:

1. described and compared these non-engaged CMIs with those in published reports of CMIs who were selected and evaluated on the bases of their attendance at outpatient facilities.

2. examined rehospitalization rates and associated characteristics as a discriminant of the voluntarily engaged vs. the non-engaged CMIs.

3. evaluated the projected increase in treatment difficulties based on demographic and psychosocial factors that predict even less cooperation and more deviance and pathology in the younger generation.

4. reported on the elements and effects of a treatment program developed to meet the needs of CMIs who were in need of service but had proved incapable or disinterested in following through with recommended referrals.

Referrals came from community agencies such as soup kitchens, police, and hospitals, or from families. Voluntary participation in treatment on the part of the patient was neither required nor expected. The resulting descriptive information is intended to offset what might
be a serious bias in previously published epidemiological data that relied on visible clients. The description of a treatment alternative is intended to increase adaptive and creative solutions to a problem that will not go away.
CHAPTER 2

REVIEW OF THE LITERATURE

Social and Legislative Issues

Three decades have passed since a major reform movement, now known as deinstitutionalization, was begun whose goal was to provide mentally ill persons with treatment alternatives that would restore their dignity and civil rights by freeing them from repressive, inhumane institutions. Creation of the National Institute of Mental Health in 1946 by the federal government reflected an optimistic mood concerning the prognosis of mental illness. Successful, brief therapy techniques developed in the military during World War II, combined with the availability of new psychotropic medications, were partly responsible for this enthusiasm (Mechanic 1969; Talbott 1982a). By the early 1960s, this trend culminated in President Kennedy's Mental Health Center Act, which was to create an extensive system of federally funded community mental health centers predicated on the belief that early intervention in a community setting could prevent long-term debilitating effects of mental illness (Morrissey and Goldman 1984). (For a more detailed historical accounting of this active period, see Morrissey 1982.) To the extent that the reformers viewed their goal as reduction in state hospital inpatients, they have succeeded. There has been a 75 percent reduction rate nationally between 1955 and 1980 (Goldman 1984).
A parallel factor that has affected the deinstitutionalization movement came out of legal reforms of the last two and one-half decades. In 1960, the U.S. Supreme Court decision known as the "least restrictive alternative," stringently mandated that a person's freedom could not be curtailed beyond what is deemed absolutely necessary (Shelton v. Tucker 1960). Throughout the next two decades, increased concern with issues of civil rights further emphasized a long-standing commitment to the right to refuse treatment (Peele, et al. 1984). The combined impact of these legal interpretations assured the long-term success of deinstitutionalization because as persons were being discharged from hospitals, reinstitutionalizing non-voluntary patients was becoming increasingly more difficult. The "least restrictive care" doctrine when later applied to psychiatric care (Lake v. Cameron 1966) defined mental hospitals as being the most restrictive environment; therefore one could not be committed without first proving that an alternative, infringing less on one's right to freedom could not be found. The commitment laws, as they are interpreted in most states, require not only that a person be suffering a severe mental illness, but also be seen as posing an imminent danger to himself/herself or others. The difficulty of predicting behavior is further complicated by the fact that should commitment be granted, there may be no compelling reason to believe the individual will cooperate with treatment; in half of the states polled in 1983, the "right to refuse treatment" law granted even medication refusal rights to committed inpatients (Callahan and Longmire, 1983). Having achieved a 75 percent reduction of hospitalized mental patients,
despite population gains, is not to say that all the early goals of reform have been realized. Of the 2,000 community mental health centers proposed in 1963, 700 are today in existence (O'Connor 1986). Furthermore, of all long-term care days currently reported by mental health facilities in 1985, 40 percent were utilized by persons carrying a diagnosis of schizophrenia, while that same diagnosis accounted for 20 percent of all Social Security benefit day payments (Shader 1985). In spite of the extensive utilizations suggested by these hospitalization and disability payment figures, accumulated research findings estimate that 30 to 50 percent of the homeless population is mentally ill, a large number of whom have never been hospitalized or received any support (Arce, Tadlock, and Vergare 1983; Baxter and Hopper 1981; Hopper, Baxter, and Cox 1982). (For a thorough review in this area of the vagrant psychiatrically disturbed, see Lamb 1984.)

By the mid-1970s, it had become apparent that many of the expectations of the reform movement were proving to be problematic. The political climate had changed, leading to a significant lack of funding for community programs. In addition, community mental health center treatment providers were confused and uncertain how to proceed with this population. The community mental health centers that were built, while fewer in number than originally conceived, largely failed to meet the needs of the chronic mentally ill population. Several contributing factors have been identified.

The subsidized clinics were seeing an increasing number of persons from the "normal" population who could now afford the reduced
fees and sought treatment for problems in living. In fact, there was an overall increase in education level of service users in the decades that followed clinic establishment and during deinstitutionalization (Greenley 1984). This "normal" population was better matched to the kind of services that the community mental health center had to offer. As Minkoff and Stern (1985) noted, the traditional training of professional therapists was towards time-limited, insight-oriented therapy that required a communicative, motivated client. The chronically mentally ill failed to meet these therapist expectations, which led to therapist frustration, burn-out, and avoidance of contact in favor of more "normal" clients.

Traditional verbal therapy in and of itself has been found of little value to the CMI. Schooler (1978) did an extensive review of studies that looked at the effects of psychotherapy and concluded there was no consistent difference in outcome between patients who received conventional psychotherapy and patients who did not. As more is learned about the heterogeneity of the CMI population and more controlled studies are performed, it is conceivable that a therapeutic model such as that described by Bachrach (1983) emphasizing education and coping with symptoms may prove to be a more valuable format for the traditional clinical process.

The final observation on the expected capability of the community mental health center to provide stability to the deinstitutionalized CMI concerns the rate of utilization. One-third of the clients referred to clinic appointments actually appeared for their first appointment, and
of the third that appeared, two-thirds never returned for their second appointment (Test 1984). Thus, it appears that only a fraction of the CMI group maintains contact with outpatient service providers.

Chemotherapy

Psychotropic or major tranquilizer drugs are commonly credited with having "emptied the back wards." Their discovery increased the optimism that healthy community adjustment could be a simple reality. Effectiveness is not questioned in the treatment and relief of extreme states of anxiety, excitement, and florid psychotic episodes, although controversy surrounds the issue of long-term maintenance because side-effects can result in irreversible Parkinsonian symptoms. The efficacy of the treatment may often outweigh the risk, but for some, perhaps as many as 20 to 30 percent (Platman 1983), little relief from schizophrenic symptoms is experienced. Furthermore, other drug side-effects can include increased passivity, withdrawal, and lack of affect. Some investigators (Bleuler 1978; Strauss 1980) have warned that medication which limits motivation and feelings of control, contributes to chronicity. Despite these drawbacks, chemotherapy continues to be an important therapeutic tool and is widely recommended. Readmission rates to hospitals are reduced when drug trials are performed against placebos (Hogarty and Ulrich 1977) or against other forms of psychosocial treatment (May 1968). This is not to say that medication prevents relapse, but it does seem to decrease the severity of episodes as well as their frequency.
Estimates of readmission rates for a given chronic schizophrenic population for the post-discharge year run between 20 to 40 percent when they are presumably on a medication (Davis, Gosenfeld, and Tsai 1976; Hogarty, Goldberg, and Schooler 1974; Hogarty, Schooler, and Ulrich 1979). For those patients known not to be on medication, the percentage rate doubles to a 40 to 80 percent recidivism within the post-discharge year, assuming everything else is equal. Medication compliance, therefore, is a major issue overlapping other significant treatment variables. This aspect will have continued relevance in the discussion to follow.

Some preliminary considerations to review at this point focus on patient rationale for non-compliance and differences between compliers and non-compliers. Several authors address treatment approaches aimed at increasing the client’s compliance (Kane 1983; Diamond 1983; Falloon 1984; Heinrichs 1984). Passivity and forgetting are seen as one obvious reason for non-compliance, but outright rejection and refusal is commonly reported by patients not on medication. This latter form of non-compliance is often reportedly related to fears of side-effects or “feeling bad,” while another suspected rationale concerns the implications inherent in accepting a treatment that is an overt and daily reminder of having a mental illness.

Psychosocial rehabilitation models, to be discussed later, use an educational approach towards the goal of patient self-management. These models assume that increased patient understanding of the illness will result in medication compliance. Two studies refute this educational
claim (Van Putten, May, and Marder 1984; Hogan, Awad, and Eastwood 1983). Both studies found that maximum predictability of compliance with medication was based on the client's subjective response; a dysphoric feeling while taking the medication was predictive of non-compliance regardless of knowledge the patient had about the illness or treatment process. Of course, the feeling cannot be totally devoid of the knowledge; there is undoubtedly a great deal of overlap.

Differences in compliers versus non-compliers surface in two reports (Marder, Mebane et al., 1983; Marder, Swann et al., 1984). The authors compared inpatients who refused to use chemotherapy versus those who expressed a willingness to comply with treatment recommendations including medication. The refuser group was found to be more emotionally withdrawn, disorganized, hostile, and more likely to state that they were not ill. McEvoy, Howe, and Hogarty (1984) focused on pre-admission events leading to hospitalization. Those who had been compliant with medication were found to be more affectively involved, i.e., anxious or depressed. When relapse occurred in medication compliers, it came on rapidly, and frequently was related to known environmental causes, while non-compliers had a long, slow relapse process; non-compliers were more psychotic and more likely to require an involuntary commitment.

**Psychosocial Treatments**

While medication was presumably effective in controlling psychotic episodes and keeping patients out of the hospital, enriched social-educational rehabilitation programs were expected to provide
meaningful activity and the opportunity to reintegrate into the community as well as the workplace. One of the earliest and most comprehensive of these programs is described by Davis (1967). This book describes a total rehabilitation program that treated over 150 patients from 1961 to 1964. Tremendous gains were reported in all areas of social-vocational functioning, as well as decreased symptomatology. When funding for this program was depleted, arrangements were made to do a follow-up on each of the participating clients five years later. The results of this follow-up were described by Davis and Pasarvnick (1974) in pessimistic terms. All of the gains had been lost. There were no differences between the experimental subjects and a matched control group that had received no services. Hoppe (1977) found similar results when he compared 42 successful graduates of a comprehensive rehabilitation program with 64 early dropouts of the program. Follow-up ratings continued on a monthly basis upon termination of the program. At two years post-termination, there were no differences in the groups. Outcome was measured in areas of employment, living conditions, financial management, and re-hospitalization. Time limited programs of any kind are now generally conceded to be of limited value to this population (Test 1981; Bachrach 1984b).

A second factor found critical for program effectiveness is the need for in vivo skill development: "Psychiatric rehabilitation must operate on the principle that generalization does not just occur; generalization must be programmed" (Anthony, Cohen, and Cohen 1984, p. 147). In-hospital attempts to provide patients with independent
living skills by way of preparing them for discharge have all but disappeared as studies have confirmed that there is no discernible generalization of skills to community living. Finch and Wallace (1977) provide another example of this in their outpatient role-playing experiment intended to increase social communication. Results indicated the ability to role-play was increased, but that socialization was not increased. Liberman and Evans (1985) carefully described the critical component of successful skill development and maintenance as the provision of carefully planned steps toward self-management of specific reality-oriented tasks. Many of the early programs were broadly defined as recreationally-socially oriented and failed to provide specific goals. Outcome testing on either pre- or post-treatment, or against a control group often consisted of general attitudinal socialization or functional measures. Lieberman, Winston, and Marolla (1978) compared over one hundred residents in a community boarding home residence who were receiving an enriched therapeutic intervention with a control group in the same living environment who received no treatment. After seven months of treatment, there was little difference in the groups in terms of sociability, recidivism, or self-management. Slavinsky and Krauss (1982) performed a similar study on 47 outpatients but provided two years of service to the treatment group. Patients in the experimental treatment expressed greater satisfaction with care and improved socialization, but predicted gains in medication compliance, reduced symptomatology, and fewer, briefer hospitalizations did not occur. (For thorough reviews of program assessment, see
Regardless of the ability or inability of psychosocial rehabilitation programs to teach target behaviors, their ability to provide community stabilization, to control recurrent symptoms, and to prevent hospitalization was not confirmed. Talbott's (1981) review of recidivism concluded that about 75 percent of CMIs are re-hospitalized within three years, regardless of treatment variables. A summary of studies that track chronically mentally ill patients upon discharge was reported by Caton (1984). On the average, 60 percent of the patients have been re-hospitalized within two years for some time period despite involvement in community treatment.

In concluding this overview of treatment programs, it must be emphasized that these programs were attended on a voluntary basis, and recidivism rates are based on those patients who sought out this activity. The issue of non-compliance with medication is a well-researched area. Persons who do not comply with psychosocial rehabilitation treatment are more difficult to count and investigate; speculation about this unknown population is addressed later in this paper. By the mid-1970s it was generally conceded that the expectations placed on medication, psychotherapy, and psychosocial treatment programs for the CMI were unrealistic.

Stress-Vulnerability Model

In the process of exploring these treatment issues, new elements surfaced that were worthy of further exploration. The extreme vulnerability to stress on the part of the mentally ill person was first
given serious attention by Zubin and Spring (1977) and was further elaborated upon by Heinrichs and Carpenter (1983). They described a model that integrates components of the environment including treatment variables and effects of medication. They postulated that a mentally ill person's tolerance for arousal is a key factor in predicting community adjustment. Too much stimulation can result in recurrence of psychotic or positive symptoms, while too little arousal can result in negative symptoms such as withdrawal, impaired initiative, and lack of motivation. The optimum level of arousal can be viewed as being affected by medication. Herz (1984a, p. 77) described this relationship:

It seems that medication decreases the patient's vulnerability to stress and thus decreases the likelihood of relapse. The medication is generally effective in treating the positive symptoms of schizophrenia, such as delusions, hallucinations, thought disorder, disorganization, or agitation. It is not particularly helpful, however, for negative or deficit symptoms, such as apathy, withdrawal, or flat affect. . . . It has been reported that when stable outpatients are taken off medications they show no difference in symptomatology or role functioning. In fact, some patients showed increased energy and drive. In this respect, the medication is prophylactic. . . . If a patient inadvertently stops taking his medication and then feels better he may therefore believe that the medication is not helpful to him.

This hypothesized relationship between medication effects and stress tolerance has affected the way recent researchers have viewed many treatment issues. For instance, Dincin and Witheridge (1982), in comparing 102 outpatients in different kinds of programs found that one of the variables most predictive of re-hospitalization was a higher level of life-event stress. Findings of this kind were also noted in

A particularly fruitful utilization of the above line of reasoning led to a number of studies that focused on the Expressed Emotion Concept (referred to as E.E.) as a component in the family environment of CMI outpatients. The E.E. Concept came about as the result of observations made by a group of British social workers who were providing outreach services to patients living with their families. A relationship between community tenure, or length of time between hospitalizations, and amount of intrusive or critical family involvement with the patient, began to emerge.

Discussion to this point has centered on the mentally ill person as though deinstitutionalization affected only the individuals and society at large. In reality, families have been very much affected as well. Goldman (1982) estimated that between 25 and 65 percent of all patients discharged from the hospital were being returned to the family home. Much of the history of causation and treatment of schizophrenia has been in terms of a model that views dysfunctional family styles as being responsible for and maintaining the psychotic symptoms. Families have often borne the stigma of blame and guilt in addition to having to cope with the distressful situation of living with a loved one who is chronically mentally ill. While views of family causality are less dominant today, they persist as underlying assumptions in a variety of treatment approaches that ignore growing evidence of genetic and biological contributions to the disease model (Haley 1980; Wynne 1978;
Lidz, Fleck, and Cornelison 1965). The Expressed Emotion concept now under investigation is not an outgrowth of these early naive attempts to find a simple cause for schizophrenia, nor does it intend to characterize all families with a schizophrenic member (Platman 1983), but rather has developed from the stress vulnerability model and should be generally applicable to any intimate relationship, of which family of origin is the most common.

The previously mentioned relationship observed by the British outpatient therapists between rehospitalization rates and stressful family relations resulted in a series of studies. Vaughn and Leff (1976) categorized the families of recently admitted schizophrenic patients as being either high or low on a scale of Expressed Emotion, a composite rating that included hostility, emotional overinvolvement, over-protectiveness, and criticism. Two further measures included the amount of time the relative spent in face-to-face contact with the patient and whether the patient was taking medication. At a nine-month post-discharge follow-up, the author concluded that a patient in daily face-to-face contact with a high E.E. relative and taking no medications had a 90 percent relapse rate. This rate dropped to between 40 and 50 percent if the contact was greatly reduced or if the patient was on medication. This rate was further reduced to 15 percent if both of the protective features were present. The re-hospitalization rate at nine-month follow-up to low E.E. relatives was a stable 15 percent, regardless of the amount of contact or medication. A two-year follow-up of these same patients reported by Leff and Vaughn (1981) continued to
find a significantly lower rate of re-hospitalization for those in low E.E. homes. Patients in high E.E. daily contact continued to be re-hospitalized at a high rate and no differences were found at this time for patients on medication. The prophylactic effect of medication decreased over time. This study has been duplicated in the United States by Vaughn, Snyder, and Liberman (1982).

Family education and/or strategic family therapy have been successfully employed to either reduce E.E. or limit face-to-face contact (Goldstein, Rodnick, and Evans 1978; Leff, Kuipers, and Berkowitz 1982; Falloon, Boyd et al. 1982; Leff, Kuipers, Berkowitz, Eberlein-Fries et al. 1984; Vaughn, Snyder et al. 1984). A related inquiry looked at the number of stressful events in addition to the element of high E.E. daily contact and in conjunction with medication compliance. Leff, Kuipers, Berkowitz, Vaughn et al. (1983) concluded that patients without medications are more likely to relapse if either condition is present, a life stressor occurs, or they are in a high E.E. living situation. Patients on medication can better handle one or the other kind of stress itself, but are very likely to relapse if they experience a life event and increased contact with high E.E. relatives within a single time frame. For an in-depth review and critical comments in this growing area of interest, the reader is referred to Barrowclough and Tarrier (1984).

As previously suggested, the stress vulnerability model that served as the basis for E.E. research has proven applicable to program environments as well as family environments. Two controlled studies,
one by Lamb and Goertzel (1972) and the other by Weinman and Kleiner (1978) compared residents in a high expectancy residential program that demanded independent functioning with those in a less structured situation with fewer expectations. While instrumental functioning increased in the former condition, so did relapse. Linn, Klett, and Caffey (1980) had the same results when they compared patients placed in foster homes with intensive follow-up. Schizophrenic patients increased their functioning level as well as their hospital relapse rate. As Lamb and Peele (1984) and Bachrach (1984a) point out, there may be good reason why many of the deinstitutionalized chronic mentally ill patients are found listless, inactive, and apathetic in the back rooms of boarding homes. This reclusive existence offers respite from stressful interpersonal relationships, from program expectations, and normal life stressors, and may be a way to escape frightening psychotic episodes. An in-depth discussion of recent research that lends credibility to inherent stress vulnerability characteristics of the schizophrenic is found in Neuchterlein and Dawson (1984). Their model draws on evidence of information processing deficits that predispose the individual to hyperactivity to aversive environmental stimuli.

The preceding discussion has surveyed the most commonly investigated areas that have captured the attention of researchers since major reforms in mental health care have taken effect. These areas have been presented with some attention to chronology. Medication was originally seen as the primary community support agent with individualized psychotherapy to help the client integrate into the
community. When integration proved more challenging, psychosocial rehabilitation programs developed to remedy skill deficiencies and increase instrumental functioning. Crudely controlled studies of ill-defined programs with heterogeneous populations accompanied each of these developments, with the exception of comparative drug studies which usually lacked heuristic value to social sciences. While often lacking in scientific rigor, the recently explored concepts of stress and vulnerability may lead to increased efficiency and more humane support of the chronic mentally ill. The kind of in vivo data and observations required of these hypotheses were not accessible prior to the recent reforms and release of chronic mentally ill patients into the community.

The Young Adult Chronic Patient

While the bulk of the literature has focused on the deinstitutionalized population, the final portion of this review introduces the most recent area of concern, the un-institutionalized chronic mentally ill. The use of the term "young adult chronic" or YAC is used to define those persons who have come into their young adult years subsequent to the major reform. Within the past five years a growing body of literature has drawn attention to the special needs and concerns of this group. Comprehensive overviews can be found in Bachrach (1982), Talbott (1982b), Pepper, Ryglewicz, and Kirsher (1982), Sheets, Prevost, and Reihman (1983), and Schwartz and Goldfinger (1981). Summarizing some of their basic findings, the following characteristics are noted, which sets this eighteen- to thirty-five-year-old group apart from the mainstream older deinstitutionalized.
1. They represent a higher proportion of the population because they are representative of the Baby Boom generation.
2. They are more likely to have a drug or alcohol abuse problem.
3. They often misuse mental health services by infrequent and demanding appearances with no follow-up.
4. They are often homeless, with few permanent ties to any particular location.
5. They tend to deny their mental illness.
6. They show a relatively higher rate of assaultiveness towards others and of suicidal behavior.
7. Many have never been hospitalized or received any mental health services.
8. They are often rejecting of and resistant to contact with therapists.

While admittedly broadly drawn, these characteristics, if representative of a new population, will require innovative treatment and research methods. In order to determine how best to meet the challenge, one would look to existing research. Assuming that stress vulnerability is a critical factor to be considered in any approach, and assuming that this population avoids traditional services, the logical deduction would be to offer stress reduction through supportive assistance on a one-to-one basis on the client's terms and on their own turf. This very recommendation has been made by those authors cited above, and many more are now reaching similar conclusions (Schacter and Goldberg 1982; Caton 1981; Meyerson and Herman 1983; Test 1981).
Research on this emerging population has been greatly affected by the numbers of missing subjects. For example, the vast majority of studies, including those reviewed above, rely almost exclusively on hospitalization/rehospitalization rates as their outcome measure for treatment success. Portions of this disengaged population have never been hospitalized. The few research projects that noted the number of missing or non-cooperative subjects at follow-up reported them to be about 30 percent of the total (Pai and Roberts 1983; Test 1985; Van der Kolk, Bessel, and Goldberg 1983; McGlashan 1984). A further problem has been that patient-initiated contact with mental health service delivery systems has been prerequisite to getting counted and for being part of the data base. Until innovative programs are successful in establishing contact and rapport with the dropout population of young adult chronic, the literature will continue to reflect a critical sampling bias.

Summary

This review has traced the socio-political climate that led to optimistic reforms in the treatment of chronically mentally ill persons. The projected ideals of community integration were based partly on the observed institutional behaviors of patients who, once medicated, were compliant with authority and submissive to hospital routine. The assumption that these behaviors would transfer and that community agencies would assume responsibility for providing medication and teaching independent living skills proved erroneous.

The overly simplistic understanding of complex symptomatology failed to consider the effects of stimulation and stress that
accompanies independent living. Institutionalized behaviors of sedated patients did not accurately predict their adaptation to the community environment, nor did service agencies prove adequate in the role of paternal care-giver. New generations of CMIs who have never known long-term hospitalization are proving even more elusive and more aberrant in their behavior. Large portions of the population are unserved or underserved.

There is a void in the research concerning the status of community based clients. Previous methods of data collection resulted in conclusions being drawn from evidence exhibited by self-initiated mental health care recipients, a group that can no longer be assumed as representative of the entire population.
CHAPTER 3

METHODS

Subject Selection and Treatment Modality

Kino Community Hospital serves Pima County and has primary responsibility for indigent persons residing in southern Arizona. With both an open unit and a locked unit, the psychiatric facility can accommodate about 20 persons. It provides brief hospitalization defined usually as less than two weeks. The Arizona State Hospital in Phoenix is used when longer treatment is indicated.

In 1980-81, Kino Hospital initiated an innovative outreach program to provide an array of services to CMI individuals meeting the Arizona State CMI requirements (see Appendix C) and selection criteria for the program, which included the following:

1. a Diagnostic and Statistical Manual III (DSM III) Axis One diagnosis of Schizophrenia, Major Affective disorder, or Schizoaffective disorder;
2. evidence of chronicity, including poor work history and community adjustment, multiple hospitalizations or placement in special rehabilitation or residential programs;
3. difficulty maintaining therapeutic relationship with traditional outpatient facilities;
4. behaviors that warrant frequent intervention and are intolerable to the community or to the well being of the individual.
The persons selected to receive outreach were those least likely to maintain community tenure without intervention. By appearing in an emergency psychiatric facility regularly, or by frustrating family, neighbors, police or social service agencies, CMIs were considered candidates for further screening by the Kino outreach program. When all program criteria were met, they were assigned a professional mental health worker trained in community network therapy with psychotic clients. Professional degrees held by the therapists included Masters in Social Work, Psychology, Counseling, and Education. Bachelor level therapists with extensive work histories in related areas and psychiatric nurses were also part of the program.

Four therapists and 50 clients were assigned to the program in 1982, its first full year of operation. Four years later, the program had grown to seven therapists and 142 clients. Limited resources resulted in long waiting lists of referrals who could not be provided with services.

The typical referral was a "revolving door" client, who spends a week on the inpatient unit, does fairly well in the structured, low-stress environment, takes medication, and is released to a chaotic lifestyle of trying to survive on minimal money with few social skills and limited insight concerning a need for continued medication or structured environment. Eventually the person is rehospitalized in the original condition, either as a result of police or family intervention or because the hospital is a place to go when there is nowhere else. This fruitless cycle is expensive, inefficient, and provides no
satisfaction for either staff or patient. In addition, the staff-patient relationship deteriorates with the hopeless recycling.

Under the new innovative Kino program, social workers assigned to the outreach division provided therapeutic services on an outpatient basis at the patient's residence or other community location. Each social worker in the outreach program was assigned a case load for long-term follow up. Emphasis was not on "curing" persons and terminating them from the program; rather emphasis was on increasing their adaptation to the community and the community's adaptation to them. The focus of the intervention was to reduce stress and provide a buffer between the handicapped person and the demands of his/her environment.

Unlike more visible handicaps that elicit helpful behaviors from others, the symptoms of mental illness more often alienate friends and family. Impulsivity, defensiveness, and outright bizarre beliefs and behaviors can frighten and anger those with helpful intentions, while help-rejecting behaviors further antagonize already overwhelmed support systems. By educating significant others as well as closely involved community service providers such as apartment managers, government subsidy program administrators, and health providers, the outreach social workers try to diffuse confused and angry interactions. It was hoped that supportive and empathic services would increase a family's capacity to deal realistically with the inherent frustrations. Making sure that help was readily available, scheduling meetings with other families with similar difficulties, and teaching more effective communication skills were services offered in the interest of engaging and increasing family support. Many families were initially hesitant to
cooperate with or trust the social worker. They have too often felt blamed and excluded. It was common to hear expressions of profound relief when they, too, were treated as victims of an illness.

The kinds of services varied according to the needs of the client. Goals were individualized and updated frequently by the therapist. Assistance with provision of basic needs was often a major primary focus. Managing the bureaucratic systems that were usually the source of income and health care required client skills that were often lacking or which conflicted with firmly held delusional beliefs. In addition to finding housing, food, and transportation, the worker addressed psychological needs of the client associated with their fragile grasp on reality and the resulting denial and defensiveness. The worker was often rejected as a symbol of the authoritarian institutional community. Help-rejecting behavior was generally quite apparent in the first several months of contact. The worker needed to be sensitive to those behaviors that clients interpreted as threatening, maintaining a contact schedule and focus that was least intrusive. In many instances the client has had no previous experience with a mental health professional. The worker might assume a variety of roles deemphasizing the mental health focus in favor of one more acceptable to the client, such as health aide or adult protective worker. Flexibility was essential in establishing a trusting relationship with a person who had actively refused treatment in the past. As the relationship developed with the client and with significant others, the social worker continued to assist the client with basic needs while providing ongoing clinical evaluation and opportunities for engaging in therapeutic and
socialization programs. In addition, the worker provided crisis intervention, determining on an individual basis what the client needed in order to cope more successfully in the community during times of stress and/or providing hospitalization when that was indicated. Occasionally, clients were arrested, at which time the social worker assisted the legal system by providing important evidence of the defendant's ability to determine wrong behavior and his/her ability to aid in his/her own defense. The goal of intervening in the judicial system as a client advocate was that of educating the judicial system, while protecting the needs of the client. Innovative and treatment-oriented probation was often arranged that provided the medication and structure that the client required in order to improve functioning.

The Kino Hospital outreach program, then, was designed as an active advocacy for a population uniquely vulnerable to the stressors of daily survival and who lacked both the skills of self-advocacy and the awareness that supportive assistance could relieve some of their distress.

Data Collection

The outreach program described above consisted of seven therapists, in 1985, with an average caseload of between fifteen to twenty clients each. The social workers were interviewed at Kino Hospital by the researcher who completed the Client Information Form (Appendix A) on each CMI person assigned to the worker. The data requested on this form could be easily and accurately provided by a professional who was in regular contact with the patient. Questions
regarding living situation, daily activity, transportation, and nutrition provided data on adaptation to independent living demands. Information regarding the size and quality of social network, propensity for social versus isolative activity, and acceptance of therapist visits indicated levels of social functioning. Medication compliance, substance abuse, presence of psychotic symptoms and history of impulsive acting out behavior were additional factors felt to be important to understanding the reciprocal client-community interaction.

Due to the episodic nature of major mental illness, two interviews were performed for data collection purposes, one in March, 1985, and one in September, 1985. The primary purpose of the second interview was to decrease the likelihood of reflecting temporary aspects of client status or functioning. In addition to the data provided by the social workers that was descriptive of the clinical and functional status of the patient, hospital records were used to confirm diagnosis, utilization of inpatient facilities for two consecutive years, amount of time each worker spent meeting with this patient during the six months between the data collection interviews and the length of time the patient had been receiving outreach services. About one-third of the total clients reported on (n=142) were assigned to the program at its inception in 1982, four years ago, while the remaining two-thirds were admitted later on as more therapists were added to the program.

Descriptive variables reflecting characteristics of the clients in the Kino outreach program are described in Appendix B. Scales such as substance abuse, sociability, and community functioning were formed by combining responses to one or more of the discrete measures listed in
Appendix A across the two interviews to enable comparisons of the Kino population with similar populations for which published data are available. All data were gathered and analyzed through the use of identification numbers. All client information remained confidential; individual clients were not used in any part of the data collection process. Results are given in terms of group means and proportions. Kino Hospital maintains these records as part of the data base for ongoing program evaluation.
CHAPTER 4

RESULTS AND DISCUSSION

Presentation of findings from this study and from other selected research will be presented in five separate discussions. Chi square and ANOVA tests of significance are used and reported on when sufficient data was available to test population differences. Reflecting the exploratory nature of this investigation, significance levels of .10 will be reported for their heuristic value.

The first section describes the population in terms of general demographics and program restrictions. The second discussion is a critical comparison of CMI populations, one of which has engaged with traditional mental health delivery systems, and the other population that has not engaged in traditional services. The third section further explores recidivism, a major discriminating variable between the engaged and non-engaged populations. Client characteristics associated with an increased rate of hospital admissions are presented. The concept of the Young Adult Chronic patient is discussed in the fourth section. Similarities between YAC characteristics and the Kino population are explored. Finally, the Kino treatment program is examined. Service delivery goals are measured against actual service provision and changes observed in the population as services are provided are discussed.

As indicated in the review of literature, recidivism rates have been a common measure for evaluating treatment effectiveness for the
populations engaged in community treatment programs. In order to compare this current disengaged population with those engaged in treatment and described in previous studies, rehospitalization rates were used when appropriate to make comparisons. Several limitations on interpretations based on recidivism criteria exist. Hospital admission policies vary widely, partly due to environmental elements which are rarely noted in the literature. For instance, a locked unit with tight security will admit a different population than a casual open ward. Also, public hospitals operate under financial constraints which discourage admissions, while private hospitals may encourage increased admissions. Finally, a voluntary admission is different from an involuntary one. The admission status is not always easy to determine, since one is rarely privileged to know what subtle or not-so-subtle pressures may have preceded a voluntary admission. In spite of these difficulties, there is heuristic value in knowing probable readmission rates and, as noted by Setze and Bond (1985), this measure remains one of the few hard data bases with face validity. Cost effective treatment is always a major consideration, and hospitalization continues to be a very expensive intervention.

Description of the Population

The group of chronic mentally ill (CMI) persons that were receiving services from the outreach team as of April 1, 1985, consisted of 142 individuals, all of whom were included in this analysis. Due to the mobility and hospitalization rate of the population, some individuals were out of town or institutionalized at the Arizona State
Hospital during part of the six-month evaluation. Therefore, minor fluctuation in total numbers vary on some measures, but at least 95 percent were consistently included in the reported figures.

The individuals studied ranged in age from 19 to 60 years, with a mean of 35. Seventy-six (54 percent) were male. Sixty-four percent were Caucasian, 27 percent Hispanic, and 9 percent Black. At the inception date of the program in 1980-81, Tucson metropolitan area reported a smaller proportion of minorities than represented in this study: 14 percent Hispanic and 4 percent Black (Tucson Trends 1980). Sixty percent of the subjects had never married, while 28 percent were divorced, separated, or widowed. The remaining 12 percent were currently married or in a cohabitation relationship of some duration. Several of the couples were both followed by the outreach team. Most of the subjects carried a diagnosis of schizophrenia or schizoaffective disorder, accounting for 75 percent, while 19 percent had a major affective disorder, and 6 percent were diagnosed with a chronic, disabling personality disorder.

Each subject had been in contact with an outreach social worker. About one-third had been receiving services for four years, while another one-third had fewer than seven months in the program. Client cases were reviewed regularly to update treatment plans and to provide for transfer and/or termination of patients that had sufficiently adapted to the community. Therefore, the subjects who had received services across the four-year time span were retained on the basis of ongoing need. Terminations based on improved functioning or increased engagement with traditional mental health services in the community
amounted to fewer than ten individuals across the four-year time span, although others were deleted due to change of geographical location or death. Since the program's inception through 1985, four subjects committed suicide, one was murdered, and three died of ill health. A suicide rate of 2.8 percent across a four-year span is not unusual, according to Drake, Gates, Whittaker, and Cotton (1985), who reviewed the literature on CMI suicides. Long-term studies indicate that over 10 percent of persons with schizophrenia eventually commit suicide.

Voluntary and Nonvoluntary Characteristics

Data derived from the Kino Outreach program provides an opportunity to examine characteristics of a CMI population that has not engaged voluntarily with traditional services and to compare them with characteristics of clients that have engaged voluntarily and have served as the data base of published research. Several discriminating criteria that have surfaced in the literature are presented, followed by a description of the comparison populations used to examine these differences. Finally, results are presented for each of the discriminating criteria to determine which variables are associated with client rejection of traditional mental health services.

One of the selection criteria for the Kino program required that the subject be a treatment dropout; had failed to engage in traditional treatment. Most previously published studies have described the CMI population engaged voluntarily in treatment programs. However, reported dropout rates from these programs ranged from 17 percent (Sheets, Prevost, and Reihman 1982) to 50 percent (Winston, Pardes, and Papernik
Setze and Bond (1985) cautioned against drawing conclusions based on studies that have focused on patients reflective of a self-selection bias. Subjects that were engaged with treatment programs have been found to differ from those non-engaged in several studies. Ferber, Oswald, Ruben, and Ungemack (1985) followed 126 discharged patients for two years, examining their utilization of community mental health resources. Characteristics significantly associated with lack of follow-up with prescribed treatment included having a record of previous arrest, residing alone as opposed to living with family, and being in the younger age group 18-35. Carpenter, Mulligan, Bader, and Meinzer (1985) compared two groups of patients referred to an urban psychiatric center. They randomly selected 113 patients who had been hospitalized more than three times in the past year, and through stratified random sampling, selected 113 who had not been hospitalized, matched for age, sex, and admission status. Those with higher admissions were significantly more likely to have had a briefer hospitalization ending in a premature discharge against medical advice and without follow-up involvement. This non-engaged group with three or more admissions was also found to have a higher incidence of substance abuse and was less compliant in taking prescribed medications. Blume (1979) used dropouts as the control group for comparing the recidivism rate of a day treatment program. After fourteen months, 19 percent of those who remained in the program had been rehospitalized, while 35 percent of those who dropped out were rehospitalized.

These dropout characteristics provide dimensions of comparison for the voluntarily engaged population and the nonvoluntary Kino
population. To enhance credibility and generalizability, a similar nonvoluntary population described by Caton (1981) was also used for comparison purposes. This group was followed aggressively for a one-year period in order to obtain information about the lifestyle of these recently discharged clients who had poor engagement with mental health services. Concerted effort was made by a special mental health outreach team to locate and maintain contact, resulting in an 89 percent follow-up rate. Of these, 83 percent were found in noncompliance with the prescribed follow-up treatment plan, providing a rationale for considering them a nonvoluntary dropout population like the Kino population.

Studies used to exemplify client characteristics of the voluntarily engaged populations are derived from published research. Each of the several study population results focused on its own set of particular characteristics. Since sets of attributes differed, it was not possible to use the same studies to compare all of the variables of interest. When possible, Caton (1981) and Kino are cited to represent the nonvoluntary population. Baker and Intagliata (1984) and Intagliata and Baker (1984) compiled a comparison of two large voluntary treatment populations. One consists of 1,471 CMIs sampled in a 1980 National Institute of Mental Health survey of persons served by its national community support program (CSP), and the other consists of 844 CMIs sampled in 1981 served by the New York State Office of Mental Health Community Support System (CSS). These programs offer a wide range of rehabilitation, counseling, medical, and transportation services for those CMI persons who choose to use them. Other less comprehensive
studies are used when their criteria include voluntary treatment engagement and the variables are clearly defined as comparable to those under investigation with the nonvoluntary population.

Figures 1 through 5 compare the Voluntary and Nonvoluntary populations on five of the variables previously presented as discriminating of these groups: age, substance abuse, medication compliance, residential situation, and rate of recidivism. The two population groups differ considerably on these variables, and their differences are similar to those predicted by research previously cited. The Nonvoluntary group is younger, as indicated in Figure 1, with medians in the early thirties, as opposed to nearly 50 years of age for the Voluntary group. Figure 2 illustrates that four times as many of the nonvoluntary CMI persons failed to comply with chemotherapy treatment than those who were voluntarily engaged in traditional services. Substance abuse levels were compared in Figure 3, indicating that the Kino Nonvoluntary population was three times more likely to exhibit drug or alcohol problems than the Voluntary group. Residential isolation was examined in Figure 4. Voluntary clients residing alone constituted only 13 percent of the population (317 out of 2,441). Nonvoluntary clients were four times more likely to live alone (56 percent, or 146 out of 261).

A fifth variable that was related to the dropout population, history of arrest, was not easily compared. The CSS study reported that 10 percent of the population had a history of arrest or temper outburst or disturbing neighbors. This combined variable is clearly not comparable to the 22 percent of the Kino population that had a history
of arrest. Caton (1981) reported that 13 percent were arrested during the study year, but did not include historical data such as that reported for Kino outreach patients. Test (1985) reported that 33 percent of the population of 100 clients under age thirty-five had a previous arrest record. Differences across these studies in both definitions of problem behavior and the time frame considered make it difficult to compare results on this variable.

Additional discriminating variables--an increased rate of hospitalization and shorter length of stay during periods of hospitalization--were predicted for those not engaged in treatment (Blume 1979; Carpenter 1985). A review of the literature by Anthony (1978) found a consistent one-year recidivism rate of between 35 and 50 percent for CMIs regardless of treatment. Figure 5 compares the percentage of persons hospitalized in a study year. The Nonvoluntary population showed a proportion about twice the size of that found for the Voluntary group, but not much more than the average found by Anthony (1978), with the exception of the Kino outreach figures for 1984. While Blume (1979) and Carpenter (1985) found higher recidivism rates and shorter length of stay covaried with the tendency to not engage in treatment, the Kino population with higher recidivism tended to remain longer in the hospital. Length of hospitalization will be discussed in a later section.
Figure 1. Median age of clients in reported research.

A = Kino Outreach, n=142
B = Non-engaged Follow-Up (Caton 1981), n=119
C = National Institute of Mental Health Community Support Program (CSP) (Intagliata and Baker 1984), n=1471
D = New York State Community Support System (CSS) (Baker and Intagliata 1984), n=844
Figure 2. Proportion of clients in reported research that do not take psychiatric medication as prescribed.

A = Kino Outreach, n=142
B = Non-engaged Follow-Up (Caton 1981), n=119
C = Carpenter et al. (1985), n=226
D = Setze and Bond (1985), n=400
E = CSS (Baker and Intagliata 1984), n=844
Figure 3. Proportion of clients in reported research that abuse alcohol or other substances.

A = Kino Outreach, n=142
B = Carpenter et al. (1985), n=226
C = Test (1985), n=100
D = Sheets et al. (1982), n=966
Figure 4. Proportion of clients in reported research that lived independently.

A = Kino Outreach, n=142
B = Non-engaged Follow-Up (Caton 1981), n=119
C = CSP (Intagliata and Baker 1984), n=1471
D = CSS (Baker and Intagliata 1984), n=844
E = Ferber et al. (1985), n=126
Figure 5. Proportion of clients in reported research that were hospitalized in a year period.

A = Kino Outreach 1984, n=142
B = Kino Outreach 1985, n=142
C = Non-engaged Follow-Up (Caton 1981), n=119
D = Setze and Bond (1985), n=400
E = Blume et al. (1979), n unreported
F = CSP (Intagliata and Baker 1984), n=1471
G = CSS (Baker and Intagliata 1984), n=844
Other descriptive comparisons between CSS, the Voluntary group, and the Kino population can be seen in Figure 6, indicating very similar demographic and functional characteristics in general. Community functioning is quite comparable, with both populations showing that about one-half have severe deficits in everyday tasks. Health problems seem to be more problematic for the Voluntary group which may be associated with the fact that this is an older group. The Kino population was less likely to have any activity during the day. The Voluntary group was self-defined as initiating program contact and would therefore be more likely to engage in planned activity.

Basic functional and demographic similarities (Figure 6) lend support for the interpretation that the differences discussed in the preceding section concerning age, substance abuse, medication compliance, residence, and recidivism may not be mere indications of sampling population inequities.

Recidivism Rates and Related Characteristics

This section builds on the previously discussed finding that decreased hospitalization rate is one discriminating feature between those CMI clients who voluntarily engage in traditional mental health services and those who do not (Figure 5). Hospitalization rate is one of the few concrete and convenient measures of community adaptation; and its cost makes it a critical factor to investigate as well.
<table>
<thead>
<tr>
<th>1. Sex-Male</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital Status:</td>
<td>Single: 60%</td>
</tr>
<tr>
<td>Diagnosis:</td>
<td>Schizophrenia: 75%</td>
</tr>
<tr>
<td>IncomeGovt. benefits</td>
<td>95%</td>
</tr>
<tr>
<td>Day activity-nothing</td>
<td>60%</td>
</tr>
<tr>
<td>Poor nutrition</td>
<td>47%</td>
</tr>
<tr>
<td>Lacks transportation</td>
<td>35%</td>
</tr>
<tr>
<td>Poor money management</td>
<td>65%</td>
</tr>
<tr>
<td>Poor household care</td>
<td>41%</td>
</tr>
<tr>
<td>Health problems</td>
<td>17%</td>
</tr>
</tbody>
</table>

Figure 6. Comparisons between CSS clients and Kino Outreach clients on other reported variables not believed to be related to treatment dropout characteristics.

| = Kino outreach, n=142 (nonvoluntary) |
| = CSS (Baker and Intagliata 1984), n=844 (voluntary) |
Table 1 summarizes the results of this study and other reported significant findings on the relationship between the rate of hospitalization and other variables (Appendix B defines Kino variables). The Kino findings clearly support the findings of most other published research results. Three variables--age, length of hospital stay, and frequency of therapist contact--were significantly related to number of admissions, but were related in the opposite direction than that found by others. In the Kino population, older clients were found to be hospitalized more often than younger, and those clients with the most number of admissions were found to have a longer length of stay. The number of therapy contacts was found by McCranie and Mizell (1978) to be negatively related to number of admissions. In this population, the relationship was positive. Fifty percent of clients with above average number of therapy visits had two or more admits, while 22 percent who received less than average number of visits had two or more admits. Sixty-eight percent of those not hospitalized in 1985 received less than average number of therapy contacts. The difference may be due to the treatment rejecting factor. Voluntary clients increase their outpatient service contact to deal with problems, and in so doing, reduce the need for hospitalization. Those rejecting of treatment may deal with problems in less acceptable and less stabilizing ways, thereby prompting increased social worker contact that is not welcomed or effective but does result in prompt hospitalization as the only means of preventing further decompensation.

Treatment rejection, a separate measure from number of contacts, was described in this study as a comparative variable with levels from
Table 1. Variables associated with recidivism.

<table>
<thead>
<tr>
<th>Significant variables associated with number of admits in reported research</th>
<th>Relationship found in Kino population for 1985 (chi-square test)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age(^1) (Sheets et al. 1982; Intagliata and Baker 1984)</td>
<td>(p &lt; .10^*)</td>
</tr>
<tr>
<td>Medication compliance (Carpenter et al. 1985; Caton 1981)</td>
<td>(p &lt; .10)</td>
</tr>
<tr>
<td>Substance abuse (Carpenter 1985)</td>
<td>(p &lt; .05)</td>
</tr>
<tr>
<td>Treatment rejection (Blume 1979)</td>
<td>(n.s.)</td>
</tr>
<tr>
<td>Community adaptation (Lorei 1964)</td>
<td>(p &lt; .05)</td>
</tr>
<tr>
<td>Length of hospitalization (Carpenter 1985)</td>
<td>(p &lt; .01^*)</td>
</tr>
<tr>
<td>Frequency of therapeutic contact (McCranie and Mizell 1978)</td>
<td>(p &lt; .05^*)</td>
</tr>
</tbody>
</table>

Additional variables associated with number of admits in this study

| History of arrest or dangerousness | \(p < .01\) |
| Baseline level of psychopathology | \(p < .05\) |

\(^*\)Results in this study are opposite of those found in reported research. Kino subjects with higher admission rates were older, remained in the hospital longer, and had more therapist contact.

\(^1\)Age is represented by two groups, 18-34 and 35-60.
most to least rejecting of outreach services. The fact that this variable was not found to be related to recidivism is perhaps due to the restricted range represented by this nonvoluntary population who, by definition, have rejected treatment.

Medication compliance was found to be marginally related to number of admissions in the Kino population. Seventy-four percent of the noncompliant clients had hospital admits in 1985 as opposed to 39 percent of the compliant clients. Of those with three or more admissions in the one-year time span, 7 percent were medication compliant, while 48 percent were noncompliant.

Seventy percent of the non-substance abusers did not require hospitalization, while only 42 percent of abusers remained in the community during the entire study year. Community functioning, a composite of independent living skills, was related to recidivism. Sixty-five percent of those rated functionally independent and also rated as doing well had no hospital admits in 1985, while only 17 percent of those living independently and rated as doing poorly remained out of the hospital.

In this study, but not in others that were reviewed, the baseline level of psychotic symptoms and previous history of arrest also showed significant relationships to hospitalization. Seventy-one percent of those with the least psychotic symptoms were not admitted to the hospital in 1985, while only 11 percent of the most symptomatic were not admitted. Similarly, 70 percent of those with no history of behavior problems had no admissions, but only 31 percent of those with an arrest record had no hospitalization. Furthermore, 39 percent with an arrest
record were admitted three or more times during the year, while only 6 percent with no behavior problems had three or more admissions.

Table 2 shows that with the exception of age, most of the variables related to recidivism were also related to each other. As previously noted, older clients were found to have a higher admission rate, those over thirty-five accounted for 69 percent of those with three or more admissions during the year, while those under thirty-five were more likely to be substance abusers. Forty-seven percent of those over thirty-five do not use alcohol or other drugs, compared to only 31 percent of those under thirty-five. The younger group has twice as many heavy users--29 percent versus 14 percent of those over thirty-five. Age was not found to be related to other variables associated with recidivism.

The relationship between level of psychopathology and history of dangerous behavior failed to reach a significant level. While the fact that history of arrest or other acting out behavior was measured in the past, and psychopathology was rated in the present may have diluted a possible relationship, this time differential did not affect the significance between past behavior problems and current community functioning or hospitalization. More likely the relationship is weak because severe psychopathology is apt to result in withdrawal. Those with a history of arrest appeared more likely to be socially oriented, (chi-square test not significant), while the most psychotic were twice as likely to be the most isolated, chi-square test $p = <.05$. It appears that Kino subjects with higher rates of readmission tend to exhibit either problems in impulse control in social situations or unremitting
Table 2. Interrelationships of variables associated with recidivism (chi-square test) for the Kino population.

<table>
<thead>
<tr>
<th></th>
<th>Age</th>
<th>Med Comp</th>
<th>Sub Abuse</th>
<th>Comm Funct</th>
<th>Psycho-Pathology</th>
<th>Behav Probs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>X</td>
<td>ns</td>
<td>p &lt; .05</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Medication compliance</td>
<td></td>
<td></td>
<td>(neg)</td>
<td>(pos)</td>
<td>(neg)</td>
<td>(neg)</td>
</tr>
<tr>
<td>Substance Abuse</td>
<td></td>
<td></td>
<td></td>
<td>(neg)</td>
<td>(pos)</td>
<td>(pos)</td>
</tr>
<tr>
<td>Community Functioning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(neg)</td>
<td>(neg)</td>
</tr>
<tr>
<td>Level of Psychopathology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>History of Behavior Problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Neg = the variables are negatively related, i.e., as compliance with medication increases, substance abuse decreases.

Pos = the variables are positively related, i.e., as medication compliance increases, community functioning increases.
severe pathology, but rarely present with both characteristics. This is in contrast to the other interrelated variables.

A few examples of the associations of characteristics described in Table 2 will help clarify their relationships. Community functioning was rated higher for those without substance abuse problems. Eighty-three percent of those rated least capable of adequate independent community functioning were substance abusers. Community functioning was rated higher for those with the least severe symptoms of psychopathology, 47 percent of the most functional were rated as least symptomatic, while only 2 percent of those rated high in functional skills were found to exhibit severe symptoms. Medication compliance was also related to functional adaptation; 58 percent of those rated least functional refused medication while none of the clients who regularly took prescribed psychotropic medication were rated as grossly nonfunctional.

Substance abusers were eight times more likely than non-abusers to have been in trouble with the law; 42 percent of the heaviest abusers had a history of behavior problems, compared to only 5 percent of non-abusers. Forty-six percent of those refusing medication had a history of behavior problems, while only 11 percent of medication compliers had behavior problems. Subjects rated most functional in the community were six times less likely to have had behavior problems than those rated lowest in community functioning (38 percent vs. 2 percent).

These related characteristics suggest a pattern that might describe both the non-engaged and frequently hospitalized CMI, as these characteristics show noticeable overlap. These clients are likely to
refuse medication, abuse substances, and to exhibit poor independent living skills. If the client is attempting to self-medicate through the use of illicit drugs available to him/her via other unstable and/or socially deviant peers, then a lifestyle of progressive deterioration is set in motion. Furthermore, the data suggest that the person with less severe pathology and a more social orientation may react to this lifestyle by stumbling into conflicts with social norms resulting in hospitalizations and/or incarcerations. For the person who is more withdrawn and out of contact with reality, this lifestyle pattern may lead to increased isolation and neglect of basic needs.

The Young Adult Chronic Patient: Examination of the Concept

The fourth area of research concerns the investigation of age differences. Recent investigators and prominent authors in this field have emphasized characteristics distinctive of the CMI population between the ages of eighteen and thirty-five. They are commonly depicted as pioneers of the new deinstitutionalized era, having grown to maturity with a severe mental illness without the patient role model that long-term hospitalization afforded to earlier generations. Table 3 specifies those characteristics that two studies (Baker and Intagliata 1984; Sheets, Prevost, and Reihman 1982) have found discriminate the younger population from those over thirty-five and compares those findings to the Kino population.

The preponderance of single males is noted in both Baker and Intagliata (1984) and in this study and has been widely considered (Bachrach 1982; Pepper 1981; Test 1985). While the Baker and Intagliata
(1984) study shows fewer schizophrenic patients in the younger group, Kino outreach showed an increased number of schizophrenics as have Bachrach (1982) and Test (1985). Aside from these demographic characteristics, which were found to differ significantly for the two age groups, for other variables this study confirms only that younger clients show increased substance abuse and are more likely to live with family of origin. Neither medication compliance, proportion hospitalized, behavior problems, level of psychosis, isolation, or community functioning were found to significantly discriminate between the age groups. In fact, the proportion hospitalized was higher for the older group and was significantly greater for those having three or more hospitalizations in 1985 (31 percent versus 69 percent), chi-square test \( p = .05 \).

The concept of the young CMI struggling to form a social identity outside of the patient role model that was afforded to previous generations of CMIs who were hospitalized for long periods, is useful. The initial planning for deinstitutionalization was based on knowledge about CMIs who were largely self-acknowledged patients, passive and deferential to authority. Awareness of the growing numbers of mentally ill persons who do not fit the prescribed model is a first step in creating a responsive and responsible service delivery system.

The lack of age-related evidence to support this popular concept in the Kino population is probably due to the selectivity and size of the population. Baker and Intagliata (1984) reported on 844 subjects, and Sheets, Prevost, and Reihman (1982) based their study on 966. These numbers far outweigh the 142 subjects analyzed at Kino. Furthermore,
Table 3. Young Adult Chronics (YAC) age differences in reported research compared to the Kino Outreach population.--In percentages.

<table>
<thead>
<tr>
<th></th>
<th>Over 35 yrs.</th>
<th>Under 35 yrs.</th>
<th>Significance*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Other Reported</td>
<td>Kino n=71</td>
<td>Other Reported</td>
</tr>
<tr>
<td>Sex-Male</td>
<td>42</td>
<td>43</td>
<td>66</td>
</tr>
<tr>
<td>Marital Status-Single</td>
<td>51</td>
<td>36</td>
<td>74</td>
</tr>
<tr>
<td>Diagnosis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>82</td>
<td>64</td>
<td>57</td>
</tr>
<tr>
<td>Major Affective</td>
<td>16</td>
<td>30</td>
<td>17</td>
</tr>
<tr>
<td>Personality</td>
<td>2</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>Medication noncompliance</td>
<td>6</td>
<td>84</td>
<td>17</td>
</tr>
<tr>
<td>Reside with family</td>
<td>4</td>
<td>11</td>
<td>37</td>
</tr>
<tr>
<td>Hospitalized in past year</td>
<td>11</td>
<td>55</td>
<td>54</td>
</tr>
<tr>
<td>Substance abuse</td>
<td>2</td>
<td>52</td>
<td>25</td>
</tr>
<tr>
<td>Reported behavior problems</td>
<td>8</td>
<td>72</td>
<td>35</td>
</tr>
<tr>
<td>Probs. w/psychotic symptoms</td>
<td>20</td>
<td>66</td>
<td>47</td>
</tr>
<tr>
<td>Isolated</td>
<td>59</td>
<td>62</td>
<td>73</td>
</tr>
<tr>
<td>Problems w/daily living</td>
<td>53</td>
<td>65</td>
<td>66</td>
</tr>
</tbody>
</table>

*chi-square test
1Baker and Intagliata 1984 (n=844)
2Sheets, Prevost, and Reihman 1982 (n=966)
the selection criteria for the Kino program almost necessitated that the client had characteristics associated with the Young Adult Chronic concept, seriously restricting the range. It is also probable that clients have always existed that did not conform to the institutionalized pattern. Those persons from older age groups, because they were so distinctive, would likely have surfaced as prime participants for the innovative treatment program.

Kino Treatment Program: Services and Effects

The fifth and final purpose of this research was to examine the Kino program and to quantify its effects on the client population. The program objective was to provide individualized services in the interest of decreasing stressful interactions between the CMI client and the community, with the intended outcome of increased community adaptation and tenure. The specific functions and routines of the social workers who provided the direct services will first be described, followed by a discussion of behavior changes on dimensions implicit in treatment goals that appear to be related to treatment.

Pepper, Kirshner, and Ryglewicz (1981) describe the new CMI as exhibiting a "social breakdown syndrome" as a result of acute vulnerability to the stress of continuing inability to find and maintain a stable community role for themselves. Lacking foresight, social supports, stable routines, and insight regarding their treatment needs, they are easily frustrated and difficult to engage. Previously summarized characteristics substantiated the high rate of dysfunctional behaviors.
Kino therapists, aware of traditional mental health failures, provided much in addition to traditional verbal support and problem-solving. These therapists reported that 40 percent of their clients received transportation and advocacy in attending appointments, either medical or related to entitlement benefits such as Social Security, food stamps, bus passes, etc.; 43 percent of the clients were in need of regular assistance meeting basic needs and were, therefore, assisted with shopping, cashing checks, finding affordable places to live, etc. In addition, 60 percent of the clients needed help in dealing with their support network, most often families, apartment managers, or neighbors. The therapist was available to educate significant others regarding the illness, behavior management, and assistance or negotiating disagreements. Investigation of the personal contacts made by the therapists during the six-month period reveals clients were visited an average of one time per week for about one hour.

Three client characteristics were significantly related to receiving an above average number of service units. The first of these, level of community functioning, was inversely related to number of contacts between therapist and client. Sixty-two percent of those living independently but rated as most deficient in independent living skills received an above average number of service contacts (chi-square test $p = <.05$). The second characteristic, having a history of behavior problems, significantly increased the likelihood that a client would receive an above average number of contacts. Eighty-one percent of the clients with no behavioral problems received the average number of visits or less, while 75 percent with a history of either danger to self
or others or an arrest received above average number of services (chi-square test $p = .10$). A third client characteristic related to increased therapist contact was treatment refusal; however, the significant relationship is difficult to interpret (chi-square test $p = .05$). Eighty percent of those receiving an above average number of services were the least accepting of treatment, but 70 percent of those receiving a less than average number of service visits were also less accepting of treatment. Those most engaged and cooperative with treatment were most likely to be seen one time a week (51 percent) or less (29 percent). This dichotomy may exemplify the difficulties in providing contact to help-rejecting clients. The program goal was to foster the relationship; the clinical decision concerning the best and most efficient method of procuring that result becomes an experimental process as the social worker approaches and backs away in an attempt to establish the optimum contact that the client will tolerate.

Level of psychopathology failed to show a significant relationship with contact (chi-square test $p = .15$). Of those rated most symptomatic, 8 percent received fewer than average numbers of visits, as opposed to 54 percent who were seen at an above average rate. Of those least symptomatic, only 21 percent received above average number of contacts.

The evidence just presented affirms the uniquely individualized service delivery concept that was envisioned at the Kino program inception. The social workers' allotment of service hours does reveal an increased emphasis on those clients with characteristics that significantly related to poor community adaptation as revealed through
high recidivism rates: poor community functioning, previous behavior problems, treatment refusal. The presence of severe psychotic symptoms, while not significantly related, showed a positive association in the predicted direction. Only two variables that were previously shown to correlate with recidivism failed to show any relationship to the number of contacts initiated by the social worker; these were medication compliance and substance abuse, both of which were moderately related in the expected direction.

Hospital Length of Stay as Related to Treatment

This section examines possible effects on client functioning that may be related to the provision of services that were recently described. Hospital utilization is again used as a concrete measure of community adaptation.

Variables related to recidivism or re-admission rates have been discussed in an earlier section. Another measure of hospitalization pertains to length of stay or time spent out of the community environment. The deinstitutionalization movement has emphasized brief hospitalization as a means of promoting independent living and fostering community adaptation. For a review on benefits of brief hospitalization, see Kiesler (1982). As previously noted, the Kino program had been functioning for four years prior to this analysis, and the client population had grown during that time. The variable length of time in the outreach program had three levels as noted in Appendix B. Level 1 was defined as clients receiving services less than seven months. They accounted for 30 percent of the 142 clients. Hospital
data for 1984 predates the entry of this sizable group into the outreach program. A comparison of 1984-85 hospital data as shown in Figure 7 reflects pre- and post-entry of 30 percent of the study population. In 1984, 101 (71 percent) were admitted to the hospital, for a total number of 255 admissions and consuming a total of 3,670 patient days. In 1985, 69 (48 percent) were admitted for a total of 174 admissions, consuming 1,955 patient days.

Based only on the proportion hospitalized, the average length of stay per admission was 14.4 days in 1984 and 11.2 days in 1985. In order to interpret the data for all 142 of the subjects, an adjusted mean length of stay was used for the analysis of variance tests. This was a more meaningful figure; it was used for fiscal planning and for comparing with other populations. Both 1984 and 1985 showed an average admission rate of 2.5 admits per person actually admitted. This rate was expanded to all subjects, and the means were recomputed accordingly. The resulting length of stay was, of course, smaller than that actually experienced by the person hospitalized, but the adjusted figure has the advantage of reflecting an annual average number of days consumed by the entire treatment population. The adjusted mean provided more information about the group as a whole and was selected as the most meaningful figure to use in comparing group differences.

As seen in Figure 7, there is a clear reduction across all hospital measures. Moreover, the subgroup not receiving services in 1984 had an average length of stay per admission of 14 days, while the overall average for the group was 10.3 days. Subgroups two and three
Figure 7. Hospital utilization by the Kino population for 1984 and 1985. -- n=142
averaged 8.9 and 8.8, respectively, in 1984. This is not a statistically significant difference, but there is a strong pattern which is quite different in 1985. The average length of stay per admission in 1985 drops to 5.5 days and the mean is relatively equal across the three treatment groups, 5.9, 5.2, and 5.5 days respectively. Upon receipt of services, there was a decrease in the adjusted mean length of stay for the first subgroup from 14 days in 1984 to 5.9 in 1985.

One important function of the outreach therapist was to utilize expensive inpatient treatment most effectively and economically. A therapist in regular contact with the psychotic client develops a knowledge about the person's coping ability, the amount of support that significant others can reasonably provide, and the potential for acting out. Successful community adjustment requires timely and appropriate hospitalization. While over-utilization can stifle development of coping skills and autonomous development, the patient who under-utilizes is often experiencing paranoia or denial and is likely to continue to decompensate without treatment, resulting in possible behavior management problems and lengthening the time needed to resolve the episode. Perrucci and Targ (1982) conclude that one important advantage to having a close network is that patients receive more timely treatment intervention which resolves the episode faster.

The briefer hospitalizations in 1985 may reflect more timely intervention, there was some evidence based on the comparative hospitalization data that clients most in need of treatment were more likely to receive efficient hospitalization when they were in the
outreach program. Assuming that one goal of good client care is to provide the least restrictive treatment available, then hospitalization should be reserved as a last resort. Persons who show the greatest difficulties in coping with their mental illness might be expected to utilize more hospital time than those who cope less successfully. Three variables provide evidence that this monitoring of services was more likely to occur when the Kino social workers were providing care. Community functioning, substance abuse, and medication compliance are the three variables that will illustrate this point. They were previously discussed in association with rehospitalization rates. In 1984, with almost one-third of the total population without service, there was no relationship between level of community functioning and the average length of stay. In 1984, those rated as the most effective in community functioning had the highest mean length of stay, 11.2 days, with very little difference between any of the other functioning levels. In 1985, there was a clear pattern that showed a significant relationship (ANOVA test $F < .01$). The highest rated functional group averaged 2.8 days, those rated in the middle averaged 6.6 days, and those least effective in community functioning averaged 10.7 days. The pattern that emerged as the entire treatment population received services might suggest that the involvement of the social worker assured that significant clinical information was available to medical personnel. This increased data base may have allowed them to better differentiate which clients would profit from hospitalization and which were in need of reassurance in their own coping skills.
Medication compliance, a second variable related to recidivism, follows a very similar pattern to that of community functioning. There is no relationship between medication compliance and length of stay in 1984, but a significant effect was found in 1985 (ANOVA $f = .01$). Those who took medication as prescribed averaged 2.9 days in 1985, medication noncompliers averaged 8.6 days, and those who varied on their medication averaged 4.8 days per admission. The lack of differences in mean length of stay in 1984 between those who took medication as opposed to those who did not, appears related to the fact that a third of the population was without the services of advocacy to hospital personnel as they were not yet in the treatment program. Knowledge concerning the client's history of independent medication compliance and current lifestyle can determine whether an early discharge would likely succeed.

The relationship between length of stay and substance abuse was also insignificant in 1984, with no interesting pattern, but the pattern becomes more distinct in 1985 (ANOVA $f = <.10$), with a pattern that varies from the linear relationship described in community functioning and medication compliance. The non-substance abusing group averaged 3.7 days per admission. The consistent abuser averaged 5.9 days, while the sporadic substance abuser had the longest mean length of stay with 7.2 days. A way of interpreting this result is to consider the capabilities needed to regularly obtain alcohol or drugs; one must be street smart or financially capable. Regular abusers may be quite competent in many social skills and may be successful in avoiding detection of their symptoms. A similar inverse relationship between substance abuse and
symptoms were noted earlier. The higher mean length of stay for the person who uses substances occasionally may also be an example of the self-medicating—the person trying to relieve occasional episodic difficulties but who is further disoriented by the novel experience which is likely to heighten vulnerability and symptom distress.

The relationship between length of stay and support network, while not statistically significant in either 1984 or 1985, does move in a direction that provides interesting results concerning the engagement of significant others in the treatment program. In 1984 the mean length of stay per admission varied minimally between those patients with a very good supportive network and those with a very poor supportive network. The mean for the two extremes were 9.4 and 10.8 days. In 1985, the poor network group had a mean twice that of the best network group (mean 3.3 and 6.9, respectively).

In summary, aside from the reduction in mean number of days hospitalized, there is little evidence to support any other effect or benefits that accrue with a longer length of time in the outreach program. Although another possible explanation for the decreased hospitalization might have been policy changes in the administration of the psychiatric unit, officials deny that there were any changes.

Educational and persuasive efforts of the social worker does not seem to increase medication compliance or to decrease substance abuse, nor to enhance community functioning or increase treatment engagement in any direct measurable way. The lack of other supportive evidence may be due to inadequate measurement methodology, insufficient time lapse, overly subjective raters, or nonspecific criteria. The dramatic
decrease in hospital utilization suggests that something in or about the client's behavior became less troublesome to him/herself or to others after the outreach therapist became involved. The client's need for asylum from the community and the community's need to provide protection appears to have been mitigated to some degree by the program.
CHAPTER 5

CONCLUSIONS

The preceding chapter presented data collected from the Kino Hospital outreach program along with the findings of other published reports. Discussion of similarities and differences between voluntary and non-voluntary populations provided a conceptual framework for understanding the unique and non-traditional treatment approach that was examined in the final section. Each of the areas investigated will be summarized in order to review those issues that are of greatest importance.

Voluntary and Nonvoluntary Client Characteristics

The first study investigated an issue raised by many researchers concerning the characteristics of those CMIs who do not engage in traditional services or who drop out at an early stage. Since treatment programs are intended to treat the entire population, knowledge concerning those CMIs who are not being served is as important as knowing the effects of treatment on those who are utilizing services. The Kino population was defined as a nonvoluntary group based on their history of non-engagement in previously prescribed treatment programs. Caton (1981) provided data on a similar group.

Many similarities were found between the voluntarily engaged clients and those who were nonvoluntary. Both groups were largely dependent on the government for their income. They were nine times more
likely to be single, divorced, or separated than they were to be married. Between 40 and 60 percent did nothing with their time, nor did they have adequate homemaking skills. Poor nutrition affected more than one-half, and less than a third could adequately manage their finances.

Discriminating features were also found. The nonvoluntary population tended to be younger, less compliant with prescribed medication, more likely to use alcohol or drugs, were hospitalized more frequently, and were more likely to live alone. Characteristics associated with the nonvoluntary clients reveals the severity of their difficulties and emphasizes the need for innovative treatment designed to reach this difficult population.

Recidivism Rates and Related Characteristics

This study examined factors related to recidivism rates. Factors that were found to co-vary with recidivism as reported on voluntarily engaged CMIs were tested for significance on the Kino population. Results indicated that those variables were also associated with recidivism in the Kino nonvoluntary population. They included medication compliance, substance abuse, and level of community functioning. Three more variables were also associated with recidivism, but in the opposite direction. The Kino population with the highest recidivism, tended to be older as opposed to younger, they tended to have longer inpatient stays while hospitalized as opposed to briefer, and they had more contact with their outreach therapist as opposed to fewer. In addition, the Kino population was more likely to have an increased number of admissions if there was a history of behavior
problems or if their symptoms of psychopathology were more severe. These variables were unreported in previous research. Common sense suggests that these findings are not unexpected. Lack of studies that singled out these variables and defined them in a comparable manner probably explains the absence of previous reported relationships. There is considerable interrelatedness of the six variables that individually correlate with recidivism, half of which had previously been found to correlate with the nonvoluntary client status, i.e., substance abuse, medication compliance, and treatment rejection.

The client with frequent readmissions, commonly referred to as the revolving door patient, is a major concern to community mental health programs and an obvious treatment failure. While some of the deinstitutionalized clients who reject treatment are easily ignored or forgotten due to their withdrawal and isolation, these visible dropouts assure that attention is drawn to the problem while challenging the traditional systems to solve them.

**Young Adult Chronic Patient**

This study was designed to test the validity of a current theme in the research literature that views the younger adult CMI as having special identity problems. The variables associated with the younger adults were not found to discriminate between age groups in the Kino population. Those variables, however—substance abuse, medication compliance, behavior problems, psychotic symptoms, community functioning deficits—overlap those previously shown to relate to treatment rejection and recidivism. Quite possibly the selection criteria for
entry to the Kino population resulted in a skewed sampling from the older and younger age groups. Less representative older clients, selected for their uniqueness, may diminish the impact of the younger clients who may actually be more representative of their age group. The age factor is not as important as the deviant and maladaptive characteristics that are presenting in increasing numbers due in part to the greater proportion of the population that is now under thirty-five and without an institutional identity. The attempts on the part of these young CMIs to normalize and fit into the social environment is dramatic. The current emphasis on the younger population in the literature is drawing long overdue public awareness to a problem that has probably existed for some time but not in such a compelling magnitude.

**Kino Treatment Program**

The Kino program demonstrates one method of attempting to intervene with this growing population of chronic mentally ill persons who lack contact with the mental health system. Broadly defined goals of the outreach program emphasized individuality in the treatment objectives. Prioritized issues in client care included provision of basic needs, establishing a supportive relationship to client and significant others, and reducing stressful, dangerous behaviors. Timely respite through carefully monitored hospitalization was considered an important part of that treatment.

The length of stay variable was used to compare treatment effects across two years of inpatient utilization. Results were encouraging in
that several measures of hospital use decreased as the study population began receiving services. Another positive finding concerned the strong relationship found when treatment was being provided between longer hospital stays and less adaptive functioning. The absence of reported gain in many other areas continues to be problematic. Perhaps improvement was too slow to be seen in less than five years. Perhaps progress was too subjective to measure accurately in small increments. An assessment performed by family members might provide greater accuracy and could have added rich material. Furthermore, a measure of family satisfaction with services across time would cover another treatment aspect, one that indirectly affects client functioning but also affects the lives of the entire extended family who are also in need of supportive assistance lest they merely replace the hospital back wards.

The era of deinstitutionalization has come and gone, leaving in its wake a population of mentally ill persons who must find their own asylum in the community. It is clear that some have limited survival and social skills. This study described a group of CMI persons who would likely have spent much of their lives in mental institutions had they lived in previous decades. Their need for continued hospitalization remains a controversial issue, one which is best explored through a variety of research approaches. One of the purposes of this study was to increase public and professional awareness of a select portion of this population that has been underreported due to the difficulties in locating and tracking them. The complexity of the research effort is compounded by the heterogeneous nature of the
population in functional abilities, pathology, and in relationship with societal norms and expectations.

Recommendations

Program developers and fiscal planners can no longer ignore the harsh reality that many severely incapacitated mentally ill persons are not only lacking psychiatric care, but are also lacking basic food and shelter. Traditional mental health and social service delivery systems were not designed to provide for the multiple deficiencies found in this population. Long-term mental health goals must assure that this vulnerable population is provided a comprehensive and integrated system of care with designated accountability and adequate fiscal resources. This system should consider the complex needs of all those affected: the patient, the caregiver, and the community.

The patient’s foremost need is assurance of basic survival. Providing financial support or erecting public housing is not sufficient when recipients are ignorant of the fact that these benefits exist or are incapable of utilizing them. Locating eligible individuals will prove challenging as many will seek a reclusive lifestyle. Community awareness and acceptance of mental illness is essential if persons in need are to be brought to the attention of those providing services.

A delicate balance can assure that sufficient care is provided without denying civil rights to those capable of independence. Graded levels of supervision can provide appropriate care as well as opportunity to grow within the system.
The mental health provider in this new system is a unique professional without precedence. Traditional training in both medical and mental health services has assumed the existence of a central location where clients were either detained or appeared at appointments. Community integration for this population will demand community outreach for the professional. One reason for this is that in vivo experiential learning has proved essential for the development of independent living skills. A second reason is that appointments are not kept when clients are required to self-initiate the therapeutic process.

The ideal professional to provide outreach services will have a background that integrates medical, psychotherapeutic, and social work skills. In addition, the outreach worker must be capable of more independent functioning in a less structured environment where one must function without that sense of authority, of professional expertise, that is customarily provided in part by designated work areas and conspicuous professional degrees.

These aforementioned requirements of future systems will need refinement based on comprehensive research of this heterogeneous population. Biomedical investigation of mental illness will continue to add valuable information to future treatment considerations, but psychosocial professionals must prepare to deal with the immediate problem. Public education is essential to increase awareness of the problem, to reduce stigmatization and to provide a basis of support for fiscal planning that can provide intensive and aggressive service delivery.
Providing the best quality of life for the mentally ill must remain the ultimate goal. Social values and fiscal priorities will effect treatment issues; therefore, providing the public with as much current and relevant information remains a critical responsibility of professionals who are fully informed and willing to risk experimenting with nontraditional methods for engaging this elusive population. The common assumption that difficult to engage CMIs are treatment rejectors was found to be an inaccurate depiction based upon the bias of an inflexible service delivery system.
APPENDIX A

CLIENT INFORMATION FORM

Data Gathered From the Therapist

1. Age
2. Sex
3. Ethnicity
4. Marital Status
5. Diagnosis
6. Length of time in outreach program
7. Frequency of contact with patient
8. Kinds of activities engaged in with patient
9. Focus of treatment
10. What kind of residential placement does this person have?
11. Has he/she moved at least once in the past year?
12. Does this person care for his own basic needs? Specify food, household care, hygiene, etc.
13. Source of income
14. Does patient handle own money?
15. If patient handles own money, is it done adequately? If patient does not handle own money, who is handling the money?
16. What is the daily activity?
17. Does person use drugs or alcohol to the extent that it interferes with daily life and ability to function?
18. Does patient take antipsychotic medication as prescribed?
19. Does patient utilize transportation in the community?

20. Will patient independently go to important appointments?

21. How many persons are an important source of support in this patient's life?

22. How disabling are the patient's psychotic symptoms for him?

23. Is there a history of danger to self or others?

24. Is there a history of court-ordered treatment?

25. Is there a history of incarceration?

26. Is there a history of parole?

Information Gathered From Hospital Records

1. Inpatient dates of treatment; 1984, 1985

2. Diagnosis

3. Number of billable contact hours made to patient between 2/85 and 6/85

4. Length of time in outreach program
APPENDIX B

COMBINED VARIABLES AND OTHER VARIABLES INVESTIGATED

Variables created by combining related areas from the Client Information Form or responses across time, reflecting behavior variations at 6-month intervals.

<table>
<thead>
<tr>
<th>Area of Functioning</th>
<th>Behavioral Ratings</th>
<th>Number of Subjects</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication Compliance</td>
<td>1. Takes medication as prescribed</td>
<td>55</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>2. Takes medication occasionally</td>
<td>44</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>3. Refuses to take psychiatric meds</td>
<td>28</td>
<td>22</td>
</tr>
<tr>
<td>Substance Abuse</td>
<td>1. Never abuses alcohol or drugs</td>
<td>56</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>2. Abuses occasionally</td>
<td>55</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>3. Abuses substances continuously</td>
<td>31</td>
<td>22</td>
</tr>
<tr>
<td>Treatment Engagement</td>
<td>1. Maintains regular appointments</td>
<td>41</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>2. Varies</td>
<td>47</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>3. Avoids therapist, unavailable for scheduled appointments</td>
<td>39</td>
<td>31</td>
</tr>
<tr>
<td>Support Network</td>
<td>1. Has average or better number of persons, and relationship is satisfactory</td>
<td>23</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>2. Average number with possible unsatisfactory</td>
<td>71</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>3. Has fewer than average number of persons and has unsatisfactory relationship</td>
<td>48</td>
<td>34</td>
</tr>
</tbody>
</table>

Mean number of support persons available was 2.7, mean number of persons with whom the client had a satisfactory relationship was 2.1. Standard deviation for both equals 1.2.

<table>
<thead>
<tr>
<th>Psychopathology</th>
<th>Behavioral Ratings</th>
<th>Number of Subjects</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Positive psychotic symptoms rarely evident.</td>
<td>45</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>2. Variability of symptoms</td>
<td>77</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>3. Positive psychotic symptoms continuously evident.</td>
<td>20</td>
<td>14</td>
</tr>
<tr>
<td>Area of Functioning</td>
<td>Behavioral Ratings</td>
<td>Number of Subjects</td>
<td>Percent</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Sociability</td>
<td>1. Client enjoys and seeks company</td>
<td>58</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>2. Some withdrawal at times</td>
<td>48</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>3. Client reclusive, rarely sees others</td>
<td>36</td>
<td>25</td>
</tr>
<tr>
<td>History of Behavior</td>
<td>1. No history of impulsive acting out</td>
<td>47</td>
<td>33</td>
</tr>
<tr>
<td>Problems</td>
<td>2. Some impulsivity with history of dangerousness to either self or others</td>
<td>69</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>3. Has been arrested for acting out</td>
<td>26</td>
<td>18</td>
</tr>
<tr>
<td>Community Functioning</td>
<td>includes independent living skills, money management, housekeeping, hygiene, and transportation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Functions adequately in providing for own needs</td>
<td>49</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>2. Has serious deficits in at least two areas of functioning</td>
<td>45</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>3. Lacks skills to maintain adequate community adjustment. Probably gets evicted often, panhandles, eats at food kitchens when possible and capable, and picked up by police or social service agencies frequently</td>
<td>24</td>
<td>17</td>
</tr>
<tr>
<td>Dependents</td>
<td>a fourth group that does not live independently and were not described in Results because their skill level and functioning ability could not be evaluated, nor do they handle their own finances. Five lived in boarding homes, 11 lived with family, and 8 changed residences during the 6 months. They do not differ much from the population except that they are less likely to have behavior problems, 67 percent have no history, 42 percent are Hispanics (vs. 27 percent of the Tucson population).</td>
<td>24</td>
<td>17</td>
</tr>
</tbody>
</table>
Summary of other variables from Client Information Form

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place of residence - across 6 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent self care</td>
<td>53</td>
<td>37</td>
</tr>
<tr>
<td>Family</td>
<td>26</td>
<td>18</td>
</tr>
<tr>
<td>Boarding home</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Special CMI program</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Institution - jail or hospital</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Changed residential category</td>
<td>31</td>
<td>22</td>
</tr>
<tr>
<td>Other - out of area, no residence</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Daily activity - across 6 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nothing</td>
<td>57</td>
<td>40</td>
</tr>
<tr>
<td>CMI day program</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>School</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Institution - jail or hospital</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Homemaker or volunteer</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>Changed category</td>
<td>40</td>
<td>28</td>
</tr>
<tr>
<td>Length of time in outreach program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One to seven months</td>
<td>41</td>
<td>29</td>
</tr>
<tr>
<td>Eight to thirty-six months</td>
<td>51</td>
<td>36</td>
</tr>
<tr>
<td>Thirty-seven to forty-eight months</td>
<td>50</td>
<td>35</td>
</tr>
<tr>
<td>Moved in the past year</td>
<td>58</td>
<td>41</td>
</tr>
<tr>
<td>Financial management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handles own money adequately</td>
<td>27</td>
<td>19</td>
</tr>
<tr>
<td>Handles own money inadequately</td>
<td>60</td>
<td>42</td>
</tr>
<tr>
<td>Money is handled by someone else; family, public</td>
<td>55</td>
<td>39</td>
</tr>
<tr>
<td>fiduciary, boarding home manager, CMI program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact with outreach social worker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact averages less than once a week</td>
<td>41</td>
<td>32</td>
</tr>
<tr>
<td>Contact averages once a week</td>
<td>48</td>
<td>37</td>
</tr>
<tr>
<td>Contact averages more than once a week</td>
<td>40</td>
<td>31</td>
</tr>
<tr>
<td>1984 admissions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Client had no admits</td>
<td>41</td>
<td>29</td>
</tr>
<tr>
<td>2. One admit</td>
<td>34</td>
<td>24</td>
</tr>
<tr>
<td>3. Two admits</td>
<td>32</td>
<td>23</td>
</tr>
<tr>
<td>4. Three or more admits</td>
<td>35</td>
<td>25</td>
</tr>
<tr>
<td>1985 admissions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Client had no admits</td>
<td>73</td>
<td>51</td>
</tr>
<tr>
<td>2. One admit</td>
<td>25</td>
<td>18</td>
</tr>
<tr>
<td>3. Two admits</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>4. Three or more admits</td>
<td>29</td>
<td>20</td>
</tr>
</tbody>
</table>
APPENDIX C

CHECKLIST FOR CHRONIC MENTAL ILLNESS DETERMINATION
I. DEFINITION OF CHRONICALLY MENTALLY ILL

The chronically mentally ill are defined as those persons whose emotional or behavioral functioning is so impaired as to interfere grossly with their capacity to remain in the community without supportive treatment or services of a long-term or indefinite duration. The mental disability is severe and persistent, resulting in a long-term limitation of their functional capacities for primary activities of daily living such as inter-personal relationships, homemaking and self-care, employment, or recreation. The mental disability may limit their ability to seek or receive local, state or federal assistance such as housing, medical and dental care, rehabilitation services, income assistance and food stamps, or protective services. Although persons with primary diagnoses of mental retardation or organic brain syndrome frequently have similar problems or limitations, they are not to be included in this definition.

II. CHECKLIST CRITERIA

The client must meet ONE of Part A and TWO of Part B criteria.

OR

The client must meet ONE of Paragraph A and qualify under Part C criteria.

A. Diagnostic and Treatment Criteria

☐ 1. A DSM III Diagnostic Coding in the 295-299 Series, and continuous treatment in one, or a combination of the following modalities:

   Inpatient
   Skilled Nursing Care
   Partial Hospitalization
   Intermediate Nursing Care

☐ 2. A DSM III Diagnostic Coding in the 295-299 Series, and six months continuous residence in one of the following:

   Residential Program
   Transitional Program
   Supervisory Care Home
   Boarding Home

☐ 3. A DSM III Diagnostic Coding in the 295-299 Series and two or more admissions to any of the above modalities within a twelve-month period.

☐ 4. A DSM III Diagnostic Coding in the 295-299 Series with an active case history in an outpatient modality, and a history of at least one mental health psychiatric hospitalization.

☐ 5. A DSM III Diagnostic Coding in the 295-299 Series indicating a need for treatment of at least one year's duration in an outpatient or day treatment modality.

B. Impaired Role Functioning:

In addition to one of the preceding, the client will satisfy at least TWO criteria, numbers 1 through 8, or meet the condition in Paragraph C, below.

☐ 1. Unemployed or has limited job skills and/or a poor work history.

☐ 2. Employed in a sheltered work setting.
☐ 3. Requires public financial assistance for maintenance and/or requires help to seek assistance.

☐ 4. Does not seek appropriate supportive community services without assistance.

☐ 5. Lacks supportive social systems in the community (i.e., no close friends or group affiliations, lives alone, is highly transient).

☐ 6. Requires assistance in basic life and survival skills (must be reminded to take medication, must have transportation to mental health clinic and other supportive services, needs assistance in self-care, household management, etc.).

☐ 7. Exhibits inappropriate or dangerous social behavior which results in demand for intervention by the mental health and/or judicial/legal system.

☐ 8. Is placed in a nursing home or boarding home setting due to financial considerations and/or because a less restrictive suitable environment is not available.

☐ C. The client does not meet any of the functional criteria at present, but has a history of functional impairment at the required level with the assumption that reversion would occur without medication and/or therapeutic intervention.

This checklist is to be filed in the client file of all clients determined to be chronically mentally ill.

TOTAL NO. OF CRITERIA MET

<table>
<thead>
<tr>
<th>DSM III Diagnostic Code</th>
<th>Part A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Diagnosis</td>
<td>Part B</td>
</tr>
<tr>
<td>Diagnosicist</td>
<td>Part C</td>
</tr>
</tbody>
</table>

______________________________
PERSON COMPLETING CHECKLIST

__________________________
TITLE

__________________________
DATE
SELECTED BIBLIOGRAPHY


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______. "Characteristics of Young Adults With Schizophrenic Disorders Treated in the Community." Hospital and Community Psychiatry 36:8 (1985): 853-859.


