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I am submitting herewith a dissertation written by Lois J. Pokorny entitled "An Investigation of a Referral Linkage from a State Psychiatric Hospital to Community Mental Health Centers." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

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AN INVESTIGATION OF A REFERRAL LINKAGE FROM A STATE PSYCHIATRIC HOSPITAL TO COMMUNITY MENTAL HEALTH CENTERS

A Dissertation

Presented for the

Doctor of Philosophy

Degree

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ABSTRACT

The purpose of this study was to investigate the referral linkage from a state psychiatric hospital to community mental health centers. State psychiatric hospitals and community mental health centers (CMHC's) share the responsibility for the delivery of mental health services in the public sector. The CMHC is mandated to provide aftercare for residents of their catchment area who are leaving a state hospital. The present paper investigated the effectiveness of the procedure by which 52 patients being discharged from a state hospital were referred for aftercare at a CMHC. Two outcome measures were used: 1) attendance at the referred appointment; and 2) readmission to the state psychiatric hospital within a year of discharge.

The attendance rate at the referred CMHC appointment for patients included in this study was 73.1 percent. Comparisons of demographic characteristics of patients attending and not attending the referral CMHC appointment revealed that females were more likely than males to attend ($X^2 = 6.7$, df = 1, $p < .02$). The recidivism rate for these patients to the state hospital within one year of discharge was 26.9 percent. Comparisons of demographic characteristics of patients returning and not returning to the state psychiatric hospital revealed that those with previous history of hospitalization were more likely to return ($X^2 = 14.4$, df = 2, $p < .002$). Patients were randomly assigned to either a control or augmented referral condition. The augmented referral condition included an additional contact with the patient before discharge to encourage attendance at the referred CMHC appointment. The proportion

of patients attending in the two conditions was not significantly different.

A stepwise multiple regression analysis was calculated in which patient sex, referral condition, psychiatric symptomotology rating, and the interaction terms of these variables served as predictor variables and CMHC attendance served as the criterion variable. The resulting coefficient of .55 indicated that the prediction equation could account for approximately 30 percent of the variance in attendance. However, only sex and the interaction of sex and psychiatric symptomotology rating entered at a significant level. Similarly, a stepwise multiple regression analysis was calculated in which patient sex, referral condition, psychiatric symptomotology rating, number of previous hospitalizations, and the interaction terms of these variables served as predictor variables and recidivism to the state hospital served as the criterion variable. The resulting coefficient of .65 indicated that the prediction equation could account for approximately 42 percent of the variance in recidivism. However, only number of previous hospitalizations entered at a significant level.

A goal of the provision of aftercare is to prevent or delay readmission to the state hospital. The association between attendance at the referred appointment and readmission to the state hospital was not statistically significant. The probable factors contributing to the high attendance rate at the CMHC appointment and those contributing to the high recidivism rate to the state psychiatric hospital were discussed.

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I. INTRODUCTION

History of Mental Health Care in the United States

The history of the care of the mentally ill in the United States includes two major turning points. The first was the reform, beginning in the middle 19th century, which changed the locus of care from the home and the community to the institution, and the second, beginning in the middle 20th century, is changing the locus of care from the institution back to the community.

Institutions did not exist in large numbers for the mentally ill until the mid 19th century. Before 1810, only a few eastern states had incorporated private institutions to care for the mentally ill, and only Virginia had established a public asylum. All together, they treated less than 500 patients, most of whom came from prosperous families (Rothman, 1971). The indigent mentally ill were treated in the same manner as other destitute individuals. They were housed in jails if their behavior was especially unruly, auctioned off to the member of the community who would keep them for the least amount of money, sent to a poorhouse if one existed in their community, or kept at home (Deutsch, 1949).

By 1860, 28 of the 33 states had public institutions for the insane (Rothman, 1971). Rothman pointed out that the movement to build mental hospitals did not come out of desperation or out of an attempt to remove dangerous or undesirable people from the communities. Instead, their establishment was based on the firm belief that insanity could be cured through treatment in a mental institution.

The understanding of the etiology of mental illness that prevailed was consistent with the institutional treatment that was advocated. The origin of insanity was thought to be found in the stresses of community life, which were especially great in the "open and fluid quality of American society." It was thought that in the institution a different kind of enviornment could be created to systematically correct the deficiencies of the community. Strict and rigorous schedules were maintained and work therapy was required of all patients. Restraints and punishments were eschewed, and gentle but firm enforcement of the rules was advocated. This early version of milieu therapy was termed moral treatment.

The first mental hospitals reported cure rates that indicated great success in their treatment of the mentally ill (Rothman, 1971). The Massachusetts asylum at Worcester, for example, claimed that 82 percent of the patients were cured. John Galt reported from Virginia in 1842 that, excluding patients who died during treatment, he had achieved a 100 percent recovery rate. The following year, Dr. Awl of the Ohio Asylum simply announced without qualification a 100 percent cure rate. These impressive statistics, which were later found to be vastly inflated, provided strong "objective" support for the establishment of additional institutions.

There is no doubt that Dorothea Dix played a major role in the establishment of mental hospitals. Dorethea Dix had become aware of the mistreatment of mentally ill persons in her community, and in an informal survey of neighboring cities she determined that this mistreatment was widespread. She began her campaign for the establishment of mental hospitals in Massachussetts and continued on to address

the need in other states. Each time, she cited evidence of mistreatment of the mentally ill in the state and exhorted legislators to appropriate money for the establishment of asylums. She quoted the statistics which clearly indicated the superiority of institutional care over community care. In response to Dorothea Dix's message, twenty states established or enlarged mental hospitals.

Almost from the very beginning, however, the state hospitals were unable to deliver the type of care and effect the number of cures that had been expected. The establishment of the hospitals rested on the assumption that patients would respond quickly to treatment and would be discharged soon after admission. The hospitals could be fairly small, then, as patient turnover was expected to be high. However, one of the most prominent features of the hospitals soon became the large number of chronic cases. The violent, who previously had been incarcerated in jails, and the poor, who traditionally had been confined to the almshouse, comprised a large proportion of the patients. Local officials tended to dispatch only the most troublesome persons to the mental hospitals, preferring to keep those more peaceful and manageable in their own facilities to avoid additional hospital costs. The patients became long-term residents at the hospitals as their condition did not improve and they could not be discharged to live an independent life in the community. The hospitals soon became overcrowded as the number of admissions exceeded the number of discharges.

The overcrowded conditions at the hsopitals and the high proportion of chronic patients made it unfeasible, if not impossible, to offer therapeutic care. By 1870 the mental hospitals were already generally recognized as custodial rather than treatment institutions. It is

interesting to note that hospital superintendents did not support legislation that would have allowed them to discharge chronic and seemingly hopeless cases to the community or other institutions and return to the role of a treatment facility. Ironically, it appears that they did not support the legislation from the fear that the discharged persons would suffer severe mistreatment. Conditions at the hospitals subsequently deteriorated to such a state that it would be difficult to imagine that the patients' fate could have been worse elsewhere. For a time a proposal to establish separate institutions for acute and chronic cases was considered, but these plans never materialized.

Meanwhile, it was recognized that the earlier statistics indicating high cure rates at mental hospitals were in error. Dr. Pliney Earl, a prominent physician, enumerated the various practices which had inflated the statistics: 1) counting all discharges as cured; 2) reporting only "recent" cases in the statistics; that is, only those cases of short duration; 3) reporting on episodes of care rather than patients; for example, a patient discharged three times represented three "cures;" 4) reporting on the disposition of patients upon discharge rather than on the condition of current patients. In retrospect, the claim of curability can be seen as a vicious cycle of fallacies (Deutsch, 1937). Some who believed in the superiority of care in the institution over care in the community deliberately inflated the statistics in order to hasten the establishment of institutions. Others produced inflated statistics to stay abreast of fellow practitioners who were also reporting inflated statistics. Once the belief in the efficacy of institutional care became entrenched, statistics which correctly reflected lower cure rates were unacceptable.

One feature of the mental hospitals, originally thought to be of therapeutic value, was their isolation from communities. When mental hospitals were first established, they were built away from population areas in order to afford the patient greater protection from the stresses of society. The isolation also had the unfortunate effect of protecting citizens from seeing the scandalous condition of the mental hospitals, that may have propelled them to action.

The mental hospitals continued to exist in deplorable conditions for decades with no major change in policy. The World Wars contributed to their deterioration as they required great personnel and financial support, and during the Great Depression of the 1930's admissions increased and appropriations decreased still further. Deutsch (1948) recorded many of the horrors found in his survey of the psychiatric hospitals. Overcrowding was found in almost all of the institutions, with some hospitals housing more than 75 percent over the intended capacity. Incredibly low staff to patient ratios were also found in most of the institutions. One hospital, for example, was expected to have 1,100 attendants according to American Psychiatric Association standards. There were only 180 on the payroll for all shifts; a ratio of one attendant to 34 patients. On some evenings there was only one attendant covering each of ten buildings of 300 to 400 patients each. Only 14 physicians were on the staff, producing a ratio of one physician to 179 patients (Deutsch, 1948).

Deutsch's (1948) description of the Philadelphia State Hospital for Mental Diseases (Byberry) was similar to his description of many others:

> As I passed through some of Byberry's wards, I was reminded of the picture of the Nazi concentration camps at

> Belsen and Buchenwald. I entered buildings swarming with naked humans herded like cattle and treated with less concern, pervaded by a fetid odor so heavy, so nauseating, that the stench seemed to have a physical existence of its own. I saw hundreds of patients lying under leaking roofs, surrounded by moldy, decaying walls, and sprawling on rotting floors for want of seats or benches.

It was not until after World War II that change finally began to take place. The federal government began to take an interest in the care of the mentally ill, partly due to the large number of men who were judged to be unfit for military service for psychiatric reasons. Such a waste of manpower could not be tolerated (Taylor, 1973). In 1946 the National Mental Health Act (PL79-487) created the National Institute of Mental Health; launched grant programs to stimulate training, research, and improvement of community programs; and provided staff members of NIMH to serve as consultants to mental health programs.

In the 1950's three developments in the mental hospitals were starting to take place which led to major changes in the treatment of the mentally ill (Bloom, 1973). First, psychotherapeutic drugs were introduced. These drugs were effective in reducing the anxiety, discomfort, and bizarre behavior of many psychiatric patients so that they could be discharged. Many patients were able to remain in the community if they continued to take their medication.

The second development was the introduction of the philosophy of the "therapeutic community." Proponents of this philosophy asserted that supportive interactions between staff and patients and those between patients are therapeutic, and should be encouraged. This philosophy is clearly similar to that of moral treatment, which was advocated when the hospitals were first established in the late 19th century. Moral treatment, like the therapeutic community, recognized that

a sound enviornment in the institution could enhance the patient's psychological well-being. The tenets of moral treatment were abandoned when the hospitals first became overcrowded with chronic cases.

The third development cited by Bloom (1973) was the administrative reorganization of many state hospitals. The new method of organization was termed geographic decentralization. Decentralization involves administratively breaking up a large institution into smaller semiautonomous units, each with its own admission services and treatment programs. Geographic decentralization involves giving each unit responsibility for serving a specific geographic section of the institution's catchment area. Decentralization is often credited with improving decision-making processes within the institution and the geographic basis for decentralization is often credited with fostering the development of closer relationships between the institution and the community.

These three developments contributed to the decline in the populations at state hospitals, after reaching a peak of 558,992 in 1955. Another very important influence in the population reduction has been a change in philosophy, termed the deinstitutionalization movement, which favors alternatives to long-term inpatient care. Underlying this preference for community based care is the conviction that the removal of a person from the community reduces the chances for effective treatment and the recognition of the negative effects of living in an institution. The deleterious effects of institutionalization have been noted by essayists (e.g., Goffman, 1961), novelists (e.g., Kesey, 1962), and researchers (e.g., Haney, Banks, Zimbardo, 1973). The deinstitutionalization movement has three component aims: 1) the prevention

of inappropriate mental hospital admissions through the provision of community alternatives for treatment; 2) the release to the community of all institutional patients who have been given adequate preparation for such a change; and 3) the establishment and maintenance of community support systems for non-institutionalized persons receiving mental health services in the community (Brown, 1975).

Another factor which decreased the populations at state hospitals involves reinstitutionalization rather than deinstitutionalization. Reinstitutionalization refers to the placement of a patient from a state hospital into an alternative institution which is hopefully less restrictive for the patient and less costly to the taxpayer. The role of nursing homes and other residential facilities has increased for the care of persons over the age of 65 (Bachrach, 1976).

The first initiative to restructure the mental health system came in 1955 when the U. S. Congress enacted the Mental Health Study Act (PL 84-182) to provide for "an objective, thorough, and nationwide analysis and reevaluation of the human and economic problems of mental illness" (Joint Commission on Mental Illness and Health, 1961, pp. 301-305).

The final report of the Joint Commission on Mental Illness and Health (1961) served as a direct stimulus to the creation of a new mental health policy. The recommendations made in this report included: 1) investment in basic research on the causes and treatment of mental health problems; 2) expansion of the type of persons who may deliver mental health services to include non-medical mental health workers, volunteers, nonprofessionals, para-professionals, and professionals of other disciplines; and 3) increasing the public information and awareness

of mental health problems; 4) making mental health care available to persons in their own community; and 5) a larger responsibility for the financial support of mental health services by the federal government.

As a consequence of the last two recommendations, legislation was passed in 1963 which provided funds for establishing community mental health centers. A CMHC was to be built for each 200,000 residents. One of the major aims underlying the establishment of the CMHC's was to move the care and treatment of the mentally ill into the local community to avoid the disruption of normal patterns of living. Care closer to home meant: 1) relatives and friends could more easily visit a patient; 2) a person would be more likely to come for help sooner, while a problem was more amenable to treatment; 3) out-patient, day care, and night care became more feasible; 4) the center could be responsive to the particular needs of the small community it served.

The five basic services which were required of the centers were: 1) inpatient care for those needing 24-hour hospitalization; 2) out-patient service for adults and children; 3) partial care such as day hospitals and night hospitals; 4) emergency services on a 24-hour basis, and 5) consultation and education programs. Seven additional services which were termed optional and later required of comprehensive centers (1975 amendment) were: 1) services for children; 2) services for elderly; 3) screening services for referrals to a state facility for inpatient care; 4) follow-up care for patients discharged from in-patient care; 5) transitional services; 6) alcholism and alchol abuse services, and 7) drug addiction and drug abuse services.

History of Mental Health Care in Tennessee

The history of the care of the mentally ill in Tennessee parallels

the history of the mentally ill in the United States as a whole. The first reform changed the locus of care from the home and community to the institution, and the second reform is changing the locus of care from the institution back to the community.

The first institution in Tennessee established expressly for the care of the mentally ill was the Tennessee Lunatic Asylum which opened in Nashville in 1840 to house twenty pauper lunatics. This facility was basically an underground dungeon. It had dirt floors and stone walls; there was no heat, no light, and no ventilation. Some of the residents were restrained with chains (Treadway, 1972).

Dorothea Dix toured this asylum in 1847. She was appalled at the conditions she found there and wrote a lengthy, scathing report to the Legislature denouncing the unsanitary and crowded surroundings. The Legislature responded by authorizing the establishment of a new hospital outside of Nashville which opened in 1852. In 1873 plans were set in motion to establish hospitals in east and west Tennessee, but delays interceded and the institutions were not opened until 1886 and 1889, respectively.

For almost 100 years, these institutions were run by the Department of Corrections and Institutions, and constituted the mental health program of the state. The patients at these institutions received treatment more similar to that given prisoners rather than patients. High fences surrounded the institutions and prominent bars framed every window.

The administration of Governor Frank Clement (1952 - 1956) has been hailed as a time of great improvement in institutional care (Treadway, 1972). During his administration, funds for the institutions

increased markedly as expenditures were raised from $1.15 per patient per day to over $11 per patient per day. Additional staff members were hired, and the physical environments of the institutions were improved. Mental health was separated from the Department of Corrections and Institutions with the creation of the Department of Mental Health in 1953.

Two additional psychiatric hospitals were established in the 1960's: one in Chattanooga in 1961 and one in Memphis in 1962. These hospitals were designed as intensive treatment facilities. Patients who did not respond to treatment at one of these hospitals within a specified period of time were transferred to one of the older psychiatric hospitals. The census at the psychiatric hospitals continued to increase through 1962 when they housed a total of 7,842 patients. The census has decreased since that time, and in 1977 had reached 3,697.

In response to the 1963 federal legislation calling for the establishment of CMHC's, the Tennessee Department of Mental Health developed a state plan which divided the state into thirty catchment areas. The thirtieth mental health center was chartered in 1975. At present, 19 of the 30 centers are providing comprehensive services and the others are working steadily toward becoming comprehensive (1978 State Plan). Eighty-two of the state's 95 counties have centers, satellites, or outreach programs within their boundaries (Mental Health Services, 1978).

Current Mental Health Delivery System in the United States

The section on the history of mental health care in the U. S. described the reduction of state hospital populations and the establishment of community mental health centers. In this shift involving

changes in locus of care and philosophy of treatment, some proponents of community mental health called for the complete elimination of state hospitals. Reding (1974), for example, expressed this view:

> There is only one way to deal with state hospitals or, for that matter, with prisons . . . empty them, close them, then blow them up, because as is well known, state legislatures cannot tolerate empty buildings. Then only shall we psychiatrists be cornered into honoring our Hippocratic oath and our social obligations.

In fact, a number of state hospitals were emptied and closed. Greenblatt and Glazier (1975) reported that between 1970 and 1975, 12 hospitals were closed in eight states. They concluded, however, that the issue of phasing out the hospitals is becoming overshadowed by the more pressing issue of planning for intergrated services within each state. The role of the state mental hospital is changing, but it remains an important link in the chain of mental health services. This view is affirmed in a position statement approved by the executive committee of the board of trustees of the American Psychiatric Association in 1974:

> While we applaud the trend toward the growing adequacy of community resources and the concurrent reduction of the patient population in public mental hospitals, we now view with considerable concern the trend toward the phasing out of the capacity for providing long-term inpatient care and treatment for the mentally ill or disabled.
>
> The American Hospital Association and the American Psychiatric Association recognize and support the importance of continuing to develop and implement new and innovative community programs and treatment modalities for the mentally disabled. However, at the same time it is essential that we not lose sight of the continuing need for a full range or spectrum of services which, for a small percentage of patients, includes intermediate and long-term care in a structured hospital-type environment.

The respective roles of the mental health centers and CMHC's differ somewhat from state to state. In general, however, the comprehensive CMHC's are to provide the 12 essential services and the remaining centers

are to provide a subset of these twelve. Included in these services are two that refer to their relationship with state hospitals. The CMHC's are to provide screening of clients who are admitted to the state hospital and aftercare to clients who are discharged from the hospital. State hospitals, in turn, are presumably to provide care to patients who require longer-term inpatient care.

The high recidivism rate found at state hospitals is often cited as one of the most prominent problems facing these institutions today, and as evidence that patients discharged from the hospitals are not receiving the type of care they require in the community. A review of studies on readmission of patients to mental hospitals presented data from a number of states (Rosenblatt and Mayer, 1974). The rates were high even for patients with no previous admissions; for example, within one year of discharge 32 percent were readmitted in New York, 27 percent in Connecticut, and 25 percent in Washington. When the patients had been admitted three or more times previously, the percentages increased to 65, 73, and 38, in New York, Connecticut, and Washington, respectively. More than half of all mental patients being admitted to state hospitals today have a history of institutionalization (Bachrach, 1976).

The charge that discharged patients are not receiving the type of care they require in the community raises two questions. The first question concerns the effectiveness of the care that is offered to the discharged patient, and the second question addresses whether the programs are well attended by the discharged patients who are referred to them.

Wolkon (1974) suggested that aftercare can ease the individual's transition from the dependent role of a patient to the role of an

independent member of society. And a number of evaluations (e.g., Wolkon, Karmen, & Tanaka, 1972; Winston, Pardes, Papernik, & Breslin, 1977; and McNees, Hannah, Schnelle, & Bratton, 1977) point to the effectiveness of aftercare programs in delaying or preventing rehospitalization. It is interesting to note, however, that the effectiveness of aftercare programs is difficult to demonstrate conclusively. One problem with such research is the difficulty in randomly assigning patients to aftercare and control conditions. When random assignment is achieved, a further difficulty comes in keeping the two groups distinct. Individuals in the control group may take advantage of other community programs, and individuals in the treatment group may discontinue treatment. Evaluations which involve pre-post comparison measures of only those patients who continue to attend suffer from a selection bias. Drop-outs from a program cannot be assumed to occur randomly among the patients, but are probably due to changes in their psychiatric condition.

The question of whether aftercare services are well attended is fundamental to the issue of whether discharged patients are receiving the care they require in the community. If the patients do not partake of these services, their potential effectiveness is a moot point. Effective relations must be present between the state hospital and the CMHC to ensure that the patients are able to move between the two agencies. The state hospital, often seen as the very symbol of isolation, must now be willing to "share" its patients with another agency. In turn, the CMHC must maintain effective communication not only with the state hospital, but also with other community agencies such as vocational rehabilitation and community action programs (Joint Commission on

Mental Illness and Health, 1961). The support of these agencies, in addition to that provided by the CMHC, is seen as integral to the task of keeping people in the community and out of the mental hospital.

Current Mental Health Delivery System in Tennessee

The population at the state hospitals in Tennessee did not peak until 1962 (Pokorny, 1979), seven years behind the nationwide trend. The population in the hospitals has decreased steadily since that time, and the state's goals include further reduction in census (Tennessee State Plan for Alcohol, Drug Abuse, and Mental Health Services, 1977). No attempts have been made to close the state hospitals. Instead, the goal is to intergrate the hospitals into a plan to provide a continuum of mental health services. In 1978, the state psychiatric hospitals were renamed as mental health institutes, to better reflect the renewed philosophy of providing treatment in the institutions and to remind the public that these institutions have changed (Mental Health Services, 1978).

The 1977 Tennessee State Plan included a diagram of the model for interaction between the CMHC's and the state hospitals, reproduced here in Figure 1. The CMHC's are to provide screening and evaluation of admissions to the hospitals. They are to remain involved in the treatment of the person during hospitalization, and are to serve the patient again upon discharge from the hospital. The hospital is to refer the patient back to the mental health center upon discharge for aftercare services.

The mental hospitals in Tennessee, like those in virtually every other state across the country, have the problem of high recidivism rates. More than 50 percent of patients admitted at the time of this

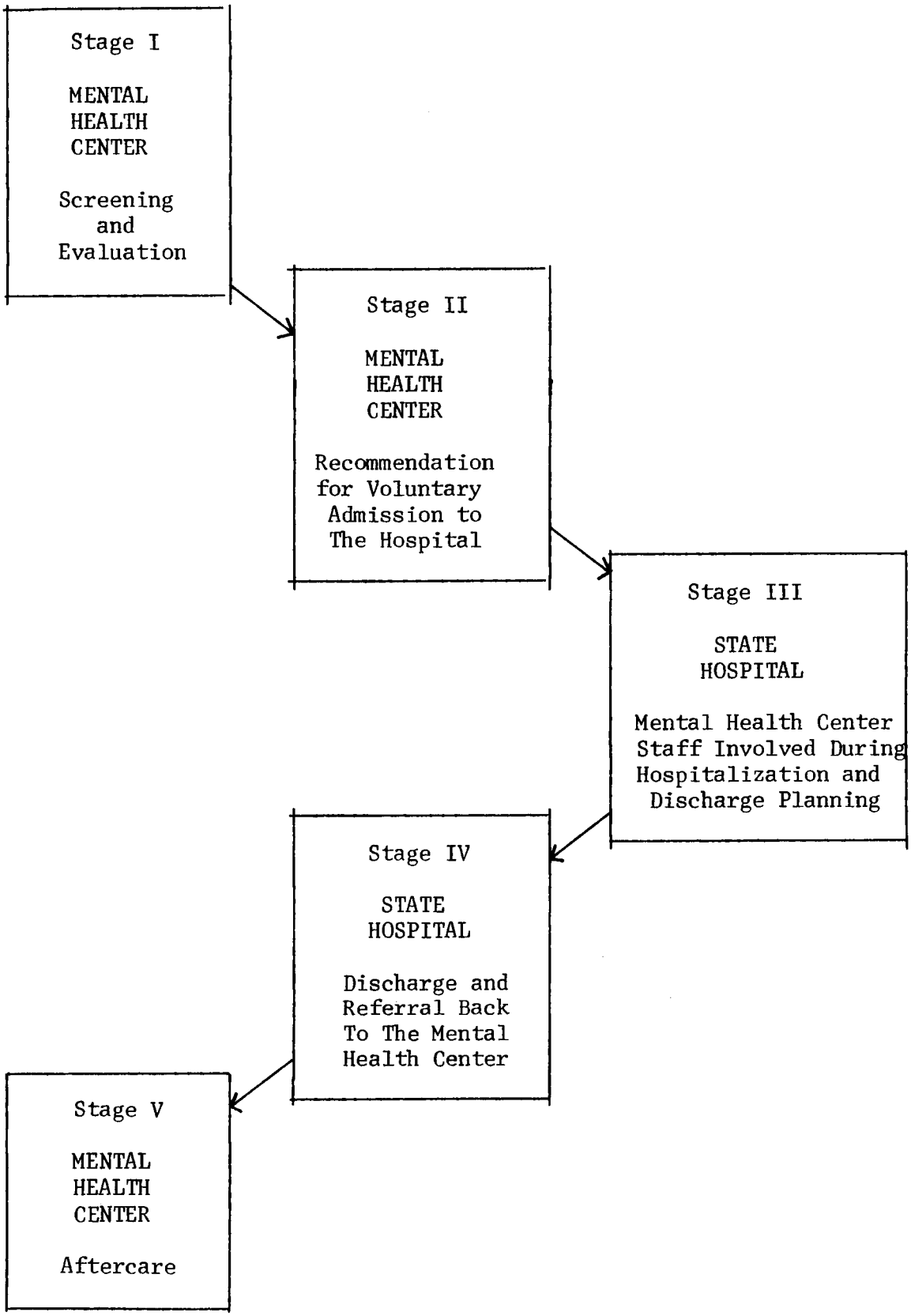

Figure 1. Mental health center - State hospital continum of care model in Tennessee. From the Tennessee State Plan for Alcohol, Drug Abuse, and Mental Health Services (1977).

writing have a history of previous hospitalization, and 27 percent of the patients return to the hospital within one year of discharge (Hammond, 1980). At present there is no data readily available which indicates the number of patients who receive care from the MHC's upon discharge from the hospitals, or the types of care they receive.

Referral Procedures

The current mental health system consists of the state psychiatric hospital, the CMHC, and a variety of other agencies that provide services to support the individual in the community. Support services include vocational rehabilitation programs, sheltered workshops, and Human Services programs. While each of the agencies offer only a subset of the services offered by all the agencies, together they are to provide the full range of services needed by mental health patients. The ability to meet the various and changing needs of clients often depends on the adequacy of referral from one agency to another (Rogawski and Edmundson, 1971).

Mental health and related agencies give referrals for several major reasons: 1) to direct an applicant for services to a more appropriate agency; 2) to direct a client (patient) to additional services from another agency; 3) to direct a client to follow-up services upon termination. The large number of referrals that are made underscores their importance in the mental health system. Kirk and Greenley (1974) reviewed 11 studies that reported the percentages of applicants at a variety of agencies who received referrals to a more appropriate agency. These percentages, which are listed in Table 1 (column 2), ranged from 2.9 to 60.8 with an average of 30.6 percent of the applicants receiving referrals. Many patients leaving state hospitals receive referrals to

TABLE 1

Percent Clients Receiving and Completing Referrals from Kirk and Greenley (1974)

Author, Year of Study, and Type of Initial Agency	Number of Applicants	Referred	Referral Completed
Coleman et a. (1957)			
Psychiatric Clinic	158	22.2	--*
Family Service Agency	112	17.0	--
Cumming (1968)			
Catholic Charity	51	60.8	--
Planned Parenthood	59	2.9	--
Medical Dispensary	810	24.2	--
Family Agency	54	40.7	--
Catholic Welfare	35	45.7	--
Psychiatric Clinic	30	13.3	--
Adult Welfare	509	32.0	--
Child Welfare	36	52.8	--
Home Care Service	10	20.0	--
Social Service Dispensary	88	47.7	--
Kogan (1957)			
Family Agency	195	54.0	49.0
Mannino and Rooney (1965)			
Psychiatric Clinic	343	18.1	--
Myers and Schaffer (1954)			
Psychiatric Clinic	183	8.1	--
Parnicky et al. (1961)			
Social Service Unit of Veterans Administration Hospital	855	23.0	80.0
Pfouts et al. (1963)			
Psychiatric Clinic (Referrals to)	218	--	71.0
Rogawski and Edmundson (1971)			
Psychiatric Evaluation Unit	15,000	35.0	--
Psychiatric Evaluation Unit	385	--	--
Ryan (1969)			
Special Referral	140	--	66.0
Community Agencies (n=65)	280,000	--	--
Psychiatric Clinics	27,000	--	30.0
Peele and Levine (1968)			
Child Guidance Clinics	297	34.0	68.0
Peele and Levine (1968)			
Child Guidance Clinics	1,241	30.0	--
Court Child Guidance	140	--	--
Wilson and Bartlett (1955)			
Hospital Social Service Department	77	--	77.3
Mean Percentage		30.6	63.0

*Dashes indicate data not available

Source: Kirk & Greenley, 1974, pp. 440-441.

community agencies. In Iowa, for example, 71.3 percent of the patients discharged during fiscal year 1974 received referrals; 35 percent of those patients received two or more referrals. Twenty-nine percent of the discharged patients in the Iowa study were referred to the CMHC (Driggers, 1975). In Tennessee 57.2 percent of the patients discharged during 1978 received referrals and 43.4 percent of the discharged patients were referred to the CMHC.

Unfortunately, a number of studies indicate that a disappointingly low number of clients actually complete their referrals. A review of studies reporting completion rates of patients referred from emergency rooms to out-patient psychiatric care found a range of 7.1 percent to 63 percent acting on these referrals (Del Gaudio, Carpenter, Stein, & Morrow, 1977). Kirk and Greenley (1974) reported the percentage of clients who completed referrals to a variety of agencies. As Table 1 shows (column 3), on the average only 63 percent of the persons referred completed the referral. One-third of the referrals were lost in the process and never became applicants at the agencies to which they were referred.

Several studies examine the referral link from the state hospital to the CMHC. Pfouts, Wallach, and Jenkins (1963) reported that only 51 percent of the clients referred from a state hospital completed the referral as compared to 78 percent of patients referred from the other sources. Wolkon (1970) reported that the percent of patients leaving state hospitals who complete their referrals to a CMHC is sometimes as low as 30 percent. In a later study Wolkon, Peterson, and Rogawski (1978) reported a higher completion rate of 73 percent. Prince, Ackerman, and Barksdale (1973) reported a 68 percent completion

rate in their study of state hospital referrals to CMHC's.

The statistics on completion rates are interesting for two reasons. First, the rate is often disappointingly low. This is a serious matter, given the important role referral procedures have come to play in linking mental health services. Secondly, the statistics show considerable variability. This variability indicates that referrals may be more effective with some types of clients or that some referral procedures may be more effective than others. The following sections review studies which have compared the characteristics of clients who complete referrals with those who fail to complete referrals and studies which examine the effectiveness of different methods of referral.

Client Characteristics

A handful of studies (Del Gaudio, et al., 1977; Parnicky, Anderson, Charles, Nakoa, & Thomas, 1961; Pfouts, et al., 1963; Raynes & Warren, 1971; Rogawski, et al., 1971; and Wolkon, 1970) have investigated whether personal characteristics could differentiate those who completed a referral from those who failed to complete a referral. These studies are potentially of practical importance in that they could serve as the first step in the process of identifying a segment of the population opting not to use a service. For example, an ethnic group may find a mental health service unattractive or incompatible with its subculture, or a segment of the population that needs the services may be too disabled to attend the services. If such a group of people were found, attempts could be made to change procedures to accomodate them.

A review of the literature indicates that while a number of variables have been examined by these different studies, none has been found to consistently correlate with the outcome of referrals. Table 2

TABLE 2

Results of Studies Examining Relationships
between Demographic Variables and Attendance

Variable	Relationship	No Relationship
Age	b, d	a, e
Socioeconomic Status	a, c	e
Sex	d	a, e
Education Level		e
Religious Affiliation		e
Marital Status	f	a, e, b, d
Diagnosis	a	e, f
Duration of Symptoms	a	
Previous Contact	d, e	
Total Time Hospitalized		f, d
Number of Previous Hospitalizations		f
Duration of Last Hosp.	f	

a Del Gaudio, et al. (1977)

b Parnicky, et al. (1961)

c Pfouts, et al. (1963)

d Raynes, et al. (1961)

e Rogawski, et al. (1977)

f Wolkon (1970)

lists the variables that have been studied and indicates if each study found the variable related to the referral outcome. The lack of consistency in the findings is undoubtedly due to a number of reasons, including: 1) different types of programs; 2) different types of clients; 3) different locations of the studies; 4) different methods of referral; and 5) different methods of data analysis.

The present study examined each of the twelve variables listed in Table 2, and attempted to determine if a demographically distinct group of persons discharged from the state hospital is choosing not to attend the CMHC.

Methods of Referral

A referral "may include but need not be limited to informing the person of available services, making appointments on the person's behalf, discussing the person's problems with the agency or individual to which the person has been referred, appraising the outcome of referrals, and arranging for the person's escort and transportation when necessary" (Rogawski, et al., 1971, p. 101). Several studies indicate that referrals are more effective when more directive procedures are used.

Kagan (1957) distinguished between "steering" and "referring" a client to another agency. When a client is referred the staff member makes contact with the other agency on behalf of the client; when a client is steered, the staff member's involvement is limited to advising the patient or family to seek the help of the other agency. More than twice as many clients receiving referrals to a family agency completed the contact compared with those who were steered (82 vs. 37 percent).

Rogawski and Edmundson (1971) also demonstrated the greater effectiveness of referrals. Persons who applied for, but were denied, inpatient psychiatric care were either steered or referred to outpatient services. The investigators reported the number of persons who met the following combined criteria: the persons completed the contact, were accepted for care by the receiving agency, and attended at least twice. Using this criteria referring was found to be twice as effective as steering.

Wolkon (1968) and Driggers (1975) looked at patients leaving psychiatric hospitals with referrals to other agencies. Both investigators studied agency records to determine if the procedure of referring patients from the hospitals to the CMHC's might be made more effective through different strategies of augmentation. Two types of referral procedures, minimal and augmented, were studied. A "minimal" referral means giving the client the least direction and encouragement about the referral; an "augmented" referral means giving the client additional information and encouragement about the referral.

Wolkon (1968) studied patients leaving three state supported psychiatric hospitals with referral to a rehabilitation program. The doctors in the sending agencies were told in detail of the rehabilitation program and were asked to refer all appropriate patients. The receiving agency's intake worker was to see the patient prior to release in order to provide information about the rehabilitation program and to learn about the patient. It was hoped that the intake worker could begin to form a relationship with the patient so that when the patient started the rehabilitation program he would not have to form all new relationships. The intake worker recorded all the

contacts with patients who were referred. Wolkon later reviewed the agency records to determine the type of contacts that had been made with the patients. He then compared the nature and timing of the contacts with the success achieved in initiating the patients' involvement in the program. Table 3 contains the separate relationships between timing and the success of the referral and between the frequency of pre-release contacts and the success of the referral. Table 4 contains the separate relationships between the timing of post-hospital contact and the success of the referral and between the type of first post-hospital contact and the success of the referral.

From these data Wolkon concluded that: 1) augmented referral is more effective than minimal referral in increasing the number of clients attending aftercare services; 2) the various methods of augmentation were differentially effective; and 3) phone calls are more effective than letters in post-release contacts. Table 5 was constructed from additional data presented in the text, in an attempt to separate the effect of the various factors. These data underscore the importance of timing and multiple contacts in ensuring successful referrals. From these data Wolkon concluded that two pre-release contacts, one within two weeks of discharge and one post-release contact appears to be the most effective.

Agency records were also examined to determine the relationship between staff behavior and referral outcome (Wolkon, et al., 1978). Each patient was to receive a follow-up telephone call from the ward case worker three days after discharge from the hospital. Eighty-two percent of the patients who were contacted completed the referrals as compared to 60 percent of those not contacted. Again, augmented

TABLE 3

Pre-release Contacts and Referral Success from Wolkon (1968)

Frequency of contacts	*N*	*Percentage of success*
2 or more	76	46
Once	129	29
None	78	24
Timing of contacts		
Within 2 weeks prior to release	146	42
More than 2 weeks prior to release	59	19

Source: Wolkon, 1968, p. 67.

TABLE 4

Post-release Contacts and Referral Success from Wolkon (1968)

Timing of first contact	*Total Group*[a] *N*	*Total Group*[a] *Percentage of Success*	*Unmotivated N*	*Unmotivated Percentage of Success*	*No Precontact N*	*No Precontact Percentage of Success*
Within 1 week of release	105	52	49	45	25	36
Between 1 and 2 weeks	48	33	31	26	15	36
More than 2 weeks	92	16	59	20	32	6
Type of first contact						
Visit to the Agency	37	84	0	—	3	33
Telephone	115	36	83	38	32	28
Letter	93	16	56	18	37	14
None	32	0	0	—	0	—

[a] Plus 6 others who were not contacted directly but rather through their family. Four of these 6 began the program.

Source: Wolkon, 1968, p. 37.

TABLE 5

Percent Referral Completion
By Type of Contact
From Wolkon (1968)

Pre-release Contact Only	
Within 2 weeks of discharge	
More than 1 Contact	32%
Only 1 Contact	15%
More than 2 weeks before discharge	8%
Post-release Contact Only	
Within 2 weeks of discharge	36%
More than 2 weeks after discharge	6%
Pre- & Post-release Contact	
More than 1 Pre-release Contact and 1 post-release contact (Both within 2 weeks of discharge)	57%

referrals were associated with higher completion rates.

In a somewhat similar study, Driggers (1975) examined the hospital records of patients discharged from Iowa's mental hospitals to determine the types of referrals they had received. The patients were interviewed within 13 months after discharge concerning the aftercare services they had received. Driggers looked first at the ability of the former patients to remember receiving a referral. Sixty-one percent of those receiving a referral remembered it, but only 36 percent of that number remembered the specific details, including to whom they were referred. One third (71) of the referred clients reported that they had been contacted by the receiving agency. Only 43.6 percent of the noncontacted clients remembered their specific referral, while 71.2 percent of those reporting a predischarge contact remembered. This represents a significant difference in the ability of those who received a predischarge contact to remember their exact referral. It is possible, of course, that some clients forgot the contact as well as the referral.

Driggers (1975) also reported the percentage of persons who received aftercare under four separate referral conditions: 38.6 percent of those not referred; 44.4 percent of those receiving minimal referral; 74.2 percent of those receiving pre-discharge contact; and 71.4 percent of those receiving post-discharge contact. The effect of combining pre- and post-hospital contact could not be determined. Those who had received care from a CMHC previously or who had been screened by a MHC before admission to the hospital had high completion rates.

The studies cited above all support the proposition that augmenting the referral increases the probability that the client will attend

the appointment. However, these studies (Parnicky, et al., 1961, Rogawski, et al., 1971, Wolkon, 1968, and Driggers, 1975) all used correlational research methods, not an experimental design. A study involving a correlational design only indicates an association between the occurance of two variables; it does not indicate the casual relationship between them. Although two variables may be highly associated, the occurence of one does not necessarily effect the occurence of the second. Therefore, conclusions cannot be confidently drawn concerning the effectiveness of augmented referral on the basis of the studies cited above. The same factor which influenced whether an appointment was kept may have influenced the type of referral that was made.

A time series design was employed by Turner and Vernon (1976) to determine the effectiveness of telephone prompts in increasing clients' attendance at intake appointments at a CMHC. The telephone calls were made by a receptionist of the CMHC one to three days before the scheduled appointment. The call consisted only of a reminder of the time and date of the appointment. The results (Figure 2) clearly indicate that the rate at which clients attend their intake appointments can be significantly influenced by a brief telephone reminder.

The results of the studies presented above strongly suggest that a more directive referral procedure will be more effective in increasing the number of patients who attend an aftercare appointment at the CMHC.

Description of Present Study

The present study addressed three aspects of the procedure by which patients are referred to CMHC's for aftercare services upon discharge from a state psychiatric hospital. First, 17 demographic

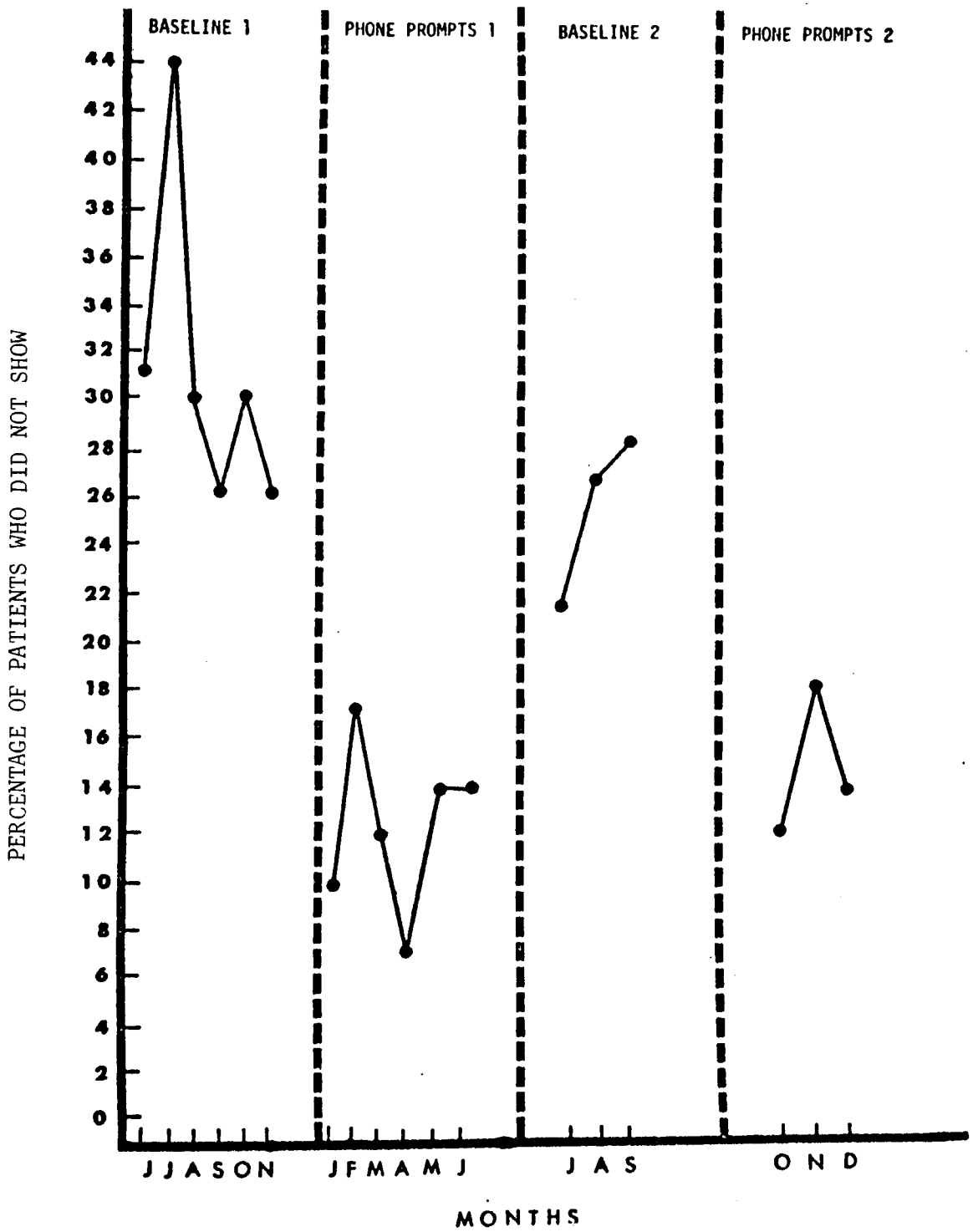

Figure 2. Percentage of those not attending appointments under baseline and prompt conditions. From Turner and Vernon (1976).

characteristics of patients attending and not attending the referred CMHC appointment were examined to determine whether these characteristics could differentiate those who completed a referral from those who failed to complete a referral. Identification of a segment of the population choosing not to use the service is a first step toward increasing the service utilization and thus the potential effectiveness of the service.

Second, the procedure by which the referrals are made was examined. Correlational and quasi experimental studies have suggested that the number of patients who successfully move from one agency to another can be increased by augmenting the referral procedure. A referral procedure is augmented by arranging additional contacts with the patient to provide reminders about the appointment, to provide additional information about the services to be offered, and to encourage the patient to attend the appointment. The present study used a randomized, experimental design to study the effectiveness of augmented referrals. Patients discharged from a state hsopital with referral to a CMHC were randomly assigned to two referral conditions. The first condition, the control condition, was unchanged from the standard referral procedure used at the hospital. The second condition augmented the referral procedure by providing an additional contact with the patient concerning the referral appointment. The measure of effectiveness of the referral conditions was the proportion of patients attending their first appointment.

Third, the consequences of referral completion was examined. The anticipated outcome of referral completion is receipt of care in the community which will prevent or delay the necessity for rehospitalization.

The characteristics of clients readmitted and not readmitted to the state hospital were compared, and the recidivism rates were compared for clients attending and not attending the referred appointment.

Specifically, the following statistics were included to describe the status of continuity of care:

- the percentage of patients attending a referred appointment.
- the percentage of patients readmitted to the state hospital within a year of discharge.

The following relationships were explored:

- client characteristic variables and attendance at the referred appointment.
- client characteristic variables and readmission to the state hospital.

And the following hypotheses were tested:

- patients receiving the augmented referral will be more likely to attend the referred appointment than those receiving the standard referral.
- patients attending the referred appointment will be less likely to return to the state hospital than those not attending the appointment.
- patients receiving the augmented referral will be less likely to return to the state hospital than those receiving the standard referral.

II. METHOD

Subjects

Fifty-two residential patients discharged from the Lakeshore Mental Health Institute in Knoxville, Tennessee from June 1 to September 10, 1978 served as subjects. The average age of the patients was 38.5. The average length of stay at the Institute was 41.9 days with a median stay of 25 days. Twenty-eight of the patients were males; 24 were females. The most frequent diagnoses of thes patients were schizophrenic (23; 44.2%); affective psychosis (7; 13.5%); organic brain syndome (5; 9.6%); and neurosis (4; 7.7%). Sixteen (30.8%) were first admissions and 36 (69.2%) were readmissions to the institute. The most frequently reported source of referral was family or self (20; 23.1%) followed by physician or general hospital (12; 23.1%). A CMHC was the source of referral for only 9 (17.3%) of the patients.

Subject Selection

The social worker is the member of the ward treatment team at Lakeshore who has primary responsibility for making referrals for patients being discharged. All the social workers in the institute were contacted to ask for their support in this study. Originally, they were asked to contact the investigator approximately one week before a patient of theirs was to be discharged with referral to a CMHC. In practice it was difficult for the social workers to give this amount of notice to the investigator due to the rapid turnover of patients on the acute wards. Social workers were then asked merely to contact

the investigator before a patient on their ward was discharged. The investigator contacted the social workers on the acute wards almost daily to ask if any patients were to be discharged soon.

Procedure

The investigator would locate the patient on the ward and introduce herself as a member of the psychology department at Lakeshore whose job it was to talk to patients soon to be discharged from the hospital. The investigator attempted to develop rapport with the patient by asking if he/she was eager to go home and if the patient felt he/she had received good care at the Institute. The patients were told that the investigator was involved in a special project designed to improve the quality of care offered to the patients at the Institute who would later be referred to one of the mental health centers. The patient was asked to sign the consent form to indicate that he/she chose to participate in this study. A copy of the consent form is found in Appendix A.

Control Condition. No augmentation of the standard referral procedure was made. Standard referral procedure simply involved the social worker obtaining an appointment at the appropriate CMHC, informing the patient of the time and date of the appointment, and asking the patient to sign a consent form to permit release of information from the hospital to the CMHC.

Experimental Condition. The investigator presented the patient with a brochure from the CMHC and discussed with the client the location of the center and the types of services if offered. The interviews included discussion of whether he/she had been a patient there

previously, if the client would have difficulty getting to the center, and if the client intended to go to the appointment.

Client Characteristic Variables

The following demographic data was obtained on the participating patients from the records at Lakeshore: age, sex, marital status, education, religion, employment status, occupation, legal status on admission, source of referral, primary diagnosis, problem duration, severity of condition, duration of present psychiatric hospitalization, sum duration of all psychiatric hospitalizations, number of previous hospitalizations, discharge condition, and type of placement.

A Brief Psychiatric Rating Scale (BPRS) was completed by the investigator at the time the consent form was signed by the patient. The BPRS contains 18 seven-point rating scales which each represent a specific symptom area; the patient is rated on the observed severity of each symptom (Overall & Gorham, 1962). The scale is scored by summing the ratings on the 18 scales. A copy of the BPRS is found in Appendix B.

Outcome Measures

Two outcome measures were used. The participating CMHC's provided information on whether each of the patients attended the first aftercare appointment, and information on recidivism to the state psychiatric hopsital within one year of the patient's discharge was obtained.

III. RESULTS

The patients included in this study were discharged between June 1 and September 28, 1978. During this period of time 545 patients were discharged from Lakeshore. A total of 425 referrals were made, with 394 patients receiving one or more referrals. Thirty-three patients (5.0%) received two referrals and one patient received three referrals. The agency most frequently referred to was the CMHC by a wide margin, as 259 patients were referred there (38.9% of all patients and 65.7% of those receiving referrals). The remainder of the referrals included court or correctional agency (27), school or special class (20), hostel or halfway house (15), other mental hospital (10), vocational training (7), nursing home (6), and VA hospital (5).

During the time period of this study, 332 patients were discharged to the counties served by the CMHC's participating in this study. One hundred forty-seven or 44.3 percent of these patients received referral to the CMHC. Fifty-two or 35.4 percent were included in this study. The attendance rate for these patients at the referred appointments was found to be 73.1 percent.

The recidivism rate for these patients to the state hospital within one year of discharge was 26.9 percent. Ten (19.2%) of the patients were readmitted once, three (5.8%) were readmitted twice, and one (1.9%) was readmitted three times. For those patients who were readmitted within a year, the number of days out of the hospital before first readmission ranged from 16 to 334, with an average of 188 days. The number of days spent in the hospital in the 365 days following discharge ranged from five to 349, with an average of 103.3 days.

Examination of associations of the client characteristic variables and the two outcome variables, attendance at the CMHC appointment and recidivism to the state hospital, will be presented below. This will be followed by an examination of the relative effectiveness of the two referral conditions. Combinations of client characteristic variables and the referral condition variable will also be examined for associations with the outcome variables. Finally, the consequences of referral completion will be examined, by determining if attendance at the CMHC appointment was negatively associated with recidivism to the state hospital.

Client Characteristics

Chi square tests of association were calculated between attendance at the appointment with the 17 demographic variables described earlier. A significant association was found only between attendance and sex ($X^2 = 6.17$, $df = 1$, $p<.02$). As shown in Table 6, 57.1 percent of the males in the sample attended the appointment while 91.7 percent of the females attended.

An analysis of variance test which was calculated for total symptomotolgy score (BPRS) and attendance or non attendance at the CMHC appointment was not statistically significant ($F = 2.43$; $df = 1, 50$; $p<.12$).

Chi square tests of association were calculated between recidivism to the state hospital with the demographic variables. A significant association was found only between total number of previous admissions to the state hospital and recidivism ($X^2 = 14.4$, $df = 2$, p .002). As shown in Table 7, the greater the number of previous visits, the more probable that a discharged client will return to the

TABLE 6

Attendance at CMHC Appointment
Crosstabulated by Sex

Attendance at CMHC Appointment	Patient's Sex: Male	Patient's Sex: Female	
Attended	16 (57.1%)	22 (91.7%)	38
Did not attend	12 (42.9%)	2 (8.3%)	14
	28	24	52

TABLE 7

Recidivism to the State Hospital
Crosstabulated by Previous Admissions

Recidivism to State Hospital	Number of Previous Admissions: 0 - 5	Number of Previous Admissions: 6-35	
Rehospitalized	5 (13.2%)	7 (50.0%)	12
Not Rehospitalized	33 (86.8%)	7 (50.0%)	40
	38	14	52

state hospital. This relationship is also reflected in the positive Pearson product moment correlation found between number of previous admissions and recidivism within a year ($r = .38$, $p<.002$) and the number of previous admissions and number of subsequent admissions within a year ($r = .52$, $p<.002$). An analysis of variance test which was calculated for total symptomotology score (BPRS) and recidivism to the state hospital was not statistically significant ($F = 2.22$, $df = 1,50$, p .05).

Referral Procedures

The data in Table 8 indicate the number and percent of persons who attended the first CMHC appointment in the two referral conditions. The results are in the predicted direction, with 64.7 percent attending in the control condition as compared to 77.1 percent attending in the experimental condition. A Chi square test of association, however, revealed that the difference was not statistically significant ($X^2 = .995$, $df = 1$, $p>.05$).

It was noted above that a significant difference was found between attendance and sex. Chi square tests of association were calculated separately for males and females. The results for males (Table 9) are in the predicted direction, with 50.0 percent attending in the control condition as compared to 62.5 percent attending in the experimental condition. The difference, however, is not statistically significant ($p = .24$, Fisher's Exact Text). The difference for females (Table 10) was slight and not in the predicted direction. The difference was not statistically significant ($p = .62$, Fisher's Exact Test).

The data in Table 11 indicate the number and percent of persons who returned to the state hospital in the two referral conditions.

TABLE 8

Attendance at CMHC Appointment
Crosstabulated by Referral Condition

Attendance at CMHC Appointment	Referral Condition: Control	Referral Condition: Experimental	
Attended	11 (64.7%)	27 (77.1%)	38
Did not Attend	6 (35.3%)	8 (22.9%)	14
	17	35	52

TABLE 9

Attendance at CMHC Appointment
Crosstabulated by Referral Condition for Male Patients

Attendance at CMHC Appointment	Referral Condition: Control	Referral Condition: Experimental	
Attended	6 (50.0%)	10 (62.5%)	16
Did not Attend	6 (50.0%)	6 (37.5%)	12
	12	16	28

TABLE 10

Attendance at CMHC Appointment
Crosstabulated by Referral Condition for Female Patients

Attendance at CMHC Appointment	Referral Condition: Control	Referral Condition: Experimental	
Attended	5 (100.0%)	17 (89.5%)	22
Did Not Attend	0 (0.0%)	2 (10.5%)	2
	5	19	24

TABLE 11

Recidivism to the State Hospital
Crosstabulated by Referral Condition

Recidivism to State Hospital	Referral Condition: Control	Referral Condition: Experimental	
Not Rehospitalized	12 (79.6%)	28 (80.0%)	40
Rehospitalized	5 (29.4%)	7 (20.0%)	12
	17	35	52

The results are in the predicted direction, with 29.4 percent returning in the control condition as compared to 20.0 percent returning in the experimental condition. A Chi square test of association, however, revealed that the difference was not statistically significant ($X^2 = 0.57$, df = 1, $p < .05$).

Multiple Regression Analyses

Stepwise multiple regression analyses were calculated using the two outcome variables, CMHC attendance and recidivism to the state hospital as criterion variables. The regression analysis in which BPRS, sex, and referral condition served as predictor variables and attendance served as the criterion variable is detailed in Table 12. The analysis yielded a significant regression effect ($F = 3.97$; df = 3, 48; $p < .01$). The multiple correlation coeficient of .44 indicated that the prediction equation could account for about 20 percent of the variance in attendance. However, sex was the only variable which entered at a significant level. An additional multiple regression analysis, detailed in Table 13, was calculated in which the interaction terms for the three predictor variables also served as predictor variables (Cohen & Cohen, 1975). The analysis yielded a significant regression effect ($F = 3.28$; df = 6, 45; $p < .01$). The multiple correlation coefficient of .55 indicated that the prediction equation could account for about 30 percent of the variance in attendance. However only sex and the interaction of sex and psychiatric symptomotology entered at a significant level. This inclusion of the interaction terms increased the percentage of variance that could be accounted for from 20 to 30 percent.

TABLE 12

Multiple Regression Analysis of Variables
Predicting Attendance at the CMHC Appointment

Predictor Variable	Simple R	Multiple R	Multiple R^2	Change in Multiple R^2	df	Partial F
Sex	.39**	.39	.15	.15	1,50	7.65**
BPRS	.22	.44	.19	.04	2,49	2.78
Referral Condition	.13	.45	20	.00	3,48	0.27

**$p < .01$

TABLE 13

Multiple Regression Analysis of Variables
and their Interactions Predicting
Attendance at the CMHC Appointment

Predictor Variable	Simple R	Multiple R	Multiple R^2	Change in Multiple R^2	df	Partial F
Sex	.39**	.39	.15	.15	1,50	9.30**
BPRS x Sex	.30*	.48	.23	.08	2,49	5.11*
BPRS	.22	.52	.27	.04	3,48	2.79
Referral Condition x Sex	.03	.55	.30	.03	4,47	1.45
Referral Condition	.13	.55	.30	.00	5,46	0.08
Referral Condition x BPRS	.13	.55	.30	.00	6,45	0.04

**$p < .01$
* $p < .05$

The regression analysis in which BPRS, sex, referral condition, and number of previous hospitalizations served as the predictor variables and recidivism served as the criterion variable is detailed in Table 14. The analysis yielded a significant regression effect (F = 3.99; df = 4,47; $p<.01$). The multiple correlation coefficient of .503 indicated that the prediction equation could account for about 25 percent of the variance in recidivism. Previous hospitalization and sex entered at significant levels. An additional multiple regression analysis, detailed in Table 15, was calculated in which the interaction terms for the three predictor variables also served as predictor variables (Cohen & Cohen, 1975). The analysis yielded a significant regression effect (F = 3.99; df = 8, 43; $p<.01$). Only previous hospitalization entered at a significant level. The multiple correlation coefficient of .65 indicated that the prediction equation could account for about 42 percent of the variance in recidivism. Thus inclusion of the interaction terms increased the percentage of variance that could be accounted for from 25 to 42 percent.

Consequences of Referral Completion

Attendance at the referred appointment at the CMHC was not significantly related to recidivism (X^2 = .887, df = 1, $p>.05$). As the data in Table 16 indicate, the results are in the predicted direction. Thirty-six percent of those not attending returned while only 18 percent of those attending returned.

TABLE 14

Multiple Regression Analysis of Variables
Predicting Recidivism at the
State Psychiatric Hospital

Predictor Variable	Simple R	Multiple R	Multiple R^2	Change in Multiple R^2	df	Partial F
Previous Hospitalization	.38**	.38	.45	.15	1,50	8.79**
Sex	.21	.50	.25	.10	2,49	5.37*
Referral Condition	.22	.50	.25	.00	3,48	0.07
BPRS	.21	.50	.25	.00	4,47	0.04

*$p < .05$
**$p < .01$

TABLE 15

Multiple Regression Analysis of Variables and their Interactions Predicting Recidivism at the State Psychiatric Hospital

Predictor Variable	Simple R	Multiple R	Multiple R^2	Change in Multiple R^2	df	Partial F
Previous Hospitalization	.38**	.38	.15	.15	1,50	20.39**
Sex	.21	.50	.25	.10	2,49	00.02
Condition x Sex x BPRS	.09	.60	.36	.11	3,48	1.55
Condition x BPRS	.16	.61	.38	.02	4,47	2.96
BPRS	.21	.62	.39	.01	5,46	2.52
Condition	.22	.64	.41	.02	6,45	1.83
BPRS x Sex	.19	.65	.42	.01	7,44	1.01
Condition x Sex	.06	.65	.42	.00	8,43	0.11

**$p < .01$
*$p < .05$

TABLE 16

Recidivism to the State Hospital
Crosstabulated by Attendance at
the CMHC Appointment

Attendance at CMHC Appointment	Recidivism to State Hospital: Rehospitalized	Recidivism to State Hospital: Not Rehospitalized	
Attended	5 (35.7%)	9 (64.3%)	14
Did not Attend	7 (18.4%)	31 (81.6%)	38
	12	40	52

IV. DISCUSSION

The attendance rate of patients included in this study was 73.1 percent. This rate is among the highest reported in the literature. The high completion rate was unexpected. Staff members at the mental health centers and the state hospital, with one exception, had predicted a considerably lower rate.

The high completion rate may speak to the effectiveness of the relationship between the state hospital and the mental health centers. Each mental health center is required by the state mental health standards to designate a staff member to serve as liaison with the state hospital. This staff person is to maintain contact with persons in the state hospital from their catchment area and to assist the hospital treatment team in the preparation of discharge plans. Thus the system seeks to bridge the gap between the Institute and the mental health center.

The high completion rate found in this study may be misleading owing to possible unrepresentativeness of the sample. One of the most difficult aspects of conducting this study was contacting the patient on the ward prior to discharge. The policy of hospital staff to discharge as soon as possible and the eagerness of the patients to be discharged as soon as possible made this study very difficult. The psychiatic condition of the patients did not permit interviewing upon intake and the swift discharge upon stabilization did not leave much time for interviewing. The median length of stay for patients discharged to the target catchment areas during the time frame of the study was 25 days. Thus many patients discharged were not interviewed,

and those who were may not have been representative of all discharges.

It is interesting to note the significantly higher rate of referral completion for women than for men (91.7% vs 57.1%) in this study. Raynes et al. (1961) also found a significantly higher attendance rate for females while Del Gaudio et al. (1977) and Rogawski et al. (1977) did not. The finding that more females than males would attend appears to be consistent with other observations of sex-role behavior.

A number of different explanations can be found in the literature for the finding that females would be more likely to attend. Women may be more likely to admit to various forms of ill health than men (Verbugge, 1977). Also women may be more likely to continue in a "sick role" because that role is more compatible with women's other traditional role responsibilities than it is with those of men (Nathanson, 1975). It is also possible that more women attend outpatient appointments for practical reasons. As females traditionally do not have jobs outside the home they have fewer time constraints than do males. This generally allows them to seek help (attend appointments) more readily than males (Verbugge, 1977). It is also possible that more females continue psychiatric treatment because the type of psychiatric condition differs from that of men. It may be that women's condition was more serious and thus they chose to take advantage of further treatment opportunities. Most sources (e.g., Mechanic, 1976 and Verbrugge, 1976), however, would dispute this claim, asserting instead that social and psychological factors make it easier for women to admit to illness, seek help, and continue in treatment to such an extent that it appears they are in greater need of the services.

The hypothesized difference between the two referral conditions

was not found. A number of factors may account for this. First, the high rate of completion for the control group was difficult to exceed. Indeed, the 100 percent completion rate for females in the control group was impossible to exceed. Second, the intervention may have been too weak to have the desired effect. This is unlikely, however, as it was the same as the intervention cited as successful by Driggers (1975).

The recidivism rate of patients included in this study was 26.9 percent. This recidivism rate is almost identical to that reported in another study conducted in Tennessee (Hammond, 1980). In the present study the variable most closely associated with recidivism was history of previous hospitalizations. The more times a person had previously been a patient at the state hospital, the more likely the person was to return. Recidivism was not linked with the other hospital stay variables, length of last stay at the hospital or cumulative length of stay at the hospital. These findings are consistent with the literature on the revolving door (Talbott, 1974) or intermittant patienthood syndrome (Friedman, von Mering, & Hinko, 1966). This syndrome refers to patients who experience multiple though short-lengthed admissions to inpatient facilities. These are the patients who appear to be the tragedies of the present mental health delivery system. These patients are evidently not receiving the care they require to remain out of the hospital and are presumably living a precarious existence in the community. A special effort should be made to furnish aftercare to these clients. In the present study number of previous hospitalizations was not linked to attendance at the aftercare appointment.

The hypothesized relationship between attendance at the aftercare appointment at the CMHC, which would signal a first step in the receipt of aftercare, and subsequent rehospitalization was not statistically significant. Further, it was hypothesized that a chain of events could be sent in motion to decrease recidivism. If augmented referral were effective in increasing attendance at aftercare, and aftercare were effective in decreasing recidivism, then a relationship could presumably be found between referral condition and recidivism. Unfortunately, the first two relationships did not occur to form a foundation for the third relationship.

Limitations of the Study

The study was difficult to conduct for a number of reasons. Foremost was the difficulty caused by the quick turnover of patients on the acute wards. Little time was available during which the referral could be discussed. Patients could not be approached upon admission because of their psychiatric condition, and they were discharged as soon as their condition permitted.

The requirement of a signed consent form also made this study difficult to conduct. The consent form was worded in a very simple and straight forward manner, but patients were still often reluctant to sign. Few patients read the consent form thoroughly or asked for additional explanation. Instead, patients who refused to sign appeared to do so because they were reluctant to sign an additional form, rather than object to the particular study.

A potential difficulty in the study concerned keeping the treatment groups distinct (Cook & Campbell, 1976). The control group could have received an additional prod about mental health center from the

consent form which refers to the aftercare appointment. In practice, however, this effect appeared to be slight as the patients did not read the form carefully and few questions were asked about the study.

Policy Implications

The short length of hospital stay of the patients included in this study prompts a re-examination of the role of the state hospital and the concept of continuity of care. The role of the state hospital is a complex issue to which numerous books and articles have been devoted (e.g., Talbott, 1978; Zusman & Bertsch, 1975; and Stratas, Bernhardt, & Elwell, 1977). In general, however, the most legitimate role of the state hospital would seem to be one of an intermediate to long term care facility. The function should be to offer psychiatric rehabilitation and/or protection of the patient and society from the patient's psychiatric condition. The short length of stay of the majority of the patients included in this study indicates that these individuals were not in danger of experiencing "institutionalization" or in need of a support system in the community which has dissolved during a long stay at the Institute. The institute served as a short-term facility offering crisis intervention services. The provision of short-term inpatient care is a role that is probably more legitimately placed on the mandated inpatient units of the mental health centers or psychiatric wards of a general hospital. The number of patients for whom "continuity of care" is an issue is relatively few. It would apply to clients capable of resuming life in a less restrictive enviornment than the state hospital, but who need continued care. A policy decision should be made concerning the administration's view of the appropriate role of the state hospitals. The elimination of

the use of the hospital by persons staying less than 25 days would decrease the number of admissions each year by approximately fifty percent.

The attendance rates for appointments made at the state hospital for the mental health centers are not routinely monitored and thus the staff members at both types of facilities do not receive feedback concerning the effectiveness of their liaison activities. It appears that for most mental health centers this rate would be relatively straight forward for the liaison workers to calculate, perhaps with the assistance of the center's program evaluator. Confidentiality requirements, however, do make it difficult for state hospitals and mental health centers to exchange specific client information. Confidentiality requirements impede efforts of both facilities to contact discharged patients. A change in policy permitting the two-way exchange of information on discharge and attendance could serve to increase the number of patients receiving treatment as well as facilitate program evaluation efforts.

Suggested Directions for Future Research

The present study could be expanded to determine if additional prompts, such as a telephone call at home after discharge would significantly increase the probability of a patient attending an aftercare appointment. One might be inclined to include only male patients in a further effort, on the basis of the exceptionally high referral completion rate of female patients in the present study. However, as other studies (Del Gaudio et al., 1977 and Rogawski et al., 1971) have not found a high completion rate for female patients, it is

advised that a baseline rate of referral completions without additional interventions be established before making such decisions.

A future study might look only at patients considered in need of transitional care. That is, the study might include only those patients whose stay at the institute raised questions concerning their ability to readjust to community life. The short average length of stay of patients in the present study indicates no danger of institutionalization.

A longitudinal study of psychiatric patients which would focus not on the completion of an initial referral appointment, but on the continuing needs of psychiatric patients over time would be of great interest. There is at present a lack of information on the flow of patients through mental health institutions and other care facilities. Such a study would provide information on which the mental health delivery system might be restructured to become more responsive to the needs of the clients.

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APPENDICES

APPENDIX A

CONSENT FORM

LAKESHORE MENTAL HEALTH INSTITUTE
PROJECT ON MENTAL HEALTH CENTERS

I, Lois Pokorny, am doing a study to see if people go to a mental health center to get medication or counseling after they leave Lakeshore. I would like you to be a part of this study. May I talk to you sometime about whether you will want to go to a mental health center after you leave Lakeshore? And may I send you a letter at home after you are discharged to remind you about the mental health center? About 100 patients will be included in this study. I will want to describe the patients who take part in the study in terms of their diagnosis, age, and other personal data. May I collect that kind of information from your file for this study? And finally, may I ask the mental health center if you go there after leaving Lakeshore? I will never report the names of patients who took part in the study to anybody, and I will not release information about any particular patient to anybody.

If it is all right for me to do these things, please sign below.

_____
Signature of Volunteer

_____
Date

I hereby state that I have discussed the project with the above signed patient, and he/she understands the conditions and requirements of this project.

_____
Witness

_____
Date

APPENDIX B

BRIEF PSYCHIATRIC RATING SCALE

BRIEF PSYCHIATRIC RATING SCALE (Overall and Gorham)

INSTRUCTIONS: *Insert General Scoring Sheet and Code 01 Under Sheet Number.*

This form consists of 18 symptom constructs, each to be rated on a 7-point scale of severity ranging from "not present" to "extremely severe!" If a specific symptom is not rated, mark "0" = Not Assessed.

Mark the column headed by the term which best describes the patient's present condition.

1.	SOMATIC CONCERN	Degree of concern over present bodily health. Rate the degree to which physical health is perceived as a problem by the patient, whether complaints have a realistic basis or not.
2.	ANXIETY	Worry, fear, or over concern for present or future. Rate solely on the basis of verbal report of patient's own subjective experiences. Do not infer anxiety from physical signs or from neurotic defense mechanisms.
3.	EMOTIONAL WITHDRAWAL	Deficiency in relating to the interviewer and to the interview situation. Rate only the degree to which the patient gives the impression of failing to be in emotional contact with other people in the interview situation.
4.	CONCEPTUAL DISORGANIZATION	Degree to which the thought processes are confused, disconnected or disorganized. Rate on the basis of integration of the verbal products of the patient, do not rate on the basis of patient's subjective impression of his own level of functioning.
5.	GUILT FEELINGS	Over-concern or remorse for past behavior. Rate on the basis of the patient's subjective experiences of guilt as evidenced by verbal report with appropriate affect, do not infer guilt feelings from depression, anxiety or neurotic defenses
6.	TENSION	Physical and motor manifestations of tension, "nervousness," and heightened activation level. Tension should be rated solely on the basis of physical signs and motor behavior and not on the basis of subjective experiences of tension reported by the patient
7.	MANNERISMS AND POSTURING	Unusual and unnatural motor behavior, the type of motor behavior which causes certain mental patients to stand out in a crowd of normal people. Rate only abnormality of movements, do not rate simple heightened motor activity here
8.	GRANDIOSITY	Exaggerated self opinion, conviction of unusual ability or powers. Rate only on the basis of patient's statements about himself or self in-relation-to-others, not on the basis of his demeanor in the interview situation.
9.	DEPRESSIVE MOOD	Despondency in mood, sadness. Rate only degree of despondency, do not rate on the basis of inferences concerning depression based upon general retardation and somatic complaints
10.	HOSTILITY	Animosity, contempt, belligerence, disdain for other people outside the interview situation. Rate solely on the basis of the verbal report of feelings and actions of the patient toward others, do not infer hostility from neurotic defenses, anxiety nor somatic complaints. *(Rate attitude toward interviewer under "uncooperativeness".)*
11.	SUSPICIOUSNESS	Belief *(delusional or otherwise)* that others have now, or have had in the past, malicious or discriminatory intent toward the patient. On the basis of verbal report, rate only those suspicions which are currently held whether they concern past or present circumstances

12.	HALLUCINATORY BEHAVIOR	Perceptions without normal external stimulus correspondence. Rate only those experiences which are reported to have occurred within the last week and which are described as distinctly different from the thought and imagery processes of normal people.
13.	MOTOR RETARDATION	Reduction in energy level evidenced in slowed movements. Rate on the basis of observed behavior of the patient only; do not rate on basis of patient's subjective impression of own energy level
14.	UNCOOPERATIVENESS	Evidence of resistance, unfriendliness, resentment, and lack of readiness to cooperate with the interviewer. Rate only on the basis of the patient's attitude and responses to the interviewer and the interview situation; do not rate on basis of reported resentment or uncooperativeness outside the interview situation.
15.	UNUSUAL THOUGHT CONTENT	Unusual, odd, strange, or bizarre thought content. Rate here the degree of unusualness, not the degree of disorganization of thought processes.
16.	BLUNTED AFFECT	Reduced emotional tone, apparent lack of normal feeling or involvement.
17.	EXCITEMENT	Heightened emotional tone, agitation, increased reactivity.
18.	DISORIENTATION	Confusion or lack of proper association for person, place or time.

VITA

Lois Pokorny was born in Bensenville, Illinois on April 11, 1950. She received a Bachelor's Degree in Psychology from the University of Northern Iowa in 1971, a Master's Degree in Psychology from Drake University in 1975, and a Doctorate in Psychology from the University of Tennessee in 1981. She is presently employed as the Chief of Evaluation in the Office of Program Planning and Evaluation of the Tennessee Department of Mental Health and Mental Retardation.