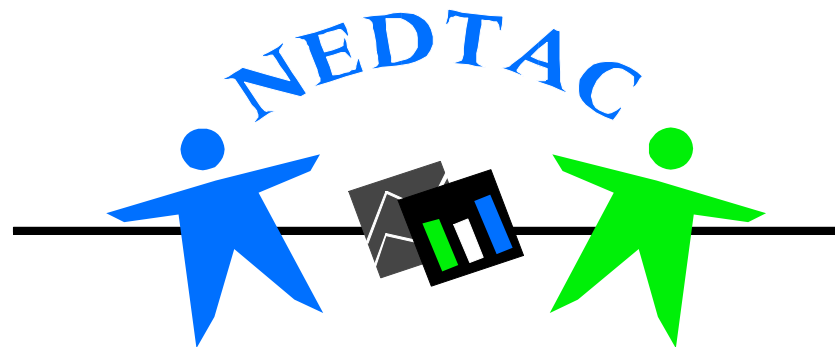


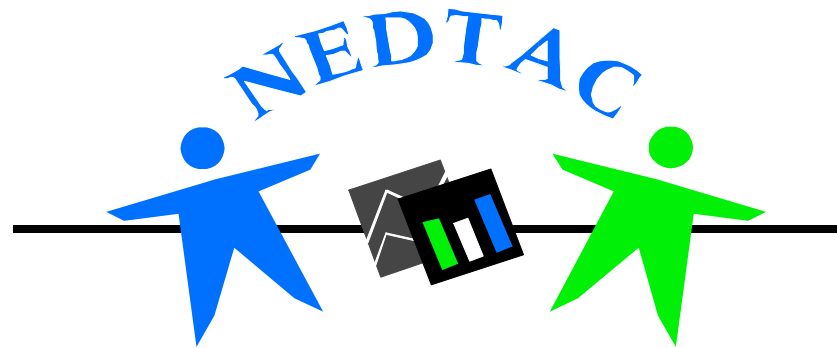
**NATIONAL EVALUATION DATA AND  
TECHNICAL ASSISTANCE CENTER**



**DUALLY DIAGNOSED HOMELESS  
MULTI-PROJECT ANALYSIS (MPA):  
PROJECT SUMMARIES**

**December 1998**

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**CSAT**  
Center for Substance  
Abuse Treatment  
SAMHSA

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## FOREWORD

Individuals with substance abuse problems in conjunction with mental illness (defined as dually diagnosed) present a major challenge to the public treatment system in terms of costs, integration of treatment, and efficacy of treatment. In addition, homelessness appears to be more pervasive among this group. To assess the effectiveness of creating dual diagnosis treatment centers for this population, the Center for Substance Abuse Treatment (CSAT) and the Center for Mental Health Services (CMHS) jointly sponsored a program of treatment centers for the dually diagnosed who are homeless or at-risk for homelessness. Evaluation was conducted at the local level (i.e., each center was evaluated independently of the others). In the absence of a prospective program-level design, a retrospective Multi-Project Analysis (MPA) approach was used to examine the data across treatment centers. Data from six participating projects were pooled and analyzed.

This report is one in a series of three reports prepared by Caliber Associates under CSAT's National Evaluation Data and Technical Assistance Center (NEDTAC) contract. Another report, *Dually Diagnosed Homeless Multi-Project Analysis (MPA): Analytic Results*, examines the results of analyses of data pooled across the six participating projects and also across their respective demonstration vs. comparison groupings. It presents a profile of the intake characteristics of dually diagnosed homeless persons in treatment and an overall picture of clients' responses to six months of treatment. The third report, *Dually Diagnosed Homeless Multi-Project Analysis: Profile of Veterans in Program*, focuses on veterans who received treatment in the projects.

This report contains brief summaries of the six local project evaluations that were conducted under the Collaborative Demonstration Project for Homeless Individuals. It is intended for use as a reference document, providing additional project-level documentation beyond the information contained in companion reports.

Sharon Bishop  
Project Director  
National Data and Technical Assistance Center

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## I. INTRODUCTION

This report summarizes results of local evaluations of the Collaborative Demonstration Project for Homeless Individuals, a demonstration grant program funded jointly by CMHS and CSAT. Under this program, six projects received grants for Phase II in 1994 for the evaluation of treatment centers designed to address the needs of the dually diagnosed homeless—homeless persons with both serious mental illnesses and substance abuse disorders. The grantees were:

- Bonita House, Berkeley, CA
- Greater Bridgeport Community Mental Health Center (CMHC), Bridgeport, CT
- Arapahoe House, Denver, CO
- Institute for Community Living, New York, NY
- Mental Health Services West, Portland, OR
- Vietnam Veterans of San Diego, San Diego, CA.

This report is one of three products developed by NEDTAC from this demonstration program. It contains brief summaries of the six local project evaluations. These local evaluations provided the starting point—and the data—for a series of multi-project analyses aimed at pooling data across projects to obtain broader understandings about client characteristics and treatment outcomes for this treatment population. Other reports in this series address:

- A pooled-data analysis of client characteristics and treatment outcomes, overall and separately by gender
- A pooled-data analysis comparing veterans to non-veteran clients in terms of their characteristics at intake and their responses to treatment

The present report is intended as a reference-document companion to the above reports. For each of the six demonstration projects, it provides additional details about the treatment programs, the design of the local evaluation, and the results of the evaluation. The information was distilled from the grantees' final evaluation reports to CMHS-CSAT.

Additional reports on this demonstration program are available from the CDM Corporation, Bethesda, MD.

## II. BONITA HOUSE DUAL DIAGNOSIS RESIDENTIAL TREATMENT PROGRAM

Bonita House's Dual Diagnosis Residential Treatment Program provides intensive treatment and support services to seriously and persistently mentally ill substance abusing adults immediately upon discharge from inpatient settings. Typically, treatment is provided for 4 months. Maximum time permitted in treatment is 9 months. Bonita House's catchment area is Alameda County, California.

The purpose of this study was to evaluate the impact of interventions designed to engage dually diagnosed adults in a residential treatment program after discharge from a locked psychiatric facility. Many of these clients have long histories of involuntary hospitalizations and are vulnerable to repeated psychiatric crises. They also have a history of residential instability. Homeless dual diagnosis clients tend to distrust the system and be disaffiliated from others. Engagement, the building of trust and rapport with clients, is vital to developing an effective long-term relationship between provider and client.

The Bonita House interventions evaluated in this study are provided before admission and during the first 2 weeks of treatment. They are designed to engage or draw clients into the treatment milieu. The following are the interventions utilized in this study:

- Outreach
- Intake interview
- Dissemination of *The Residents Handbook*
- Specific procedures to follow when a new resident moves in
- Assignment of a buddy to new residents
- Formulation of an individual treatment plan with client input

- Assignment of a case manager
- Client participation in a Family and Friends Support group upon admittance.

It was hypothesized that intense and early engagement of residents would lead to longer retention in treatment. Longer retention was expected to lead to more exposure to beneficial program elements, which, in turn, would lead to positive outcomes such as reduced alcohol and drug use, increased health status, long-term residential stability, psychiatric stability, reduced mental health symptoms, stable income, and reduced legal problems.

Upon leaving the Residential Treatment Program, clients frequently are discharged to Bonita House's Supported Independent Living Program, to its Transitional Satellite Housing Program, or to safe and stable housing in the community. Whatever type of discharge, clients are encouraged to accept the option of ongoing case management services. Bonita House, Inc. (BHI) develops networks with shelters; potential employers; vocational training; housing providers; health, mental health, and substance abuse treatment providers; education; and family support services, creating a community support system with BHI as its core. This network supports the transition of people back into the community. BHI takes a longitudinal perspective in working with dually diagnosed homeless clients and provides long-term follow-up to ensure that they remain in a stable condition. BHI's goal is to bring former residents back to BHI programs when appropriate.

## **1. BONITA HOUSE CLIENT POPULATION AND COMPARISON GROUP**

Clients were recruited into the study between January 17, 1995 and February 28, 1996 from Villa Fairmont Mental Health Center, a locked sub-acute inpatient facility under contract to Alameda County. A total of 102 clients were recruited; of these, 26 were discharged to Bonita House. The comparison group consisted of 76 clients discharged to other types of residential settings.

It was expected that clients in the two groups would be highly similar, since space availability was thought to be the main factor determining whether a given patient was discharged to Bonita House or to comparison group facilities. Upon analysis, however, the

two groups were found to differ on several intake dimensions. Selected demographic characteristics of the Bonita House and comparison groups are shown in Exhibit II-1.

<b>EXHIBIT II-1 SELECTED DEMOGRAPHIC CHARACTERISTICS OF BONITA HOUSE AND COMPARISON GROUPS</b>		
<b>CHARACTERISTICS</b>	<b>BONITA HOUSE GROUP (N=26)</b>	<b>OTHER RESIDENTIAL SETTINGS GROUP (N=76)</b>
Under 40 years old	81%	66%
Male	39%	63%
Racial or Ethnic Group		
White, Non Hispanic	50%	36%
Black, Non Hispanic	39%	37%
Hispanic	4%	18%
Other	7%	9%
12 Years or More Education	71%	65%
Ever Married	27%	40%
Veteran	17%	17%

Reportedly, the Bonita group had a higher concentration of serious psychiatric disorders including schizoaffective disorder (54% vs. 33%) and depression (89% vs. 69%). Also, the Bonita group had higher rates of both alcohol and drug disorders (96% vs. 64%) and cocaine use (62% vs. 38%). The Bonita group had more unstable and marginal residential histories than the comparison group. During the 12 months prior to hospitalization, the Bonita group was three times more likely to have been placed in a board and care home (25% vs. 11%). Only 48 percent of the Bonita group as opposed to nearly 71 percent of the comparison group, had their name on a rental agreement or lease.

## 2. KEY FINDINGS

Data were collected on both groups at intake, at 14 days and 3 months into treatment, and at 6 months after discharge.

### 2.1 Engagement in Treatment

Bonita residents were exposed to 10.9 out of 12 possible specific interventions during the first 14 days in treatment. The Bonita interventions did not result in higher levels of subjective engagement for the Bonita group. After 14 days, the Bonita group had significantly lower scores on affective attachment and on satisfaction with the facility than the comparison group.

### 2.2 Retention in Treatment

Retention in treatment was shorter for the Bonita group. Of Bonita group clients, only 22 percent stayed 180 days or longer vs. 50 percent of the comparison group. Longer retention was associated with improved general health status as measured by the General Health Scale. Longer retention was associated with improved mental health status, but only for the Bonita group.

### 2.3 Findings at Follow-up 6 Months Post-Discharge Compared to Intake

Data collected on the groups 6 months after discharge showed the following:

- **Substance Abuse**—No significant differences were found between the Bonita group and the comparison group in alcohol or drug use in the previous 30 days and in perceived problems with alcohol or drugs. The mean scores for the Bonita group on the Alcohol Composite and the Drug Composite of the Alcohol Severity Index (ASI) did not change significantly at 6 months after discharge compared to intake. Neither did the scores for the comparison group.
- **Health Status**—No significant differences were found between the Bonita Group and the comparison group.

- **Mental Health Status**—No significant differences were found.
- **Quality of Life**—Both the Bonita group and the comparison group experienced significant drops on perceived quality of life measures.
- **Alcohol, Drug, and Mental Health Treatment**—The Bonita group was more likely to report outpatient treatment for alcohol problems (82% vs. 29%) and to have more contact with residential treatment (18% vs. 2%) as well as outpatient treatment settings (82% vs. 22%) in the previous 90 days.
- **Medical Treatment**—The Bonita group was more likely to report a greater unmet need for medical treatment in the previous 90 days (47% vs. 17%).
- **Residential Instability and Homelessness**—There were no significant differences in residential history between the Bonita group and the comparison group. Both the Bonita group and the comparison group reported a reduction in proportion of days spent homeless, but the reduction was significant only for the comparison group. Also, the comparison group experienced a significant reduction in proportion of time spent on the streets.
- **Legal Status**—A larger percentage of the Bonita group reported being on probation after 6 months than the comparison group (41% vs. 10%). The percentage of the Bonita group on probation at 6 months was similar to the percentage on probation at intake (41% vs. 38%).

### 3. SUMMARY

Findings for the Bonita group were not more favorable than those obtained for the comparison group on most measures of retention and outcome. The small size of the Bonita group (n=26) made it difficult to detect statistically significant differences. Also mitigating against favorable outcomes for the Bonita group were the intake findings that the Bonita group began with more severe psychiatric, alcohol, and drug disorders than the comparison group.

### **III. GREATER BRIDGEPORT COMMUNITY MENTAL HEALTH CENTER**

The purpose of this study is to evaluate the effectiveness and cost of an assertive community treatment (ACT) team vs. standard case management services in Bridgeport, Connecticut, in ameliorating three critical problems characteristic of dually diagnosed clients: abuse of alcohol and other drugs; housing instability and homelessness; and institutionalization in hospitals, jails, and nursing homes. An ACT team consists of approximately 10 mental health and substance abuse practitioners from different disciplines who provide a complete range of services and support for 100-150 clients. The target caseload for the Bridgeport ACT team is 80 clients. The ACT team model of case management stresses a multidisciplinary, team-based approach and assigns primary responsibility to the case manager for outpatient clinical services, medication administration, outreach, and crisis intervention. In contrast, this group of services for the standard case management participants is provided by staff at the Bridgeport CMHC or other agencies.

The primary distinction between the two study conditions lies in the amount of specific services (intensity) and the assignment of responsibility for delivering services. (For example, medication management is performed by the ACT team case manager in contrast to the client being responsible for taking medications, and the ACT team manager rather than Bridgeport CMHC staff is responsible for crisis intervention).

It was hypothesized that the ACT team would be more effective than standard services case management in ameliorating the three critical problems characteristic of the dually diagnosed and that the ACT team would do so at a lower cost. Clients achieving positive outcomes in these domains also were hypothesized to demonstrate improvement on measures of psychiatric symptoms, functional status, and quality of life. Case managers in both ACT and standard services received training in the New Hampshire model of integrated substance abuse and mental health treatment.

This was a 3-year study with data collected on ACT and standard service clients at intake and at follow-up interviews conducted every 6 months. Study participants were expected to remain in their assigned treatment condition for 3 years.

## **1. CLIENT POPULATION AND COMPARISON GROUP**

To be eligible for the study, clients had to have a severe mental disorder (SMD) and a current substance abuse or dependence diagnosis, as confirmed by a Structured Clinical Interview for DSM-III R (SCID). Beginning in 1993, dually diagnosed clients who consented to participate in the study and met the study criteria were randomized to the ACT team or standard services from any source within the Greater Bridgeport Community Mental Health Center (GBCMHC) as well as from community programs that served dually diagnosed clients who are homeless or at risk of homelessness. Common referral sources within the GBCMHC were: the homeless outreach team, the mobile crisis program, the intake program, the Hispanic clinic, and other case management programs at the clinic. Clients participating in the study had a 50 percent likelihood of being referred to the ACT team. There were 77 study participants; of these, 39 were assigned to the ACT team, and 38 received standard services. Participants in the study for at least 1 year as of December 31, 1996 were mostly male (70%). They had a mean age of 37 years at intake. Approximately two-thirds (62%) had never been married. Slightly less than half (46%) were African American. One client died during the first year of the study.

A comparison of ACT and standard service clients at intake demonstrated that they did not differ on 23 out of 26 variables using a significance level of  $p \leq .10$ . ACT clients spent more days in the psychiatric hospital in the past year than standard service clients (25 days vs. 13 days). Standard service clients had more lifetime arrests (10 vs. 5) and more charges resulting in conviction (7 vs. 2).

## **2. KEY FINDINGS**

At the time data were reported on clients completing at least 1 year in the study, this study was still in progress. Many clients were only in their first year of follow-up. No comparison of treatment condition on outcome measures was reported since, according to the evaluation report, data were still being collected. This study had been expanded to include another program site (Hartford, CT), which also had a 3-year follow-up period for study participants. Outcome analyses examining the differential impact of standard case management services versus ACT teams will be conducted when data collection for the expanded study is completed, but such comparisons were not included in the project's final report to CSAT.

The following findings are based on all study participants (n = 76) completing at least 1 year in the study as of December 31, 1996:

- **Case Manager Ratings of Alcohol and Drug Disorders**—Ratings of drug use declined from an average of 3 at intake to 2 at 1 year; ratings of alcohol use also declined from an average of 3 at intake to 2 at 1 year. Case manager ratings were based on a 5-point scale, with 1 = abstinent; 2 = use without impairment; 3 = abuse; 4 = dependence; and 5 = dependence without institutionalization.
- **Clinician Ratings of Substance Abuse Treatment**—These increased from 2 at intake to 3 at 1 year, and 4.0 and 4.3 for years 2 and 3 respectively. The following were categories for the clinician ratings: 1 = pre-engagement, 2 = engagement, 3 = early persuasion, 4 = late persuasion, 5 = early active treatment, 6 = late active treatment, 7 = relapse prevention, and 8 = in remission or recovery. The results of this comparison should be viewed with caution, due to the small number of clients completing 2 years (n=45) and 3 years (n=13) in the study.
- **Institutionalization**—In comparison to intake, there was a reduction in the mean number of psychiatric hospital stays in the past 6 months (1 vs. 0); mean number of psychiatric hospital days in the past 6 months (10 vs. 5); and mean number of days utilizing the GBCMHC respite unit in the past 6 months (8 vs. 2).
- **Homelessness and Housing Instability**—The mean number of homeless days in the past 6 months went from 16 at intake to 4. Number of stable community days in the past year increased from 133 to 149.

### 3. SUMMARY

The ACT group and standard service group were similar at intake. Outcome data were not reported separately for the ACT group and the comparison group for these years because many clients were only in the first year of follow-up in the 3-year study at the time data were reported. In year 1, study participants made significant improvement on seven outcome variables: decreased drug use as measured by clinicians' ratings of drug use, decreased alcohol use as measured by clinicians' ratings of alcohol use, number of hospital episodes, number of hospital days, number of days in the respite unit, homelessness days, and stable community days. Trends similar to those reported in year 1 for the combined ACT and standard service group were evident in years 2 and 3 although fewer

change scores were significant. This was likely due to the smaller number of study participants who had completed multiple years in the study (n=45 at year 2 and n=13 at year 3) at the time of these analyses.

## **IV. ARAPAHOE HOUSE CONNECTIONS PROJECT**

The purpose of the Connections project in Denver, Colorado, was to demonstrate and to evaluate a dyadic intensive case management model as an effective intervention for homeless persons who have co-occurring mental illnesses and substance abuse disorders. Connections was developed by Arapahoe House, Colorado's largest provider of AOD treatment and prevention services, to provide comprehensive, client-centered, skills-building and intensive case management to dually diagnosed clients through the use of case management dyads consisting of one certified addictions counselor and one mental health therapist. These dyads guide clients through the maze of service delivery systems, identifying and accessing community networks that can support clients' recovery. The dyads also model appropriate behavior and work at building clients' skills so that clients can eventually learn how to manage their disorders with minimal support from the case managers. Length of service is individualized and is not predetermined. Stages in Connections are designed to be completed in 6 to 8 months. This study measured the effects of assignment to a case management dyad vs. standard case management on the following outcomes: substance abuse, level of psychiatric symptomology, housing, and social and employment stability. Also assessed were clients' readiness for change, social skills, and increased knowledge of both disorders.

### **1. CONNECTIONS CLIENT POPULATION AND COMPARISON GROUP**

To be eligible for the study, clients had to be at least 18 years of age, be homeless, and have a diagnosable substance abuse disorder and Axis I mental illness. Clients assigned to the traditional case management group (n=81) were recruited from Arapahoe House's detoxification facilities. Clients enrolled in Connections (n=82) were recruited through street outreach, referrals, and detoxification facilities. In addition to the case manager dyad, clients in Connections also had access to Arapahoe House residential program therapists, psychiatrists, and other staff. Clients assigned to traditional case management received detoxification services and variable amounts of outpatient or residential counseling. They were referred to programs outside Arapahoe House.

The 163 clients in this study were predominately male (77%). The majority were Caucasian (72%), followed by smaller percentages of African Americans (15%), and Latinos (9%). Only 1 percent were Native Americans. The majority (92%) were not married and had experienced homelessness an average of 16.5 times over their lifetime. Average age was 26 years. Over 60 percent reported alcohol as their primary substance of abuse. Major depression was the most frequent Axis I DSM-III-R diagnosis (58%), followed by bipolar mood disorder (24%) and schizophrenia (18%). Men in this study more often indicated alcohol as their primary

substance of abuse (68%). Women more often indicated drugs are their primary substance of abuse (55%). Type of substance abused also was related to ethnicity. The primary substance abused for both African-American men (93%) and women (80%) was drugs. Over three-quarters of Caucasian men indicated alcohol as their primary substance of abuse. Caucasian women indicated alcohol (46%) and drugs (54%) about equally as their primary substance of abuse.

Complete data were collected on 124 clients: 61 in the Connections group and 63 in the comparison group. Results are reported for the 124 clients with complete data from intake to 6 months. Selected characteristics of clients having complete data in the Connections group and comparison group are shown in Exhibit IV-1.

<b>EXHIBIT IV-1 SELECTED CHARACTERISTICS OF CONNECTIONS AND COMPARISON GROUPS</b>		
<b>CHARACTERISTICS</b>	<b>CONNECTIONS GROUP MEAN (N=61)</b>	<b>COMPARISON GROUP MEAN (N= 63)</b>
Age in years	35	38
Legal charges with conviction	2	5
Months in jail	12	29
Prime substance abused 0=drugs, 1=alcohol	.6	.7
Problems with alcohol 0= none, 1=most	.4	.6
Number of times in alcohol/drug treatment	14	33
Use in the last 30 days of alcohol	11	18
Days paid for work in the last 30	4	7

Complete-data clients in the Connections group were younger, had fewer legal convictions, spent less time in jail, and worked less than complete-data clients in the comparison group. The comparison group reported alcohol as their primary substance of abuse more often than the Connections group. Comparison clients had more problems on the average with alcohol, used alcohol more in the 30 days prior to the study, and spent more time in detox and substance abuse treatment than Connections clients.

In terms of psychological symptom distress measured by the Brief Symptom Inventory (BSI), Connections clients had lower (i.e., healthier) scores than comparison clients at intake on all but one measure (obsessive-compulsive). Also, the Connections group had a higher (healthier) mean score than the comparison group on 8 out of 9 scales on the SF-35 Health Survey, the measure of health status used at intake.

The pattern of differences exhibited at intake suggests that of complete-data clients, healthier clients tended to be admitted more to the intensive case management Connections group than to the comparison group.

## **2. KEY FINDINGS**

Interviews were conducted with the Connections group at intake and at 2, 4, and 6 months. Interviews were conducted with the comparison group at intake and at 6 months. Findings are summarized below.

- **Alcohol and Drug Use**—The Connections group demonstrated significantly larger reductions in problems with alcohol use and in problems with drug use than the comparison group.
- **Homelessness**—The Connections group reported a significantly larger decrease in the number of days homeless in the past 60 days (16.7) than the comparison group (3.3).
- **Employment**—The Connections group had significantly more days of paid work in the past 30 days (4.5 vs. 1.0) than the comparison group.
- **Physical Health**—No significant differences were found.

- **Psychological Symptom Distress**—No significant differences were found.
- **Resources**—Connections had positive and significant effects on clients’ knowledge about family services, where to locate food and clothing, and where to obtain legal assistance and assistance with temporary housing.
- **Knowledge of Substance Abuse and Psychiatric Disorders**—Relative to the comparison group, Connections clients increased their confidence in their knowledge of their substance abuse symptoms, psychiatric diagnosis, psychiatric symptoms, medications requirements, and timing of medications.
- **Services**—A breakdown of services received by both groups indicated by examination of Arapahoe House’s Daily Service Logs is discussed below:
  - **Detoxification**—The comparison group received more mean days of detoxification (6 days) than the Connections group (3 days). The median number of days of detoxification received by members of the comparison group was 4 vs. 0 median days of detoxification services received by the Connections group. This is not surprising since all members of the comparison group were recruited into the study from detoxification facilities, and members of the Connections group were recruited through street outreach, other referrals, and detoxification facilities.
  - **Residential Treatment**—Connections group members spent an average of 16 days in residential treatment vs. an average of 1 day in residential treatment for the comparison group. The median number of days in residential treatment for the Connections group was 19 vs. 0 median days in treatment for the comparison group. This is not surprising since Connections group case managers had access to Arapahoe House’s residential programs.
  - **Case Management**—The Connections group received a mean of 3 hours of case management services vs. 0.7 hours of case management received by the comparison group. It is noteworthy that the median number of case management hours for both groups was zero.

- **Total Hours of Service**—Inspection of the daily logs indicated that the Connections group received a mean of 20 total hours of service and a median of 10 total hours of service. The comparison group received a mean of 2 total hours of service and a median of 0 total hours of service. The average number of total hours of case management and addictions counseling taken together self-reported by Connections clients (18.3) was similar to the number of hours self-reported by the comparison group (17.9).
- **Total Days of Service**—The median total days of service received by Connections clients was 19, and the median total days of service for the comparison group was 5. Since the Connections group spent a median number of 19 days in residential treatment, it appears that the median total number of service days for Connections clients was completely accounted for by the time spent in residential treatment. The median number of days of service for comparison group members is mostly accounted for by the time spent in detox by the comparison group.

### **3. SUMMARY**

Less than 50 percent of clients received case management, outpatient services, residential treatment, or transitional housing. It was hypothesized that intensive dyadic case management would increase the amount of case management Connections clients would receive vs. the comparison group, but the median number of hours of case management for both the Connections group and comparison group was zero. Therefore, the local evaluation concluded that the Connections program was not fully implemented in the study. Although an examination of Arapahoe House Daily Service Logs demonstrated that Connections clients received more total hours of service than the comparison group, the average number of total hours of case management and addictions counseling taken together, as self-reported by Connections clients (18.3), was similar to the number of hours self-reported by the comparison group (17.9). The Connections group at the intake was younger, healthier, and had fewer problems with alcohol than the comparison group.

## **V. INSTITUTE FOR COMMUNITY LIVING**

### **MODIFIED THERAPEUTIC COMMUNITY (TC)-ORIENTED RESIDENTIAL PROGRAM AND COMMUNITY-BASED SUPPORTED HOUSING FOR HOMELESS MENTALLY ILL CHEMICAL ABUSERS**

The goal of this project was to develop, implement, document, and evaluate a modified therapeutic community (TC)-oriented residential program and community-based supported housing program for homeless, mentally ill chemical abusers (MICAs) in New York City. A modified-TC model of treatment was developed by the Center for Therapeutic Community Research (CTCR), an institute of the National Development and Research Institutes, Inc. (NORI), and Community Studies Institute (CSI). The model was implemented by the Institute for Community Living (ICL), a not-for-profit agency funded by the New York State Office of Mental Health specializing in the residential rehabilitation of severely and persistently mentally ill clients. Compared to a standard TC approach, this modified-TC approach included: increased flexibility (with predictable boundaries); reduction in the duration of various activities; less confrontation; increased emphasis on orientation and instruction; fewer sanctions; more explicit affirmation for achievements; greater sensitivity to individual differences; and greater responsiveness to the special developmental needs of its clients. As with all TC programs, this modified-TC residential treatment program and community-based supported housing seek to develop a culture where clients learn through a self-help process utilizing the assistance of peers to foster change in themselves and others.

Treatment for dually diagnosed homeless in the modified-TC residential program and community-based supported housing involved four stages: Stage One, admission; Stage Two, primary treatment; Stage Three, live-in re-entry; and Stage Four, live-out re-entry. Clients lived in the residential program for 12 months during the first three stages of the program, and then could move into modified-TC, community-based supported housing for at least 6 months.

This study focuses on the evaluation of the modified-TC supported housing program component. The effectiveness of the modified-TC community residential treatment program was evaluated in another study. The following outcome areas were measured in this study: alcohol and drug use, homelessness, HIV risk, crime, psychological status, and prosocial activities (e.g., employment and contact with family members). Clients in modified-TC supported housing were expected to sustain improvement made due to participation in the modified-TC residential treatment program in the areas of drug use and criminality and were expected to improve in certain other areas (e.g., employment and community adaptation skills).

## **1. ICL CLIENT POPULATION**

Referrals came from social workers and case managers in homeless facilities (e.g., shelters, drop-in centers) and from psychiatric hospitals located in all sections of New York City. All referrals had a primary mental illness Axis I referral diagnosis (usually schizophrenia or major depression), a secondary referral diagnosis of substance abuse/dependent disorder, and met the New York City/New York State criterion for homelessness (been in a shelter or on the streets for a minimum of 14 of the past 60 days). Intake data were obtained on 342 clients. These clients were admitted to three different study conditions from January 15, 1992 through November 30, 1995. The three study conditions were the following: a modified-TC<sub>1</sub> (moderate intensity) site; a modified-TC<sub>2</sub> (low intensity) site (formerly community enhanced psychiatric rehabilitation, or CEPR); and the treatment-as-usual (TAU) group.

Clients were assigned to one of these three conditions using an unbiased, sequential assignment design. Sequential design uses a chronologically ordered eligibility list to assign referrals to the experimental treatment conditions on a slot available basis. When no slot exists, referrals are placed on a waiting list for a slot opening and offered the first slot available; however, the referral source frequently located alternative placement for a client before a study slot became available, in which case a client entered the TAU group. All clients assigned to the first two treatment conditions who completed their program were referred to parallel community-based supported housing for Stage Four. Clients initially assigned to the treatment-as-usual (TAU) condition were referred elsewhere. The term, TAU, is used to capture a variety of treatment (and some non-treatment) options for homeless MICA clients who were referred to available program openings upon discharge from shelters and psychiatric facilities. Clients in the TAU group might have experienced other MICA-specific or general residential programs; other supported housing programs, with or without day treatment services; discharge to self or other family member with or without follow-up; intensive case management or little follow-up; or continued treatment at the referral site. Of 342 referrals, 185 were assigned to the first study condition, 93 were assigned to the second condition, and 66 were assigned to the TAU group. Clients assigned to the two modified-TC residential treatment conditions were later combined into one group (N= 278) for analysis.

Three-quarters of the study population (75%) were male; a similar proportion (70%) was African American; a majority (54%) were in their thirties and had a median age of 35 years. Nearly three-quarters (74%) had never been married. Of the 47 percent of the clients that had children, over half of these (55%) either never had, or subsequently lost, custody of their children. Almost half reported having been physically (48%) or sexually (48%) abused. Two-thirds (64%) did not complete high school. Most clients (84%) had not worked in the previous year, and between one-half and two-thirds (61%) listed SSI/SSD payments as their primary means of support in the last year. Almost one-half (43%) of study participants reported that they could count only on one person or “no one.” One-third (33%) never had an intimate relationship. Only 10 percent reported being HIV-positive.

Almost all (99%) reported illegal drug use, and 77 percent reported illegal drug use in the past year. Roughly half (51%) reported crack/cocaine as the primary lifetime substance of abuse, with alcohol (22%) and marijuana (16%) identified as the secondary substance of abuse. Virtually all clients (99%) reported past involvement in some illegal activity with 81 percent reporting illegal activities in the past year.

A comparison at intake of clients who subsequently entered the TC-oriented supported housing (n=78) and those who did not (n=264) indicated that both groups had high levels of psychopathology and long-term homelessness. Multiple episodes of homelessness were experienced by 74 percent of the supported housing group and 75 percent of the TAU group. Regarding duration of homelessness, 28 percent of the parallel supported housing group and 24 percent of the TAU group were homelessness for less than 6 months; and 20 percent of the parallel supported housing group and 34 percent of the TAU group had experienced homelessness for between 6 months and 2 years. Over half (52%) of the TAU group experienced homelessness for more than 2 years compared to 42 percent of the supported housing group.

There was no significant difference between both groups in terms of the percentage diagnosed with an Axis I mental illness. An approximately equal amount of the supported housing group and TAU group (58% vs. 60%) were characterized by Axis I mental illness. Of those characterized by Axis I mental illness, 36 percent in the supported housing group and 38 percent in the TAU group were diagnosed as having major depression; 33 percent in the supported housing group and 34 percent in the TAU group were characterized by schizophrenia; and 17 percent in the treatment group and 11 percent in the TAU group were characterized by mania.

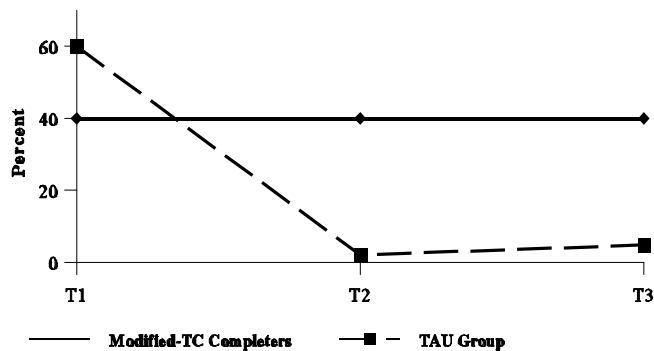
A slightly higher percentage of the TAU group (23%) indicated alcohol as their primary lifetime drug than the supported housing group (16%). More members of the supported housing group (64%) than TAU group (48%) indicated crack/cocaine as their lifetime primary drug.

The supported housing group had a lower percentage of those who ran away from home (33% vs. 48%), a lower percentage of clients with less than a high school education (52% vs. 67%), and higher IQ scores (a mean IQ of 76 versus a mean IQ of 72) than the TAU group.

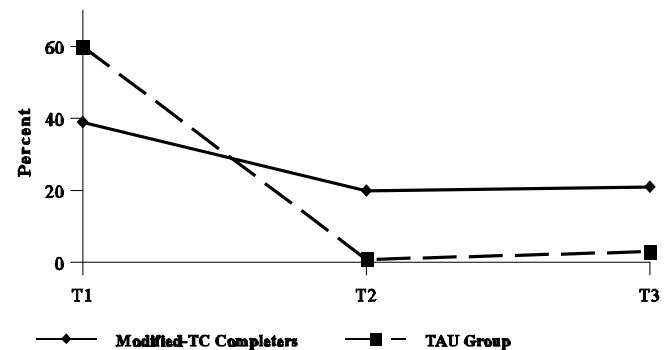
## 2. KEY FINDINGS

Data were collected at intake, 6 months, 12 months, 18 months, and 24 months. The following exhibits (V-1, V-2, V-3, and V-4) present illustrative findings comparing modified-TC residential treatment completers who subsequently entered parallel supported housing to the TAU group, showing longitudinal change on selected variables for Time 1 (Intake) - Time 2 (12 months) - Time 3 (24 months):

**Exhibit V-1**  
**Illegal Drug Use**

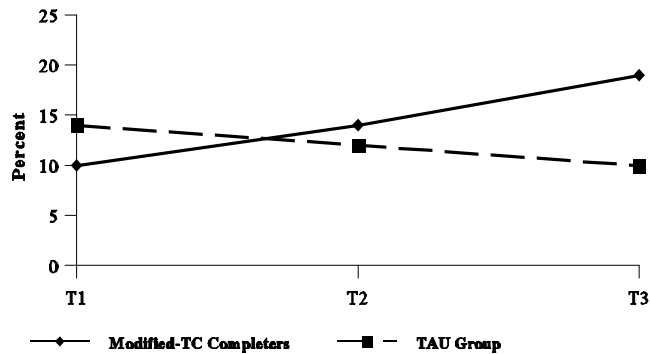


**Exhibit V-2**  
**Crime (Not Including Drugs)**



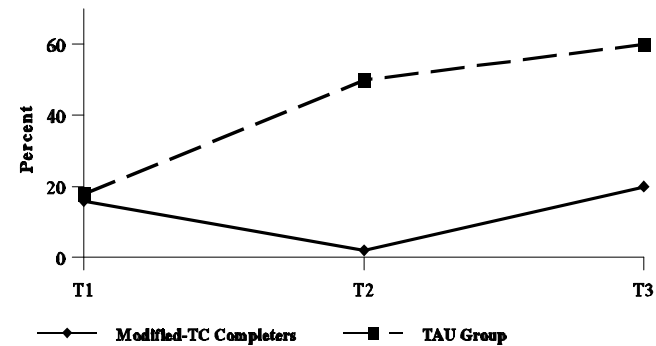
**Exhibit V-3**

**Beck Depression Inventory**



**Exhibit V-4**

**Employment**



Note: N varies between 57 and 61 for the modified-TC group, and between 7 and 26 for the TAU group.

Other key change findings include the following:

- The pattern of change for modified-TC residential treatment completers who subsequently entered TC-oriented supported housing was one of improvement in virtually all outcome domains. Significant reductions occurred in the incidence and frequency of drug use and crime, along with significant improvements in psychological status and employment after 12 months of residential modified-TC treatment and sustaining these gains (and improving on certain variables) at 24 months.
- For certain prosocial variables (i.e., employment and family contact) the pattern of change involved steady longitudinal gains from Time 1 to Time 2 to Time 3. The percentage of modified-TC residential treatment completers going on to parallel supported housing who had any employment increased from 12 percent at Time 1 to 59 percent at Time 2. The percentage of modified-TC residential treatment completers in parallel supported housing who had any contact with family members increased from 85 percent at Time 1 to 92 percent at Time 2.
- The TAU group demonstrated little or no improvement across all outcome areas during the 2-year period of observation.

- At Time 5 the combined modified-TC group had significantly higher mean scores on certain measures of community adaptation in parallel supported housing than the TAU group at 24 months. The modified-TC residential treatment and supported housing group as a whole (including treatment completers and dropouts) had higher mean scores than the TAU group on the Thresholds Work Attitudes Scale; on the Rosenberg Self-Esteem Scale; and on two subscales of the Quality of Life Instrument; i.e., “How I feel about life as a whole,” and “Health, in general.”

### **3. SUMMARY**

As of April 1, 1995, major portions of the modified-TC supported housing component began to be delivered in a newly opened day treatment center instead of in the community-based supported housing environment as originally proposed. Although staff reports and team observation indicated that critical elements in the project’s design have remained the same, being in groups with other day treatment center clients may serve to dilute the “community-as-method” or modified-TC community experience pivotal to this project’s treatment philosophy and affect outcomes hypothesized in this study.

Findings demonstrating the effectiveness of modified-TC residential treatment and community-based supported housing must be interpreted with caution due to sample attrition over the course of the study. For example, the sample retrieved at 18 months post-intake was approximately 56 percent of the initial sample, but varied depending upon group (i.e., modified-TC treatment completers = 77%, dropouts = 38%, and TAU = 64%). When corrected at this point for death, refusal and administrative discharge rates, sample retrieval elevates by approximately 7 percent. Thus, considerable bias exists in the data in this study for dropouts and, to a lesser extent, for the TAU group.

Exhibit V-5 on the following page shows sample size at each data collection time point.

<b>EXHIBIT V-5 SAMPLE SIZES</b>		
<b>DATA COLLECTION TIME POINTS</b>	<b>COMBINED MODIFIED-TC TREATMENT GROUP SAMPLE</b>	<b>TAU GROUP SAMPLE</b>
Intake	278	66
6 months	206	-
12 months	186	-
18 months	150	42
24 months	105 (N= 61 for modified TC treatment completers and 44 for dropouts)	26

The lack of statistically significant findings for the TAU group at 24 months, in part, reflects the relatively smaller size of this group compared to the modified-TC treatment completers (i.e., the number in the TAU group = 26 and the number of modified-TC treatment completers = 61 for intake to 24 months). The TAU group in the three-point longitudinal comparisons also represents fewer than 40 percent of the original TAU study sample and introduces bias considerations for TAU results.

Retention in this study was low for treatment completers, dropouts, and TAU group members from intake to 24 months. Many of the modified-TC treatment completers', dropouts', and TAU group members' outcomes are unknown; thus it is not known how typical the findings in this study are of other members in their groups.

The primary means of tracking and locating the TAU group involved searching the correctional and psychiatric systems and, less often, the homeless shelters. Many of the TAU clients interviewed at 24 months were located in jails and psychiatric hospitals; some were interviewed on the street, at home, or in other treatment programs; the remainder was not interviewed. Consequently, TAU

group 24-month follow-up data were largely obtained from clients who had relapsed or recidivated; therefore, the TAU results at 24 months may not be representative of the long-term outcome status of the full TAU sample.

The validity of the outcome findings in this study rests upon client self-report and was not objectively verified. A number of studies in the drug treatment evaluation literature generally support the validity of self-report among substance abusers who do not perceive risk of reprisal. The validity of self-reported data obtained on homeless MICAs, however, has not been documented widely in the literature.

## **VI. MENTAL HEALTH SERVICES WEST (MHSW) DUAL DIAGNOSIS PROGRAM**

Mental Health Services West (MHSW) is a private, non-profit mental health agency that offers a wide range of treatment and rehabilitation services to children, adults, and families. Located in Portland, Oregon, MHSW is the city's primary mental health provider for homeless, mentally ill residents and a leader in providing services to individuals with co-existing psychiatric and substance abuse diagnoses.

From 1986 to 1991, a skeletal Dual Diagnosis program operated at MHSW, offering one treatment group each day for the dually diagnosed. A full-day Dual Diagnosis program was established in September 1992 in response to clinicians' concerns that the agency's dually diagnosed clients needed structured activities throughout the day and frequent, ongoing support to maintain abstinence from alcohol and drug use.

The Dual Diagnosis program at MHSW has two goals: (1) to help clients achieve meaningful, productive reintegration into the larger community and (2) to provide them with the tools to live as positive role models of recovery from alcohol and other drug use. The program employs an integrated treatment model in which mental health and substance abuse issues are addressed simultaneously within the same environment. Four features characterize the program:

- Availability of a wide range of services
- Flexible use of program components to meet individual needs
- Integration of relapse prevention into the program as an educational tool
- Intensive monitoring of clients by Dual Diagnosis program staff and case managers.

Clients in the program are expected to achieve a series of positive outcomes, including decreased incidence of alcohol and drug relapse, improved mental status, and improved independent living skills. Other expected outcomes include reductions in hospitalization,

involvement with the legal system, and IV drug use. The purpose of this study was to evaluate the effectiveness of the Dual Diagnosis program.

## **1. MHSW DUAL DIAGNOSIS CLIENT POPULATION AND COMPARISON GROUP**

Clients were recruited into the 1-year study beginning in March 1995. The evaluation involved two client groups. The first group consisted of clients entering services at MHSW for the first time during the 1-year study. About half of these clients received referrals to the Dual Diagnosis program for treatment. Case managers made decisions about eligibility for the Dual Diagnosis program based on their own understanding of substance abuse problems, the type of treatment they believed would be best for the client, the client's diagnosis or diagnoses, and their own beliefs about dual diagnosis. All new clients, regardless of diagnosis, were eligible to participate in the study. Once a new client agreed to participate in the study, interviewers conducted the intake assessment for the evaluation.

The second group consisted of clients already receiving services at MHSW, including services in the Dual Diagnosis program. These clients were eligible to be members of the study's treatment group (if participating in the Dual Diagnosis program) or the comparison group (if receiving services at the agency outside of the Dual Diagnosis program).

The treatment group included those individuals the agency identified as having substance abuse or dependence diagnoses and/or significant life problems associated with substance abuse and who agreed to participate in Dual Diagnosis treatment. The comparison group was selected in two ways. First, using the agency's management information system (MIS), clients not in the Dual Diagnosis program with substance abuse or dependence diagnoses were identified. Second, a stratified random sample of other clients was selected to match the first group on gender, age, race or ethnicity, and length of time as an agency client and was then added to this group.

There were two reasons for including a stratified random sample selection of clients without substance abuse or dependence diagnoses to the eligible pool for the study's comparison group. First, the Dual Diagnosis program staff provided anecdotal information

that suggested the incidence of substance abuse or dependence problems among agency clients was underreported among clinicians. It was expected that this group would include some clients who did, in fact, have substance abuse problems. Second, the low participation rates of comparison group clients in quasi-experimental studies made the inclusion of an additional sample necessary to increase the size of the group, and thus, of statistical power. The study design anticipated this problem by over-recruiting comparison group members. There were 127 clients in the Dual Diagnosis treatment group and 114 clients in the comparison group.

The Dual Diagnosis treatment group and the comparison group were similar demographically. Most clients in the Dual Diagnosis treatment group (71%) and in the comparison group (78%) had either a high school diploma, GED, or some postsecondary education. The demographic characteristics of the Dual Diagnosis treatment group and the comparison group are shown in Exhibit VI-1.

<b>EXHIBIT VI-1 DEMOGRAPHIC CHARACTERISTICS OF MHSW TREATMENT AND COMPARISON GROUPS</b>		
<b>CHARACTERISTIC</b>	<b>DUAL DIAGNOSIS TREATMENT GROUP (N=127)</b>	<b>COMPARISON GROUP (N=114)</b>
Gender		
Male	77%	74%
Female	23%	26%
Racial/ethnic background		
Caucasian	87%	93%
African American	11%	7%
Other	3%	0%

<b>EXHIBIT VI-1 DEMOGRAPHIC CHARACTERISTICS OF MHSW TREATMENT AND COMPARISON GROUPS</b>		
<b>CHARACTERISTIC</b>	<b>DUAL DIAGNOSIS TREATMENT GROUP (N=127)</b>	<b>COMPARISON GROUP (N=114)</b>
Age group		
18-29	8%	10%
30-40	48%	46%
41-60	44%	44%
Education		
Did not complete high school	39%	19%
High school diploma or GED	31%	28%
Postsecondary	40%	50%
Marital status		
Never married	62%	57%
Married	5%	6%
Separated/Divorced/Widowed	33%	37%
Have children	35%	39%
Veteran	20%	18%

More members of the comparison group were characterized by a lifetime diagnosis of schizophrenia than the Dual Diagnosis treatment group. A lifetime diagnosis of substance abuse or dependence characterized 90 percent of the Dual Diagnosis group and 72 percent of the comparison group. The prevalence of lifetime diagnosis using the Diagnostic Interview Schedule (C-DIS) by major diagnostic category for the Dual Diagnosis treatment group and comparison group is shown in Exhibit VI-2 on the following page.

<b>EXHIBIT VI-2 LIFETIME DIAGNOSIS OF MHSW TREATMENT AND COMPARISON GROUPS</b>		
<b>DIAGNOSTIC CATEGORY</b>	<b>DUAL DIAGNOSIS TREATMENT GROUP (n=127)</b>	<b>COMPARISON GROUP (n=114)</b>
Major depression	47%	52%
Schizophrenia	28%	40%
Bipolar	20%	17%
Antisocial Personality	17%	10%
Anxiety	3%	7%
Substance abuse or dependence	90%	72%

Despite a lifetime history of substance abuse, most clients in both groups at intake reported abstinence in the previous 30 days. Alcohol was the most frequently used drug in both groups, and only 21 percent in each group drank to intoxication during the 30 days preceding the intake interview. A number of Dual Diagnosis clients reported using other drugs, particularly cannabis (17%), cocaine (13%), and amphetamines (7%). Since most clients in both groups abstained from alcohol and other drug use, the mean days used in the last 30 days for each substance was low. The mean Alcohol Severity Index (ASI) Alcohol composite score (.23) and the mean ASI Drug composite score (.09) for the Dual Diagnosis treatment group at intake was higher than the mean composite scores for these substances for the comparison group (.16 and .06). Intravenous drug use in the last year characterized 22 percent of the Dual Diagnosis treatment group, but only 4 percent of the comparison group. About four-fifths (81%) of the Dual Diagnosis treatment group participated in previous alcohol or other drug treatment compared to only 33 percent of the comparison group.

The history of substance abuse in the 30 days prior to intake and participation in treatment of the Dual Diagnosis treatment group and comparison group is shown in Exhibit VI-3 on the following page.

<b>EXHIBIT VI-3 HISTORY OF SUBSTANCE ABUSE</b>		
<b>CHARACTERISTIC</b>	<b>DUAL DIAGNOSIS TREATMENT GROUP (n=127)</b>	<b>COMPARISON GROUP (n=114)</b>
Used in last 30 days		
Any alcohol	38%	39%
Alcohol to intoxication	21%	21%
Cannabis	17%	8%
Cocaine	13%	0%
Amphetamines	7%	2%
Heroin	2%	0%
Mean days used in the last 30 days		
Any Alcohol	3.1	2.2
Alcohol to intoxication	2.3	1.4
Cannabis	1.1	1.2
Cocaine	.7	.0
Amphetamines	.2	.1
Heroin	.0	.0
Mean ASI Alcohol composite	.23	.16
Mean ASI Drug composite	.09	.06
IV drug use in last year	22%	4%
Ever participated in alcohol or other drug treatment	81%	33%

The Dual Diagnosis group also reported significantly less residential stability than the comparison group at intake.

## 2. KEY FINDINGS

Data were collected at intake and at 3, 6, 9, and 12 months on core outcome measures in the areas of substance abuse, psychiatric stability, residential stability, and life skills. Measures of social relationships, employment status, and education were administered at intake, 6 months, and 12 months. Since Dual Diagnosis clients typically participated in the program for months or even years prior to the intake or baseline assessment, and because more change was expected for the early stages of treatment, outcomes were reported separately for: (1) Dual Diagnosis program participants who were served less than 1 year prior to the intake assessment; (2) Dual Diagnosis program participants who were served a year or more before completing the intake interview; and (3) comparison group clients. Exhibit VI-4 shows the number of clients in the Dual Diagnosis and comparison groups by years in treatment at MHSW and years in the Dual Diagnosis program at the time of the study.

<b>EXHIBIT VI-4</b>				
<b>CLIENT GROUPS BY YEARS OF TREATMENT</b>				
<b>YEARS IN TREATMENT AT MHSW PRIOR TO BASELINE</b>	<b>CLIENTS IN DUAL DIAGNOSIS GROUP</b>			<b>CLIENTS IN COMPARISON GROUP</b>
	<b>NUMBER</b>	<b>&lt;1 YR. IN DUAL DIAGNOSIS PROGRAM</b>	<b>1 YR. IN DUAL DIAGNOSIS PROGRAM</b>	
< 1 year	41	100%	--	29
1-5 years	50	26%	74%	53
> 5 years	36	25%	75%	32
<b>Total</b>	<b>127</b>	<b>49%</b>	<b>51%</b>	<b>114</b>

A multivariate analysis of variance (MANOVA) with repeated measures was used to test group differences and change across five observations for outcomes in the area of substance abuse, psychiatric stability, residential stability, and across three observations for outcomes in family and social relationships and employment. The findings are summarized on the following page.

- **Substance Abuse**—At the intake, 3-month, 6-month, and 12-month interviews, Dual Diagnosis clients reported greater alcohol and drug use than the comparison group over five data collection periods, but no significant pattern of change in ASI Alcohol Composite scores and ASI Drug Composite scores was reported over time for any group.
- **Psychiatric Stability**—At the intake, 3-month, 6-month, and 12-month interviews, there were no significant differences among the means for all three groups across all five observations indicating absence of change in psychiatric stability due to Dual Diagnosis treatment. There was evidence of improved psychiatric stability reported over time for all clients in the agency across all groups.
- **Family and Social Relationships**—At the intake, 6-month, and 12-month interviews, three subscales from the Quality of Life Interview were administered: The Social Activity scale, Social Satisfaction scale, and Reliance on Social Supports scale. No statistically significant group differences were observed on these scales.
- **Employment**—At the intake, 3-month, 6-month, and 12-month interviews, no statistically significant group differences or significant pattern of change across the three data collection time points for any group was found.
- **Hospitalization**—At the 12-month interview, only five Dual Diagnosis clients were hospitalized or in respite during the previous 60-day period vs. eight at the intake interview.
- **Arrests**—Although 90 percent of the Dual Diagnosis clients had been arrested at least once in their lifetime, only 3 out of 84 clients (4%) were arrested during the last 6 months at the 12-month interview.
- **IV Drug Use**—At the 12-month interview, 11 out of 84 Dual Diagnosis clients (13%) reported IV drug use during the 12 months vs. 17 at intake.
- **Residential Stability**—More Dual Diagnosis program clients who had been in MHSW treatment less than 1 year prior to the intake assessment for this study were living in independent housing, and fewer members of this group experienced

episodes of homelessness or institutionalization than members of the Dual Diagnosis group who had been in treatment at MHSW 1 year or more and the comparison group at the time of the 12-month interview.

### **3. SUMMARY**

Many of the study participants had been agency clients and Dual Diagnosis program participants for years before intake assessments for this study were conducted. The use of “current” or “existing” client groups placed limitations on the ability to show Dual Diagnosis group improvement over the study period relative to intake.

Also, at the time of recruitment to the study, some case managers judged their clients to be too fragile or symptomatic to participate in the baseline or intake interview. To resolve this situation, the study team refrained from contacting the clients without prior approval of their case managers. This resulted in the delay of the initial assessment of some clients. These clients improved in psychiatric stability before the initial assessment and thus reduced the likelihood of demonstrating the full extent of differences due to participation in Dual Diagnosis treatment.

The comparison group was less involved with alcohol and other drugs and was more stable residentially at the intake assessment of this study than the Dual Diagnosis group. These differences complicate the interpretation of results and limit the generalizability of comparisons between the two groups.

New Dual Diagnosis program clients who received services from MHSW for less than a year improved their residential stability at the time of the 12-month interview. More Dual Diagnosis group members who had received services from MHSW for less than a year were living in independent housing and fewer members of this group experienced episodes of homelessness or institutionalization at the time of the 12-month interview than Dual Diagnosis group members who had received services from MHSW for more than a year and the comparison group. No significant group differences were observed in the outcome areas of substance abuse, psychiatric stability, family and social relationships, and employment.

## VII. VIETNAM VETERANS OF SAN DIEGO

Vietnam Veterans of San Diego (VVSD) provides up to 1 year of intensive residential rehabilitation services to male and female homeless, dually diagnosed veterans. The program is based on a hybrid of case management and social model recovery principles and incorporates the 12-step philosophy. Residents must achieve 14 days of sobriety before being admitted and must remain sober throughout their stay.

The purpose of this study was to evaluate the impact of a “community” intervention designed to help homeless veterans overcome substance abuse, connect with a community of sober individuals, and achieve employment and housing stability. Many of these clients have long histories of involuntary hospitalizations and are vulnerable to repeated psychiatric crises. Many suffer from Post-traumatic Stress Disorder; others have major depression or personality or anxiety disorders. Virtually all of them have a history of residential instability. Homeless dual diagnosis clients tend to distrust the social services system and to be disaffiliated from others. Engagement—the building of trust and rapport between clients and their community—is essential to client recovery.

At VVSD, engagement is achieved through the *peer community*, an intervention based on the theory that each person has the inner resources to move toward psychological health, given the right setting. VVSD develops and maintains its concept of the right setting through peer outreach and on-site governance. Peer outreach efforts attract homeless and incarcerated veterans. Once in residence, veterans are persuaded to engage and remain in recovery by senior residents and staff who act as role models and provide encouragement while working on their own recovery issues. Mutual self-help is a key element in the VVSD peer-governed community. Daily involvement in group and individual counseling, recovery work, shared chores, recreation, and employment preparation combine to provide essential structure within the relative freedom of an egalitarian, self-governed community.

Employment, sobriety, and mental health services are all offered on site and coordinated with off-site linkages in the greater community, including VVSD nonresidential counseling and support programs. Medical, dental, and vision care are offered via referrals to off-site hospitals, clinics, and professionals who donate their services. Residents develop a sober social network both at VVSD and throughout San Diego. They participate in vocational training and social skills groups.

All VVSD graduates are eligible for nonresidential programs involving continuing counseling, AA/NA groups, and sober recreational activities with the VVSD and San Diego sober communities. Some graduates volunteer at VVSD or apply for work at the facility.

## **1. VIETNAM VETERANS OF SAN DIEGO POPULATION AND COMPARISON GROUP**

Of the 258 veterans included in this study, 152 were treated in VVSD and 106 were treated in other residential facilities. Selected characteristics of the VVSD and comparison groups are shown in Exhibit VII-1 on the following page.

The study found some important differences between the populations from which the treatment and comparison groups were drawn. The comparison group tended to have more mental health impairments than the treatment group, as indicated by the higher proportion who had been diagnosed with any type of mental illness and the higher proportion who had been diagnosed who had ever received a prescription for mental health problems. Comparison group members also tended to have more extensive histories of homelessness than treatment group members did, both in the length of homelessness episodes and the number of episodes of homelessness. The work histories of the two groups indicated a slight advantage for the treatment group. Treatment group members were more likely to have been employed recently, and those who had worked tended to earn more than comparison group counterparts. With regard to demographic characteristics, comparison group members were slightly older and slightly more likely to be African American.

<b>EXHIBIT VII-1 SELECTED CHARACTERISTICS OF VVSD AND COMPARISON GROUPS</b>		
<b>CHARACTERISTICS</b>	<b>VVSD (N=152)</b>	<b>OTHER RESIDENTIAL SETTINGS (N=106)</b>
Under 40 years of age	41%	23%
Male	94%	98%
Racial or Ethnic Group		
White, Non Hispanic	56%	43%
Black, Non Hispanic	29%	43%
Other	15%	15%
12 Years or More Education	94%	99%
Ever Married	66%	75%
Schizophrenia	6%	11%
Dually Diagnosed	80%	87%
Any Mental Health Diagnosis	82%	82%
Any Substance Diagnosis	97%	91%
Homeless 26+ Times	1%	6%
Homeless 10+ Years	8%	15%
Worked Past 6 Months	35%	26%
Avg. Weekly Earnings (\$)	\$98	\$41

## **2. KEY FINDINGS**

The study identified the following key findings.

### **2.1 Retention and Completion**

VVSD retention rates between February 1995 and January 1996 were calculated based on the 152 residents participating in the program evaluation and the 53 residents who, for various reasons, did not participate in the evaluation. The study identified the following outcomes:

- Of 205 entrants, 69 percent reached Phase II, 59 percent reached Phase III, and 46 percent graduated.
- In the community residence programs, 49 percent left before 6 months, and 44 percent had either graduated or were still in treatment at the conclusion of the study.
- The level of retention was about the same among the 53 veterans who did not participate in the study as among those who did.
- VVSD's level of retention was extremely high relative to other residential interventions for similar populations.
- A nationwide study of treatment programs for homeless individuals with substance use problems, sponsored by the National Institute on Alcohol Abuse and Alcoholism, found that retention rates among program entrants consistently fell between 10 percent and 33 percent (Orwin et al.).
- Among other residential treatment programs serving homeless veterans, VVSD also had a very high program completion rate. In a 6-month cognitive-behavioral therapeutic community for homeless veterans with substance use problems studied by Burling et al., almost 40 percent were lost during the first phase of treatment. Just over 26 percent of program entrants remained in the program until graduation.

- In another study, Rahav et al. reported that 55 percent of therapeutic community residents had left the program by 6 months and 31 percent either graduated or remained in treatment at the conclusion of their study. This level of retention is higher than that of most other studies, but still falls short of the graduation rate at VVSD.

## **2.2 Outcomes After Participation**

Follow-up with the comparison group was not carried out as planned for several reasons, including financial limitations and initial differences between the comparison and treatment groups. Nevertheless, not all efforts to follow the comparison group were abandoned. Despite some initial differences between the experimental and comparison group participants, follow-up in the area of California earned wages provided an important reference against which to compare the treatment group outcomes. In addition, use of rough follow-up strategies enabled the study team to piece together a picture of control participants' housing status between April and July of 1996. The employment/wage and housing outcomes are summarized below.

- Participation in VVSD's 6-month treatment program raised overall employment rates to the highest level that had been observed in this group during the previous 5 years. (In the 5-year work history, the highest percentage of individuals working occurred 3 years prior to entry into VVSD.)
- Three months after residents left the program, 49 percent were working, and 6 months after leaving, 45 percent were working.

Consistent with other results in the outcome evaluation, veterans who graduated from the treatment program fared much better than those who left the program early.

- At 3- and 6-months following graduation, slightly more than 60 percent of program graduates reported having full-time employment. Only about 35 percent of early program exits were working at 3 and 6 months.
- At 3 months post-discharge, an estimated 65 percent of VVSD participants abstained from drugs and alcohol during the previous 3 months, 49 percent were working full time, and 67 percent had spent no nights without housing during the 3 months.

- In a similar study, Burling et al. found that 52 percent of program entrants were abstinent during the previous 30 days, 51 percent were employed full-time, and 70 percent spent no nights without housing. At the second follow-up between 6 and 12 months, 63 percent of veterans interviewed had been abstinent in the last 30 days, 44 percent were working full time, and 89 percent had spent no nights homeless during the last 6 months.

### **3. SUMMARY**

VVSD had a very high rate of retention in the program. Those participants who graduated from the program were much more likely to enjoy positive outcomes after leaving VVSD than the veterans who left the program early.

Findings from the comparison group provide some indication of the overall intervention impact in the areas of employment and housing stability. With regard to wages earned in California, 15 months after their baseline interview, veterans in the treatment group earned an average of \$1,500 per month more than did veterans in the comparison group.

In the area of housing stability, VVSD residents also were more stable than were comparison group members at follow-up. An estimated 60 percent to 65 percent of residents spent no nights homeless in the 3 months prior to the 3- and 6-month follow-up interviews. In the rough follow-up of control group members, it was estimated that between 31 percent and 46 percent spent no nights homeless in the 3 months before Stand Down, VVSD's annual outreach effort, in July 1996. Very little or no change occurred from the 2 months prior to the baseline interview when 35 percent spent at least one night homeless.

In comparison with other residential treatment programs for homeless individuals with substance abuse disorders, VVSD intervention was almost uniformly more effective than those reported in the literature. It has been consistently documented that graduates of treatment programs have more positive outcomes, at least over the short term, than individuals who leave programs early. VVSD's level of retention is extremely high relative to other residential interventions for similar populations.

**The perspective offered in this document is solely that of the author(s) and does not reflect the policies or views of the Federal government, or any of its Departments or Agencies.**