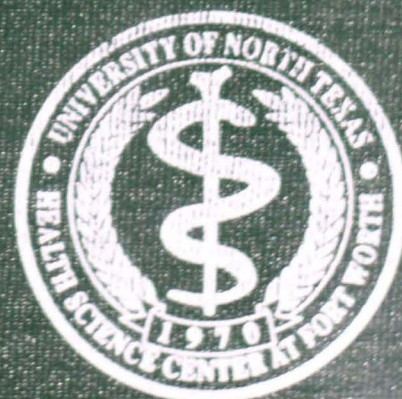




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Garza, Monica J.
An assessment of treatment
outcomes and preceptions

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The purpose of this study was to examine substance abuse services for the female population in Texas to ascertain whether a relationship existed between treatment settings, the severity of specified populations, and reported attitudes/perceptions of care.

The study assessed sixty-four variables using an IRB-approved four-page survey instrument completed by 239 women receiving substance abuse treatment at outpatient and residential treatment settings. Statistical analyses included independent sample t-tests, correlations, and descriptive findings.

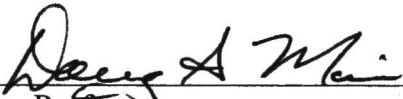
The study found that the outpatient population of women surveyed reported a greater level of treatment satisfaction. Both study hypotheses were rejected.

These evaluations will help Texas policy analysts, acknowledge a greater need for substance abuse trend studies.

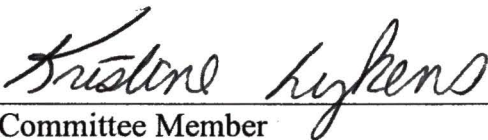
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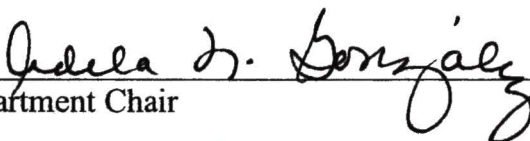
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AN ASSESSMENT OF TREATMENT
OUTCOMES AND PRECEPTIONS OF CARE AMONGST
A FEMALE DUAL DIAGNOSIS POPULATION IN TEXAS

THESIS

Presented to the School of Public Health

University of North Texas
Health Science Center at Fort Worth

In Partial Fulfillment of the Requirements

For the Degree of

Master of Public Health

By

Monica J. Garza, B.S.

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ACKNOWLEDGMENTS

The following staff members at Nexus Recovery Center, Inc. made this project possible:

Dianne Robinson

Katherine Ross

Carolyn Mitchell

Stacey Burns

Lenae White, M.D., Addiction Psychiatrist and Medical Director at Nexus Recovery Center, Inc.

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CHAPTER I

INTRODUCTION

The present concerns of providing adequate mental health care to an expanding population calls on providers, community-based programs, and public health educators as a means of improving access and treatment. Provision of care for those affected with serious mental illness and substance abuse or dependence poses a formidable challenge for the state of Texas given that its most far-reaching budgetary cuts to the mental health system have been recently approved.

The research project sampled a population of females enrolled in two different treatment settings to determine if effective mental health services are being provided. The services delivered to the sample population were measured using a University of North Texas Health Science Center, Institutional Review Board-approved survey instrument. The resulting data were contrasted with recent Texas and national treatment trends for the specified population. Study outcomes were directly compared to the most current national data available; however, the national data set served only as a baseline set of standards. The study data were not statistically compared or analyzed with the national data available in the public domain (an online database provided by the Substance Abuse and Mental Health Services Administration (SAMHSA)).

The project includes an analysis of treatment for co-occurring mental health disorders and substance abuse within the current framework of Texas' mental health system. The

sample data has been examined to determine if treatment setting and/or level of care results in greater demographic differentiations (i.e., lower rates of substance abuse or medical problems) and public health outcome measures. The effects of recent mental health policies in Texas were analyzed, and a feasible resource plan suggesting a greater provision of services to the dual-diagnosis population was described. In conclusion, findings supporting or negating the two central hypotheses for the proposed research study were also presented.

Rationale

In Texas the economic effects of substance abuse are evident in many different areas including a reduced and lost productivity in the employment sector, crime, law enforcement, welfare administration, car accidents, and health care. The economic effects of substance abuse must also be considered with the total indirect costs of mental illness estimated at approximately \$6.5 billion a year in Texas (United Way Internet homepage). The reported economic cost of drug use certainly takes its toll on the state's criminal justice system. The state reported a total of 111,836 drug arrests in 2003 (Office of National Drug Control Policy), those of which did not include select offenses such as murder, theft, DUIs (Driving Under the Influence) but specifically just the sale/manufacturing and possession of illicit substances.

The Texas Commission on Alcohol and Drug Abuse (TCADA) and medical diagnostic criteria define substance abuse as a progressive, chronic, and relapsing illness (Mc Lellan, 1989). Substance abuse and dependence involves numerous factors, such as biological, social, psychological, and environmental factors. Recovery from substance

abuse can be a long-term and multi-treatment process, as seen below in Figure 1-A, taken from by the National Institute on Drug Abuse (NIDA) guide to drug addiction treatment.

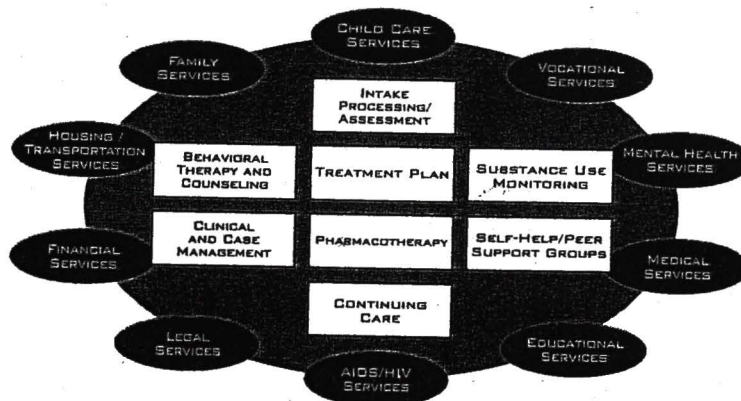


Figure 1-A: NIDA summary of substance abuse as a multi-treatment process

Research Questions

The breadth of data collected for the study will improve the understanding of substance abuse treatments specific to Texas. Descriptive statistics obtained from a large sample of respondents will help determine what the differences are between treatment settings for female substance abuse treatment, as well as the psychosocial functioning of the population. Among some of the differences examined will be whether or not the two groups of women are more alike than they are different with respect to their reported substance use, legal status, medical status, employment/education status, and mental health status. The research findings will be thoroughly explained by using a detailed descriptive analysis of study variables.

Hypotheses

The hypotheses undertaken by the proposed analysis are as follows: To determine whether or not an underserved female dual-diagnosis sample population receives

adequate care. This analysis lies within the context of the current mental health systems in Texas, and their transitional period following the 78th legislative session.

Demographic data (obtained from the first section of the survey instrument) verified whether or not the severity of a subject's mental illness and history of substance abuse was related to treatment settings. In other words, the differences between both sample populations (a residential and an outpatient sample) were determined using verifiable demographic data indicating a response to treatment (i.e., reports of fewer medical problems, fewer hospitalizations, and shorter durations for substance abuse treatment). The data were expected to infer that greater funding is crucial to increase more intensive treatment options, specifically additional residential facilities for the female dual-diagnosis population.

Furthermore, a secondary hypothesis was analyzed for the investigation. The attitudes and perceptions belonging to the sample population with regard to treatment settings and services rendered were determined. It was expected that the outpatient sample population would differ from those receiving more intensive (residential) care, by showing greater leniency in reporting increased levels of satisfaction with regard to their treatment outcomes. The greater leniency is defined as showing a wider range of responses; specifically the outpatient group would be more open to responding that they disagreed with aspects of their treatment. A measurement of how these attitudes differ among the groups confirmed the notion that health care consumers show increased levels of satisfaction and improvement of symptoms when the duration and levels of care are changed.

In summary, Hypothesis 1: Descriptive data collected from two samples of clients receiving care in outpatient and residential substance abuse treatment settings provided verification that there are differences with regard to the treatment settings for the female treatment groups. The differences will be evaluated to determine the funding priorities regarding the two treatment settings and current methodologies used to treat the dual-diagnosis population. An examination of treatment will be assessed with regard to the addiction severity of the sample population. For example, the average amount of time spent in the specified treatment setting and other areas of functionality may or may not be related to addiction severity/duration. It is expected that the residential population sample will have a longer duration of treatment time, and increased factors for addiction severity when compared to the outpatient sample group. Both descriptive statistics in combination with inferential statistics explored using the key descriptive findings will determine a possible relationship between levels of functioning as reported and treatment. Hypothesis 2: Patients who have spent a longer amount of time in treatment and are at a higher level of cost (the residential group) will show increased levels of satisfaction in relation to their treatment. It is expected that the residential subjects responding to the survey instrument will report having higher opinions and attitudes regarding their treatment. The outpatient group will show greater leniency, thus less satisfaction in their reported perceptions of care.

Delimitations

The delimitations for the current analysis were those restricted factors that may control or influence the outcomes of the study. Among the greatest delimitations, the data

collected was limited to a gender based criteria for participation in the study. The sample population was restricted to only females. Another criteria for participation in the study was that the women had to be enrolled and receiving current substance abuse treatment at the specified sites. An age criteria was set at eighteen years and above, as only adult women were participants in the study.

Limitations

The following limitations may have affected the external validity of the study findings. A key limitation for the analysis of mental health care and substance abuse treatment in Texas is that not a substantial amount of research has been conducted on a statewide level. As evidenced by the state's current process of combining its Texas Mental Health and Mental Retardation Services with those of the Texas Commission on Alcohol and Drug Abuse. Among the reasons why the availability of current data is scarce with the exclusion of the national Office of Applied Sciences (OAS) data set is that extensive substance abuse studies are difficult to carry out to completion, due in part to rates of attrition among the population. On average the statistical data available in the public domain is dated from two years ago (2002/2003). Thus, the data collected from the sample is current 2004 data and may be more indicative of the current effects of budgetary cuts when compared to data in the public domain (2002 data).

The following limitations were assumed prior to beginning the data collection process for the study. The population sample data were obtained at two different sites, as a result two different treatment settings were evaluated. This may have provided conflicting data between the two groups when examined as a whole.

Another potential limitation lies in a comparison with other regions of the state (i.e. South Texas), the region of North Texas has different demographic populations of mental health care recipients. The demographic information obtained may be skewed with regard to the number of ethnic minorities in the sample for this reason. Lastly, another possible constraint was the mere breadth of the research topic. Limiting the amount of literature reviewed in an appropriate manner was difficult in light of the several areas of psychosocial functioning, assessment of treatment settings, and public health implications studied. The limitation of not being able to directly interview patients in the psychiatric setting may have also limited the author's interpretation of the saliency of some issues and author perspective.

A great number of limitations were discovered after the data had been collected and analyzed. Among the most important noted was the difficulty in determining an application for the "severity" levels for both sample groups. The data provided 239 four-page surveys, which produced a large amount of data to compile and analyze. The most common limitation for the data interpretation process was that the participants left several items blank on the scale. These data "holes" were expected and manageable for most sections of the instrument; however this posed challenges specifically with substance use interpretation.

Most importantly, there were several internal limitations to the success of the study. The methodology of the study was affected by the fact that the survey instrument had not been previously examined for internal reliability or validity. The two separate scales used to create the survey have an independent reliability and validity; however, the

survey instrument created did not. The survey items used from the TCU CEST survey and created into the second part of the survey instrument were never tested for reliability, validity and or effectiveness as a scale. The exclusion of questions regarding socio-economic status on the survey may have also limited the data and resulting significant differences. Questions pertaining to the date of admission for treatment and those pertaining to the thirty-day timeframe at the time surveyed for participants were not stated clearly on the study survey. The sample collected was a *limited* sample with respect to the fact that it was only procured from *one* treatment agency within the state.

The survey instrument used portions of the ASI (Addiction Severity Index), which may have been confusing for the participants to complete. The administrative issues related to the survey instrument included some of its the subscales, specifically the chart for drug and alcohol abuse. A chart addressing substance use (page 2 of the survey) was left blank by several participants who did not make time to complete it. The ASI is typically administered by an interviewer, and the assumption that the scale would easily translate to a written format possibly caused considerable problems for the procurement of data. The study should have included a pre-testing of the survey instrument to ensure that the scale did not need changes prior to proceeding with the proposed study.

Assumptions

The assumptions made with regard to the research study are listed below:

- The participants were all English-speakers, as the scale was only provided in the English language.

- The women currently receiving treatment would only complete the survey once, the investigator limited replicated data.
- It was assumed that the women completed the surveys without using identifiers during a scheduled time in their group meetings.

Definition of Terms

A “co-occurring illness” is defined by the presence of both a physical and mental illness at the same time for a given individual. The term “dual-diagnosis” indicates that a person has a diagnosable mental illness and a substance abuse disorder present at the same time. These terms will be used throughout the study to describe the population being examined. These definitions are both described in the DSM-IV, (Diagnostic and Statistical Manual of Mental Disorders) which provides diagnostic criteria for psychiatrists and other mental health professionals.

The term for addiction “severity” is broadly defined throughout the context of the current study. The variable was operationalized and was applied as a limited number of descriptive statistical findings pertinent to the study data as well as few key inferential findings. For the sake of the analysis it was defined by: A longer time duration reported of substance abuse (reported in days used during past month and or years substance was used), and the levels of impairment for the examined areas of psychosocial functioning.

Importance of the Study

Research in the area of substance abuse treatment for is essential for providing improved future plans of care and alternative treatment methods. As recently as 2000 the cost of drug and alcohol abuse treatment for the state was estimated at \$25.9 billion as

reported in a Texas Commission on Alcohol and Drug Abuse (TCADA) study. The same report found that as of the year 2000, on a per capita basis approximately \$1,244 was spent for every Texan to cover the cost of substance abuse treatment. A combined estimate for mental illness and substance abuse care in Texas in 2000 was \$41 billion dollars (Automated Budget and Evaluation System of Texas (ABEST)). When the ABEST and TCADA findings for 2000 are added together the cost of substance abuse treatment as well as mental health costs approximate \$69 billion dollars for Texas. The 2002 TCADA Annual Report also provided interesting substance abuse findings including:

- In 2000 the cost of crimes related to substance abuse cost \$4 billion and accounted for 48% of the state's criminal justice expenditures.
- Over 13,500 Texans died in 2000 from drug and alcohol use disorders.
- Over 93,000 students were referred to alternative education programs in 2001 primarily for the sale or possession of controlled substances.

The latest state study, completed in 2004 by the Gulf Coast Addiction Technology Transfer Center (GCATTC) provided recent substance abuse trends. As of 2003 the population of Texas was approaching 22 million (GCATTC report). The study cited that alcohol was the primary drug in Texas. The GCATTC study also reported that cocaine abuse accounted for 27% of all adult admissions to state funded, TCADA treatment programs. A higher percentage of adults reported alcohol as being their primary substances, as alcohol accounted for 30% of clients treated in state funded programs (GCATTC, 7). Texas differs from other states due to its larger population, the highest

prison population in the nation, and its geography and region. These factors have augmented the challenges of treating the state's substance abuse population. Texas not only has larger cities when compared to other states; these cities also (i.e., Houston, San Antonio, Austin, and Dallas-Fort Worth) provide a higher volume of drug availability. Drugs are also more readily transported into the state from across the Mexican border. Additional challenges such as the state's lack of a defined mental health system for children and adolescents as well as not providing bilingual services to the Hispanic population have inadvertently set back the priority of treating the substance abuse population (Mental Health Association in Texas, *Overview of the Mental Health System in Texas*).

The importance of this information calls for measures, which may eventually include a restructuring of the state's criminal justice system, health agencies, Texas Department of Mental Health and Retardation (TDMHMR) agencies for the supplementation of more prevention programs. The state needs to begin addressing the ballooning costs of treating the substance abuse population before increasing economic costs that would lead to budgetary cuts in other areas such as education or general (non-mental health) health care funding. An increase in assessing treatment settings and options for this specific population will lead to more effective and early prevention, decrease state prison costs, and lessen the burden for the Texas Department of Health and Human Services (TDHHS).

On a national scope, the most recent report released from the Department of Health and Human Services (DHHS) indicates that as of 2002 there were 17.5 million

adults with a serious mental illness, which represents approximately 8.3% of the U.S. population. The same report cited that there were approximately 33 million Americans with either a serious mental illness or a substance abuse disorder. Of the 33 million adults with either a mental illness or a history of substance abuse, 4 million have both the mental illness and substance abuse (Epstein, 10). The reported figures for the 2002 study were obtained by a survey that the federal government has been using since 1971, the National Survey on Drug Use and Health (NSDUH).

CHAPTER II

LITERATURE REVIEW

The review of current substance abuse literature consisted of four key components: female substance abuse defined as a public health issue, a case description of the treatment sites and organization used for the study, efficacy of substance abuse treatment settings, a review of policy changes specific to the population, and a review of the state's pilot program for dual-diagnosis care-NorthSTAR. Only as recently as the summer of 2003 did the Texas state legislature begin to address finding the most suitable care for the dual-diagnosis population. The 78th legislature passed a bill restructuring all of the state's health agencies. The consolidation of the Health and Human Services agencies has led to a Dual Diagnosis project calling for an integrated form of treatment. This program is currently in its planning phase and has not yet been implemented. The most current information about the Dual Diagnosis Project was reviewed on the Department of Health and Human Services (DSHS Internet homepage). The project now has identified objectives and eighteen treatment principles. The significance of this project is for those seeking care for mental disorders as well as substance abuse is that they longer have to go through two different state agencies to receive care. Prior to the development of the project, the dual-diagnosis population accessed mental health care through the Texas Department of Mental Health and Retardation (TDMHMR) and the Texas Commission on Alcohol and Drug Abuse (TCADA). The Texas Department of

Mental Health and Retardation has concluded: "... evidence now exists to support the philosophy that, models of care which integrate mental health and substance abuse treatment for persons with co-occurring mental illness and substance abuse disorders can succeed where our parallel, separate systems of care have historically failed"

(TDMHMR). The TDMHMR sites and employees will be working with approximately 5,000 chemical dependency counselors at 820 TCADA sites to consolidate services for the dual-diagnosis population (TCADA).

Female Substance Abuse as a Public Health Concern

The population of female substance abusers has increased dramatically since the 1970s. According to a recent study (Dodge, et. al), the proportion of substance-dependent women during the 1970s was one for every five male substance-dependent men. This proportion increased to one for every three during the 1980s, and has risen to at least fifty-percent of the substance abusers in the United States (Dodge, 59). As recently as 1998, a study conducted by the Drug and Alcohol Services Information System (DASIS) reported that ten women were admitted for every twenty-three men seeking substance abuse treatment (DASIS report, 2001). Surprisingly, this dramatic rise during the past thirty-year period has not led to extensive research or empirical data describing treatment needs of the female substance abuse population. A 2002 study completed by the National Survey on Drug Use and Health (NSDUH) estimated that 11.4 million women over the age of eighteen had a serious mental illness accounting for almost 11% of adult women. Of the 11.4 million women with a mental illness, approximately 2 million were estimated to also have a substance use disorder.

There are several reasons why the number of females receiving care for substance abuse and mental health disorders is substantially less than care provided for the male population. Expectedly, drug and alcohol abuse have more serious health and social consequences for females. Social expectations are defined by the different role performances that women fulfill, primarily motherhood. Women typically experience more difficulties accessing proper care, childcare issues, the initiation of the treatment process, as well as different barriers to care. It has been shown that approximately forty-percent of men enter treatment through the criminal justice system; whereas only twenty-five percent of women enter treatment through that approach (DASIS, 2001). From a biological perspective treatment among women differs from the male population, which is why some treatment centers are single-sex, providing more suitable care for the population. Significant gender differences often pose health related problems and behaviors that differ amongst the sexes such as the motivators for drug use, routes of initiation with use, access to the illicit substances, use patterns and drug responses (Brecht, 89). Although there are several factors considered for the development and treatment of substance abuse in the female population, it is important to consider those treatment centers, which have effectively provided care for the population.

A case description of treatment centers

Both the outpatient and residential substance abuse treatment centers were a part of the same organization. The organization is a private non-profit agency that has provided care for North Texas women struggling with chemical dependency or abuse since 1971. The agency is licensed for operation by the Texas Commission on

Accreditation for Rehabilitation Facilities (TCARF) and the Texas Commission on Alcohol and Drug Abuse (TCADA). The agency was initially chartered having a structured living and social detoxification model, and in 1974 changed its services to include specific recovery programs incorporating therapy, and personal/social adjustment training. In October 1990, the agency opened a TCADA funded program, allowing women to bring their young children aged two to ten years with them. This established the Women and Children treatment program. In January 1991, an adolescent girls program was also funded. The Center later received a grant from the Center for Substance Abuse Treatment (CSAT) in October 1993, and opened a demonstration program for treating pregnant, drug addicted women and their newborns. Over 15,000⁺ women to date have used the agency's residential and outpatient services. The agency not only focuses on recovery for its clients, but also assists women with health, relationship, and family issues. The agency is strongly affiliated with United Way and the Texas Commission of Drug and Alcohol Abuse (TCADA), and has a staff of approximately 75 persons including bilingual staff to address the needs of bilingual clients. The agency provides the most comprehensive substance abuse treatment within the Dallas-Fort Worth area. It is expected that the organization/agency will only continue to grow as its programs are filled to capacity with women seeking help. Below are some highlights of its operations and programs:

Levels of Care: The agency offers three levels of care, Residential, Outpatient and Aftercare programs.

Four different Residential programs are offered:

Adult Women (ages 18+): Women participating in this program live onsite in a dormitory. The women follow a structured schedule participating in daily group and individual counseling sessions. The average length of stay ranges from 14-28 days. There is usually an average of 40 women participating in the program at a given time, all of whom live at the center for the duration of their treatment.

Women with Children (ages 18+ with up to three children per client): The agency provides the option of allowing client not to be forcibly separated from their children while receiving treatment. On-campus staff cares for the younger children, and the older children attend a nearby public school. The program also provides therapy and assessments for children if necessary. The Women with Children program focuses on assisting its clients with their recovery from addiction, and improving their parenting skills to maintain healthy family lives.

Pregnant/Postpartum Women and Infants (New and expectant mothers of all ages): The program allows access to medical care and counseling for recovery from chemical dependency for expectant mothers. The program provides training for basic infant care, and proper nutrition to expectant mothers.

Adolescents (Ages 13-17): Adolescent women reside on site and are able to continue schooling during their treatment. The women attend school on the site campus and work with teachers from the Dallas Independent School District (DISD). A highlight of the adolescent program is that it requires a mandatory family participation for each client so that the adolescent receives full familial support for recovery.

Outpatient Program: The outpatient program provides daily group therapy sessions during morning and evening hours so that clients can continue their treatment. The program offers intensive outpatient counseling (IOP) for five days a week, or supportive treatment for two days a week.

Aftercare: The aftercare program provides additional care and support for those women who have completed their recovery from chemical dependency successfully.

In addition to a description of treatment options, it is also important to understand how these settings are assessed. The assessment of overall efficacy for substance abuse treatment is one that holds promise for improving care and cost-effectiveness over time.

The efficacy of substance abuse treatment options

A growing concern pertaining to data collection from the substance abuse population is that assessments used generally measure life circumstances only upon admission to treatment. Some of the most commonly used instruments are the Addiction Severity Index (ASI) and the Psychosocial History (PSH). Both instruments have been used together to determine composite scores to determine the severity of a patient's illness when they begin their treatment. These interviews are usually conducted so that the individual needs in, "...multiple areas of life that could be addressed in the treatment program" (Comfort, 82). It seems that treatment professionals are most concerned with obtaining information about clients/patients during the first phase of treatment. With the recent budgetary cuts, health researchers are beginning to understand that obtaining data and information during *all* phases of treatment is a priority. By adjusting instruments

such as the Addiction Severity Index, which serves as a gold standard tool for assessment in the field of substance abuse treatment, new scales have been and will be further developed.

Literature suggests that residential care is most effective for the dual diagnosis population. A recent study completed by French et. al, examined five treatment centers in Washington state. The study emphasized the importance of program evaluations for agencies providing social services to the indigent population. The reason being that, “ As health care and related services can be quite expensive, public agencies frequently seek alternatives that may produce the same or better outcomes at a lower cost” (French, 2268). The study called for and supports increased research of the substance abuse field to maintain adequate public funding. As approximately seventy percent of substance abuse treatment is provided through public grants and funds, the French et. al, study stresses that residential treatment despite the fact that it is more expensive and outpatient treatment, is more cost efficient.

The current study examined substance abuse treatment settings was completed in hopes of determining a relationship between inpatient and outpatient subject responses. A recent study of sixty-four females, Dodge et. al, receiving treatment for substance abuse indicated that the socioeconomic differences were differentiated amongst groups based upon the demographic characteristics alone. Demographic characteristics may show different levels of education completed, or less severe/shorter histories drug use. The study used t-tests on each subject to compare the demographic information. The study

applied independent t-tests to determine if any significant differences for the sample group's responses to the Likert scale question items.

While the scope of this study was short-term and limited to a small sample, the data obtained showed demographic differences as well as in-phase or near outcome measures. The data analyzed for the study was also compared to national reports provided in the public domain. The nation's comprehensive records of substance abuse treatment are available on the Substance Abuse and Mental Health Services Administration (SAMHSA) online database. The database provides information from over eighty completed studies as well as information covering Treatment Episode Data Sets (TEDS) for individual states. The TEDS files contain over nine million records, which have been standardized by the Office of Applied Sciences (OAS) and the Substance Abuse and Mental Health Services Administration (SAMHSA).

Substance Abuse Treatment within the context of
historical Texas mental health & substance abuse policies

Recent policy changes passed by the 78th Texas state legislative session during the summer of 2003 included drastic budgetary and eligibility cuts that affected various mental health populations. The changes set forth reorganized the Health and Human Services (HHS) agencies and their programs. Texas House Bill 2922 implemented a majority of changes in response to a \$10 billion state budget deficit. The bill combined twelve HHS agencies into four departments under the supervision of the Health and Human Services Commission (HHSC). The reorganization of the agencies was passed to "...consolidate organizational structures and functions, eliminate duplicative administrative systems, and streamline processes and procedures that guide the delivery

of health and human services to Texans” (HHSC). For the oversight and accountability of this process an executive commissioner for the HHSC, Albert Hawkins, was appointed by Governor Perry and approved by the Senate to a two-year term. About six months after H.B. 2922 was passed, a transition plan was submitted to the Legislative Budget Board on December 1, 2003. Commissioner Hawkins appointed selected commissioners for the four consolidated health agencies. The mental health agencies once under the Texas Department of Mental Health and Mental Retardation (TDMHMR) as well as TCADA agencies have merged under the Department of State Health Services (DSHS), which began its formal operation as an agency on September 01, 2004. Another primary aim for House Bill 2922 was to centralize eligibility determination for Medicaid, CHIP (Children’s Health Insurance Program) and TANF (Temporary Assistance to Needy Families). An example of how the state consolidated its agencies is available on the DHHS website: A low-income family can now access all services through one point of contact (i.e., Medicaid, CHIP, and food stamps). The significance of the consolidation is that the indigent population will receive care faster and also require less of the state’s resources to obtain care. By decreasing the time it takes to receive services HHS employees will have more time and resources available to serve other populations.

In October 2004, the state reported \$5.3 million of cost savings after its first year of improvement efforts made for mental health and substance abuse services (John Carona press release-November 23, 2004). This news may be the only positive fact/statistic available since the passage of House Bill 2922. It remains to be seen whether or not the changes set forth under H.B. 2922 will dramatically improve the state’s mental

health system. As recently as 2001 Texas was ranked 46th in the nation for mental health spending. The gains for the state are considerably outweighed by the costs of implementing these changes.

Among the measures passed by the 78th legislature was the appropriation of \$58.5 million dollars less than the requested amount for the Texas Department of Mental Health and Retardation (TDMHMR). Despite the reduced budget, the MHMR system was still expected to provide the same services (Mental Health Association in Texas). The policy also outlined that Medicaid was to reduce cost coverage for providers who are not psychiatrists. The policy enacted a cut to Medicaid benefits, meaning that nearly 130,000 adults could no longer receive counseling or therapy from licensed counselors, psychologists, and marriage and family therapists throughout the state (Purse, 1). Other considerable cuts made were the complete elimination of “In Home and Family Support” for mental health as well as an overall 11% reduction for mental retardation and 61% reduction of in home and family support for the mentally retarded (Purse, 1). The state also created eligibility limitations for individuals able to receive coverage. The 78th legislative session outlined that only those with Bipolar Disorder, Schizophrenia, and Major Depressive Disorder with Psychotic Features would receive treatment. The state’s delivery of mental health services shifted to a disease management model that focuses strictly on the three priority populations mentioned (House Research Organization). The disease management model is expected to provide efficient care; however, it excludes the general depressed population and those with other mental health disorders needing care. One positive result from the reported cost savings of \$5.3 million was that the state

restored some benefits to the CHIP program for children's mental health coverage (Garrett, Dallas Morning News). On October 11, 2003 the state restored \$16.9 million (\$11.6 million in federal funding) to the CHIP program; adult programs did not receive any of this funding.

The state legislature is expected to revise the initial restructurization for years in forthcoming legislative sessions. The most recent elections for legislative offices were held on November 2, 2004, and the prefiling of legislation began after that date. The 79th session of the Texas Legislature began on January 11, 2005. Outcomes from the changes passed in 2003 have not been determined as the reorganization of the Health and Human Services (HHS) state agencies has obviously taken longer than the past eighteen month period. It is expected that mental health advocates will ask legislators for additional funding to implement the new "disease management" programs effectively. Since the state will now only treat priority mental disorders, new programs need to be tailored and developed for target populations. The deadline for filing all bills and resolutions was on March 11, 2005. On August 29, 2005 the bills lacking specific start dates will become law.

In March, 2004 the DSHS began a significant change towards the consolidation process. The state addressed administrative issues regarding the cost for determining which Texans are eligible for care in the report, *Integrated Eligibility Determination: Business Case Analysis Streamlined System Will Expand Access to Services, Save Money*. "The state currently spends \$700 million on eligibility determination" (HHSC, internet homepage). This amount is over twice the TANF (Temporary Assistance for Needy

Families) benefits paid out per year as cited in the integrated eligibility report. The state intends to fund more call centers to improve eligibility determination and cut back costs. The state determined that, "...call centers would be a cost effective way to determine eligibility for a variety of services, including Medicaid, food stamps, TANF (Temporary Assistance for Needy Families), and long-term care" (HHSC). The call centers are expected to yield a net savings of \$389 million over the next five years according to the cited report. The state plans to fund 164 field offices and staff employees in 211 state hospitals to conduct personal interviews for healthcare consumers. This model is expected to have full implementation within three years time and to decrease the workforce from approximately 8,000 screeners to 3,400. The HHSC will set eligibility determination system rules in April 2005, and revise guidelines after receiving input from the public prior to endorsing the model.

Other notable benefits of the eligibility determination system will be increased access to care for consumers, an easier re-certification process, and only one application processed for the provision of many services. It is important to note that while cost centers may be effective for the areas of care mentioned, a high level of effective screening for the determination of mental health eligibility will most likely not result. Mental health eligibility often times requires a face-to-face interview for an individual's symptoms to be evaluated. Phone screening for eligible mental health participants poses a challenge for the state because the person may confuse symptoms and or questions being asked thus potentially increasing screening errors. It remains to be seen how the cost savings are distributed, as the efficiency of mental health/substance abuse services will be

only a small part of this plan. Thus, while call centers will provide a pipeline for mental health funds; there are other programmatic ways the state can improve the overall system.

The Consolidation of Treatment Options: The Texas Department of Mental Health and Mental Retardation & state agencies treating substance abuse

The Texas Department of State Health Services (DSHS) provides funding for substance abuse services in the state including prevention, intervention, and treatment. The agency works with a budget of approximately \$130 million of federal block grant funding and \$27 million of state revenue to provide services for 750,000 Texans through 200 organizations. The department also funds 11 Prevention Resource Centers (DSHS, Internet Homepage).

A solution to the transitional period following H.B 2922 as well as the current 79th legislative session may be exemplified by a pilot program which has had great success for seven counties in the state. The NorthSTAR program has provided care for the following high population counties since July 1999: Dallas, Ellis, Hunt, Collin, Kaufman, Navarro, and Rockwall. The NorthSTAR program serves as a valuable tool for easing the state's transition towards new mental health services—it is key to providing which areas need further development and research for the substance abuse/mentally ill population.

The NorthSTAR project includes several distinctive characteristics that differentiate its services from the TCADA services. NorthSTAR characteristics incorporate blended funding, integrated treatment, case “care” management, data-based decision support, and services provided by Behavioral Health Organizations (BHOs) (Dallas Area NorthSTAR Authority). The program was funded by a state Medicaid waiver to make the Medicaid operations in Texas more efficient using a managed care

framework (Wong, 3). A study completed in September, 2003 by the Lyndon Baines Johnson School of Public Affairs at the University of Texas summarized three studies carried out from September, 2002 to May, 2003. The independent third and final independent assessment performed by the group concluded that, "...despite the difficulties encountered in the initial implementation of NorthSTAR, the model is a viable strategy for improving the current system of behavioral health care in the state of Texas" (Wong, iii). The NorthSTAR report provides a succinct and informative review of the program.

Among early challenges faced by NorthSTAR was opposition from local MHMR centers in those counties for which the program was to provide services. The report indicated that prior to NorthSTAR, the MHMR centers were paid prospectively for their consumers. Under TCADA agencies and care provisions, care providers had a fee-for-service agreement with the state. Thus, NorthSTAR introduced an entirely new financial concept into the mental health system- the behavioral health organization (BHO). The report contrasted the NorthSTAR program with regard to the traditional existing state model (prior to the reorganization of HHS).

The NorthSTAR model differs from the former agencies (MHMR and TCADA) in that it is an at-risk model. For the model, the state contracts with the BHO, which assumes the risk of all services. NorthSTAR is considered a "carve-out" model; mental health and substance abuse services were "carved-out" of the physical health system. The model is also integrated with respect to its combined mental health and substance abuse services. The funding for NorthSTAR uses a blended funding pool variety of sources.

The most notable program factor is that the model uses an authority-provider separation framework. Under authority-provider separation local MHMR centers or state funded mental health centers do not have both the authority and the role of primary provider of care (Wong, 3). The Behavioral Health Organization (BHO) contracted by NorthSTAR is Value Options, which includes 11 Specialty Provider Network (SPN) sites. These eleven sites are where NorthSTAR clients enroll and receive care. The state could use the existing operations of SPN sites to coordinate and operate the pending Dual-Diagnosis project.

The University of Texas NorthSTAR assessment found many advantages to the program which are applicable to the Dual Diagnosis Project. The program guarantees access for those eligible, non-Medicaid individuals who fall 200 percent under the state's poverty level. The reason why access is guaranteed is that the BHO is responsible for, "insuring an accessible provider network" (Wong, 16). NorthSTAR differs from the older MHMR and TCADA accessibility and eligibility in that it has established a uniform system (by using one BHO) and allows more flexibility for the client. Research also shows that NorthSTAR has remained cost effective since its inception in 1999. During a four-year period, the program provided \$20 million of cost savings for Medicaid (Wong, 17). The cost savings were reportedly gained from cutting the administrative costs of the program.

Among other NorthSTAR benefits of the program are that the eligible population would not be subjected to long waiting lists because the BHOs are contracted to provide services to *all* eligible clients. In the past MHMR centers received block grants and only

covered those that they could until the funds expired. Using a blended funding stream for the past six years, NorthSTAR has been able to show a coordination and continuity of care, comparable to what the state is hoping to accomplish with its consolidation of agencies (Wong, 19). Additional benefits include increased collaboration and innovation, data capabilities, and quality of care (Wong, 20). Aside from its client services, the most impressive aspect of the program is the enforced efficiency protocol it has maintained. The enforced efficiency the program has strictly limited the funds that the BHO (Value Options) contracted can spend on administrative costs—NorthSTAR emphasizes patient care above all other priorities.

Lastly, it remains to be seen whether or not the state will use the NorthSTAR operations as a foundation for dual diagnosis treatment. The independent assessment indicated areas of importance, which would need changes to transform NorthSTAR and expand it. The areas examined were financial structure, organizational structure, transitional support, and both urban and rural applicability.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

Several components were considered for the research design of the study. The four-page survey instrument used to sample two treatment populations was identical for each participant. The instrument provided participants with a summary of the study on an additional attached page of background information. Subjects were informed that the information was being collected to assess the provision of care for the female dual-diagnosis population. The subjects completed the survey instrument without using any identifiers within a ten to fifteen minute timeframe.

Population and Sample

The goal of using a sample population consisting only of females receiving substance abuse treatment (not detox) was to minimize sources of variable and systematic errors. The current examination was expected to provide insight regarding why female treatment may involve other factors (i.e., pregnancy and child-rearing). If male subjects had been included there may have been confounding and extraneous variability for the sample's overall mean responses. Some examples of the variability are that men have differences in the average duration of their substance abuse when compared to women. A male sample would likely vary for the different psychosocial areas being studied (i.e. the men would have higher rates of legal problems, etc.). By having a single-sex population sample the results were, "... sufficiently discriminating enough to detect meaningful

degrees of difference between the treatment settings,” instead of having the study narrow its scope to a differentiation between gender differences (Aday, 144).

The sampling method used a non-probability design. A purposive sample of mental health consumers were surveyed with hopes of reaching a specified quota of responses to obtain statistically significant results. The chances that any given sampling elements (individuals) chosen were not empirically predicted or determined. The sampling elements responded to the survey instrument on a voluntary basis. Thus, the final sample considered was a simple random sample.

Target population- A group of mental health consumers in the Dallas-Fort Worth area.

Sampling Elements- Adult female, English-speaking mental health consumers who are receiving care for substance abuse and a co-occurring mental disorder at specified study substance abuse treatment sites at the time they completed the survey instrument.

Non-Probability Design-The design did not include a probability sample design to obtain data.

Sampling Design-The sample was not random because the surveys were placed in group settings at designated times. The processes used to collect data were not considered random processes. The sample may be representative of the different treatment settings. For example, it could have been expected that a majority of subjects in the residential treatment setting were unemployed or may have certain characteristics that differ from the outpatient sample group. The samples examined

were to provide a representative view of the female dual-diagnosis population. A majority of subjects will have been in treatment for an average time of two weeks. The residential sample was expected to provide more consistent data results, given that the subjects were living at the treatment site. There are not many characteristics that can change the responses given by the group. The responses for the outpatient group were expected to have more variable results.

Sampling Algorithm- An algorithm was used to determine the number of sampling elements for inclusion in the total sample that would provide statistically significant results.

Several different criteria were selected, before the sampling size was determined. These were noted in Figure 2-A below.

CRITERIA USED TO DETERMINE SAMPLE SIZE	STUDY APPLICATION
Study Variables	Student researcher hopes to generate estimates of what percentage of the sample population has shown differences between the residential and outpatient treatment settings.
Types of Estimates of Study Variables	Means and valid percentages of the sample population were used as estimates for this analysis.
Population or Sub-group of interest	The entire sample consisted of subjects either in residential or outpatient treatment for substance abuse. Subjects were sampled from two different mental health/ substance abuse treatment facilities in the Dallas- Fort Worth area.
Standard Error Formula to be used	$N = 1 / 0.05 \times 0.05$

Indicated Expected Estimate (p=0.70)	Percentage or Probability of the sampling elements picking a specific answer or a group of specific answers. The worse case percentage used would be 50% (for a majority of yes/no questions). For this analysis a 70% estimate was used. The 70% estimate means that the responses of 70% of those surveyed using a Likert change may indicate a difference in attitude with regard to the mental health services received.
Tolerable Range of Error/ Confidence Interval (5% or 0.05)	A 5% confidence interval was used. Range= +/- 0.05
Desired Confidence Level (95% or 0.95)	A 95% confidence level was used.
Calculation of sample size (n=)	n= 323

Figure 2-A: Some determinants of sample size used in the analysis of dual-diagnosis treatment (Aday,118).

The desired confidence interval (5%) indicates the addition or subtraction of (+/-) five percent to the overall percentage of responses by the sampled population. For the current analysis, a 5% confidence interval was selected, and the confidence level (95%) served to verify the certainty of results obtained in the data analysis. The confidence level helps show what percentage of the sample population responded to the survey instrument with a 95% certainty level.

Sample Size Calculations

$N = \frac{Z^2 * (p) * (1-p)}{c^2}$	Z = Z value (A 1.96 value is for the (95% confidence interval) p = percentage picking a choice (0.80 as estimated for the sample) c = confidence interval (0.05= +/-0.05)
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Creative Research Systems Homepage
(Aday, Chapter 7)

Figure 3-A: Sample size calculation equation and legend box

The mean of the sample population (X) and its standard error were accounted for before the number of sampling elements was determined. The standard error was used as an estimate for the average variation in responses to the survey instrument. When a larger sampling size is used, the amount of responses having a large standard error is reduced. The study aims included obtaining a large enough sample of responders so that a normal sampling distribution would be result (Aday, Chapter 7), without a large standard error.

By using the sampling algorithm (Figure 3-A), the sample size was determined. A final number of 323 sampling elements were needed to obtain the desired results for. The determined sample size was greater than the expected feasible sample size within the scope of the study. Therefore, estimate of 323 was divided by two and a more feasible sample of 162 sampling elements needed was set as the minimum sample size. Decreasing the sample size to half of the estimated number needed for a 0.05 confidence level was expected to have an effect of increasing standard errors. Thus, it was probable that the data would have to show larger differences in order to obtain significant results.

For the analysis, data interpretation included using t-tests, which measured the differences between the means and sample sizes. As sample size decreased, the

differences between the means needed to increase to obtain significant results. The minimum sample size was also considered by assuming an expected response rate of 0.50 or fifty-percent of those available to respond to the survey. An initial plan to obtain approximately 180⁺ survey responses for the study was set prior to beginning the data collection process. The limit for the total number of enrolled subjects was set at three hundred as approved by the Institutional Review Board, in order to ensure that more data than the required minimum could be collected.

Protection of Human Participants

The background and purpose of the research study were verbally reviewed for all study participants, and they were provided with instructional information detailing how to respond to survey items. A drop off survey method was used to administer the instrument. A large number of copies of the survey were left at the residential and outpatient sites for potential subjects to complete under the guidance of the agency's counselors. Subjects placed completed survey documents in a designated on-site drop-off receptacle. The designated receptacle was locked, and remained with agency staff at the treatment sites to ensure confidentiality. In some cases the subjects were asked to mail back the instrument if necessary. Pre-addressed envelopes with paid postage were left at the recruiting sites so that participants could have the option of completing the survey instrument at a later time. The survey instrument remained locked under two locks (one door lock and another file cabinet lock) in the office of the co-investigator at all times. The survey instruments were filed in groups accordingly by date the data were collected.

Data Collection Procedures

Sample data were obtained from two different sites. One site is a residential substance abuse facility, and the other an outpatient treatment facility. Data were collected under the supervision of LCDC, licensed chemical dependency counselors at the outpatient sites. For data collection at the first outpatient site, a weekly morning group session was attended (typically having ten to fifteen attendees) with the permission of the group's LCDC counselor. Those weekly visits for the outpatient day groups were later scheduled to bi-weekly visits (twice a month) for the months of October through December. The counselors advised that the rate of patient turnover would allow newer clients to fill out the survey and prevent repeat respondents for the study. The researcher was also present at an evening outpatient group session (from 6pm-8pm) on Monday evenings with supervision provided by another LCDC at the residential site. Extra copies of the survey were given to the outpatient counselors for them to administer to new clients during the times for which study investigators were unable to meet with a group. The women filled out the survey either at the end of their group session or during their break time before the second half of the session would begin. Again, the survey instruments were collected in a designated and locked receptacle box at the end of the group sessions.

For the residential site an evening session was attended bi-weekly, Monday evenings at 8pm to collect data. Agency personnel, supervised this part of the data collection process. The investigator worked directly under the supervision of the Medical Director for the agency, and obtained permission to follow the mentioned format prior to

beginning the data collection process. The Medical Director also assisted with the investigation by administering the survey to other clients at the residential site when she met with a large (typically 40+ group) of women monthly in a large auditorium.

Instrumentation

The types of questions used for the survey instrument were taken into consideration for the analytical cross-sectional design of the study. Specific characteristics (X, Y, Z...) of the population were described, and those factors were later used to explain whether or not there were outcome data related to the study hypotheses. The survey aimed at measuring differences between treatment settings and perceptions and attitudes regarding services rendered to the sample population, as it was noted that a majority of responses were subjective (Aday, 175).

The survey instrument was separated into two parts. Part one emphasized obtaining demographic data from the sample population and included an adjusted/truncated version of the Fifth Edition Addiction Severity Index (ASI). The Addiction Severity Index is typically used to identify different “problem areas” among the patient population considered substance abusers (National Institute on Alcohol Abuse and Alcoholism Website). The Index, commonly referred to as the “*ASI*” (Addiction Severity Index), covers seven different functional psychosocial areas which may be affected by substance abuse: Medical, Employment, Drug Use, Alcohol Use, Legal, Psychosocial, and Psychological factors (Cacciola, 183). The selected questions from the Fifth Edition ASI did *not* cover all sections of the original index in depth. There are 194 items on the original Addiction Severity Index scale (a six-page assessment), and those extracted were

selected on the basis of their applicability to study hypotheses. Information from other studies using the Addiction Severity Index was reviewed (literature review, Westermeyer & Cacciola articles) to determine which questions were not applicable for inclusion on the survey instrument. The items that best summarize each of the six sections found in the Index were selected. For reference please refer to the supplemental copy of the ASI provided in the Appendix. For example an Item E5 on the original Index asks participants: "*Do you have an automobile available for use?*". Questions such as Item E5 were eliminated for use in the research study. In the interest of time efficiency, only those items providing the needed demographic information were selected. A greater emphasis placed on the medical and drug and alcohol (use) functional areas for the outlined analysis. Thus, the factors assessed were limited to the scope of the investigation.

The Addiction Severity Index (ASI) was developed in 1979 and over time has been used as a valid instrument by researchers to evaluate treatment outcomes and measures (Cacciola, 182). The instrument is currently available in the public domain. Written permission was obtained from the author of the index, A. Thomas Mc Lellan, Ph.D., the Director of the Treatment Research Institute (Copyright 1992 by Thomas Mc Lellan. Used by permission). The documentation of author permission is provided in the attached Appendix, under the Instrumentation section. Typically, an interviewer administers the Addiction Severity Index with a duration of approximately half an hour. However, to maintain the condition of non-identifiers and prevent rater bias, for this investigation the subjects responded to the questions independently. Whether or not this played a factor in the procurement of data will be further explained in this analysis. The

questions used for the first section of the instrument were all nominal based questions. The survey items were coded in a nominal manner (a numbering system established by the Addiction Severity Index) using the Addiction Severity Index Manual. The participants were asked to identify their primary/most abused substance (drug or alcohol) for which they sought treatment.

Substance abuse with regard to the survey instrument was defined as any history of drug or alcohol abuse. The function of using an adjusted version of the Addiction Severity Index (ASI) was that the subjects provided a subjective response to the instrument. According to the National Institute of Alcohol Abuse and Alcoholism (NIAA), "The Addiction Severity Index (ASI) has been used extensively for treatment planning and outcome evaluation" (NIAA, website).

The second part of the survey used a Likert scale format asking subjects to rate their attitudes and perceptions of varying aspects related to their substance abuse treatment. The questions used for the Likert scale format were modeled after a scale developed by the Texas Christian University Institute of Behavioral Research, The TCU/Client Evaluation of Self and Treatment (CEST) Survey of Program Clients (Copyright, 2002, Used by permission). The CEST was developed as a part of a NIDA (National Institute of Drug Abuse) grant. The CEST (Client Evaluation of Self and Treatment) includes over 150 survey items with responses ranging from five options between Disagree Strongly and Strongly Agree. Only eight items were selected from the CEST so that respondents participating in the study would complete the survey in a time efficient manner. On the CEST scale, each question coded into seventeen different categories of

assessment. The assessment areas fall under the main categories of Treatment Motivation, Psychological Functioning Scales, Social Functioning Scales, and Treatment Process Domains. Those items used for the study survey instrument provided the self-ratings for treatment needs, treatment satisfaction, and services rendered to the sample population. The items selected for the Likert scale format were reviewed by the site Medical Director. Noted earlier as an internal limitation for the study, a direct methodology was not applied with regard to which items were selected from the larger TCU CEST scale and transformed into the second part of the study survey. The researcher merely relied on the strengths of the Likert Scale format as a data collection measure and format. The second part of the survey was not named "Likert Scale", this term was used only in reference to the type of question format used.

The Likert scale survey items were arranged to represent an adequate continuum of attitudes. For example, the survey instrument ranged from negative attitudes, to neutral attitudes, and to positive attitudes based on the final score summaries obtained using the Likert scale. The Likert scale allows sample elements to place themselves on the attitude continuum (Hogg & Vaughn, 1995). By using a Likert scale for the questions in Part two of the survey, respondents had only a limited number of options per question. Final scores were tabulated for each participant, and used as an indicator of that person's attitude regarding their level of satisfaction with respect to services received.

Data Analysis

By only relying on data from a sample population of mental health/substance abuse treatment consumers perceptions of the existing mental health system were

examined. The quantitative data obtained using the part one of the survey instrument were analyzed using the SPSS software program. Statistics included in the SPSS analysis were the means, modes, standard deviations, and also standard errors for the population. Population means and their differences were interpreted. Hypothesis testing using different groupings/categories of the sample population was performed. Overall results for the part two of the survey instrument were expected to show the means of the sample populations in accordance to specific attitudes expressed towards the services rendered.

Independent Variables Included in the Analysis

A set of sixty-four demographic variables were included in the descriptive analysis. Among the variables examined were:

- Education (Number of years completed, type of education completed)
- Employment (Current employment status, number of dependents, number of days subject has experienced employment problems during the past month)
- Legal (Number of times subject has ever been arrested or charged, incarceration periods greater than ten days).
- Health/ Medical status (Number of lifetime hospitalizations for a physical problem, number of days during past month's time subject has experienced medical problems)
- Mental Health (Total number of times the subject was treated for psychological problems in a hospital and or an outpatient setting, type of insurance, access to a state provider within the month prior to the survey date)

The most challenging aspect of the current study resulted from defining the factors for severity. The survey included several but not all items from the Addiction Severity Index (ASI). The ASI has a very specific equation developed to determine the components for severity. The scale uses objective items for each section (please refer to ASI section of supplemental materials in the appendix) and a subjective component for which the subject rated his/her needs for counseling, etc. on a scale of need ranging from 0=No need at all, to a 4=Extreme need for help or counseling. Some of the critical objective items were included in the study survey instrument. The subjective rating component (from each respondent and the study investigator) was unattainable for the nature of this study, and a definition of severity had to be derived which would be applied to the current analysis. Several journals were reviewed to determine how best to define severity, apply the factors to both groups, and analyze data to determine whether or not the Hypothesis I would be accepted. Thus, a specific variable or even computed variable was not defined for the “severity” of addiction. Only those factors *implying* severity were described and examined.

CHAPTER IV

RESULTS

Study results were outlined by the areas of functioning (Addiction Severity Index areas of assessment) measured by the survey. Data were presented with the following format: a summary of resulting outpatient data were presented first, followed by residential data, and lastly data for the combined sample group. During the months of October, 2004 to December, 2004 a total of 239 surveys were obtained. There were 88 outpatient surveys and 151 residential surveys completed. Each section addressed how the data were recorded and entered into the SPSS program under necessary conditions (i.e. specifics for which the data were operationalized for specific survey items). Figures were prepared using Microsoft Excel and followed a uniform format for presentation. Separate SPSS output tables are provided with supplemental materials for review under the section for Descriptive Statistics found in the appendix.

Descriptive Statistics for Outpatient and Residential Sample Populations

Outpatient and Residential Sample Population Age Statistics

Figure 4-A: Age Statistics collected from the sample. A mean age of 34 years was determined.

Treatment Group	N=	Minimum Age	Maximum Age	Mean Age	Std. Deviation
Outpatient	76	18	54	34.09	8.959
Residential	136	18	54	34.06	8.68
Groups Combined	212	18	54	34.07	7.76

There were 212 respondents for the 239 surveys administered for this survey item; 27 (approximately 11% of total respondents) of the women opted not to record their age. The average age for both sample groups was 34 years of age. The minimum age for adult treatment at the treatment sites is eighteen. The higher number of completed residential surveys N= 136 yielded a matching mean age with the outpatient statistics.

Outpatient and Residential Sample Population Race Statistics

Figure 5-A: The sample population was classified under seven race categories. Reported frequencies are reported under the column heading Freq. (abbreviated for Frequency).

Outpatient				Residential				Groups Combined			
Group	Freq.	Valid %		Group	Freq.	Valid %		Group	Freq.	Valid %	
White	38	48.7	RACE	White	71	51.8	RACE	White	109	50.5	RACE
American Indian	3	3.8		American Indian	1	0.7		American Indian	4	1.9	
Asian/pacific Islander	1	1.3		Asian/Pacific Islander	0	0		Asian/Pacific Islander	1	0.5	
Hispanic-Cuban	1	1.3		Hispanic-Cuban	3	2.2		Hispanic-Cuban	4	1.8	
Black (not of Hispanic origin)	27	34.6		Black (not of Hispanic origin)	54	39.4		Black (not of Hispanic origin)	82	37.9	
Hispanic-Mexican	6	7.7		Hispanic-Mexican	6	4.4		Hispanic-Mexican	12	5.6	
Other	2	2.6		Other	2	1.5		Other	4	1.8	
Total	78	100		Total	138	100		Total	216	100	
Missing System	10			Missing System	12			Missing System	23		
Total	88			Total	150			Total	239		

Using the valid percent values obtained, the residential group was divided into 51.8% of subjects who responded "White-not of Hispanic origin", and approximately 40% of subjects were African-American. A low percentage of other minorities was obtained, as only 4.4% of subjects classified themselves as Hispanic-Mexicans and 2.2% Hispanic-

Cubans. Outpatient group values differed only slightly with fewer than fifty-percent of the subjects reporting that they were white. A notable difference between the groups was that the outpatient group had a higher percentage of women who classified themselves as American-Indians. Both groups had N=6 women reporting that they were Hispanic-Mexican; however, the outpatient group resulted in a larger percentage of 7.7% due to the smaller sample size obtained.

Medical Status of Outpatient and Residential Sample populations

Figure 6-A: Medical status of the women (# times hospitalized, last hospitalization, # of days hospitalized during the past month).

Outpatient						Residential					
Medical Concern		N=	Maximum	Mean	Standard Deviation	Medical Concern		N=	Maximum	Mean	Standard Deviation
OUTPATIENT	# of times hospitalized lifetime	84	12	1.69	2.62	RESIDENTIAL	# of times hospitalized lifetime	144	20	2.49	3.72
	Last hospitalization (months ago)	45	108	18.94	31.13		Last hospitalization (months ago)	71	276	44.67	63.02
	Days reported of Medical Problems during past month	83	30	3.39	8.01		Days reported of Medical Problems during past month	143	30	6.46	9.86

The current medical problems and status of the sample population were obtained using the survey instrument. Figures above indicate that the mean number of times hospitalized was greater for the residential respondents (N=144) to the survey item. The residential mean was 2.49 lifetime hospitalizations for medical problems. Outpatient responders (N=84) had an average of 1.69 lifetime hospitalizations. The data implied that residential treatment participants may possibly require greater medical attention showing

up to, approximately one extra lifetime hospitalization on average when compared to the outpatient group. The reported number of days for experienced medical problems during the 30 days prior to survey date were higher for the residential group. On average, the residential population experienced an average of 6.46 days of medical problems within their month surveyed; outpatient responders reported an average of only 3.39 days of medical problems within the month surveyed. The data suggested that residential subjects reported experiencing almost a week per month (6.46 days) of medical problems.

Data obtained for reports of the last hospitalization in months provided an interesting difference between the groups. The survey item (Q3) specified, "*How long ago was your hospitalization for a physical problem (days, months, or years)?*". The data were operationalized with a standard conversion system. Any response written in years was simply multiplied and converted into total months. For this survey item, when there was not a label (response from the participant) behind the numbered response it was not assumed to represent months or entered in the database. Although the residential group reported a higher number of average lifetime hospitalizations, the last or most recent hospitalization was spread over a longer timeframe than the reported mean time for the outpatient group. The residential responders indicated a mean of 44.67 months (3.72 years) since their last hospitalization, and the outpatient group had a much shorter meantime of 18.94 months (1.55 years). The amount of time since last hospitalization for the residential group was more than twice that of the outpatient group.

Medical Status for Combined Sample Populations

Figure 6-A₂: Combined medical status data shows a deviation towards residential sample outcomes.

	Medical Concern	N=	Maximum	Mean	Standard Deviation
Groups Combined	# of times hospitalized lifetime	231	20	2.19	3.357
	Last hospitalization (months ago)	116	276	34.69	54.287
	Days reported of Medical Problems during past month	229	30	5.39	9.418

The combined data showed a mean that deviated more towards the residential data. This is explicable by almost a 2:1 ratio of responses for the total sample, given that approximately twice as many residential subjects responded to the survey. The medical status data obtained for the study were divided into a retrospective portion as shown in Figures 6-A and Figure 6-A₂. The data below (Figure 7-A) provided a more current “snapshot” of the women’s’ responses to questions regarding their physical health during the past 30 days prior to completion of the survey.

Current medical problems reported for Outpatient and Residential Sample Populations

Figure 7-A: Valid percentage of those women who reported experiencing current medical problems at the time the survey was administered.

OUTPATIENT GROUP			RESIDENTIAL GROUP			GROUPS COMBINED		
N=	Frequency	Valid Percent	N=	Frequency	Valid Percent	N=	Frequency	Valid Percent
Yes	16	18.2	Yes	52	35.1	Yes	68	28.5
No	72	81.8	No	96	64.9	No	171	71.5
Total	88	100	Total	148	100	Total	239	100

As noted in Figure 7-A, 35% of residential women reported current medical problems. The responses for current medical problems varied from a range of illnesses

and diagnoses, and were coded as medical and health related conditions which had been written by the subjects (i.e., the subject wrote out which specific problems were being experienced). This variable was also operationalized. The survey item did not provide respondents with a yes/no option to respond. Thus, the answer portion of the survey was left open-ended, and subjects simply wrote in their answers. If the subjects did not write anything in as a response the answer was coded as a "No" for the database. "Yes" responses were counted as any medical related response written onto the survey. The residential subjects who reported health problems (N=52) accounted for 35.1% of that group. The significance of the reported frequencies translated into almost four of every ten women had responded that they were experiencing *current* medical problems. Surprisingly, the outpatient group did not have a comparable rate of current medical problems reported as only (N=16) 18.2% of the sample reported medical problems. The residential frequency for reporting current medical problems was also higher than the reported 28.5% for the groups combined.

Employment/Education Status of Outpatient and Residential Sample Populations

Figure 8-A: The education and employment status for the sample populations are noted above as the number of years completed, days of employment problems (including those days employment was sought), and the number of dependents.

		N=	Minimum	Maximum	Mean	Std. Deviation
Outpatient Group	Education Completed in Years	75	4	18	11.73	2.29
	Days Experiencing Employment Problems (past 30 days)	86	0	30	10.92	13.55
	# of dependents	86	0	6	1.55	1.44
		N=	Minimum	Maximum	Mean	Std. Deviation
Residential Group	Education Completed in Years	133	0	18	11.41	2.08
	Days Experiencing Employment Problems (past 30 days)	140	0	30	10.46	13.43
	# of dependents	146	0	5	1.12	1.31
		N=	Minimum	Maximum	Mean	Std. Deviation
Groups Combined	Education Completed in Years	211	0	18	11.52	2.15
	Days Experiencing Employment Problems (past 30 days)	228	0	30	10.68	13.47
	# of dependents	234	0	6	1.28	1.37

Means reported for the number of education in years for both sample groups were close in value. The residential responders (N=133) and the outpatient responders (N=75) reported averages of 11.73 and 11.41 years of education completed. For both groups it may be assumed that the women were either close to being high school graduates, high school dropouts, GED completers, or actually earned high school diploma. If the outpatient sample had been larger it is unknown whether the mean education in years would have shifted to a higher or lower value.

The days of employment problems experienced by both groups were close in value. The range of responses for this survey item was [0, 30] in days reported. Participants were asked to write the number of days of the past thirty they had experienced employment problems. Employment problems were defined as either having problems with current employment/job positions if any, or days for which subjects had sought employment. Many subjects from both groups responded with either a zero or a thirty. The data were an indicator for the women's need of greater employment resources and counseling, as well as a loss of productivity due to unemployment. The means for both groups were between ten and eleven days (10.92, 10.46) of employment problems experienced within the month surveyed.

An item related to employment and education was the number of dependents reported. A dependent (i.e., child) was counted as a person who depended on the women in treatment for food or shelter. The mean number of dependents for the outpatient group was 1.55 and for the residential group it was 1.12. This survey item perhaps led to some problems for survey respondents with regard to understanding the definition for

“dependents”, which is discussed later in Chapter 5. When reviewing some of the completed surveys it was noted that several of the women responded “1- myself” and counted themselves as a dependent. Those responses were not entered into the database.

Type of Education Completed by Outpatient, Residential, and Combined Sample Populations

Figure 9-A: Types of education completed by the participants, as classified under 7 types of education. Frequencies reported are under the column heading “Freq.”.

Outpatient Group				Residential Group				Groups Combined			
	Freq.	Valid %			Freq.	Valid %			Freq.	Valid %	
TYPE OF EDUCATION COMPLETED	High School Diploma	14	17.1	TYPE OF EDUCATION COMPLETED	High School Diploma	34	25.0	TYPE OF EDUCATION COMPLETED	High School Diploma	47	22.2
	Some High School	20	24.4		Some High School	27	19.9		Some High School	47	21.7
	GED	18	22.0		GED	28	20.6		GED	46	21.3
	Undergraduate degree	5	6.1		Undergraduate degree	3	2.2		Undergraduate degree	8	3.6
	Some College	17	20.7		Some College	34	25.0		Some College	51	23.1
	Post-graduate, master's, Ph.D.	1	1.2		Post-graduate, master's, Ph.D.	1	0.7		Post-graduate, master's, Ph.D.	2	0.9
	Training/ Technical Education	7	8.5		Training/ Technical Education	9	6.6		Training/ Technical Education	16	7.2
	Total	82	100.0		Total	136	100.0		Total	218	100.0

The notable difference amongst levels of education completed was that the residential group had a larger percentage reporting that they had completed high school. Given that the residential number of respondents was almost twice that of outpatient

participants, the values obtained were still a close estimate of average education levels for the entire sample. Surprisingly, there was a less than ten-percent value of the sample population who had further training or technical education. The data obtained also indicated that the highest percentage for the combined samples showed 23.1% of the women had attended some college.

Drug and Alcohol Use Status of Outpatient and Residential Sample Populations

For the residential and outpatient groups there were the “big three” substances which accounted for a majority of the women’s reports for their primary drug, cocaine, amphetamines and alcohol. Figure 10-A below summarizes the most abused drugs for both groups.

Ranking of most abused drugs for Outpatient and Residential Sample Populations

Figure 10-A: Ranking of the most abused substances among both sample groups.
The residential population reported more variable use, as well as over half the women classified cocaine as their primary substance.

Ranking of most abused substances	OUTPATIENT	RESIDENTIAL
1	Cocaine 40.7%	Cocaine 50.0%
2	Amphetamines 22.2%	Amphetamines 18.8%
3	Marijuana 18.5%	Marijuana and other opiates tied at 5.6% reported for each

Both sample groups reported cocaine as the most abused drug, with the prevalence for amphetamines as a primary drug to follow in second place. The groups differed with their reports for marijuana and alcohol as abused drugs. Among the outpatient women 18.5% reported marijuana as the third most abused drug, whereas marijuana was among the options for the third most abused drug for the residential group (5.6%). The residential group had another drug class tied with marijuana as the third most

abused drug. An equal amount of the residential women (5.6%) had reported the classification of “Other Opiates” as the third most abused drug. The class for “Other opiates” included substances and pain medications such as Lortab, morphine, codeine, Demerol, Percocet, Darvon and Fentanyl. The outpatient group did not have a large amount of the women reporting the abuse of “Other opiates” as only 1.2% reported the opiates as their most abused drug. The residential group had a broader range of drugs/substances abused and also more reported use within 30 days of the survey. The reports for marijuana as the third and fourth most abused drug by the sample groups was surprising as a lot of the women reported marijuana use with either of the three most abused drugs. For example, when the mean marijuana use in the past 30 days at the time surveyed was reviewed, marijuana use reported was at higher or comparable rates with amphetamine use during the past 30 days.

Figures 11-A through 13-A serve to illustrate the breadth of data collected. The following figures each provide a detailed view of substance use reported in lifetime years and past 30 days by study respondents. A brief listing of general findings for the residential, outpatient, and combined groups was summarized below. Please refer to Figures 11-A to 13-A to confirm the findings.

Substance Use for the Outpatient Sample Population (Figure 11-A)

- The largest number of responses (N=54) was reported for the variable alcohol use as reported in number of years. More of the outpatient women reported their alcohol use. The number of responses was followed by N=50 reporting marijuana use, N=47 reporting cocaine use, and N=29 reporting amphetamine use.

- For the average number of days of substance use within the month surveyed, the highest value reported was for recent cocaine use on average of 13.44 days. The cocaine use was followed by 11.00 days average reported for marijuana use, almost 8.80 for alcohol use, and 8.60 for amphetamine use.
- More outpatient women reported longer periods of alcohol use lifetime; however, with regard to recent use cocaine was reported as the most abused drug.

Substance Use for the Outpatient Sample Population Reported by Class

Figure 11-A: A summary of all substance use reported by the Outpatient sample population

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
etoh in past 30 days	17	1	30	8.88	9.453
etohyr	54	1	40	14.72	10.217
etoh intoxication 30days	4	1	8	4.50	3.512
etoh intoxication yr	26	2	20	10.73	5.703
heroin in past 30 days	0				
heroin use in years	5	1	6	3.80	2.588
methadone used in past 30 days	0				
methadone use # of years	5	1	25	7.00	10.173
opiate use in past 30	0				
opiate use in years	12	1	6	3.92	1.564
barbituate use in past 30 days	1	1	1	1.00	
barbituate use in years	17	1	20	6.71	5.720
cocaine use in 30 days	9	1	30	13.44	11.159
cocaine use in years	47	1	39	8.49	7.256
amphetamine 30 days	5	2	20	8.60	7.470
amphetamine use in years	29	1	20	7.72	5.970
thc use in past 30 days	6	1	30	11.00	11.730
thc use in years	50	1	122	14.16	18.220
hallucinogens used in past 30 days	0				
hallucinogen use in years	16	1	12	4.31	3.554
sedatives used in past 30 days	1	2	2	2.00	
sedative use in years	17	1	18	5.41	5.100
inhalants used in past 30	2	2	2	2.00	.000
inhalants used in years	6	1	8	3.83	3.061
non-prescription drugs in past 30	5	1	30	17.20	12.716
non-prescription in years	17	2	39	10.35	10.216
Valid N (listwise)	0				

Substance Use for the Residential Sample Population Reported by Class

Figure 12-A: A summary of all use as reported by the Residential sample population.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
etoh in past 30 days	63	1	30	11.14	9.191
etohyr	89	1	40	14.17	8.891
etoh intoxication 30days	30	1	25	9.57	6.760
etoh intoxication yr	52	0	26	9.13	6.630
heroin in past 30 days	6	2	30	10.33	10.690
heroin use in years	16	1	17	4.56	5.202
methadone used in past 30 days	5	1	28	15.40	11.971
methadone use # of years	10	1	10	2.90	3.071
opiate use in past 30	14	1	30	11.57	8.555
opiate use in years	22	1	30	6.73	7.459
barbituate use in past 30 days	13	2	30	13.23	9.765
barbituate use in years	32	1	30	6.94	6.947
cocaine use in 30 days	71	1	30	13.42	10.782
cocaine use in years	94	1	37	9.17	8.129
amphetamine 30 days	34	1	30	13.06	8.718
amphetamine use in years	48	1	31	7.04	6.675
thc use in past 30 days	61	1	30	11.26	9.640
thc use in years	86	1	32	10.87	8.270
hallucinogens used in past 30 days	3	2	14	8.67	6.110
hallucinogen use in years	22	1	11	3.86	2.965
sedatives used in past 30 days	11	3	30	13.09	11.131
sedative use in years	26	1	20	6.15	5.794
inhalants used in past 30	1	30	30	30.00	.
inhalants used in years	9	1	11	3.67	3.937
non-prescription drugs in past 30	19	4	30	11.00	8.360
non-prescription in years	29	1	30	8.69	8.632
Valid N (listwise)	0				

Substance Use for the Residential Sample Population (Figure 12-A):

- The largest number of responses (N=94) were reported for cocaine use as the number of years abused variable. More residential women reported cocaine use when compared to reports for the other substances. That number of responses was followed by N=89 for alcohol use in years, N=86 reporting marijuana use, and N=48 reporting amphetamine use. The report of amphetamine use was lower than expected as it was ranked second as the most abused drug for both the residential and outpatient samples.
- For the average number of days of substance use within the month surveyed, the highest value reported was for recent cocaine use on average of 13.42 days. The cocaine use was followed by an average 13.06 days of reported amphetamine use, 11.26 days of marijuana use and lastly 11.14 days of alcohol use reported by the residential group.
- More outpatient women reported longer periods of cocaine use lifetime which also matched those of recent use indicating cocaine as the most abused drug.
- The main difference between the group reports was that the residential women reported longer periods of cocaine abuse in years; however, the groups shared about the same average (13.42, 13.44) of days for recent cocaine use.

Outpatient and Residential Samples Combined Substance Use Reported By Class

Figure 13-A: A summary of total use for the sample population of 239 respondents.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
etoh in past 30 days	80	1	30	10.66	9.234
etohyr	145	1	40	14.34	9.377
etoh intoxication 30days	34	1	25	8.97	6.635
etoh intoxication yr	78	0	26	9.67	6.344
heroin in past 30 days	6	2	30	10.33	10.690
heroin use in years	21	1	17	4.38	4.663
methadone used in past 30 days	5	1	28	15.40	11.971
methadone use # of years	15	1	25	4.27	6.296
opiate use in past 30	14	1	30	11.57	8.555
opiate use in years	34	1	30	5.74	6.171
barbituate use in past 30 days	14	1	30	12.36	9.935
barbituate use in years	49	1	30	6.86	6.487
cocaine use in 30 days	80	1	30	13.43	10.752
cocaine use in years	142	1	39	8.89	7.830
amphetamine 30 days	39	1	30	12.49	8.611
amphetamine use in years	77	1	31	7.30	6.387
thc use in past 30 days	67	1	30	11.24	9.742
thc use in years	136	1	122	12.08	12.888
hallucinogens used in past 30 days	3	2	14	8.67	6.110
hallucinogen use in years	38	1	12	4.05	3.187
sedatives used in past 30 days	13	1	30	11.31	11.056
sedative use in years	43	1	20	5.86	5.480
inhalants used in past 30	3	2	30	11.33	16.166
inhalants used in years	15	1	11	3.73	3.494
non-prescription drugs in past 30	24	1	30	12.29	9.457
non-prescription in years	46	1	39	9.30	9.172
Valid N (listwise)	0				

Combined Sample Substance Use Figure (13-A):

- For the entire sample of 239 respondents the highest number of women (N=145) reported alcohol use. Cocaine use in years also had a large response as N=142

responded, N=136 reported marijuana use in lifetime years, and a low response rate of N=77 participants opted to report amphetamine use.

- For the years of lifetime substance abuse reported by the entire sample, values ranged from a minimum of 3.73 years (inhalants used) to a high of 14.34 years (alcohol use).

Legal Status of Outpatient and Residential Sample Populations

Number of lifetime arrests and charges

Number of Times Arrested and Charged (lifetime)	OUTPATIENT GROUP				Number of Times Arrested and Charged (lifetime)	RESIDENTIAL GROUP			
	N=	Maximum Range	Mean	Std. Deviation		N=	Maximum Range	Mean	Std. Deviation
	84	15	2.49	2.95		141	20	2.63	3.09

Figure 14-A

Number of Times Arrested and Charged (lifetime)	GROUPS COMBINED			
	N=	Maximum Range	Mean	Std. Deviation
	227	20	2.56	3.03

Figure 14-A₂: Legal Status of Combined Sample Populations

Figures 14-A & 14-A₂: Number of lifetime arrests and charges for sample population.

Population means indicate a mean between 2.49 and 2.63 arrests and charges for sample population. This implies that a majority of the women surveyed had a previous history of two legal charges.

Only two survey items (two of the sixty four variables analyzed) addressed the legal status of the study participants. The first item asked about the number of times the subject had been both arrested and charged with a legal violation during their lifetime. As seen for both the outpatient and residential groups, the mean was

between two and three lifetime arrests and charges. The answers ranged from [0,15] for the outpatient group and [0,20] lifetime arrests and charges for the residential group. The range for the residential group was higher, having some respondents who reported up to 20 lifetime arrests and charges.

Legal Status for Outpatient and Residential Sample Populations: Incarcerations longer than 10 days

Figure 15-A: Incarcerations longer than 10 days as reported by outpatient and residential groups.

OUTPATIENT GROUP			RESIDENTIAL GROUP		
	Frequency (N=)	Valid Percent		Frequency (N=)	Valid Percent
Reported Yes	36	42.4	Reported Yes	70	50.4
Reported No	49	57.6	Reported No	69	49.6
Total	85	100	Total	139	100
Missing Responses	3		Missing Responses	9	
Total Possible Responses	88		Total Possible Responses	148	

Figure 15-A₂: Percentage of sample population with incarcerations greater than 10 days.

GROUPS COMBINED		
Incarcerations longer than 10 days	Frequency (N=)	Valid Percent
Reported Yes	107	47.1
Reported No	120	52.5
Total	227	100
Missing Responses	12	
Total Possible Responses	239	

The second legal survey item addressed the number of incarcerations that lasted longer than ten days for the sample groups. Approximately 50.5% of the residential

group responded that they had incarcerations greater than ten-day periods, this percentage being 8 percentage points higher than the outpatient response rate. The percentage of incarcerations reported by residential participants was also higher than the 47.1% rate for the combined pool of respondents. The legal survey items had a relatively high rate of response as only 12 of the 239 responders left these items blank. To summarize, the residential group had higher rates of lifetime arrests and charges as well as incarcerations with periods of at least ten days.

Mental Health Status of Outpatient and Residential Sample Populations

Figure 16-A: The mental health status of the population was assessed with regard to the # of times treated, hospitalized, and times in outpatient care.

		N=	Minimum	Maximum	Mean	Std. Deviation
Outpatient Group	# of total times treated for psychological problems	82	0	40	2.00	4.635
	# of times hospitalized for psychological problems	85	0	6	0.47	1.053
	# of times treated for psychological problems (outpatient)	85	0	40	1.35	4.498
		N=	Minimum	Maximum	Mean	Std. Deviation
Residential Group	# of total times treated for psychological problems	135	0	20	2.12	3.379
	# of times hospitalized for psychological problems	139	0	23	1.07	2.691
	# of times treated for psychological problems (outpatient)	138	0	20	1.14	2.725
		N=	Minimum	Maximum	Mean	Std. Deviation
Groups Combined	# of total times treated for psychological problems	220	0	40	2.06	3.868
	# of times hospitalized for psychological problems	226	0	23	0.85	2.225
	# of times treated for psychological problems (outpatient)	226	0	40	1.22	3.478

Figure 16-A of descriptive mental health data indicates that the residential and outpatient groups had almost the same level of severity with regard to the number of times treated for psychological problems during their lifetime. The mean for the groups as well as the combined samples were very close only ranging from 2.0 times for the outpatient group to a 2.1 mean times for the sample of residential women. The most notable difference in resulting data was the mean number of times the women reported having been hospitalized for a psychological problem. The survey item (Question 18 on the survey found in the Instrumentation section of the appendix) stressed the hospitalization factor by underlining the word hospital in the survey question. The mean for the outpatient group was 0.47 lifetime hospitalizations (N=85) for respondents, whereas the residential group reported an average of 1.07 times (N=139). This difference served to confirm the levels of severity pertaining to mental health treatment among the groups. The mean number of hospitalizations for the residential group was slightly more than twice the rate reported by the outpatients (0.47 v. 1.07). The mean reported residential participant had been hospitalized was 2.27 times that for each outpatient hospitalization. These rates were lower than expected especially with the reported mean age (34) for the participants.

Another important aspect of the data obtained was found in reports for the mean amount of times treated in an outpatient setting. The outpatient mean was slightly greater at 1.35 times treated than those obtained for the residential and the combined samples. The reported outpatient mean may have been greater because that the respondents may have counted their current treatment for the survey (i.e., meaning that if it was their first

time in outpatient care they placed a one on the survey instead of a zero for prior outpatient treatments). Survey items (Q17-19) had some limitations with the regard to the information that needed to be obtained was stated. Given that the participants were already on the third page of the survey, a majority of them may not have been as detailed with their responses to these items.

Accessing a state provider within the past 30 days for the Outpatient and Residential Sample Populations

Figure 17-A: Approximately 70-75% of the survey respondents reported not having accessed a state provider.

OUTPATIENT GROUP			RESIDENTIAL GROUP			GROUPS COMBINED		
N=	Frequency	Valid Percent	N=	Frequency	Valid Percent	N=	Frequency	Valid Percent
Yes	24	29.3	Yes	34	24.8	Yes	59	26.6
No	58	70.7	No	103	75.2	No	163	73.4
Total	82	100	Total	137	100	Total	222	100
Missing (N=)	6		Missing (N=)	11		Missing (N=)	17	
Total	88		Total	148		Total	239	

The frequency of reported women accessing care within the month of when they were surveyed was similar for both sample groups, with a difference of about five percent amongst the women who accessed care. Approximately 70.7% to 75.2% of the outpatient and residential groups respectively reported not having tried to access a state provider. The survey item may have confused respondents as a large proportion of the women reported (refer to figures in following section) being currently enrolled in the NorthSTAR program while receiving care at the treatment sites. The data obtained from the survey item conflicted with the insurance options shown in Figures 18-A to 18-A₃. It is important to note that despite the ~30% of the women who had accessed a state provider,

a large part of those who did not access care may not have needed to at the time surveyed.

Type of insurance option for the Outpatient and Residential Sample Populations

Figures 18-A – 18-A₃: Data indicating what percentage of women had insurance coverage.
Approximately half of the women were enrolled in NorthSTAR.

OUTPATIENT GROUP		
Type of Insurance Option	Frequency (N=)	Valid Percent
Uninsured	22	25.9
Medicaid	13	15.3
Enrolled in Medicare	1	1.2
Enrolled in NorthSTAR	42	49.4
Private Insurance	2	2.4
In the process of completing an option above	5	5.9
Total	85	100
Missing (N=)	3	
Total reported	88	

Figure 18-A

RESIDENTIAL GROUP		
Type of Insurance Option	Frequency (N=)	Valid Percent
Uninsured	38	27.1
Medicaid	27	19.3
Enrolled in Medicare	3	2.1
Enrolled in NorthSTAR	66	47.1
Private Insurance	3	2.1
In the process of completing an option above	3	2.1
Total	140	100
Missing (N=)	8	
Total reported	148	

Figure 18-A₂

GROUPS COMBINED		
Type of Insurance Option	Frequency (N=)	Valid Percent
Uninsured	60	26.4
Medicaid	40	17.6
Enrolled in Medicare	4	1.8
Enrolled in NorthSTAR	110	48.5
Private Insurance	5	2.2
In the process of completing an	8	3.5

option above		
Total	227	100
Missing (N=)	12	
Total reported	239	

Figure 18-A₃

Survey items addressing the type of insurance option were of great interest for describing accessibility to care for the population examined. Of the 227 women surveyed, over half reported being enrolled in either NorthSTAR or Medicaid. The data were similar for both the outpatient and residential groups as there was less than a two percent difference in NorthSTAR enrollees for the groups. The data also serves to show that NorthSTAR is an effective program for the state. Hypothetically, if the women who reported being in NorthSTAR (~ 50%) were not in the program, we are left to consider what percentage would be uninsured. NorthSTAR has served as a safety net for the state and served clients efficiently during its pilot phase.

T-Test results for all variables

Independent sample t-tests were performed for *all* variables in the database to test for a significant difference in the equality of means for both treatment groups. In addition to the descriptive analysis it was important to carry the overall analysis further by determining significant differences amongst the groups. The t-tests in combination with descriptive data results were combined to determine the level of severity for the different psychosocial areas assessed. The t-tests also helped finalize the notion of both groups sharing more similarities than differences.

Summary of significant t-test results Residential and Outpatient Sample Populations

Only eight significant differences resulted for this analysis, which included one approaching trend towards significance. The significant findings presented in Figure 19-A, are the only statistically significant differences between both treatment populations and their respective settings.

Significant t-test results for Outpatient and Residential Sample Populations

Figure 19-A: Summary of 7 significant means for both the residential/outpatient groups. It is important to note that significant differences between means for the groups resulted from high rates of response in both groups (noted in N column).

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	% Confidence Interval of the Difference	
									Lower	Upper
# of times hospitalized	Equal variances assumed	3.855	.051	-1.742	226	.083	-.803	.461	-1.710	.105
	Equal variances not assumed			-1.904	217.888	.058	-.803	.421	-1.633	.028
days of medical problem	Equal variances assumed	10.367	.001	-2.416	224	.016	-3.076	1.273	-5.585	-.567
	Equal variances not assumed			-2.552	200.171	.011	-3.076	1.205	-5.453	-.699
Dependents	Equal variances assumed	2.627	.106	2.329	230	.021	.430	.185	.066	.794
	Equal variances not assumed			2.269	164.177	.025	.430	.190	.056	.804
etoh in past 30 days	Equal variances assumed	.118	.732	-.895	78	.374	-2.261	2.527	-7.291	2.770
	Equal variances not assumed			-.880	24.788	.387	-2.261	2.569	-7.553	3.032
# of times outpatient drugs	Equal variances assumed	4.875	.028	2.476	189	.014	1.410	.570	.287	2.534
	Equal variances not assumed			2.147	84.547	.035	1.410	.657	.104	2.717
# of days in residential nexus	Equal variances assumed	4.601	.033	2.500	185	.013	8.735	3.493	1.842	15.627
	Equal variances not assumed			1.955	55.909	.056	8.735	4.468	-.217	17.686
# of times hosp. for injury	Equal variances assumed	9.370	.002	-1.969	222	.050	-.601	.305	-1.203	.001
	Equal variances not assumed			-2.356	195.631	.019	-.601	.255	-1.105	-.098

Group Statistics

	treatment site	N	Mean	Std. Deviation	Std. Error Mean
# of times hospitalized	Outpatient	84	1.69	2.620	.286
	residential	144	2.49	3.715	.310
days of medical problems	Outpatient	83	3.39	8.012	.879
	residential	143	6.46	9.858	.824
Dependents	Outpatient	86	1.55	1.444	.156
	residential	146	1.12	1.305	.108
etoh in past 30 days	Outpatient	17	8.88	9.453	2.293
	residential	63	11.14	9.191	1.158
# of times outpatient for drugs	Outpatient	81	2.07	5.830	.648
	residential	110	.66	1.144	.109
# of days in residential at nexus	Outpatient	46	22.52	28.673	4.228
	residential	141	13.79	17.178	1.447
# of times hosp. for psych	Outpatient	85	.47	1.053	.114
	residential	139	1.07	2.691	.228

Figure 19-A₂: The independent samples t-test results as noted with significance levels < 0.05

For the medical category variables there was a $p=0.083$ value for the total number of times hospitalized for the sample groups. The p -value was not significant; however, the trend indicated that the average number of times the residential sample participants were hospitalized may differ from the outpatient group. These findings were discussed earlier in the descriptive analysis above. Both sets of mean values for the last hospitalization in months as well as the days of medical problems reported by the groups showed significant differences. These p -values were similar in value as the last hospitalization in months had a p -value of $**0.012$ with the residential group having a mean of 44.67 months compared to the outpatient group of 18.994 months. The days of medical problems reported also showed a significant p -value of $**p=0.016$ indicating that the residential group not only reported a much higher average of medical problems, but that the difference is significant.

Only one of the education/employment variables tested, provided significant results. The number of dependents variable resulted in a significant $p=**0.021$ value. Although the difference in means for the groups was only 0.43 with the residential group reported a lower mean of 1.12 dependents. The significance for t-test findings mentioned thus far was that the outpatients have more dependents (meaning children) and may have higher quality of health status.

Only one significant p-value was found for the groups among the twenty-two drug and alcohol use variables tested. This finding may have resulted because of the survey design and difficulties faced by respondents when completing the table on the second page of the survey instrument. The only significant finding was for the variable that examined alcohol intoxication within the thirty days surveyed. A p-value of $*p=0.053$ was obtained. This value confirms the difference for group means; the residential women reported a significant difference in how much alcohol they had consumed prior to or during treatment. However, this finding was weakened by the number of outpatient respondents ($N=4$).

The remaining significant differences of means resulted from an analysis mental health and treatment variables. The number of times the sample groups had received outpatient treatment for drug abuse was statistically significant. A p-value of $*0.028$ was obtained for the variable, meaning a higher mean for the outpatient group of 2.07 times when compared to the residential group of 0.66 was significant. This data result was easily interpretable. The outpatient group may have a reported higher rate of outpatient treatment because they sought more treatment options than those in residential treatment.

T-Tests performed to determine differences in racial groups for participants

Lastly, independent sample t-tests were performed to see if there were differences between the primary and secondary race groups in the study. T-tests were performed for several variables to determine whether or not the white study participants differed in their responses with African-American participants.

Figure 20-A: The group statistics summarizing the means for some of the significant t-tests obtained from an analysis of racial differences in response to survey instrument.

Group Statistics					
	race	N	Mean	Std. Deviation	Std. Error Mean
# of times hospitalized	white	106	2.46	3.356	.326
	black (not of hispanic origin)	79	1.78	3.120	.351
Education Completed in years	white	95	11.60	2.002	.205
	black (not of hispanic origin)	74	11.26	2.318	.269
cocaine use in 30 days	white	32	11.94	9.929	1.755
	black (not of hispanic origin)	39	15.38	11.417	1.828
cocaine use in years	white	60	7.00	6.222	.803
	black (not of hispanic origin)	53	11.53	9.256	1.271
amphetamine 30 days	white	26	14.96	9.040	1.773
	black (not of hispanic origin)	5	6.20	4.604	2.059
amphetamine use in years	white	51	7.69	6.547	.917
	black (not of hispanic origin)	9	6.33	7.348	2.449
# of times treated for psych. prob.	white	96	2.78	5.054	.516
	black (not of hispanic origin)	78	1.36	2.730	.309

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
# of times hospitalized	Equal variances assumed	1.063	.304	1.399	183	.163	.677	.484	-.278	1.633
	Equal variances not assumed			1.414	174.251	.159	.677	.479	-.268	1.623
Education Completed in years	Equal variances assumed	.010	.919	1.032	167	.304	.343	.333	-.314	1.000
	Equal variances not assumed			1.013	144.592	.313	.343	.339	-.326	1.013
cocaine use in 30 days	Equal variances assumed	2.149	.147	-1.341	69	.184	-3.447	2.570	-8.574	1.679
	Equal variances not assumed			-1.360	68.744	.178	-3.447	2.534	-8.503	1.609
cocaine use in years	Equal variances assumed	11.095	.001	-3.083	111	.003	-4.528	1.469	-7.439	-1.618
	Equal variances not assumed			-3.011	89.260	.003	-4.528	1.504	-7.516	-1.540
amphetamine 30 days	Equal variances assumed	2.521	.123	2.095	29	.045	8.762	4.183	.207	17.316
	Equal variances not assumed			3.225	11.148	.008	8.762	2.717	2.791	14.732
amphetamine use in years	Equal variances assumed	.735	.395	.562	58	.577	1.353	2.409	-3.469	6.175
	Equal variances not assumed			.517	10.365	.616	1.353	2.615	-4.447	7.153
# of times treated for psych. prob.	Equal variances assumed	3.374	.068	2.234	172	.027	1.422	.637	.166	2.679
	Equal variances not assumed			2.365	151.402	.019	1.422	.601	.234	2.610

Figure 20-A₂: Significant p-values obtained from an analysis of race and the difference in means reported are shown above.

The race groups did not show a difference for their total number of lifetime hospitalizations as well as their average education completed in years. More information was sought about the primary and/or most abused drugs reported by the entire sample population. Findings for the top two drugs, cocaine and amphetamines yielded significant results. For cocaine use in years, the p-value obtained was $p=**0.003$, and the African-American population had a difference of means, which was significant. The African-American population had a higher mean of 11.53 when compared to the white mean of 7.00 years reported for lifetime cocaine use. The p-value of 0.008 was obtained for the groups showing that the white women had reported a strong difference of higher rates for amphetamine use (14.96 mean days compared to a 6.20 days use mean for the African-

American population). The difference was further amplified given that only five African-American women from the total sample group (N= 239) reported amphetamine use. Both findings for the mean differences of drug use for the race groups were remarkably significant as ** $p < 0.01$ for the t-tests performed. The last finding for the reported number of times treated for a psychological or emotional problems lifetime showed that the white population had a higher and more significant mean of 2.78 times of treated when compared to a 1.36 mean reported for the African-American population. This finding could potentially be addressed in further studies regarding access to mental health care and health disparities among minority populations.

Key Findings: A Summary of Descriptive Results Applying to Hypothesis I

The results for Hypothesis I were challenging to generalize from the large amount of descriptive data available. Key descriptive findings were used to determine to what extent the residential population had reported increased functional impairment. Accordingly, these were reviewed below.

There were four key medical status findings. The first being, the residential group needed approximately one more additional lifetime hospitalization when compared to the outpatient group. A greater number of days for medical problems were also reported in the residential sample. The amount of time since last hospitalization for the residential group was also more than twice that for outpatients. The fourth finding indicated that only 18.5% of outpatient women (~2 for every ten) compared to 35.1% of residential women (~4 for every ten) reported current medical problems. Three of the four medical

status descriptive findings for indicated that the residential group reported more medical concerns.

Overall the findings for employment and education status were neutral with regard to implying higher or lower level of severity/impairment reported by the residential women. The samples matched closely in reports for number of years of education completed. The data for days of employment problems experienced also had close means ranging from ten to eleven days. The third finding regarding number of dependents was close in range for the groups as well. The last variable examined, type of education completed, actually showed results indicating that the residential population had higher levels of education. Thus, the education/employment status survey items yielded neutral responses, and the residential population did not appear to have any higher or greater level of severity when compared to the outpatient women.

The legal components for assessed psychosocial functioning yielded one of two findings indicating more severity for the residential population. The first item, lifetime arrests and charges, provided means for the groups that were 0.13 apart in value. The second survey item addressed incarcerations longer than ten-day periods and showed that over 50 % of the residential population had been incarcerated longer than only the 42.4% reported by the outpatient sample. This finding does not show a strong difference between the groups; however, it may be seen as a greater indicator for severity for the residential women.

There were three key descriptive findings for the mental health status for both groups. The first finding resulted in both populations with a range of 0.12 separating the

mean of two lifetime treatments for psychological findings. The second finding resulted in much higher rates of hospitalizations for the residential group when compared to the outpatient group (0.47 v. 1.07). A third finding addressed the mean number of times treated in an outpatient setting, and the residential average was lower than the outpatient average response. Thus, for only one of three mental health variables was there a possible indication that the residential population was more impaired with regard to number of lifetime mental health hospitalizations.

In review of the key findings only the area that assessed medical status provided findings in favor of the notion that the residential population had more severity. The employment/education assessments were for the most part neutral, and the legal component only added one finding in support of the hypothesis. The mental health items also only provided one finding corroborating Hypothesis I. Based on the results of descriptive data alone, it was decided to conduct further data analysis before deciding to accept or reject the hypothesis.

A two-pronged effort was made to determine whether or not the residential group had reported more “severity”. Aside from using only descriptive analyses to describe different “severity”, a determination of correlational relationships was sought.

Correlational analyses were performed for each variable using SPSS software.

Correlational Analyses

The resulting data provided over forty pages of additional statistics to review. Selected correlations which helped substantiate Hypothesis I are presented in the current analysis. The correlations most noted were those indicating whether or not there was a

positive relationship between drug use as reported in years and the number of times treated in either residential or outpatient settings. The “top three” drug classes were examined for the correlational analysis below. The drug use in years was first correlated to residential treatment settings and later with outpatient settings.

Figure 21-A: Correlation between cocaine use in years and number of times in residential treatment.

Correlations			
		cocaine use in years	# of times residential for drugs
cocaine use in years	Pearson Correlation	1	.282**
	Sig. (2-tailed)	.	.001
	N	142	136
# of times residential for drugs	Pearson Correlation	.282**	1
	Sig. (2-tailed)	.001	.
	N	136	220

** Correlation is significant at the 0.01 level (2-tailed).

The correlation between cocaine use in years and number of residential treatments was positive for the entire group of respondents (N=239). The positive value obtained +0.282 was not close to being a strong relationship ($R = +1.00$). However, a large sample size provided for longer periods of cocaine abuse was associated with an increased number of residential treatments. Correlations do not imply a direct causation, a mere relationship, or association between the variables was found. The positive value of +0.282 indicates that that when one variable increases so does the other; specifically, when the reported cocaine use in years reported increases so would the number of residential treatments. A negative relationship would have implied an inverse relationship.

Figure 22-A: Correlation between reported amphetamine use in years and number of times in residential treatment

Correlations			
		# of times residential for drugs	amphetamine use in years
# of times residential for drugs	Pearson Correlation	1	.349**
	Sig. (2-tailed)	.	.002
	N	220	75
amphetamine use in years	Pearson Correlation	.349**	1
	Sig. (2-tailed)	.002	.
	N	75	77

** Correlation is significant at the 0.01 level (2-tailed).

The 'severity' or duration of amphetamine abuse in years also resulted in a positive correlation ($R=+0.349$) with the total number of residential treatments. Although fewer women reported amphetamine abuse than those who reported cocaine abuse (cocaine was ranked as the most abused drug for both sample populations), it can be noted that it has a stronger correlation to residential care. Thus, it was implied that amphetamine abuse may be more difficult for the addict to manage, or requires more immediate care when compared to other forms of substance misuse.

Figure 23-A: Correlation between alcohol use in years and number of times in residential treatment

Correlations			
		etohyr	# of times treated residential for etoh
etohyr	Pearson Correlation	1	.150
	Sig. (2-tailed)	.	.092
	N	145	127
# of times treated residential for etoh	Pearson Correlation	.150	1
	Sig. (2-tailed)	.092	.
	N	127	205

The sample (N=239), did not report a significant relationship as shown in Figure 23-A. Alcohol abuse reported in number of years does not have either a positive or negative relationship with the number of residential treatments reported by study

participants. This finding was of interest because the other primary illicit drugs (cocaine and amphetamines) showed positive relationships. Perhaps the alcohol use reported did not provide a positive correlation because the agency is a drug *and* alcohol treatment center. People seeking alcohol abuse treatment may often go into detox programs or seek resources outside of residential care. Those women receiving care for both possibly may have considered the treatment received or previous care only as treatment for drug abuse.

Correlations			
		cocaine use in years	# of times outpatient for drugs
cocaine use in years	Pearson Correlation	1	.083
	Sig. (2-tailed)	.	.372
	N	142	117
# of times outpatient for drugs	Pearson Correlation	.083	1
	Sig. (2-tailed)	.372	.
	N	117	193

Figure 21-B: Correlation between cocaine use in years and number of times outpatient treatment

Correlations			
		# of times outpatient for drugs	amphetamine use in years
# of times outpatient for drugs	Pearson Correlation	1	.017
	Sig. (2-tailed)	.	.896
	N	193	64
amphetamine use in years	Pearson Correlation	.017	1
	Sig. (2-tailed)	.896	.
	N	64	77

Figure 22-B: Correlation between amphetamine use in years and number of times in outpatient treatment

Correlations			
		etohyr	# of times treated in outpatient etoh
etohyr	Pearson Correlation	1	.118
	Sig. (2-tailed)	.	.224
	N	145	108
# of times treated in outpatient etoh	Pearson Correlation	.118	1
	Sig. (2-tailed)	.224	.
	N	108	177

Figure 23-B: Correlation between alcohol use in years and number of times in outpatient treatment

Figures 21-B through 23-B indicated that the number of years reported for both drug and alcohol abuse of the three most abused substances did not result in any significant correlational relationships. The number of years of substance abuse reported did not have a relationship to the number of times treated in an outpatient setting. The correlations implied, but did *not* confirm that the residential population had greater severity for the areas assessed. Although there were two positive relationships indicating that substance abuse is related to residential treatments, both relationships were weak and less than $R = +0.50$. The correlations examined for the entire sample ($N=239$) and not separate treatment groups. The relationships found for drug use and residential care and not outpatient care resulted for various reasons. Most of the women treated in outpatient settings usually initiate treatment at the residential level before a transition to outpatient care. The initiation of treatment at a residential site may be why there were not correlations for the number of outpatient treatments and overall substance use.

Results for Hypothesis II

Data and results presented previously were used exclusively for the examination of Hypothesis I. The primary outcomes and results used to determine the acceptance/rejection of Hypothesis II were obtained by performing independent t-tests for each Likert item. T-tests were used to confirm a significant difference with regard to how the women rated their attitudes and perceptions towards their care.

T-test: Likert Scale Questions 1- 8

Figure 24-A: Means ranged from a 1-5 for the Likert Scale results. As noted most of the means describing program satisfaction/dissatisfaction were comparable for the two groups of women surveyed.

Group Statistics

	treatment site	N	Mean	Std. Deviation	Std. Error Mean
Question 1	Outpatient	84	4.39	.919	.100
	residential	141	4.60	.756	.064
Question 2	Outpatient	83	4.16	1.225	.134
	residential	141	4.32	1.064	.090
Question 3	Outpatient	84	1.73	1.216	.133
	residential	139	1.45	.862	.073
Question 4	Outpatient	81	4.16	.968	.108
	residential	137	3.74	1.182	.101
Question 5	Outpatient	78	4.69	.708	.080
	residential	138	4.66	.815	.069
Question 6	Outpatient	83	3.81	1.320	.145
	residential	138	3.90	1.292	.110
Question 7	Outpatient	84	4.68	.763	.083
	residential	135	4.41	.867	.075
Question 8	Outpatient	84	3.51	1.331	.145
	residential	139	3.62	1.364	.116

By examining the group means for each survey item, it was determined how “strongly” (meaning just how much each group agreed or disagreed) each group responded to statements. None of the mean responses for the groups were at a 1.0 and a 5.0; the highest or lowest values on the range for responses. The highest mean was reported at 4.69 by the outpatient group indicating that they strongly agreed they had stopped or greatly reduced their drug use while in the treatment program. The residential group also reported its highest mean as well with 4.66 in agreement with their progress in reducing drug use. A surprising aspect of the data for question 8, addressing the need for more medical services, showed that means were closer to the uncertain and agree responses—implying that the women did not feel or perceive an urgent need for more

health services. If mean values for Question 8 had been closer in range to five, the Hypothesis I would have been validated by the entire sample group responding that they strongly agreed with an increased need for greater medical services.

Summary of T-test results for Likert Scale Question items 1-8

Figure 25-A: Summary of t-test results for Likert Scale question items 1-8. Questions 3, 4, and 7 had significant p-values.

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	% Confidence Interval of the Difference
Question	Equal variances assumed	3.973	.047	-1.795	223	.074	-.203	.113	Lower: -.426 Upper: .020
	Equal variances not assumed			-1.709	149.062	.090	-.203	.119	Lower: -.437 Upper: .032
Question	Equal variances assumed	1.816	.179	-1.043	222	.298	-.163	.156	Lower: -.470 Upper: .145
	Equal variances not assumed			-1.006	153.396	.316	-.163	.162	Lower: -.482 Upper: .157
Question	Equal variances assumed	12.537	.000	1.957	221	.052	.273	.139	Lower: -.002 Upper: .548
	Equal variances not assumed			1.802	133.618	.074	.273	.151	Lower: -.027 Upper: .573
Question	Equal variances assumed	4.873	.028	2.680	216	.008	.416	.155	Lower: .110 Upper: .722
	Equal variances not assumed			2.820	194.421	.005	.416	.148	Lower: .125 Upper: .707
Question	Equal variances assumed	.254	.615	.298	214	.766	.033	.110	Lower: -.184 Upper: .250
	Equal variances not assumed			.310	179.040	.757	.033	.106	Lower: -.176 Upper: .242
Question	Equal variances assumed	.000	.993	-.505	219	.614	-.091	.181	Lower: -.448 Upper: .265
	Equal variances not assumed			-.502	169.899	.616	-.091	.182	Lower: -.450 Upper: .268
Question	Equal variances assumed	7.147	.008	2.290	217	.023	.264	.115	Lower: .037 Upper: .491
	Equal variances not assumed			2.359	192.866	.019	.264	.112	Lower: .043 Upper: .484
Question	Equal variances assumed	.001	.977	-.572	221	.568	-.107	.187	Lower: -.475 Upper: .261
	Equal variances not assumed			-.575	178.569	.566	-.107	.186	Lower: -.473 Upper: .260

Survey respondents were asked to choose from five answer selections ranging from disagree strongly to agree strongly and ordinal values from one to five as illustrated below in Figure 26-A.

Figure 26-A: Range of Likert Scale format answers

Disagree				Agree
Strongly	Disagree	Uncertain	Agree	Strongly
(1)	(2)	(3)	(4)	(5)

Some differences between the responses provided by the outpatient and residential groups were obtained from this analysis. Almost half of the Likert scale items (three of the eight questions) showed a significant difference between the groups with a p-value less than or equal to 0.05. Questions 3, 4, and 7 had the p-values of $p = *0.052$, $**0.008$, and $*0.023$ respectively as seen in Figure 25-A. Question 1 had a p-value of 0.074 which implied an approaching trend in how the groups may have responded to the item differently. Responses to Question 3 asking participants, “*This kind of treatment will not be very helpful to you...*”, indicated the outpatient group disagreed to a greater extent to the statement when compared to the residential group. The difference between the means (outpatient (1.73) and residential mean (1.45)) implied that residential respondents would more readily agree that the treatment was not as helpful for them when compared to outpatient women. For Question 4, the outpatient mean (4.16), was greater than the residential mean (3.74). The significant difference between means points out that the outpatient group may have perceived having made more progress with their emotional or psychological issues. The p-value obtained was also the most significant of the three findings in the analysis. For Question 7, “*You are satisfied with this program...*” a higher mean of 4.68 was reported by the outpatient women when compared with a 4.41 for the residential sample. The finding also provided a lower standard deviation when compared to results for all Likert items. Statistical analysis indicated that the outpatient women were more satisfied with their care. Please refer to survey instrument if needed to review Questions 3, 4, and 7 found in the Instrumentation section of the Appendix. Other

variables were computed according to which of the eight Likert items were categorized as either program satisfaction measures or need measures.

T-Test Program Satisfaction: Computed variable (Q4, Q5, Q7) range [3,15]

Figure 27-A: Program satisfaction as a computed variable for Hypothesis II results.

Group Statistics

treatment site		N	Mean	Std. Deviation	Std. Error Mean
Satisfaction with Program	Outpatient	77	13.4935	1.84693	.21048
	residential	132	12.8788	2.20350	.19179

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Satisfaction with Program	Equal variance assumed	.539	.464	2.061	207	.041	.61472	.29822	.02677	1.20266
	Equal variance not assumed			2.159	181.864	.032	.61472	.28475	.05287	1.17656

For the second t-test performed using the Likert scale data a variable representative of overall program satisfaction was computed using SPSS. The variable representing satisfaction was the total score for questions 4, 5, and 7. The range of composite scores assuming all three survey items were filled in by respondents would be a minimum of three and a maximum of fifteen [3, 15]. The of $p=0.041$ value obtained showed that there was a significant difference between levels of satisfaction amongst the groups. The residential mean for the computed variable, satisfaction (Q4+Q5+Q7) was lower at 12.88 than for the outpatient mean of 13.49. The data indicated that the residential group agreed less with survey items addressing overall satisfaction, where as the outpatient group had a higher mean indicative of greater satisfaction.

T-Test: Computed Variable for Reported Needs (Q1, Q6, Q8)

Figure 28-A: Significant population needs as reported on Likert Scale.

Group Statistics

	treatment site	N	Mean	Std. Deviation	Std. Error Mean
Needs indicated by scale	Outpatient	83	11.7349	2.71439	.29794
	residential	138	12.1232	2.49804	.21265

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	% Confidence Interval of the Difference		
								Lower	Upper	
Needs indicated by scale										
Equal variances assumed	.220	.640	-1.083	219	.280	-.38825	.35854	1.09487	.31838	
Equal variances not assumed			-1.061	161.704	.290	-.38825	.36604	1.11109	.33460	

A second t-test was conducted using a computed variable to analyze the needs for the population surveyed. Survey items 1, 6, and 8 addressed the needs of the sample population. These items asked participants to rate their needs for help with dealing with drug abuse, the need for educational training services, and lastly a need for more medical services. The results did not provide a significant difference for how the groups responded to items on the Likert scale addressing their needs. The outpatient group mean was 11.73, and the residential group had a higher reported mean for needs at 12.12. The computed variable means for both groups indicated that the groups of women rated on a trend more closely towards agree than uncertain on the Likert scale. If they had rated closer towards a mean value of 9.00 this would have implied that they were uncertain about their medical, educational, and treatment needs.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

In Chapter IV, descriptive statistics, correlations, and t-tests were presented in a succinct and objective manner. A discussion and summary of interesting research findings will be further presented. Study findings will be separated under the variable functional areas assessed (i.e., Age, Race, Medical Status, Employment/Education, Legal, etc.). These sections are discussed below and presented within the context of how they describe the severity or impairment of functioning. The sections also highlight the similarities and differences between the data set obtained in the current study when compared to national treatment trends and reports in recent SAMSHA studies. Different resources were used to finalize an acceptable compilation of baseline data. A majority of data were obtained from the National Survey on Drug and Use and Health (NSDUH). Statistical information was obtained from large databases such as those maintained by the Office of Applied Studies, a division of the nation's Substance Abuse and Mental Health and Human Services Administration Agency (SAMHSA). The statistical data provided by the Office of Applied Sciences is in the public domain and available on the Internet. As recently as August 20, 2004 the National Survey on Drug Use and Health published a report specifically addressing women with co-occurring serious mental illness and substance use disorders. The report along with the NSDUH completed in 2003 provided the baseline trends to compare with the study data obtained. Following a summary of

findings, a discussion of rejection/acceptance of study hypotheses will present the overall significance of the study.

Summary of Descriptive Statistical Analysis Findings

Age

The mean age for the entire sample was 34 years of age. One aspect of the study related to age that the researcher has determined was a vital item excluded from the study was the age of onset for the development of a substance abuse disorder or a serious mental illness. These excluded items would have provided more interpretable results. The mean age of onset could have also been used as a factor to differentiate between severity of addiction among the groups. An interesting corroboration of the study findings was that the determined age of 34 also matched findings from other studies in the literature review. Some further exploratory research may involve determining why the average age is in the mid-thirties instead of a younger age.

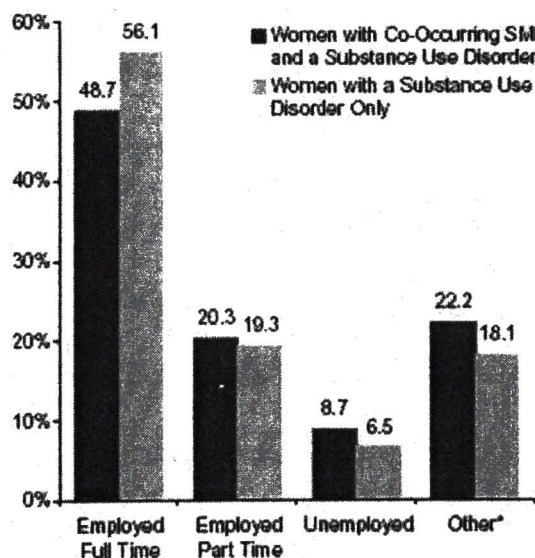
Race

Statistics obtained for race classifications were rather homogenous for the large sample size. The values for Hispanic subjects were expectedly low with regard to the region of the country (Southwest region) that analyzed. As noted only 4.4% of survey respondents classified themselves as Hispanic-Mexicans, and 2.2% as Hispanic-Cubans. As reported in Chapter four findings there were differences pertaining to the most abused substances for the different races. As treatment methodologies are not currently race-specific, an examination of the different populations and their response to treatment settings may be a more specific future area of research.

Employment/Education Status

The National Survey on Drug Use and Health (NSDUH) Women with Co-Occurring Serious Mental Illness and a Substance use Disorder provided a lot of baseline information for the population examined. Figures provided below were included in the study to compare the baseline data with the study data. Figure 29-A shows the employment status among women 18 and older for 2002 classified as those with only a substance use disorder or those with a co-occurring serious mental illness and substance use disorder.

Figure 29-A: NSDUH survey employment status of dual-diagnosis women in 2002



The data showed that 48.7% of the dual-diagnosis women were employed and had a greater amount of employment, 56.1% was found for those women only had substance use disorder. A comparison between study data and the baseline data provided by the NSDUH report can be drawn. The survey instrument (Question 6) had a question

indicating current employment for the study participants. The outpatient group showed a higher rate of current employment of 23.0% reported, and the residential group only had an 8.1% current employment rate reported. The NSDUH report accounted for a much larger proportion of the women who were employed either full time or part time, and found that between 6.5% and 8.7% of the women were unemployed. The survey instrument was modeled after the ASI, and the NSDUH did not use this instrument to obtain data. Perhaps the greater sample sizes used for the NSDUH provided for the larger proportion of employed women. The current study survey instrument did not differentiate between full and part time employment and instead only asked if the participant was either employed or unemployed (assuming the question addressed part and full time employment). The assumption that the women who did work part time would respond “yes” to the item is considered a data limitation.

The completed literature review also helped address the survey item specifying the number of dependents for the population. If the survey question (Q7) had been worded as “*How many children do you have?*”, it may have provided more applicable information for this study. Another area for dependents that would have applied to the sample groups is whether or not the women were married, and examination of their marital status would have provided more information about dependents as well as psychosocial functioning.

Another aspect of education/employment status for the women surveyed determined to be of great importance would have been the inclusion of how occupational functioning was affected by both the individual’s substance abuse and mental health disorders. Given that the first portion of the survey instrument emphasized only nominal

and standard demographic data, a survey question evaluating the range of occupational functioning would have provided more socio-economic information about the group, and thus been a more clear indicator of severity for the study. The potential item may have asked subjects pick from their occupational functioning being limited and mildly limited, to severely limited. This type of item would have certainly been more applicable for the Likert scale. The importance of assessing the limitation of occupational functioning is not a major component of the ASI. This topic was mentioned in a 2001 study of demographic and illness characteristics for Bipolar patients (Suppes, 48). The item would have stated: *"How much has occupational functioning been affected by your mental health/substance abuse?"*. The responses would have been presented as follows: Not limited, Mildly Limited, Moderately Limited, Markedly Limited, and Severely Limited. In light of the scope of the current study, the gathering of demographic information has been a learning process.

Substance Use Status

Some of the findings regarding drug usage trends closely match trends from ten years ago. The 1995 National Institute on Drug Abuse trends suggested that treatment admissions for cocaine were at 38.3%, heroin 25.5%, and marijuana 19.1%. These trends although outdated show how during the past decade heroin use has dramatically decreased, and methamphetamine abuse has replaced it as a primary drug of choice for Americans. In 2003 the NSDUH found that approximately 8.2% of the US population used illicit drugs. The national trends indicated that marijuana was the most abused drug followed by psychotherapeutic drugs (i.e.- tranquilizers, stimulants, and sedatives), and

lastly cocaine was the most used illicit drug. The NSDUH included a sample of persons aged 12 or older for the study, which may have skewed the percentage of marijuana users as being higher than cocaine users. The report failed to mention what proportion of those sampled ranged from the ages of 12 to 18 (minors and not adults). The race and ethnicity statistics found in the NSDUH study differed greatly from the study data. The national trend indicated that higher percentages of Native Americans, Alaska Natives, or persons reporting two or more races outnumbered significant groups such as African-Americans, Caucasians, and Hispanics. These significant groups each had approximately an 8% value for reported use whereas for the sample the percentage of Caucasian and African-Americans were over 35% for each group.

There are many reasons why the residential group outcomes differed from the outpatient group. Among these is that the residential group may have higher and more severe levels of addiction. Many of the residential women stayed at the site for a longer period of time and may have been more comfortable disclosing their use on the survey. There may be several reasons why the marijuana use was higher for the outpatient group and so low for the residential group. The residential group having the lower marijuana rate actually shifted to other substances as evidenced with the 1.7% higher reporting rate for alcohol as the primary substance and cocaine as the primary for exactly 50.0% of the group. Two other important trends noted are as follows:

- 1) Heroin use reported was low for both groups. For the outpatient group none of the respondents reported heroin use within 30 days of completing the survey. Only 6 of the 188 residential responders reported heroin use.

- 2) The rates of cocaine use within the past 30 days were almost exactly the same as the outpatient group N=9 reported 13.44 days and the residential group N=71 reported 13.42 days of use.

For further studies modeled after this first exploratory study, it may be possible to only have a survey instrument assessing substance use.

Legal Status

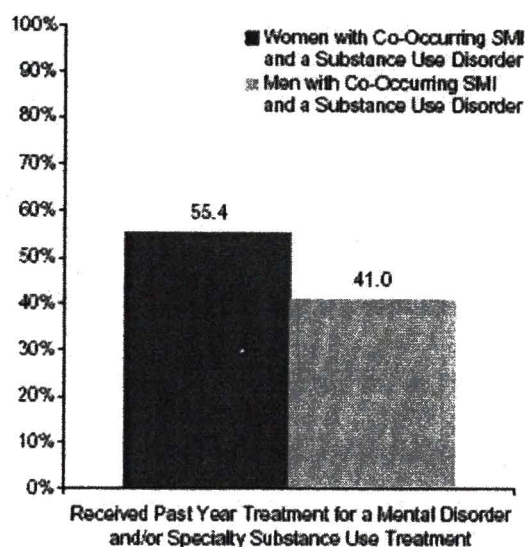
The mean for lifetime arrests and charges for the women surveyed was between two and three for both groups. It is notable that the range for the residential group was higher, having some respondents who reported up to 20 lifetime arrests and charges. The residential group's percentage of incarcerations was also higher than the rate for the combined pool of both sampling groups, which was 47.1% of those women.

Mental Health

The numbers (data outcomes) indicative for access to care and health insurance options were surprising considering the state's ranking in mental health funds and services (Texas is ranked 46th in the nation for state mental health resources as noted earlier). The difficulty in interpreting this data is that a majority of the women may have been enrolled into NorthSTAR upon their arrival at the treatment site. The positive of these data is that the responsibility of the treatment center to provide adequate care and aftercare for its clients was confirmed by study findings. An interesting side note which differed from the study literature review was that the women surveyed represent an overall access and not barrier to care. The NSDUH report also provided an idea of what percentage of dual-diagnosis had received treatment for their mental disorder(s) and

substance abuse had received treatment. Figure 30-A below shows the national comparison below for the groups of dual-diagnosis men and women. The graph shows that only 41.0% percent of the women actually received care, whereas the rate for men was 14.4% higher for care received amongst the population. Both rates are still relatively low considering the cost implications of treating the dual-diagnosis population.

Figure 30-A: NSDUH 2002 study, Access to care differences between males and females



Discussion of performed t-tests to determine differences in racial groups for participants

The t-tests performed to determine response differences with regard to racial background yielded very interesting findings. The findings for the top substances abused, cocaine and amphetamines generated significant results. The African-American study population had greater mean number of years of cocaine use reported when compared to the white mean of only seven years. The finding also had some socio-demographic implications when compared to the difference of means for the race groups with their reported lifetime amphetamine use. Findings such as these could be used by the state's

drug prevention planning (TCADA) to target specific populations of users. For example specific areas having high drug use would present the most needed prevention programs at the HHS mental health agencies—if a neighborhood is known for being a crack neighborhood, the state would not implement amphetamine prevention programs but instead apply a wide-ranging provision of care for crack users and addicts.

The results were reviewed briefly with the agency medical director. The medical director had performed a 2002 analysis of the sites' Client Data Summary (database) for 1,423 patient files. The findings reported two years ago with regard to racial groups and reported primary drug use matches the current study findings. The agency Medical Director suggested that research in the area of different racial groups and their selected drug of choice is a small area for research at the present moment. Is it just easier for researchers to assume that these differences are rooted in socio-demographic differences or are they significant because of the users' racial/ethnic background? Literature for this question is not widely available. Methamphetamine research is a growing field, given that publicly funded treatment for its abuse has increased 226% in California from the period of 1992-1998 and 540% percent in Hawaii during the same timeframe (Brecht, 90). Methamphetamine abuse is only growing in the states, and starting to research prevention and treatment for the population may be a cost effective way to contain the problem. Methamphetamine abuse also has a higher level of public health implications as its use places users at risk for HIV, hepatitis, and tuberculosis (Brecht, 90).

Figure 31-A: A Summary of key findings and Hypothesis acceptance/rejection status.

Hypothesis I	Only 3 of sixty-four variables analyzed provided statistical significance. Correlations and descriptive data implied, but did not confirm a greater level of severity for the residential sample surveyed.	Rejected
Hypothesis II	Outpatient responders reported significant differences for 3/8 the Likert Scale format survey items.	Rejected

Discussion of Hypothesis I

In light of the results presented, Hypothesis I for the study was rejected. There were some indications that the residential group had greater severity in the areas assessed; however, this was not the case for *all* of the variables used in the study. Among the reasons why the hypothesis was rejected were that study findings showed more similarities amongst the groups than differences. There were only seven statistically significant findings presented with the independent t-tests performed on all variables for the two treatment groups.

Although a strength of the study was that participants were in continuous care under one treatment modality (meaning both the residential site and outpatient site were both directed by agency guidelines), the factors of response rate and sampling error may have affected findings for Hypothesis I. As mentioned earlier in the study methodology, a reduction from the determined sample size of 323 participants to 239 obtained increased the standard error. Thus, the data may have needed to show larger differences in order to obtain significant results.

Another factor considered in the rejection of Hypothesis I was that severity was only measured by subjective patient responses. Perhaps if the study had included rater contributions for each participant (as the ASI originally intended) the overall severity would have been more systematically recorded. The rater contribution for example on the original ASI includes having the rater determine the subject's "need" for treatment. The variables used in the current analysis to determine "severity" relied upon reports for individual drug classes and subsequent histories of abuse. The study would have potentially been able to determine severity (or learn more about it) pertaining to the comprehensive substance abuse per participant if a multiple drug use variable had been computed. For example if the scale had included, or the data interpretation had computed a variable for the use of 2⁺ or more drugs with the 30-day time frame of survey completion. The data interpretation process assumed that individual drug use was related to severity, when in fact the computed variables (i.e. cocaine use combined with alcohol use versus amphetamine use combined with another substance) may have provided more significant data. The idea of assessing a multiple drug use variable is of interest for future study.

Most importantly the survey instrument did not differentiate between admission date and the survey completion date. The "past 30 days" factor, may have played a role in sampling error. The scale measured a combined lifetime and recent (30 days) severity of problems. Further analysis would call for a separation of past and present reported survey items to see if there was a significant difference in responses. Overall, the present study was exploratory and retrospective in nature. The aim of the study was an examination of

differences amongst the groups in order to provide more perspective (Davis, 46). Another determining factor which may have also improved the determination for severity would have been the inclusion of the onset age of substance abuse for the women. Although lifetime substance use had been reported on the scale, having the onset mean age for both groups would have substantiated a possible difference in reported substance abuse for the women.

Although the residential group endorsed more medical status concerns, those findings did not greatly imply needed changes with regard to substance abuse treatment. The medical status findings were weakened because the types of medical problems were not specified (i.e. classified under a level of health concerns, more serious diagnoses, etc.). The medical indices for the scale were maintained using a generalized scope. If there had been more information obtained regarding the types of medical problems experienced, the findings would have potentially been strengthened.

The exclusion of social/family survey items was also lacking from the survey. This area was excluded from the study instrument; however, having included a few questions may have provided more information about the treatment settings. Several studies reviewed indicated that for increased levels of treatment retention and outcomes, there needed to be increased social benefits and access to care. The effects of severity on treatment retention or perceived care was not examined. In retrospect the survey may have included some severity items on an ordinal scale/Likert scale.

Lastly, the data presented only served to identify the needs and characteristics for the treatment population (Davis, 42). If the scale had been strictly converted to using ASI

composite scores, the data would have been transformed. The current study opted to use descriptive and non-transformed statistics. The data were not tweaked to suit the study hypotheses. The bottom line for Hypothesis I is that the women endorsed concerns in all areas assessed. The dual-diagnosis women are in greater need of care and the development of tailored and systematic treatment programs.

Discussion of Hypothesis II

The exploration of Hypothesis II provided more inferential statistics and significant results that have drawn to rejection of the second hypothesis. The residential population did not show greater levels of treatment satisfaction as reviewed in the t-test analysis for the Likert Scale. Almost half of the t-tests conducted verified significant differences between the groups leading to a more positive report from the outpatient population. There are several reasons why the outpatient group may have provided these responses. Among them being that the outpatient group may indeed have had the same access to program benefits as the residential population. Prior to initiating the study, it was assumed that the residential population perhaps had more enhanced services. However, study results showed that this was not the case, both groups received comparable levels of care as they were under the same program for continuous care. A further exploration of how the outpatient program is more enhanced or beneficial for the agency's treatment populations are needed.

The final goal for most substance abuse programs is to cease or drastically reduce use for program participants. Considering the impact of the program on overall substance abuse is yet another reason why Hypothesis II was rejected. The highest mean (4.69)

reported for Likert scale items by the outpatient group stating that they strongly agreed they had stopped or greatly reduced their drug use while in the program, the residential group reported its highest mean as well with 4.66 in agreement with their progress. Although the difference reported is small (and was not reported as significant) the outpatient group still endorsed a greater efficacy of their program.

There are several other indicators as to why the outpatient group may have rated higher on the Likert scale. The outpatient group sample taken as a whole may have spent longer amounts of time in treatment—meaning they had more adherence. A number of studies suggest that treatment for at least three months is effective; however, seven months achieves the highest levels of abstinence (Lash, 338). This notion may have affected outpatient reports. The residential population may have viewed their treatment as more of an intervention for substance use, whereas the outpatient group had already completed the intervention phase and been more focused on recovery. Another factor to be examined was whether or not the outpatient program may have offered more social reinforcements. The results for Hypothesis II indicate that there is a need for more trend studies among the different treatment programs. In an era of fiscal conservatism the present study implied that there was a greater level of satisfaction for the outpatient care recipients. The agency may be able to use the TCU/CEST scale as planned to verify these trends, as the eight survey items used in this analysis yielded some significant results.

Discussion and Implications

The findings for the study may lastly be compared to the most updated substance abuse treatment trends specific to Texas. A comparison of results was compared to the state's TCADA funded programs. The figures below were provided by the Office of National Drug Control Policy show estimates for TCADA funded programs in the state during 2003.

Admissions to TCADA-Funded Programs, by Drug Type, Texas, 2003

Primary Drug	# of Admissions	% of All Admissions	Avg. Age of First Use	% First Treatment
Heroin	5,061	9.5%	21.3	24.3%
Non-Rx methadone	66	0.1%	28.6	31.8%
Other opiates	2,227	4.2%	25.6	34.8%
Alcohol	15,862	29.9%	15.6	39.4%
Depressants	636	1.2%	22.0	47.5%
Amphet./metham.	4,491	8.5%	19.3	50.1%
Cocaine – powder	4,145	7.8%	20.6	46.7%
Cocaine – crack	10,065	19.0%	25.8	31.0%
Marijuana	9,875	18.6%	13.8	66.2%
Hallucinogens	257	0.5%	18.2	49.0%
Other drugs	375	0.7%	18.1	57.1%
Total	53,069	100.0%	19.0	42.9%

Figure 32-A: Admissions to TCADA funded program prioritized by reports for primary drug use.

Characteristics of Admissions to TCADA-Funded Programs, Texas, 2003

Primary Drug	% Employed	% Involved with CJ/LS	Average Education	% Homeless
Heroin	9.7%	35.6%	11.2 years	13.9%
Non-Rx methadone	12.1%	33.3%	11.7 years	9.1%
Other opiates	15.7%	30.4%	12.3 years	7.9%
Alcohol	26.1%	45.5%	11.8 years	14.3%
Depressants	28.3%	48.3%	11.4 years	8.0%
Amphet./metham.	22.2%	54.4%	11.6 years	8.3%
Cocaine – powder	28.1%	53.7%	11.3 years	8.2%
Cocaine – crack	13.6%	36.6%	11.7 years	18.1%
Marijuana	53.1%	78.6%	10.0 years	8.5%
Hallucinogens	21.0%	62.3%	10.8 years	13.6%
Other drugs	40.3%	58.1%	10.1 years	8.8%
Total	26.7%	50.0%	11.3 years	12.5%

Figure 33-A: Population characteristics for TCADA programs. These findings are not specific to female populations.

Figure 32-A illustrates that there were 53,069 admissions for substance abuse in 2003 of which cocaine accounted for 26.8% of the state's admissions. The findings of the study are not entirely consistent with TCADA data, showing that female use patterns and admissions significantly differ from those for males. The TCADA funded programs had 29.9% of admissions derived from alcohol abusers, and 18.6% for marijuana users. The average education was similar to the data obtained at the study sites with an 11.3 average number of years, meaning that a majority of those admitted had the equivalent of some high school/GED completed. The current study did not ask for number of years education, but instead allowed participants to select their type of education completed. The valid percents for study participants having a GED or some high school completed accounted for 40.5% of all surveyed. The TCADA admissions statistics also show that only 26.7% of the 53,069 admitted to state programs were employed. The study findings were significantly different as 85.8% of the N=239 population reported being unemployed, and 13.4% were employed (there was 0.4% of missing data). The study data differs greatly from the TCADA data. This may be explained by the fact that the women were currently receiving intensive substance abuse treatment, whereas the state totals account for a wider variety of treatment options. The employment level differences may or may not be explained by gender differences. Although the legal data for the study was limited for the study when compared with the TCADA findings 50% of those admitted to state programs were involved with the criminal justice/legislative system. For the sampled groups combined 52.9% reported having incarcerations longer than ten days, and the women reported an average of 2.56 lifetime arrests and charges. One facet of the

TCADA data not examined by the current study was the proportion of homeless admitted for care.

Another 2000 TCADA study was compared with the study data. The TCADA reports combined genders, and the researcher only extracted those data applicable to female substance abuse trends. The study titled, *2000 Texas Survey of Substance use Among Adults*, collected data from 6, 071 female participants. The reported prevalence for the most abused drugs were a 59.2% for alcohol and a 25.1% for tobacco. Substances such as cocaine and methamphetamines had a less than 2% reported prevalence amongst the women. An interesting difference to discuss is that the study sample populations and those surveyed by the state had dramatic differences with regard to their reported substance abuse. The 2000 TCADA study females had been sampled using a telephone interview whereas the sample was assumed to be representative of eleven regions used in state planning. The entire sample of males and females was drawn from a total of 86,000 phone calls made by the state (Wallisch, 5). The state sample also included approximately a 25% Hispanic population. The state reported that after alcohol cocaine use accounted for the largest number of public admissions for substance abuse treatment. The indication that the state does not have an independent report for female substance abuse trends posed a challenge in the comparison of the data that were obtained and representative state data.

Recommendations: A feasible resource plan

A feasible idea would be for the state to apply its “disease management” framework that it is implementing for the mental health system to the manner in which it

is preparing for substance abuse treatment changes. The state could allow more funding for prevention programs and allocate more for the prevention of the “big three” substances – cocaine, methamphetamines, and marijuana. Tobacco and alcohol prevention programs would also require more funding. Recently there were advocates of increasing the cigarette tax; however, it may not be fair for the average Texan consumer to pay for a majority of this funding. There may eventually be an increased tobacco tax; however, it would be more equitable for the state to only use the gained funds for tobacco prevention campaigns.

Another suggestion for more effective treatment once the Texas Department of Health and Human Services agencies have consolidated will be to research separate treatment populations. An example of this would be the examination of gender differences for a specified population (in this case the substance abuse population) so that the state can inform new treatment initiatives and consequently specialize treatment and prevention strategies (Brecht, 90). By establishing a more cohesive state research program (i.e. a research database) for the population, providers and different regions of the state would be able to model treatment strategies by using a health informatics framework. For example if a patient who was diagnosed but lost state benefits recently, that person’s data would be maintained in the state’s database. The statistics for the population would be kept current and it would be easier to watch trends in the state instead of reporting them biannually. The state needs to maintain a high level of research for treatment as well as also focus on behavioral health. The state can only provide temporary “Band-Aids” for the recovery and treatment of substance abuse, understanding

the behaviors and risk factors leading to the addiction will help the population identify effective prevention strategies. An examination of barriers to care and for predictors for treatment success are other facets which may affect the operations of treatment sites and selections for the locations of new sites. It remains to be seen whether or not an increase in treatment and prevention programs in the state will help decrease prison costs and the MHMR (Mental Health and Mental Retardation) burden. Treatment and prevention programs are expected to provide substantial savings for every dollar spent (Greater Dallas Council on Alcohol and Drug Abuse). The cost savings obtained by the state need to be reinvested solely into improving the provision of services in the state.

The agency examined as a part of this report could also use the study data obtained to further analyze some treatment modalities and trends. The agency may perhaps want to assess differences between the outpatient and residential treatment settings to determine why the outpatient population reported higher levels of treatment satisfaction. The sites could also switch to combining their Client Database System already in use with another program to track more of its clients' needs. Another factor which the agency can examine would be either tracking treatment outcomes and discharge criteria using a pre-determined criteria. Many of the studies needed to be performed at the agency would consequently require higher levels of funding by the state. The state holds its own key in the answer for improving the provision of both mental health and substance abuse treatment services. The proper allocation of funds for agencies similar to the one studied will pay off for both the short and long-term benefits and health costs to Texas taxpayers and citizens.

APPENDIX A
INSTRUMENTATION

INSTRUCTIONS

1. Leave No Blanks - Where appropriate code items:

X = question not answered
N = questions not applicable

Use only one character per item.

2. Item numbers underlined are to be asked at follow-up. Items with an asterisk are cumulative and should be rephrased at follow-up (see Manual).

Space is provided after sections for additional comments.

SEVERITY RATINGS

The severity ratings are interviewer estimates of the patient's need for additional treatment in each area. The scales range from 0 (no treatment necessary) to 9 (treatment needed to intervene in life-threatening situation).

Each ratings is based upon the patient's history of problem symptoms, present condition and subjective assessment of his treatment needs in a given area. For a detailed description of severity ratings' derivation procedures and conventions, see manual. Note: These severity ratings are optional.

Addiction Severity Index Fifth Edition

SUMMARY OF PATIENTS RATING SCALE

- 0 - Not at all
1 - Slightly
2 - Moderately
3 - Considerably
4 - Extremely

1. I.D. NUMBER

2. LAST 4 DIGITS OF SSN

PROGRAM NUMBER

DATE OF ADMISSION

 Mth. Day Year

DATE OF INTERVIEW

 Mth. Day Year

TIME BEGUN

 :

TIME ENDED

 :

CLASS:

- Intake
- Follow-up

CONTACT CODE:

- In Person
- Phone

GENDER:

- Male
- Female

INTERVIEWER

CODE NUMBER

SPECIAL:

- Patient terminated
- Patient refused
- Patient unable to respond

GENERAL INFORMATION

NAME

CURRENT ADDRESS

G13. GEOGRAPHIC CODE

G14. How long have you lived at this address?

 Years Months

G15. Is this residence owned by your or your family?

G16. DATE OF BIRTH

 Mth. Day Year

G17. RACE

- 1 - White (Not of Hispanic Origin)
- 2 - Black (Not of Hispanic Origin)
- 3 - American Indian
- 4 - Alaskan Native
- 5 - Asian or Pacific Islander
- 6 - Hispanic - Mexican
- 7 - Hispanic - Puerto Rican
- 8 - Hispanic - Cuban
- 9 - Other Hispanic

G18. RELIGIOUS PREFERENCE

- 1 - Protestant
- 2 - Catholic
- 3 - Jewish
- 4 - Islamic
- 5 - Other
- 6 - None

G19. Have you been in a controlled environment in the past 30 days?

- 1 - No
- 2 - Jail
- 3 - Alcohol or Drug Treatment
- 4 - Medical Treatment
- 5 - Psychiatric Treatment
- 6 - Other

G20. How many days?

ADDITIONAL TEST RESULTS

G21. Shipley C.Q.

G22. Shipley I.Q.

G23. Beck Total Score

G24. SCL-90 Total

G25. MAST

G26.

G27.

G28.

SEVERITY PROFILE

9									
8									
7									
6									
5									
4									
3									
2									
1									
0									
Problems	Medical	Employ/Support	Alcohol	Drug	Legal	Family/Social	Psychiatric		

--	--	--	--

DRUG/ALCOHOL USE

Use
Past 30 Days Lifetime Years Route Admin

D1. Alcohol - any use at all

--	--	--	--

D2. Alcohol to Intoxication

--	--	--	--

D3. Heroin

--	--	--	--

D4. Methadone

--	--	--	--

D5. Other opiates/analgesics

--	--	--	--

D6. Barbiturates

--	--	--	--

D7. Other sedatives/hyp/tranquilizers

--	--	--	--

D8. Cocaine

--	--	--	--

D9. Amphetamines

--	--	--	--

D10. Cannabis

--	--	--	--

D11. Hallucinogens

--	--	--	--

D12. Inhalants

--	--	--	--

D13. More than one substance per day (including alcohol)

--

D14. Which substance is the major problem? *Please code as above or 00 - No problem; 15 - Alcohol & Drug (Dual addiction); 16 - Polydrug; when not clear, ask patient.*

--	--

D15. How long was your last period of voluntary abstinence from this major substance? (00 - never abstinent)

--	--

D16. How many months ago did this abstinence end? (00 - still abstinent)

--	--

How many times have you:

D17. Had alcohol d.t.'s?

--	--

D18. Overdosed on drugs?

--	--

How many time in your life have you been treated for:

D19. Alcohol Abuse:

--	--

D20. Drug Abuse:

--	--

How many of these were detox only?

D21. Alcohol:

--	--

D22. Drug:

--	--

How much would you say you spent during the past 30 days on:

D23. Alcohol?

--	--

D24. Drugs?

--	--

D25. How many days have you been treated in an outpatient setting for alcohol or drugs in the past 30 days? (Include NA, AA).

--	--

How many days in the past 30 have you experienced:

D26. Alcohol Problems?

--	--

D27. Drug Problems?

--	--

For questions D28 - D31 please ask the patient to use the Patient's Rating Scale.

How troubled or bothered have you been in the past 30 days by these:

D28. Alcohol Problems?

--	--

D29. Drug Problems?

--	--

How important to you now is treatment for these:

D30. Alcohol Problems?

--

D31. Drug Problems?

--

Interviewer Severity Rating

How would you rate the patient's need for treatment for:

D32. Alcohol Abuse?

--

D33. Drug Abuse?

--

Confidence Rating

Is the above information significantly distorted by:

D34. Patient's misrepresentation?

0 - No 1 - Yes

--

D35. Patient's inability to understand?

0 - No 1 - Yes

--

e: See manual for representative examples each drug class

te of Administration: 1 = Oral, 2 = Nasal Smoking, 4 = Non IV inj., 5 = IV inj.

MOMENTS

--	--	--	--

FAMILY/SOCIAL RELATIONSHIPS

F1. Marital Status

- 1 - Married
2 - Remarried
3 - Widowed
4 - Separated
5 - Divorced
6 - Never Married

F2. How long have you been in this marital status? Years Months
(If never married, since age 18).

F3. Are you satisfied with this situation? ☐
0 - No
1 - Indifferent
2 - Yes

F4. Usual living arrangements (past 3 yr.) ☐
1 - With sexual partner and children
2 - With sexual partner alone
3 - With children alone
4 - With parents
5 - With family
6 - With friends
7 - Alone
8 - Controlled environment
9 - No stable arrangements

How long have you lived in those arrangements? (If with parents or family, since age 18). Years Months

Are you satisfied with these living arrangements? ☐
0 - No
1 - Indifferent
2 - Yes

you live with anyone who:
0 - No 1 - Yes

Has a current alcohol problem? ☐

Uses non-prescribed drugs? ☐

With whom do you spend most of your free time:
- Family
- Friends
- Alone

Are you satisfied with spending your free time this way? ☐
0 - No
1 - Indifferent
2 - Yes

How many close friends do you have?

☐ Direction for F12-F26: Place "0" in relative category where the answer is clearly no for all relatives in the category; "1" where the answer is clearly yes for any relative within the category; "X" where the answer is uncertain or "I don't know" and "N" where there never was a relative from that category.

Would you say you have had close, long lasting, personal relationships with any of the following people in your life:

F12. Mother.....
F13. Father.....
F14. Brothers/Sisters.....
F16. Children.....
F17. Friends.....

Have you had significant periods in which you have experienced serious problems getting along with:

	Past 30 Days	In Your Life
F18. Mother.....		
F19. Father.....		
F20. Brothers/Sisters.....		
F21. Sexual partner/spouse.....		
F22. Children.....		
F23. Other significant family.....		
F24. Close friends.....		
F25. Neighbors.....		
F26. Co-Workers.....		

Did any of these people (F18-F26) abuse you?
0 = No 1 = Yes

F27. Emotionally (make you feel bad through harsh words)? ☐

F28. Physically (caused you physical harm)? ☐

F29. Sexually (forced sexual advances or sexual acts)? ☐

How many days in the past 30 have you had serious conflicts:

F30. With your family?

F31. With other people? (excluding family)

For questions F32-F35 please ask the patient to use the Patient's Rating Scale.

How troubled or bothered have you been in the past 30 days by these:

F32. Family problems

F33. Social problems

How important to you now is treatment or counseling for these:

F34. Family problems

F35. Social problems

Interviewer Severity Rating

F36. How would you rate the patient's need for family and/or social counseling?

Confidence Rating

Is the above information significantly distorted by:

F37. Patient's misrepresentation?
0 - No 1 - Yes

F38. Patient's inability to understand?
0 - No 1 - Yes

COMMENTS

CRITICAL OBJECTIVE ITEMS BY SECTION

<u>SECTION</u>	<u>ITEM</u>	<u>DESCRIPTION</u>
<u>Medical</u>	M1 M3	Lifetime Hospitalizations Chronic problems
<u>Employment / Support</u>	E1 & E2 E3 E6 E10	Education and Training Skills Longest Full-time Job Recent Employment Pattern
<u>Drug / Alcohol</u>	D1 - D13 D15 & D16 D17 & D18 D19 & D20	Abuse History Abstinence OD's and DT's Lifetime Treatment
<u>Legal</u>	L3 - L16 L17 L24 & L25 L27	Major Charges Convictions Current Charges Current Criminal Involvement
<u>Family / Social</u>	F2 & F3 F5 & F6 F10 F12 - F17 F30 & F31	Stability / Satisfaction - Marital Stability / Satisfaction - Living Satisfaction with Free Time Lifetime Problems Serious Conflicts
<u>Psychiatric</u>	P1 P4 - 11	Lifetime Hospitalizations Present and Lifetime Symptoms

From: "Thomas McLellan" <tmclellan@tresearch.org>
To: "Monica Garza" <Monica.Garza@UTSouthwestern.edu>
Date: 9/1/04 6:11AM
Subject: RE: public domain questions about the ASI

No problem - the ASI has always been in the public domain and there have been about 500 theses that have used it (without my permission). Best of luck and say hello to Hal Urschel for me if you run into him.

A. Thomas McLellan, PhD
Director, Treatment Research Institute
600 Public Ledger Bld.
150 South Independence Mall
Philadelphia PA 19106
215 - 399 - 0980
www.tresearch.org <<http://www.tresearch.org>>

-----Original Message-----

From: Monica Garza [mailto:Monica.Garza@UTSouthwestern.edu]
Sent: Tuesday, August 31, 2004 6:53 PM
To: tmclellan@tresearch.org
Subject: public domain questions about the ASI

Dr. Mc Lellan,

I hope that your week has gotten off to a nice start. My name is Monica Garza, and I am an M.P.H (Masters in Public Health) student at the University of North Texas Health Science Center in Fort Worth.

I have a few questions regarding my use of the ASI as a part of the survey instrument I will be using for my thesis. I am currently working in psychiatric research at UT Southwestern, and my group uses the ASI for some of our dual-diagnosis studies. For my thesis I am modeling some of my survey items from the ASI. I will obviously be including references to the ASI, as well as a copy of the instrument in my final document. I was wondering if it is Ok for me to do this. Do I need a form documenting that including the scale in my final draft is ok. From what I am aware of, the document is in the public domain; however, I don't know if I need copyright permission to make copies for the purpose of my thesis.

Any information you have regarding this matter will be greatly appreciated.

Thank-you,

Monica Garza

UT Southwestern Medical Center
Department of Psychiatry
(214) 645-8135

The TCU/CEST Survey of Program Clients was developed as part of NIDA Grant R37 DA13093, *Transferring Drug Abuse Treatment and Assessment Resources*.

The TCU/CEST Survey of Program Clients may be used for personal, educational, research, and/or information purposes. Permission is hereby granted to reproduce and distribute copies of the form for nonprofit educational and nonprofit library purposes, provided that copies are distributed at or below costs and that credit for author, source, and copyright are included on each copy. No material may be copied, downloaded, stored in a retrieval system, or redistributed for any commercial purpose without the express written permission of Texas Christian University.

For more information on the TCU/CEST Survey of Program Clients, please contact:

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The Texas Commission on Alcohol and Drug Abuse (TCADA) and medical diagnostic criteria have defined substance abuse as a progressive, chronic, and relapsing illness. Substance abuse and dependence involves numerous factors, such as biological, social, psychological, and environmental factors. Recovery from substance abuse can be a long-term and multi-treatment process. Research in the area of treatment for substance abuse is needed in order to provide an improved future plan of care. The economic cost to the state of Texas for treating substance abuse was approximately \$26 billion as of the year 2000. Almost three million Texans who needed treatment at that time, and only one million of them were able to access care (TCADA Statewide Service Delivery Plan).

The purpose of this research study is to evaluate the current status of the mental health system in Texas, and determine if it is effective in treating the dual-diagnosis population. Your responses to the survey instrument administered for the study will help determine whether there is a difference in treatment outcomes, and perceptions of the services rendered to you at different treatment settings.

By filling out this survey you will not be providing any identifying information about you. All of the information you contribute to the study will be converted into statistics. This research study is being conducted by a faculty member and public health student of the University of North Texas Health Science Center at Fort Worth. This survey and its reported data will be used only as a part of the research study.

Your participation in the research study is completely voluntary. As a participant, you may decide not to answer any part of the survey instrument/questions that you are uncomfortable with and discontinue the survey at any time. If you are a potential student or employee of the University of North Texas Health Science Center (UNTHSC) participation or non-participation in the study will not affect academic standing or employment. Your participation or non-participation in the research study will not affect your academic standing or employment status or treatment status at Nexus Recovery, Inc..

If you have any questions about the survey, please feel free to contact the study co-director, Monica Garza at 214-645-8135.

Thank-you for your participation.

IRB APPROVED

OCT 12 2004

**University of North Texas
Health Science Center**

DATE: _____

AGE: _____

TREATMENT SITE:

(circle one that applies)

Nexus Outpatient or Nexus Residential

Race/Ethnicity:

(circle one that applies)

White (not of Hispanic origin)

Black (not of Hispanic origin)

American Indian

Alaskan Native

Asian or Pacific Islander

Hispanic- Mexican

Hispanic- Cuban

Other _____

1. How many times in your life have you been hospitalized for medical problems (including o.d.'s, d.t.'s, please exclude detox) ? **If never, enter 0.**

☐ Yes, I have been hospitalized _____ times.

☐ No, I have never been hospitalized

2. How long ago was your hospitalization for a physical problem (days, months or years) ? _____

3. How many days have you experienced medical problems in the past 30 days? **If never, enter 0.** _____ days

Please list any current medical problems or conditions you feel need medical attention or services:

4. Education Completed: _____ years _____ months

5. Please check the option that applies to you:

- ☐ High School diploma
- ☐ Some high school
- ☐ GED
- ☐ Undergraduate (4-year degree)
- ☐ Some college
- ☐ Post-graduate training (master's, ph D.)
- ☐ Training/technical education

6. Are you currently employed? ☐ Yes ☐ No

7. How many people depend on you for food, shelter, etc ? _____ people

8. How many days have you experienced employment problems (including days you have sought employment) during the past month? Enter 0, if you have not experienced any problems during the past 30 days. _____ days

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OCT 12 2004

University of North Texas
Health Science Center

DRUG/ALCOHOL USE

9. Below is a table including different substances. Please fill in your use during the past month's time and lifetime number of years. If you have NEVER USED the substance, you can leave the boxes blank or **enter 0**.

Substance	Past 30 Days Use (# of days use)	Lifetime Years (# of years)
Alcohol		
Alcohol to Intoxication		
Heroin		
Methadone		
Other Opiates		
Barbiturates (downers)		
Cocaine		
Amphetamines		
Marijuana		
Hallucinogens		
Sedatives/Tranquilizers		
Inhalants		
Non-prescribed pills		

10. Which substance is the major problem or your primary substance?
_____ is my primary or most abused substance.
11. How many times have you experienced alcohol d.t.'s ?
_____ times or ☐ Never
12. How many times have you overdosed on drugs?
_____ times or ☐ Never
13. How many times in your life have you been treated for drug or alcohol abuse?
If never, enter 0.
Alcohol Abuse: _____ times treated in an inpatient or residential treatment center
_____ times treated in an outpatient setting
Drug Abuse: _____ times treated in an inpatient or residential treatment center
_____ times treated in an outpatient setting

14. How many days have you been in treatment at Nexus Recovery, Inc.?

☐ Residential Treatment for _____ days

☐ Outpatient Treatment for _____ days or _____ months

LEGAL

15. How many times in your life have you ever been arrested and charged with a legal violation? **If never, enter 0**

_____ times

16. Have you ever been incarcerated for longer than a ten-day period?

☐ Yes

☐ No

MENTAL HEALTH

17. How many times have you been treated for psychological or emotional problems?
If never, enter 0.

_____ times total during my lifetime.

18. How many times have you been treated for a psychological problem in a hospital? **If never, enter 0.**

_____ times

19. How many times have you been treated in an outpatient setting for a psychological or emotional problem?

_____ times

20. Have you tried to access a state funded mental health provider during the past month?

☐ Yes

☐ No

21. Please check the type of health insurance option below which currently applies to you:

☐ I am uninsured

☐ I have Medicaid

☐ I have Medicare

☐ I am enrolled in the NorthSTAR/Value Options program

☐ I have private insurance

☐ I am in the process of completing enrollment in one of the options above.

PART II- INSTRUCTIONS

For each item below, please circle the option below which best describes your attitude or opinion regarding your current treatment setting.

Please read each of the following statements below about how you see yourself or your current treatment. Indicate how strongly you **AGREE** or **DISAGREE** with each statement by filling in the corresponding circle. If you strongly disagree with the statement, you will fill in the circle under the "strongly disagree" column. If for example you disagree with the statement; however not "strongly disagree" with it you will mark the "disagree" circle.

Please mark only one circle for each statement.

If you do not feel comfortable responding a particular statement or any of the statements you may skip that item or choose to not respond to any of the statements. For each item below, please circle the option below which best describes your attitude or opinion

An example of how the circle is marked is provided: Statement....

●
(marked circle)

Disagree				Agree
Strongly	Disagree	Uncertain	Agree	Strongly
(1)	(2)	(3)	(4)	(5)

- | | | | | | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. You need help in dealing with your drug abuse... | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. This treatment may be your <u>last</u> chance to solve your drug problems..... | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. This kind of treatment will <u>not</u> be very helpful to you... | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. You have made progress with your emotional or psychological issues..... | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. You have stopped or greatly reduced your drug use while in this program..... | ☐ | ☐ | ☐ | ☐ | ☐ |
| 6. You need more educational or vocational training services..... | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7. You are satisfied with this program..... | ☐ | ☐ | ☐ | ☐ | ☐ |
| 8. You are in need of more medical services..... | ☐ | ☐ | ☐ | ☐ | ☐ |

THANK-YOU FOR YOUR PARTICIPATION IN THIS STUDY.

APPENDIX B
DESCRIPTIVE STATISTICS

DESCRIPTIVE STATISTICS- NEXUS OUTPATIENT GROUP

Descriptives: Mean Nexus Outpatient Group Age

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age	76	18	54	34.09	8.959
Valid N (listwise)	76				

Descriptives: Nexus Outpatient Group Medical

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
# of times hospitalized	84	0	12	1.69	2.620
Last hospitalization in months	45	.00	108.00	18.9444	31.13118
days of medical problems	83	0	30	3.39	8.012
Valid N (listwise)	44				

Descriptives: Nexus Outpatient Group Employment/ Education

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Education Completed in years	75	4	18	11.73	2.292
Days experienced employment prob.	86	0	30	10.92	13.552
Dependents	86	0	6	1.55	1.444
Valid N (listwise)	74				

Descriptives: Nexus Outpatient Group Drug Use reported

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
etoh in past 30 days	17	1	30	8.88	9.453
etohyr	54	1	40	14.72	10.217
etoh intoxication 30days	4	1	8	4.50	3.512
etoh intoxication yr	26	2	20	10.73	5.703
heroin in past 30 days	0				
heroin use in years	5	1	6	3.80	2.588
methadone used in past 30 days	0				
methadone use # of years	5	1	25	7.00	10.173
opiate use in past 30	0				
opiate use in years	12	1	6	3.92	1.564
barbituate use in past 30 days	1	1	1	1.00	.
barbituate use in years	17	1	20	6.71	5.720
cocaine use in 30 days	9	1	30	13.44	11.159
cocaine use in years	47	1	39	8.49	7.256
amphetamine 30 days	5	2	20	8.60	7.470
amphetamine use in years	29	1	20	7.72	5.970
thc use in past 30 days	6	1	30	11.00	11.730
thc use in years	50	1	122	14.16	18.220
hallucinogens used in past 30 days	0				
hallucinogen use in years	16	1	12	4.31	3.554
sedatives used in past 30 days	1	2	2	2.00	.
sedative use in years	17	1	18	5.41	5.100
inhalants used in past 30	2	2	2	2.00	.000
inhalants used in years	6	1	8	3.83	3.061
non-prescription drugs in past 30	5	1	30	17.20	12.716
non-prescription in years	17	2	39	10.35	10.216
Valid N (listwise)	0				

Descriptives- Nexus Outpatient Group Drug Treatment

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Number of times exp. etoh d.t.s	75	0	100	3.91	13.564
number of times overdosed on drugs	86	0	20	1.06	3.058
# of times treated residential for etoh	75	0	17	1.01	2.385
# of times treated in outpatient etoh	69	0	20	.90	2.486
# of times residential for drugs	78	0	17	1.36	2.335
# of times outpatient for drugs	81	0	38	2.07	5.830
# of days in outpatient at nexus	79	0	270	29.18	38.891
Valid N (listwise)	51				

Descriptives: Nexus Outpatient Group Legal

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
# of times arrested and charged	84	0	15	2.49	2.951
Valid N (listwise)	84				

Descriptives: Nexus Outpatient Group Mental Health

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
# of times treated for psych. prob.	82	0	40	2.00	4.635
# of times hosp. for psych	85	0	6	.47	1.053
# of times treated for psych. opt	85	0	40	1.35	4.498
Valid N (listwise)	80				

FREQUENCY STATISTICS- NEXUS OUTPATIENT GROUP

Frequency Tables: Nexus Outpatient Group statistics

Statistics

	race	Current medical problems	Type of education completed	currently employed	Primary or most Abused substance	Incarcerated longer than 10 dyas	Accessing a state provider	Type of insurance option
Valid	78	88	82	87	81	85	82	85
Missing	10	0	6	1	7	3	6	3

Frequency Table: Nexus Outpatient Group Race

Statistics

race		
N	Valid	78
	Missing	10

race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	white	38	43.2	48.7	48.7
	american indian	3	3.4	3.8	52.6
	asian/pacific islander	1	1.1	1.3	53.8
	hispanic cuban	1	1.1	1.3	55.1
	black (not of hispanic origin)	27	30.7	34.6	89.7
	hispanic mexican	6	6.8	7.7	97.4
	other	2	2.3	2.6	100.0
	Total	78	88.6	100.0	
Missing	System	10	11.4		
Total		88	100.0		

Frequency Table: Nexus Outpatient Group (Current medical problems)

Current medical problems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	16	18.2	18.2	18.2
	no	72	81.8	81.8	100.0
	Total	88	100.0	100.0	

Frequency Table: Nexus Outpatient Group (Type of Education Completed)

Type of education completed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High school diploma	14	15.9	17.1	17.1
	some high school	20	22.7	24.4	41.5
	GED	18	20.5	22.0	63.4
	Undergraduate (4-year degree)	5	5.7	6.1	69.5
	some college	17	19.3	20.7	90.2
	post graduate (master's ph. d.)	1	1.1	1.2	91.5
	training technical education	7	8.0	8.5	100.0
	Total	82	93.2	100.0	
Missing	System	6	6.8		
Total		88	100.0		

Frequency Table: Nexus Outpatient Group (Current Employment)

currently employed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	20	22.7	23.0	23.0
	no	67	76.1	77.0	100.0
	Total	87	98.9	100.0	
Missing	System	1	1.1		
Total		88	100.0		

Frequency Table: Nexus Outpatient Group (Primary or Most Abused Substance)

Primary or most Abused substance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	alcohol	11	12.5	13.6	13.6
	heroin	2	2.3	2.5	16.0
	other opiates	1	1.1	1.2	17.3
	barbituates	1	1.1	1.2	18.5
	cocaine	33	37.5	40.7	59.3
	amphetamines	18	20.5	22.2	81.5
	marijuana	15	17.0	18.5	100.0
	Total	81	92.0	100.0	
Missing	System	7	8.0		
Total		88	100.0		

Frequency Table: Nexus Outpatient Group (Incarcerations longer than 10 days)

Incarcerated longer than 10 dyas

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	36	40.9	42.4	42.4
	no	49	55.7	57.6	100.0
	Total	85	96.6	100.0	
Missing	System	3	3.4		
Total		88	100.0		

Frequency Table: Nexus Outpatient Group (Accessing a state provider within the past 30 days)

Accessing a state provider

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	24	27.3	29.3	29.3
	no	58	65.9	70.7	100.0
	Total	82	93.2	100.0	
Missing	System	6	6.8		
Total		88	100.0		

Frequency Table: Nexus Outpatient Group (Type of insurance option)

Type of insurance option

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	uninsured	22	25.0	25.9	25.9
	medicaid	13	14.8	15.3	41.2
	enrolled in medicare	1	1.1	1.2	42.4
	enrolled in northstar	42	47.7	49.4	91.8
	private insurance	2	2.3	2.4	94.1
	in the process of completing an option above	5	5.7	5.9	100.0
	Total	85	96.6	100.0	
Missing	System	3	3.4		
Total		88	100.0		

DESCRIPTIVE STATISTICS- NEXUS RESIDENTIAL GROUP

Descriptives: Nexus Residential Mean Age

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age	136	18	54	34.06	8.680
Valid N (listwise)	136				

Descriptives: Nexus Residential Group Medical

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
# of times hospitalized	144	0	20	2.49	3.715
Last hospitalization in months	71	.00	276.00	44.6725	63.02376
days of medical problems	143	0	30	6.46	9.858
Valid N (listwise)	67				

Descriptives: Nexus Residential Group Employment/ Education

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Education Completed in years	133	0	18	11.41	2.078
Days experienced employment prob.	140	0	30	10.46	13.434
Dependents	146	0	5	1.12	1.305
Valid N (listwise)	123				

Descriptives: Nexus Residential Group Drug Use reported

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
etoh in past 30 days	63	1	30	11.14	9.191
etohyr	89	1	40	14.17	8.891
etoh intoxication 30days	30	1	25	9.57	6.760
etoh intoxication yr	52	0	26	9.13	6.630
heroin in past 30 days	6	2	30	10.33	10.690
heroin use in years	16	1	17	4.56	5.202
methadone used in past 30 days	5	1	28	15.40	11.971
methadone use # of years	10	1	10	2.90	3.071
opiate use in past 30	14	1	30	11.57	8.555
opiate use in years	22	1	30	6.73	7.459
barbituate use in past 30 days	13	2	30	13.23	9.765
barbituate use in years	32	1	30	6.94	6.947
cocaine use in 30 days	71	1	30	13.42	10.782
cocaine use in years	94	1	37	9.17	8.129
amphetamine 30 days	34	1	30	13.06	8.718
amphetamine use in years	48	1	31	7.04	6.675
thc use in past 30 days	61	1	30	11.26	9.640
thc use in years	86	1	32	10.87	8.270
hallucinogens used in past 30 days	3	2	14	8.67	6.110
hallucinogen use in years	22	1	11	3.86	2.965
sedatives used in past 30 days	11	3	30	13.09	11.131
sedative use in years	26	1	20	6.15	5.794
inhalants used in past 30	1	30	30	30.00	.
inhalants used in years	9	1	11	3.67	3.937
non-prescription drugs in past 30	19	4	30	11.00	8.360
non-prescription in years	29	1	30	8.69	8.632
Valid N (listwise)	0				

Descriptives: Nexus Residential Group Drug Treatment

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Number of times exp. etoh d.t.s	144	0	50	2.74	7.309
number of times overdosed on drugs	145	0	40	1.21	4.293
# of times treated residential for etoh	128	0	15	1.27	2.323
# of times treated in outpatient etoh	107	0	6	.49	1.093
# of times residential for drugs	140	0	12	1.59	1.763
# of times outpatient for drugs	110	0	6	.66	1.144
# of days in residential at nexus	141	0	120	13.79	17.178
# of days in outpatient at nexus	11	1	60	25.73	23.333
Valid N (listwise)	6				

Descriptives: Nexus Residential Group Legal

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
# of times arrested and charged	141	0	20	2.63	3.092
Valid N (listwise)	141				

Descriptives: Nexus Residential Group Mental Health

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
# of times treated for psych. prob.	135	0	20	2.12	3.379
# of times hosp. for psych	139	0	23	1.07	2.691
# of times treated for psych. opt	138	0	20	1.14	2.725
Valid N (listwise)	131				

FREQUENCY STATISTICS: NEXUS RESIDENTIAL GROUP

Summary of Frequencies: Nexus Residential Group

Statistics

	race	Current medical problems	Type of education completed	currently employed	Primary or most Abused substance	Incarcerated longer than 10 dyas	Accessing a state provider	Type of insurance option
Valid	137	148	136	148	144	139	137	140
Missing	11	0	12	0	4	9	11	8

Frequency Table: Nexus Residential Group (Race)

race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	white	71	48.0	51.8	51.8
	american indian	1	.7	.7	52.6
	hispanic cuban	3	2.0	2.2	54.7
	black (not of hispanic origin)	54	36.5	39.4	94.2
	hispanic mexican	6	4.1	4.4	98.5
	other	2	1.4	1.5	100.0
	Total	137	92.6	100.0	
Missing	System	11	7.4		
Total		148	100.0		

Frequency Table: Nexus Residential Group (Current medical problems)

Current medical problems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	52	35.1	35.1	35.1
	no	96	64.9	64.9	100.0
	Total	148	100.0	100.0	

Frequency Table: Nexus Residential Group (Type of Education)

Type of education completed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High school diploma	34	23.0	25.0	25.0
	some high school	27	18.2	19.9	44.9
	GED	28	18.9	20.6	65.4
	Undergraduate (4-year degree)	3	2.0	2.2	67.6
	some college	34	23.0	25.0	92.6
	post graduate (master's ph. d.)	1	.7	.7	93.4
	training technical education	9	6.1	6.6	100.0
	Total	136	91.9	100.0	
Missing	System	12	8.1		
Total		148	100.0		

The types of education for the residential group provided consistent results along a variety of education levels. The subjects were almost evenly divided into a 19.9% to 25.0% range among four major classifications. One fourth (25%) of the residential women reported having a high school diploma (N=34) and another 25% (N=34) also reported having some college experience.

Frequency Table: Nexus Residential Group (Current Employment)

currently employed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	.7	.7	.7
	yes	12	8.1	8.1	8.8
	no	135	91.2	91.2	100.0
	Total	148	100.0	100.0	

Frequency Table: Nexus Residential Group (Primary or Most Abused Substance)

Primary or most Abused substance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	alcohol	22	14.9	15.3	15.3
	heroin	3	2.0	2.1	17.4
	methadone	2	1.4	1.4	18.8
	other opiates	8	5.4	5.6	24.3
	cocaine	72	48.6	50.0	74.3
	amphetamines	27	18.2	18.8	93.1
	marijuana	8	5.4	5.6	98.6
	non-prescription pills	2	1.4	1.4	100.0
	Total	144	97.3	100.0	
Missing	System	4	2.7		
Total		148	100.0		

Frequency Table: Nexus Residential Group (Incarcerations longer than 10 days)

Incarcerated longer than 10 dyas

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	70	47.3	50.4	50.4
	no	69	46.6	49.6	100.0
	Total	139	93.9	100.0	
Missing	System	9	6.1		
Total		148	100.0		

Frequency Table: Nexus Residential Group (Accessing a state provider during the past 30 days)

Accessing a state provider

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	34	23.0	24.8	24.8
	no	103	69.6	75.2	100.0
	Total	137	92.6	100.0	
Missing	System	11	7.4		
Total		148	100.0		

Frequency Table: Nexus Residential Group (Type of insurance option)

Type of insurance option

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	uninsured	38	25.7	27.1	27.1
	medicaid	27	18.2	19.3	46.4
	enrolled in medicare	3	2.0	2.1	48.6
	enrolled in northstar	66	44.6	47.1	95.7
	private insurance	3	2.0	2.1	97.9
	in the process of completing an option above	3	2.0	2.1	100.0
	Total	140	94.6	100.0	
Missing	System	8	5.4		
Total		148	100.0		

STATISTICS: NEXUS OUTPATIENT & RESIDENTIAL GROUPS COMBINED

Descriptives: Nexus Residential and Outpatient Groups Combined Mean Age

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age	212	18	54	34.07	8.760
Valid N (listwise)	212				

Descriptives: Nexus Residential and Outpatient Groups Combined Medical

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Last hospitalization in months	116	.00	276.00	34.6918	54.28699
# of times hospitalized	231	0	20	2.19	3.357
days of medical problems	229	0	30	5.39	9.418
Valid N (listwise)	111				

Descriptives: Nexus Residential and Outpatient Groups Combined Education/ Employment

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Education					
Completed in years	211	0	18	11.52	2.146
Days experienced employment prob.	228	0	30	10.68	13.471
Dependents	234	0	6	1.28	1.373
Valid N (listwise)	199				

Descriptives: Nexus Residential and Outpatient Groups Combined Drug Use Reported

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
etoh in past 30 days	80	1	30	10.66	9.234
etohyr	145	1	40	14.34	9.377
etoh intoxication 30days	34	1	25	8.97	6.635
etoh intoxication yr	78	0	26	9.67	6.344
heroin in past 30 days	6	2	30	10.33	10.690
heroin use in years	21	1	17	4.38	4.663
methadone used in past 30 days	5	1	28	15.40	11.971
methadone use # of years	15	1	25	4.27	6.296
opiate use in past 30	14	1	30	11.57	8.555
opiate use in years	34	1	30	5.74	6.171
barbituate use in past 30 days	14	1	30	12.36	9.935
barbituate use in years	49	1	30	6.86	6.487
cocaine use in 30 days	80	1	30	13.43	10.752
cocaine use in years	142	1	39	8.89	7.830
amphetamine 30 days	39	1	30	12.49	8.611
amphetamine use in years	77	1	31	7.30	6.387
thc use in past 30 days	67	1	30	11.24	9.742
thc use in years	136	1	122	12.08	12.888
hallucinogens used in past 30 days	3	2	14	8.67	6.110
hallucinogen use in years	38	1	12	4.05	3.187
sedatives used in past 30 days	13	1	30	11.31	11.056
sedative use in years	43	1	20	5.86	5.480
inhalants used in past 30	3	2	30	11.33	16.166
inhalants used in years	15	1	11	3.73	3.494
non-prescription drugs in past 30	24	1	30	12.29	9.457
non-prescription in years	46	1	39	9.30	9.172
Valid N (listwise)	0				

Descriptives: Nexus Residential and Outpatient Groups Combined Drug Treatment

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Number of times exp. etoh d.t.s	222	0	100	3.13	9.827
number of times overdosed on drugs	233	0	40	1.17	3.865
# of times treated residential for etoh	205	0	17	1.18	2.337
# of times treated in outpatient etoh	177	0	20	.65	1.775
# of times residential for drugs	220	0	17	1.50	1.980
# of times outpatient for drugs	193	0	38	1.25	3.925
# of days in residential at nexus	190	0	133	15.91	20.712
# of days in outpatient at nexus	92	0	270	28.37	36.961
Valid N (listwise)	38				

Descriptives: Nexus Residential and Outpatient Groups Combined Legal

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
# of times arrested and charged	227	0	20	2.56	3.028
Valid N (listwise)	227				

Descriptives: Nexus Residential and Outpatient Groups Combined Mental Health

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
# of times treated for psych. prob.	220	0	40	2.06	3.868
# of times hosp. for psych	226	0	23	.85	2.225
# of times treated for psych. opt	226	0	40	1.22	3.478
Valid N (listwise)	213				

Frequency Table- Nexus Residential and Outpatient Groups Combined (Race)

race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	white	109	45.6	50.5	50.5
	american indian	4	1.7	1.9	52.3
	asian/pacific islander	1	.4	.5	52.8
	hispanic cuban	4	1.7	1.9	54.6
	black (not of hispanic origin)	82	34.3	38.0	92.6
	hispanic mexican	12	5.0	5.6	98.1
	other	4	1.7	1.9	100.0
	Total	216	90.4	100.0	
Missing	System	23	9.6		
Total		239	100.0		

Frequency Table: Nexus Residential and Outpatient Groups Combined (Current Medical Problems)

Current medical problems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	68	28.5	28.5	28.5
	no	171	71.5	71.5	100.0
	Total	239	100.0	100.0	

Frequency Table: Nexus Residential and Outpatient Groups Combined (Type of Education Completed)

Type of education completed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High school diploma	49	20.5	22.2	22.2
	some high school	48	20.1	21.7	43.9
	GED	47	19.7	21.3	65.2
	Undergraduate (4-year degree)	8	3.3	3.6	68.8
	some college	51	21.3	23.1	91.9
	post graduate (master's ph. d.)	2	.8	.9	92.8
	training technical education	16	6.7	7.2	100.0
	Total	221	92.5	100.0	
Missing	System	18	7.5		
Total		239	100.0		

Frequency Table: Nexus Residential and Outpatient Groups Combined (Current Employment)

currently employed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	.4	.4	.4
	yes	32	13.4	13.4	13.9
	no	205	85.8	86.1	100.0
	Total	238	99.6	100.0	
Missing	System	1	.4		
Total		239	100.0		

Frequency Table: Nexus Residential and Outpatient Groups Combined (Primary or Most Abused Substance)

Primary or most Abused substance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	alcohol	34	14.2	15.0	15.0
	heroin	5	2.1	2.2	17.2
	methadone	2	.8	.9	18.1
	other opiates	9	3.8	4.0	22.0
	barbituates	1	.4	.4	22.5
	cocaine	106	44.4	46.7	69.2
	amphetamines	45	18.8	19.8	89.0
	marijuana	23	9.6	10.1	99.1
	non-prescription pills	2	.8	.9	100.0
	Total	227	95.0	100.0	
Missing	System	12	5.0		
Total		239	100.0		

Frequency Table- Nexus Residential and Outpatient Groups Combined (Incarcerations longer than ten days)

Incarcerated longer than 10 dyas

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	107	44.8	47.1	47.1
	no	120	50.2	52.9	100.0
	Total	227	95.0	100.0	
Missing	System	12	5.0		
Total		239	100.0		

APPENDIX C
T-TESTS/ CORRELATIONS

T-Test- Summary of significant t-test results for Nexus residential & outpatient groups

Group Statistics

	treatment site	N	Mean	Std. Deviation	Std. Error Mean
# of times hospitalized	Outpatient	84	1.69	2.620	.286
	residential	144	2.49	3.715	.310
days of medical problems	Outpatient	83	3.39	8.012	.879
	residential	143	6.46	9.858	.824
Dependents	Outpatient	86	1.55	1.444	.156
	residential	146	1.12	1.305	.108
etoh in past 30 days	Outpatient	17	8.88	9.453	2.293
	residential	63	11.14	9.191	1.158
# of times outpatient for drugs	Outpatient	81	2.07	5.830	.648
	residential	110	.66	1.144	.109
# of days in residential at nexus	Outpatient	46	22.52	28.673	4.228
	residential	141	13.79	17.178	1.447
# of times hosp. for psych	Outpatient	85	.47	1.053	.114
	residential	139	1.07	2.691	.228

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
# of times hospitalized	Equal variances assumed	3.855	.051	-1.742	226	.083	-.803	.461	-1.710	.105
	Equal variances not assumed			-1.904	217.888	.058	-.803	.421	-1.633	.028
days of medical problems	Equal variances assumed	10.367	.001	-2.416	224	.016	-3.076	1.273	-5.585	-.567
	Equal variances not assumed			-2.552	200.171	.011	-3.076	1.205	-5.453	-.699
Dependents	Equal variances assumed	2.627	.106	2.329	230	.021	.430	.185	.066	.794
	Equal variances not assumed			2.269	164.177	.025	.430	.190	.056	.804
etoh in past 30 days	Equal variances assumed	.118	.732	-.895	78	.374	-2.261	2.527	-7.291	2.770
	Equal variances not assumed			-.880	24.788	.387	-2.261	2.569	-7.553	3.032
# of times outpatient for drugs	Equal variances assumed	4.875	.028	2.476	189	.014	1.410	.570	.287	2.534
	Equal variances not assumed			2.147	84.547	.035	1.410	.657	.104	2.717
# of days in residential at nexus	Equal variances assumed	4.601	.033	2.500	185	.013	8.735	3.493	1.842	15.627
	Equal variances not assumed			1.955	55.909	.056	8.735	4.468	-.217	17.686
# of times hosp. for psych	Equal variances assumed	9.370	.002	-1.969	222	.050	-.601	.305	-1.203	.001
	Equal variances not assumed			-2.356	195.631	.019	-.601	.255	-1.105	-.098

T-Test- Nexus Race Group Differences

Group Statistics

	race	N	Mean	Std. Deviation	Std. Error Mean
# of times hospitalized	white	106	2.46	3.356	.326
	black (not of hispanic origin)	79	1.78	3.120	.351
Education Completed in years	white	95	11.60	2.002	.205
	black (not of hispanic origin)	74	11.26	2.318	.269
cocaine use in 30 days	white	32	11.94	9.929	1.755
	black (not of hispanic origin)	39	15.38	11.417	1.828
cocaine use in years	white	60	7.00	6.222	.803
	black (not of hispanic origin)	53	11.53	9.256	1.271
amphetamine 30 days	white	26	14.96	9.040	1.773
	black (not of hispanic origin)	5	6.20	4.604	2.059
amphetamine use in years	white	51	7.69	6.547	.917
	black (not of hispanic origin)	9	6.33	7.348	2.449
# of times treated for psych. prob.	white	96	2.78	5.054	.516
	black (not of hispanic origin)	78	1.36	2.730	.309

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
# of times hospitalized	Equal variances assumed	1.063	.304	1.399	183	.163	.677	.484	-.278	1.633
	Equal variances not assumed			1.414	174.251	.159	.677	.479	-.268	1.623
Education Completed in years	Equal variances assumed	.010	.919	1.032	167	.304	.343	.333	-.314	1.000
	Equal variances not assumed			1.013	144.592	.313	.343	.339	-.326	1.013
cocaine use in 30 days	Equal variances assumed	2.149	.147	-1.341	69	.184	-3.447	2.570	-8.574	1.679
	Equal variances not assumed			-1.360	68.744	.178	-3.447	2.534	-8.503	1.609
cocaine use in years	Equal variances assumed	11.095	.001	-3.083	111	.003	-4.528	1.469	-7.439	-1.618
	Equal variances not assumed			-3.011	89.260	.003	-4.528	1.504	-7.516	-1.540
amphetamine 30 days	Equal variances assumed	2.521	.123	2.095	29	.045	8.762	4.183	.207	17.316
	Equal variances not assumed			3.225	11.148	.008	8.762	2.717	2.791	14.732
amphetamine use in years	Equal variances assumed	.735	.395	.562	58	.577	1.353	2.409	-3.469	6.175
	Equal variances not assumed			.517	10.365	.616	1.353	2.615	-4.447	7.153
# of times treated for psych. prob.	Equal variances assumed	3.374	.068	2.234	172	.027	1.422	.637	.166	2.679
	Equal variances not assumed			2.365	151.402	.019	1.422	.601	.234	2.610

T-Test- Program Satisfaction (Q4, Q5, Q7) range 3-15

Group Statistics

	treatment site	N	Mean	Std. Deviation	Std. Error Mean
Satisfaction with Program	Outpatient	77	13.4935	1.84693	.21048
	residential	132	12.8788	2.20350	.19179

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Satisfaction with Program	Equal variances assumed	.539	.464	2.061	207	.041	.61472	.29822	.02677	1.20266
	Equal variances not assumed			2.159	181.864	.032	.61472	.28475	.05287	1.17656

T-Test: Needs Q1, Q6, Q8

Group Statistics

	treatment site	N	Mean	Std. Deviation	Std. Error Mean
Needs indicated by scale	Outpatient	83	11.7349	2.71439	.29794
	residential	138	12.1232	2.49804	.21265

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	% Confidence Interval of the Difference	
									Lower	Upper
Needs indicated by scale	Equal variances assumed	.220	.640	-1.083	219	.280	-.38825	.35854	1.09487	.31838
	Equal variances not assumed			-1.061	161.704	.290	-.38825	.36604	1.11109	.33460

T-Test

Group Statistics

	treatment site	N	Mean	Std. Deviation	Std. Error Mean
Age	Outpatient	76	34.09	8.959	1.028
	residential	136	34.06	8.680	.744
# of times hospitalized	Outpatient	84	1.69	2.620	.286
	residential	144	2.49	3.715	.310
Last hospitalization in months	Outpatient	45	18.9444	31.13118	4.64076
	residential	71	44.6725	63.02376	7.47954
days of medical problems	Outpatient	83	3.39	8.012	.879
	residential	143	6.46	9.858	.824
Days experienced employment prob.	Outpatient	86	10.92	13.552	1.461
	residential	140	10.46	13.434	1.135
Dependents	Outpatient	86	1.55	1.444	.156
	residential	146	1.12	1.305	.108
etoh in past 30 days	Outpatient	17	8.88	9.453	2.293
	residential	63	11.14	9.191	1.158
etohyr	Outpatient	54	14.72	10.217	1.390
	residential	89	14.17	8.891	.942
etoh intoxication 30days	Outpatient	4	4.50	3.512	1.756
	residential	30	9.57	6.760	1.234
etoh intoxication yr	Outpatient	26	10.73	5.703	1.118
	residential	52	9.13	6.630	.919
heroin in past 30 days	Outpatient	0 ^a	.	.	.
	residential	6	10.33	10.690	4.364
heroin use in years	Outpatient	5	3.80	2.588	1.158
	residential	16	4.56	5.202	1.301
methadone used in past 30 days	Outpatient	0 ^a	.	.	.
	residential	5	15.40	11.971	5.354
methadone use # of years	Outpatient	5	7.00	10.173	4.550
	residential	10	2.90	3.071	.971
opiate use in past 30	Outpatient	0 ^a	.	.	.
	residential	14	11.57	8.555	2.286
opiate use in years	Outpatient	12	3.92	1.564	.452
	residential	22	6.73	7.459	1.590
barbituate use in past 30 days	Outpatient	1	1.00	.	.
	residential	13	13.23	9.765	2.708
barbituate use in years	Outpatient	17	6.71	5.720	1.387
	residential	32	6.94	6.947	1.228
cocaine use in 30 days	Outpatient	9	13.44	11.159	3.720
	residential	71	13.42	10.782	1.280
cocaine use in years	Outpatient	47	8.49	7.256	1.058
	residential	94	9.17	8.129	.838
amphetamine 30 days	Outpatient	5	8.60	7.470	3.341
	residential	34	13.06	8.718	1.495
amphetamine use in years	Outpatient	29	7.72	5.970	1.109
	residential	48	7.04	6.675	.963
thc use in past 30 days	Outpatient	6	11.00	11.730	4.789
	residential	61	11.26	9.640	1.234
thc use in years	Outpatient	50	14.16	18.220	2.577
	residential	86	10.87	8.270	.892

Group Statistics

	treatment site	N	Mean	Std. Deviation	Std. Error Mean
hallucinogens used in past 30 days	Outpatient	0 ^a	.	.	.
	residential	3	8.67	6.110	3.528
hallucinogen use in years	Outpatient	16	4.31	3.554	.888
	residential	22	3.86	2.965	.632
sedatives used in past 30 days	Outpatient	1	2.00	.	.
	residential	11	13.09	11.131	3.356
sedative use in years	Outpatient	17	5.41	5.100	1.237
	residential	26	6.15	5.794	1.136
inhalants used in past 30	Outpatient	2	2.00	.000	.000
	residential	1	30.00	.	.
inhalants used in years	Outpatient	6	3.83	3.061	1.249
	residential	9	3.67	3.937	1.312
non-prescription drugs in past 30	Outpatient	5	17.20	12.716	5.687
	residential	19	11.00	8.360	1.918
non-prescription in years	Outpatient	17	10.35	10.216	2.478
	residential	29	8.69	8.632	1.603
Primary or most Abused substance	Outpatient	81	5.78	2.197	.244
	residential	144	5.38	2.250	.188
Number of times exp. etoh d.t.s	Outpatient	75	3.91	13.564	1.566
	residential	144	2.74	7.309	.609
number of times overdosed on drugs	Outpatient	86	1.06	3.058	.330
	residential	145	1.21	4.293	.357
# of times treated residential for etoh	Outpatient	75	1.01	2.385	.275
	residential	128	1.27	2.323	.205
# of times treated in outpatient etoh	Outpatient	69	.90	2.486	.299
	residential	107	.49	1.093	.106
# of times residential for drugs	Outpatient	78	1.36	2.335	.264
	residential	140	1.59	1.763	.149
# of times outpatient for drugs	Outpatient	81	2.07	5.830	.648
	residential	110	.66	1.144	.109
# of days in residential at nexus	Outpatient	46	22.52	28.673	4.228
	residential	141	13.79	17.178	1.447
# of days in outpatient at nexus	Outpatient	79	29.18	38.891	4.376
	residential	11	25.73	23.333	7.035
# of times arrested and charged	Outpatient	84	2.49	2.951	.322
	residential	141	2.63	3.092	.260
Incarcerated longer than 10 dyas	Outpatient	85	1.58	.497	.054
	residential	139	1.50	.502	.043
# of times treated for psych. prob.	Outpatient	82	2.00	4.635	.512
	residential	135	2.12	3.379	.291
# of times hosp. for psych	Outpatient	85	.47	1.053	.114
	residential	139	1.07	2.691	.228
# of times treated for psych. opt	Outpatient	85	1.35	4.498	.488
	residential	138	1.14	2.725	.232
Accessing a state provider	Outpatient	82	1.71	.458	.051
	residential	137	1.75	.434	.037
Type of insurance option	Outpatient	85	3.05	1.527	.166
	residential	140	2.84	1.421	.120

Group Statistics

	treatment site	N	Mean	Std. Deviation	Std. Error Mean
Satisfaction with Program	Outpatient	77	13.4935	1.84693	.21048
	residential	132	12.8788	2.20350	.19179
Needs indicated by scale	Outpatient	83	11.7349	2.71439	.29794
	residential	138	12.1232	2.49804	.21265

a. t cannot be computed because at least one of the groups is empty.

Independent Samples Test

		Levene's Test for Equality of Variances	
		F	Sig.
Age	Equal variances assumed Equal variances not assumed	.264	.608
# of times hospitalized	Equal variances assumed Equal variances not assumed	3.855	.051
Last hospitalization in months	Equal variances assumed Equal variances not assumed	14.879	.000
days of medical problems	Equal variances assumed Equal variances not assumed	10.367	.001
Days experienced employment prob.	Equal variances assumed Equal variances not assumed	.131	.718
Dependents	Equal variances assumed Equal variances not assumed	2.627	.106
etoh in past 30 days	Equal variances assumed Equal variances not assumed	.118	.732
etohyr	Equal variances assumed Equal variances not assumed	.463	.497
etoh intoxication 30days	Equal variances assumed Equal variances not assumed	1.291	.264
etoh intoxication yr	Equal variances assumed Equal variances not assumed	.143	.706
heroin use in years	Equal variances assumed Equal variances not assumed	.639	.434
methadone use # of years	Equal variances assumed Equal variances not assumed	5.625	.034

Independent Samples Test

		Levene's Test for Equality of Variances	
		F	Sig.
opiate use in years	Equal variances assumed Equal variances not assumed	5.746	.023
barbituate use in past 30 days	Equal variances assumed Equal variances not assumed		
barbituate use in years	Equal variances assumed Equal variances not assumed	.132	.718
cocaine use in 30 days	Equal variances assumed Equal variances not assumed	.173	.678
cocaine use in years	Equal variances assumed Equal variances not assumed	2.808	.096
amphetamine 30 days	Equal variances assumed Equal variances not assumed	.481	.492
amphetamine use in years	Equal variances assumed Equal variances not assumed	.005	.943
thc use in past 30 days	Equal variances assumed Equal variances not assumed	.169	.683
thc use in years	Equal variances assumed Equal variances not assumed	3.978	.048
hallucinogen use in years	Equal variances assumed Equal variances not assumed	.891	.352
sedatives used in past 30 days	Equal variances assumed Equal variances not assumed		
sedative use in years	Equal variances assumed Equal variances not assumed	.069	.795

Independent Samples Test

		Levene's Test for Equality of Variances	
		F	Sig.
inhalants used in past 30	Equal variances assumed Equal variances not assumed		
inhalants used in years	Equal variances assumed Equal variances not assumed	.268	.613
non-prescription drugs in past 30	Equal variances assumed Equal variances not assumed	2.081	.163
non-prescription in years	Equal variances assumed Equal variances not assumed	.067	.797
Primary or most Abused substance	Equal variances assumed Equal variances not assumed	.536	.465
Number of times exp. etoh d.t.s	Equal variances assumed Equal variances not assumed	3.301	.071
number of times overdosed on drugs	Equal variances assumed Equal variances not assumed	.262	.609
# of times treated residential for etoh	Equal variances assumed Equal variances not assumed	.121	.729
# of times treated in outpatient etoh	Equal variances assumed Equal variances not assumed	1.650	.201
# of times residential for drugs	Equal variances assumed Equal variances not assumed	1.074	.301
# of times outpatient for drugs	Equal variances assumed Equal variances not assumed	4.875	.028
# of days in residential at nexus	Equal variances assumed Equal variances not assumed	4.601	.033

Independent Samples Test

		Levene's Test for Equality of Variances	
		F	Sig.
# of days in outpatient at nexus	Equal variances assumed Equal variances not assumed	.347	.557
# of times arrested and charged	Equal variances assumed Equal variances not assumed	.000	.986
Incarcerated longer than 10 dyas	Equal variances assumed Equal variances not assumed	3.273	.072
# of times treated for psych. prob.	Equal variances assumed Equal variances not assumed	.162	.688
# of times hosp. for psych	Equal variances assumed Equal variances not assumed	9.370	.002
# of times treated for psych. opt	Equal variances assumed Equal variances not assumed	.115	.735
Accessing a state provider	Equal variances assumed Equal variances not assumed	1.978	.161
Type of insurance option	Equal variances assumed Equal variances not assumed	.533	.466
Satisfaction with Program	Equal variances assumed Equal variances not assumed	.539	.464
Needs indicated by scale	Equal variances assumed Equal variances not assumed	.220	.640

Independent Samples Test

		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
Age	Equal variances assumed	.026	210	.979	.033
	Equal variances not assumed	.026	151.202	.979	.033
# of times hospitalized	Equal variances assumed	-1.742	226	.083	-.803
	Equal variances not assumed	-1.904	217.888	.058	-.803
Last hospitalization in months	Equal variances assumed	-2.546	114	.012	-25.72809
	Equal variances not assumed	-2.923	108.652	.004	-25.72809
days of medical problems	Equal variances assumed	-2.416	224	.016	-3.076
	Equal variances not assumed	-2.552	200.171	.011	-3.076
Days experienced employment prob.	Equal variances assumed	.246	224	.806	.454
	Equal variances not assumed	.246	178.764	.806	.454
Dependents	Equal variances assumed	2.329	230	.021	.430
	Equal variances not assumed	2.269	164.177	.025	.430
etoh in past 30 days	Equal variances assumed	-.895	78	.374	-2.261
	Equal variances not assumed	-.880	24.788	.387	-2.261
etohyr	Equal variances assumed	.341	141	.734	.554
	Equal variances not assumed	.330	100.156	.742	.554
etoh intoxication 30days	Equal variances assumed	-1.459	32	.154	-5.067
	Equal variances not assumed	-2.361	6.532	.053	-5.067
etoh intoxication yr	Equal variances assumed	1.048	76	.298	1.596
	Equal variances not assumed	1.102	57.366	.275	1.596
heroin use in years	Equal variances assumed	-.312	19	.759	-.763
	Equal variances not assumed	-.438	14.367	.668	-.763
methadone use # of years	Equal variances assumed	1.208	13	.248	4.100
	Equal variances not assumed	.881	4.369	.424	4.100

Independent Samples Test

		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
opiate use in years	Equal variances assumed	-1.281	32	.209	-2.811
	Equal variances not assumed	-1.700	24.222	.102	-2.811
barbituate use in past 30 days	Equal variances assumed	-1.207	12	.251	-12.231
	Equal variances not assumed	.	.	.	-12.231
barbituate use in years	Equal variances assumed	-.118	47	.907	-.232
	Equal variances not assumed	-.125	38.648	.901	-.232
cocaine use in 30 days	Equal variances assumed	.006	78	.995	.022
	Equal variances not assumed	.006	9.989	.996	.022
cocaine use in years	Equal variances assumed	-.485	139	.628	-.681
	Equal variances not assumed	-.504	101.985	.615	-.681
amphetamine 30 days	Equal variances assumed	-1.084	37	.286	-4.459
	Equal variances not assumed	-1.218	5.735	.271	-4.459
amphetamine use in years	Equal variances assumed	.452	75	.653	.682
	Equal variances not assumed	.465	64.388	.644	.682
thc use in past 30 days	Equal variances assumed	-.062	65	.950	-.262
	Equal variances not assumed	-.053	5.684	.960	-.262
thc use in years	Equal variances assumed	1.440	134	.152	3.288
	Equal variances not assumed	1.206	60.938	.233	3.288
hallucinogen use in years	Equal variances assumed	.424	36	.674	.449
	Equal variances not assumed	.412	28.765	.684	.449
sedatives used in past 30 days	Equal variances assumed	-.954	10	.363	-11.091
	Equal variances not assumed	.	.	.	-11.091
sedative use in years	Equal variances assumed	-.430	41	.669	-.742
	Equal variances not assumed	-.442	37.370	.661	-.742

Independent Samples Test

		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
inhalants used in past 30	Equal variances assumed	.	1	.	-28.000
	Equal variances not assumed	.	.	.	-28.000
inhalants used in years	Equal variances assumed	.087	13	.932	.167
	Equal variances not assumed	.092	12.562	.928	.167
non-prescription drugs in past 30	Equal variances assumed	1.326	22	.199	6.200
	Equal variances not assumed	1.033	4.947	.349	6.200
non-prescription in years	Equal variances assumed	.589	44	.559	1.663
	Equal variances not assumed	.564	29.265	.577	1.663
Primary or most Abused substance	Equal variances assumed	1.277	223	.203	.396
	Equal variances not assumed	1.286	169.310	.200	.396
Number of times exp. etoh d.t.s	Equal variances assumed	.826	217	.410	1.164
	Equal variances not assumed	.692	96.929	.490	1.164
number of times overdosed on drugs	Equal variances assumed	-.295	229	.769	-.156
	Equal variances not assumed	-.321	221.354	.749	-.156
# of times treated residential for etoh	Equal variances assumed	-.762	201	.447	-.260
	Equal variances not assumed	-.757	151.803	.450	-.260
# of times treated in outpatient etoh	Equal variances assumed	1.507	174	.134	.413
	Equal variances not assumed	1.300	85.172	.197	.413
# of times residential for drugs	Equal variances assumed	-.834	216	.405	-.234
	Equal variances not assumed	-.771	126.564	.442	-.234
# of times outpatient for drugs	Equal variances assumed	2.476	189	.014	1.410
	Equal variances not assumed	2.147	84.547	.035	1.410
# of days in residential at nexus	Equal variances assumed	2.500	185	.013	8.735
	Equal variances not assumed	1.955	55.909	.056	8.735

Independent Samples Test

		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
# of days in outpatient at nexus	Equal variances assumed	.286	88	.775	3.450
	Equal variances not assumed	.416	18.871	.682	3.450
# of times arrested and charged	Equal variances assumed	-.341	223	.733	-.143
	Equal variances not assumed	-.346	181.138	.730	-.143
Incarcerated longer than 10 dyas	Equal variances assumed	1.163	222	.246	.080
	Equal variances not assumed	1.166	179.009	.245	.080
# of times treated for psych. prob.	Equal variances assumed	-.217	215	.828	-.119
	Equal variances not assumed	-.201	133.347	.841	-.119
# of times hosp. for psych	Equal variances assumed	-1.969	222	.050	-.601
	Equal variances not assumed	-2.356	195.631	.019	-.601
# of times treated for psych. opt	Equal variances assumed	.430	221	.667	.208
	Equal variances not assumed	.385	122.429	.701	.208
Accessing a state provider	Equal variances assumed	-.720	217	.472	-.045
	Equal variances not assumed	-.710	163.279	.479	-.045
Type of insurance option	Equal variances assumed	1.016	223	.311	.204
	Equal variances not assumed	.998	167.546	.320	.204
Satisfaction with Program	Equal variances assumed	2.061	207	.041	.61472
	Equal variances not assumed	2.159	181.864	.032	.61472
Needs indicated by scale	Equal variances assumed	-1.083	219	.280	-.38825
	Equal variances not assumed	-1.061	161.704	.290	-.38825

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Age	Equal variances assumed	1.258	-2.446	2.512
	Equal variances not assumed	1.269	-2.474	2.540
# of times hospitalized	Equal variances assumed	.461	-1.710	.105
	Equal variances not assumed	.421	-1.633	.028
Last hospitalization in months	Equal variances assumed	10.10598	-45.74796	-5.70822
	Equal variances not assumed	8.80229	-43.17456	-8.28162
days of medical problems	Equal variances assumed	1.273	-5.585	-.567
	Equal variances not assumed	1.205	-5.453	-.699
Days experienced employment prob.	Equal variances assumed	1.847	-3.185	4.093
	Equal variances not assumed	1.851	-3.197	4.106
Dependents	Equal variances assumed	.185	.066	.794
	Equal variances not assumed	.190	.056	.804
etoh in past 30 days	Equal variances assumed	2.527	-7.291	2.770
	Equal variances not assumed	2.569	-7.553	3.032
etohyr	Equal variances assumed	1.623	-2.656	3.763
	Equal variances not assumed	1.680	-2.779	3.886
etoh intoxication 30days	Equal variances assumed	3.473	-12.141	2.008
	Equal variances not assumed	2.146	-10.217	.083
etoh intoxication yr	Equal variances assumed	1.523	-1.437	4.629
	Equal variances not assumed	1.448	-1.303	4.495
heroin use in years	Equal variances assumed	2.445	-5.880	4.355
	Equal variances not assumed	1.741	-4.488	2.963
methadone use # of years	Equal variances assumed	3.393	-3.230	11.430
	Equal variances not assumed	4.652	-8.398	16.598

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
opiate use in years	Equal variances assumed	2.193	-7.278	1.657
	Equal variances not assumed	1.653	-6.221	.600
barbituate use in past 30 days	Equal variances assumed	10.134	-34.310	9.849
	Equal variances not assumed	.	.	.
barbituate use in years	Equal variances assumed	1.967	-4.189	3.726
	Equal variances not assumed	1.853	-3.980	3.517
cocaine use in 30 days	Equal variances assumed	3.829	-7.601	7.645
	Equal variances not assumed	3.934	-8.744	8.788
cocaine use in years	Equal variances assumed	1.403	-3.454	2.092
	Equal variances not assumed	1.350	-3.359	1.997
amphetamine 30 days	Equal variances assumed	4.115	-12.797	3.879
	Equal variances not assumed	3.660	-13.516	4.598
amphetamine use in years	Equal variances assumed	1.510	-2.326	3.691
	Equal variances not assumed	1.469	-2.251	3.616
thc use in past 30 days	Equal variances assumed	4.200	-8.650	8.126
	Equal variances not assumed	4.945	-12.528	12.003
thc use in years	Equal variances assumed	2.283	-1.227	7.803
	Equal variances not assumed	2.727	-2.165	8.740
hallucinogen use in years	Equal variances assumed	1.059	-1.699	2.597
	Equal variances not assumed	1.090	-1.782	2.680
sedatives used in past 30 days	Equal variances assumed	11.626	-36.994	14.812
	Equal variances not assumed	.	.	.
sedative use in years	Equal variances assumed	1.726	-4.228	2.744
	Equal variances not assumed	1.680	-4.144	2.660

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
inhalants used in past 30	Equal variances assumed	.000	-28.000	-28.000
	Equal variances not assumed	.	.	.
inhalants used in years	Equal variances assumed	1.911	-3.961	4.294
	Equal variances not assumed	1.812	-3.762	4.095
non-prescription drugs in past 30	Equal variances assumed	4.677	-3.499	15.899
	Equal variances not assumed	6.002	-9.277	21.677
non-prescription in years	Equal variances assumed	2.822	-4.025	7.351
	Equal variances not assumed	2.951	-4.370	7.696
Primary or most Abused substance	Equal variances assumed	.310	-.215	1.006
	Equal variances not assumed	.308	-.212	1.003
Number of times exp. etoh d.t.s	Equal variances assumed	1.409	-1.614	3.941
	Equal variances not assumed	1.680	-2.172	4.499
number of times overdosed on drugs	Equal variances assumed	.528	-1.196	.885
	Equal variances not assumed	.486	-1.113	.801
# of times treated residential for etoh	Equal variances assumed	.341	-.933	.413
	Equal variances not assumed	.344	-.939	.419
# of times treated in outpatient etoh	Equal variances assumed	.274	-.128	.953
	Equal variances not assumed	.317	-.219	1.044
# of times residential for drugs	Equal variances assumed	.281	-.787	.319
	Equal variances not assumed	.303	-.834	.367
# of times outpatient for drugs	Equal variances assumed	.570	.287	2.534
	Equal variances not assumed	.657	.104	2.717
# of days in residential at nexus	Equal variances assumed	3.493	1.842	15.627
	Equal variances not assumed	4.468	-.217	17.686

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
# of days in outpatient at nexus	Equal variances assumed	12.052	-20.501	27.401
	Equal variances not assumed	8.285	-13.898	20.798
# of times arrested and charged	Equal variances assumed	.419	-.969	.683
	Equal variances not assumed	.414	-.960	.674
Incarcerated longer than 10 dyas	Equal variances assumed	.069	-.056	.216
	Equal variances not assumed	.069	-.055	.216
# of times treated for psych. prob.	Equal variances assumed	.546	-1.195	.958
	Equal variances not assumed	.589	-1.283	1.046
# of times hosp. for psych	Equal variances assumed	.305	-1.203	.001
	Equal variances not assumed	.255	-1.105	-.098
# of times treated for psych. opt	Equal variances assumed	.483	-.745	1.161
	Equal variances not assumed	.540	-.861	1.277
Accessing a state provider	Equal variances assumed	.062	-.166	.077
	Equal variances not assumed	.063	-.168	.079
Type of insurance option	Equal variances assumed	.201	-.192	.600
	Equal variances not assumed	.205	-.200	.608
Satisfaction with Program	Equal variances assumed	.29822	.02677	1.20266
	Equal variances not assumed	.28475	.05287	1.17656
Needs indicated by scale	Equal variances assumed	.35854	-1.09487	.31838
	Equal variances not assumed	.36604	-1.11109	.33460

T-Test for substance use of both groups

Group Statistics

	treatment site	N	Mean	Std. Deviation	Std. Error Mean
etohyr	Outpatient	54	14.72	10.217	1.390
	residential	89	14.17	8.891	.942
heroin use in years	Outpatient	5	3.80	2.588	1.158
	residential	16	4.56	5.202	1.301
methadone use # of years	Outpatient	5	7.00	10.173	4.550
	residential	10	2.90	3.071	.971
opiate use in years	Outpatient	12	3.92	1.564	.452
	residential	22	6.73	7.459	1.590
cocaine use in years	Outpatient	47	8.49	7.256	1.058
	residential	94	9.17	8.129	.838
amphetamine use in years	Outpatient	29	7.72	5.970	1.109
	residential	48	7.04	6.675	.963
thc use in years	Outpatient	50	14.16	18.220	2.577
	residential	86	10.87	8.270	.892
hallucinogen use in years	Outpatient	16	4.31	3.554	.888
	residential	22	3.86	2.965	.632
sedative use in years	Outpatient	17	5.41	5.100	1.237
	residential	26	6.15	5.794	1.136
inhalants used in years	Outpatient	6	3.83	3.061	1.249
	residential	9	3.67	3.937	1.312
non-prescription in years	Outpatient	17	10.35	10.216	2.478
	residential	29	8.69	8.632	1.603
barbituate use in years	Outpatient	17	6.71	5.720	1.387
	residential	32	6.94	6.947	1.228

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
etohyr	Equal variances assumed	.463	.497	.341	141	.734	.554	1.623	-2.656	3.763
	Equal variances not assumed			.330	100.156	.742	.554	1.680	-2.779	3.886
heroin use in years	Equal variances assumed	.639	.434	-.312	19	.759	-.763	2.445	-5.880	4.355
	Equal variances not assumed			-.438	14.367	.668	-.763	1.741	-4.488	2.963
methadone use # of years	Equal variances assumed	5.625	.034	1.208	13	.248	4.100	3.393	-3.230	11.430
	Equal variances not assumed			.881	4.369	.424	4.100	4.652	-8.398	16.598
opiate use in years	Equal variances assumed	5.746	.023	-1.281	32	.209	-2.811	2.193	-7.278	1.657
	Equal variances not assumed			-1.700	24.222	.102	-2.811	1.653	-6.221	.600
cocaine use in years	Equal variances assumed	2.808	.096	-.485	139	.628	-.681	1.403	-3.454	2.092
	Equal variances not assumed			-.504	101.985	.615	-.681	1.350	-3.359	1.997
amphetamine use in years	Equal variances assumed	.005	.943	.452	75	.653	.682	1.510	-2.326	3.691
	Equal variances not assumed			.465	64.388	.644	.682	1.469	-2.251	3.616
thc use in years	Equal variances assumed	3.978	.048	1.440	134	.152	3.288	2.283	-1.227	7.803
	Equal variances not assumed			1.206	60.938	.233	3.288	2.727	-2.165	8.740
hallucinogen use in years	Equal variances assumed	.891	.352	.424	36	.674	.449	1.059	-1.699	2.597
	Equal variances not assumed			.412	28.765	.684	.449	1.090	-1.782	2.680
sedative use in years	Equal variances assumed	.069	.795	-.430	41	.669	-.742	1.726	-4.228	2.744
	Equal variances not assumed			-.442	37.370	.661	-.742	1.680	-4.144	2.660
inhalants used in years	Equal variances assumed	.268	.613	.087	13	.932	.167	1.911	-3.961	4.294
	Equal variances not assumed			.092	12.562	.928	.167	1.812	-3.762	4.095
non-prescription in years	Equal variances assumed	.067	.797	.589	44	.559	1.663	2.822	-4.025	7.351
	Equal variances not assumed			.564	29.265	.577	1.663	2.951	-4.370	7.696
barbituate use in years	Equal variances assumed	.132	.718	-.118	47	.907	-.232	1.967	-4.189	3.726
	Equal variances not assumed			-.125	38.648	.901	-.232	1.853	-3.980	3.517

Correlations: Cocaine abuse in years to residential treatments

Correlations

		cocaine use in years	# of times residential for drugs
cocaine use in years	Pearson Correlation	1	.282**
	Sig. (2-tailed)	.	.001
	N	142	136
# of times residential for drugs	Pearson Correlation	.282**	1
	Sig. (2-tailed)	.001	.
	N	136	220

** . Correlation is significant at the 0.01 level (2-tailed).

Correlations: Amphetamine abuse in years to residential treatments

Correlations

		# of times residential for drugs	amphetamine use in years
# of times residential for drugs	Pearson Correlation	1	.349**
	Sig. (2-tailed)	.	.002
	N	220	75
amphetamine use in years	Pearson Correlation	.349**	1
	Sig. (2-tailed)	.002	.
	N	75	77

** . Correlation is significant at the 0.01 level (2-tailed).

Correlations: Alcohol abuse in years to residential treatments

Correlations

		etohyr	# of times treated residential for etoh
etohyr	Pearson Correlation	1	.150
	Sig. (2-tailed)	.	.092
	N	145	127
# of times treated residential for etoh	Pearson Correlation	.150	1
	Sig. (2-tailed)	.092	.
	N	127	205

Correlations: Cocaine abuse in years to number of outpatient treatments

Correlations

		etohyr	# of times treated in outpatient etoh
etohyr	Pearson Correlation	1	.118
	Sig. (2-tailed)	.	.224
	N	145	108
# of times treated in outpatient etoh	Pearson Correlation	.118	1
	Sig. (2-tailed)	.224	.
	N	108	177

Correlations: Cocaine abuse in years to number of outpatient treatments

Correlations

		cocaine use in years	# of times outpatient for drugs
cocaine use in years	Pearson Correlation	1	.083
	Sig. (2-tailed)	.	.372
	N	142	117
# of times outpatient for drugs	Pearson Correlation	.083	1
	Sig. (2-tailed)	.372	.
	N	117	193

Correlations: Amphetamine abuse in years to number of outpatient treatments

Correlations

		# of times outpatient for drugs	amphetamine use in years
# of times outpatient for drugs	Pearson Correlation	1	.017
	Sig. (2-tailed)	.	.896
	N	193	64
amphetamine use in years	Pearson Correlation	.017	1
	Sig. (2-tailed)	.896	.
	N	64	77

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