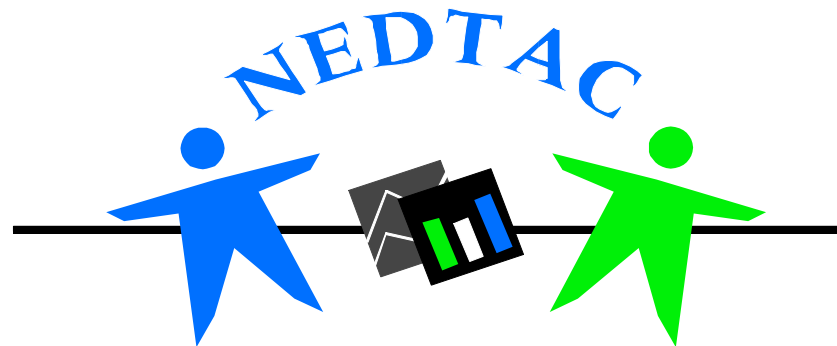


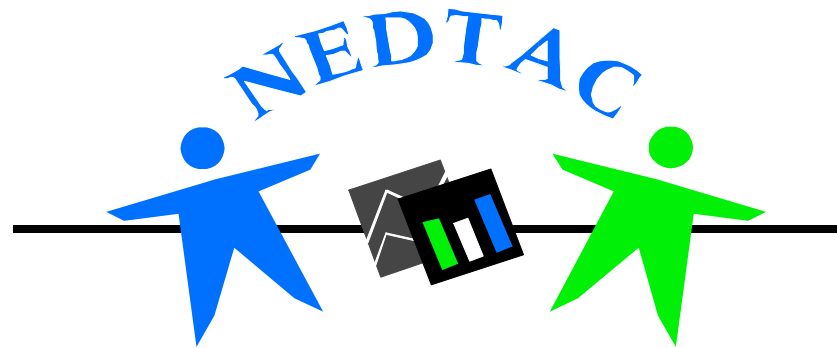
**NATIONAL EVALUATION DATA AND  
TECHNICAL ASSISTANCE CENTER**



**DUALLY DIAGNOSED HOMELESS  
MULTI-PROJECT ANALYSIS (MPA):  
PROFILE OF VETERANS IN PROGRAM**

**December 1998**

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**CSAT**  
Center for Substance  
Abuse Treatment  
SAMHSA

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## FOREWORD

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

This report is one in a series of three reports prepared by Caliber Associates under CSAT's National Evaluation Data and Technical Assistance Center (NEDTAC) contract. The first report, *Dually Diagnosed Homeless Multi-Project Analysis (MPA): Project Summaries*, contains brief summaries of the local evaluations of the six projects. The third report, *Dually Diagnosed Homeless Multi-Project Analysis (MPA)*, focuses on the results of the analyses of data pooled across the projects and also across their respective demonstration vs. comparison groupings. It presents a profile of the intake characteristics of dually diagnosed homeless persons in treatment and presents an overall picture of program benefits for clients remaining six months in treatment.

This report focuses on veterans who received treatment in these projects. It presents a profile of veterans in treatment and discusses the characteristics of veterans and non-veteran clients. This report also examines the characteristics of veterans who remained in treatment for 6 months and assesses program benefits for this group of veterans.

Sharon Bishop  
Project Director  
National Data and Technical Assistance Center

## ACKNOWLEDGMENTS

This report was developed for CSAT by the National Evaluation Data and Technical Assistance Center (NEDTAC) under the guidance and direction of Ron Smith, Ph.D., Program Evaluation Branch, Office of Evaluation, Scientific Analysis, and Synthesis (OESAS). NEDTAC also wishes to acknowledge the invaluable contributions of the CSAT/CMHS demonstration project directors and local evaluators for providing guidance, explanatory information, and local project and evaluation data. The data gathering and analysis process for this report was greatly assisted by The CDM Group, Inc., particularly Bob O'Brian, Ph.D. and Julie Johnson.

In addition, many people within Caliber contributed to this effort. These staff include Kenneth Burgdorf, Ph.D., Mareena McKinley Wright, Ph.D., Penny Dorsey, Nora Kersten, Lucy Dickson, Walter Bottiny, Kristen Noble, Stephanie Sheldon, Cynthia Gimbel, Ph.D., Wes Wright, and Donna Caudill. Contributions range from data analysis to report development, report editing, and report reproduction and all of these efforts were equally invaluable and greatly appreciated.

## **I. INTRODUCTION**

# I. INTRODUCTION

## Background and Overview of the Report

This report summarizes results of the veterans' component of the Collaborative Demonstration Project for Homeless Individuals, a demonstration grant program funded jointly by CMHS and CSAT. Under this program, six projects received grants for the development and evaluation of treatment centers designed to address the needs of the dually diagnosed homeless—homeless persons with both serious mental illnesses and substance abuse disorders.

In addition to developing and implementing their demonstration treatment projects, grantees in this program were funded to conduct systematic evaluations of their projects aimed at documenting treatment effectiveness. Each evaluation was required to collect client data both at intake and at later follow-up points, both for clients in the demonstration project and for a comparison group of clients who received alternative forms of treatment.

Each project was responsible for designing and conducting its own evaluation. The process resulted in many between-project differences in instruments, schedules, and designs, which limit the extent to which information can usefully be combined across projects. The projects also had many features in common, however—enough to permit a meaningful pooled analysis.

This report is one in a series of three secondary analysis products developed from the Collaborative Demonstration Project for Homeless Individuals by CSAT's National Evaluation Data and Technical Assistance Center (NEDTAC). Other reports in this series address the following topics:

- A pooled-data analysis of client characteristics and treatment outcomes, overall and separately by gender.
- Brief summaries of the six individual demonstration projects and their evaluation designs and findings.

## Data Considerations

The pooled database includes intake data from all six demonstration projects. NEDTAC received client intake data for a total of 1,014 cases, including both demonstration and comparison groups. Cases that lacked an indicator for demonstration vs. comparison group were removed, reducing the usable number of intake cases to 941.

The pooled dataset for veterans' analyses included 381 veterans, 541 non-veterans, and 19 clients whose records did not indicate their veteran status. Those cases which failed to indicate veteran status were excluded from this analysis. The majority of the veterans (260) included in the database were participants in the Vietnam Veterans of San Diego project.

Most projects collected follow-up client data at multiple points. Since all six projects planned to conduct follow-up client interviews at 6 months following intake, this interval was selected for use in the pooled analysis. Most of the projects did not collect follow-up data for treatment drop-outs, which significantly limits the scope of the analysis.

Although the six projects collected intake and follow-up information on generally similar topics, they did not always use the same measures. This pooled-data analysis is limited to measures that were collected by multiple projects using response categories that were the same or that could be recoded into a common set of categories. The resulting Ns vary considerably from measure to measure, depending on which combination of projects is represented. For example, if there were no missing items, the pooled database Ns would be 381 veteran, 541 non-veteran cases for intake measures. As a guide to interpretation, the actual Ns are shown routinely in the presentation of findings.

The current report, focusing on the veteran population, pools and analyzes data from the six local projects, combining information across sites and across (demonstration vs. comparison) treatment conditions within sites, to answer four questions:

1. A. What are the characteristics of dually diagnosed homeless veterans who enter treatment?  
B. How do veterans differ from non-veterans at intake?
2. How successful are treatment programs in retaining such clients in treatment for at least six months?

3. What changes (short-term outcomes) are seen over the first six months of treatment among veterans who remain in treatment?

### **Overview of the Demonstration Projects and their Evaluation Data**

The treatment approaches used by the six demonstration projects are summarized below.

- The Bonita House, Berkeley, CA: Integrated residential psychological and substance abuse treatment beginning with a two-week intensive engagement period. Clinicians provide simultaneous treatment for both disorders for up to nine months before placing clients elsewhere in Bonita House or another residential treatment program.
- Greater Bridgeport Community Mental Health Center (CMHC), Bridgeport, CT: Assertive Community Treatment including three years of intensive case management, outpatient services and outreach combined with integrated alcohol abuse, substance abuse, and mental health treatment.
- Arapahoe House, Denver, CO: Dyadic case management with flexible treatment length. Twenty-eight day intensive residential treatment program and intensive case management, then continuation of dyadic case management from 6 months to a year on average.
- Institute for Community Living, New York, NY: Modified one year therapeutic community (TC) program in a community residence setting (stages 1 through 3) and TC-supported housing (Stage Four). The stratified structured program based on self-help groups, community meetings and psycho-educational seminars.
- Mental Health Services West, Portland, OR: Structured full-day treatment program in which mental health and substance abuse disorders are treated simultaneously. Services include alcohol and drug assessment, case management, treatment groups, relapse prevention, acupuncture, drug screens, client monitoring and follow-up in other agency services.
- Vietnam Veterans of San Diego, San Diego, CA: Residential rehabilitation program (6-12 months in length) designed to reintegrate clients into the San Diego community. Serves homeless dually diagnosed veteran men and women from all military eras, combining a social model approach (creating a veteran peer support community) with case management services, counseling, and supportive services.

Additional details about the six projects, their evaluation designs, and their findings are presented in a separate project summaries report.

## GRANTEE EVALUATION DESIGNS

GRANTEE	TREATMENT GROUP CHARACTERISTICS	COMPARISON GROUP CHARACTERISTICS	EVALUATION DESIGN	DATA COLLECTION SCHEDULE
Bonita House, Berkeley, CA	26 clients discharged to Bonita House from inpatient facility	76 clients discharged from inpatient facility to other residential settings including board and care homes, other residential settings, family homes, or respondent's own home	Quasi-experimental design	Intake, 2 weeks, 3 months, and 6 months post-discharge
Greater Bridgeport Community Mental Health Center, Bridgeport, CT	50 dually diagnosed agency clients receiving assertive community treatment (ACT) case management services	38 dually diagnosed agency clients receiving standard case management services from the agency	Random assignment to ACT team or to standard case management program within the agency	Intake, then every 6 months for 3 years
Arapahoe House, Denver, CO	82 dually diagnosed clients receiving dyadic case management services	81 dually diagnosed clients receiving standard case management from a community mental health agency	Quasi-experimental non-random assignment comparison	Intake and 6 months
Institute for Community Living, New York, NY	278 clients in modified therapeutic community (TC) residential treatment moving into modified TC-oriented supported housing	66 clients assigned to the treatment-as-usual (TAU) group. This covers a variety of treatment and non-treatment options including other residential programs for mentally ill chemical abusers (MICAs); other supported housing program with or without day treatment; discharge to family member with or without follow-up; intensive case management or little follow-up; or continued treatment at the referral site	TC residential programs move into parallel supported housing	
Mental Health Services West, Portland, OR	127 clients in the Dual Diagnosis program	114 clients receiving services in the agency, but not in the Dual Diagnosis program	Quasi-experimental	Intake, 3, 6, 9, and 12 months
Vietnam Veterans of San Diego, San Diego, CA	152 male and female dually diagnosed veterans	152 veterans treated in other residential facilities	Quasi-experimental	Intake, 2, 6, 12, and 15 months

## **II. VETERAN CHARACTERISTICS AT INTAKE**

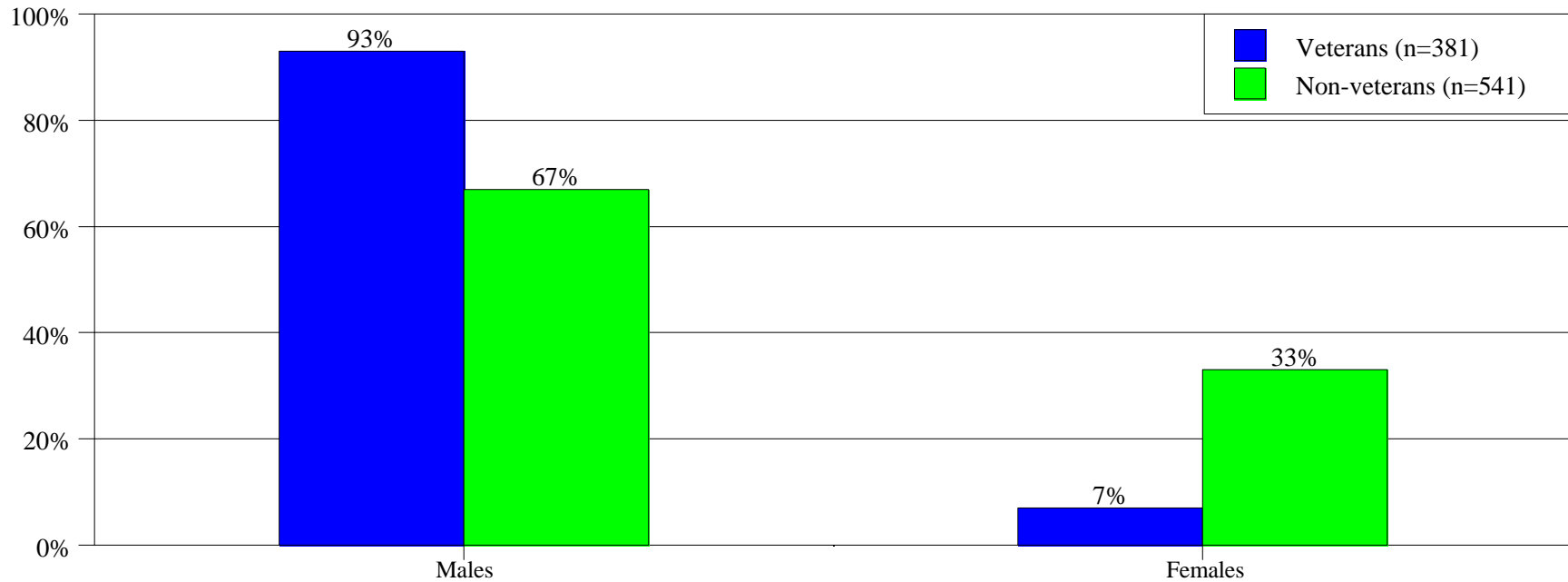
## II. VETERAN CHARACTERISTICS AT INTAKE

This section summarizes and compares the characteristics at intake of 381 veteran and 541 non-veteran dually diagnosed homeless clients in the pooled database. The overall group of clients (both veteran and non-veteran) entered treatment in one of the six demonstration project cities, either in the CMHS-CSAT funded demonstration project or in an alternative treatment program.

Information about client characteristics is presented with respect to the following topics:

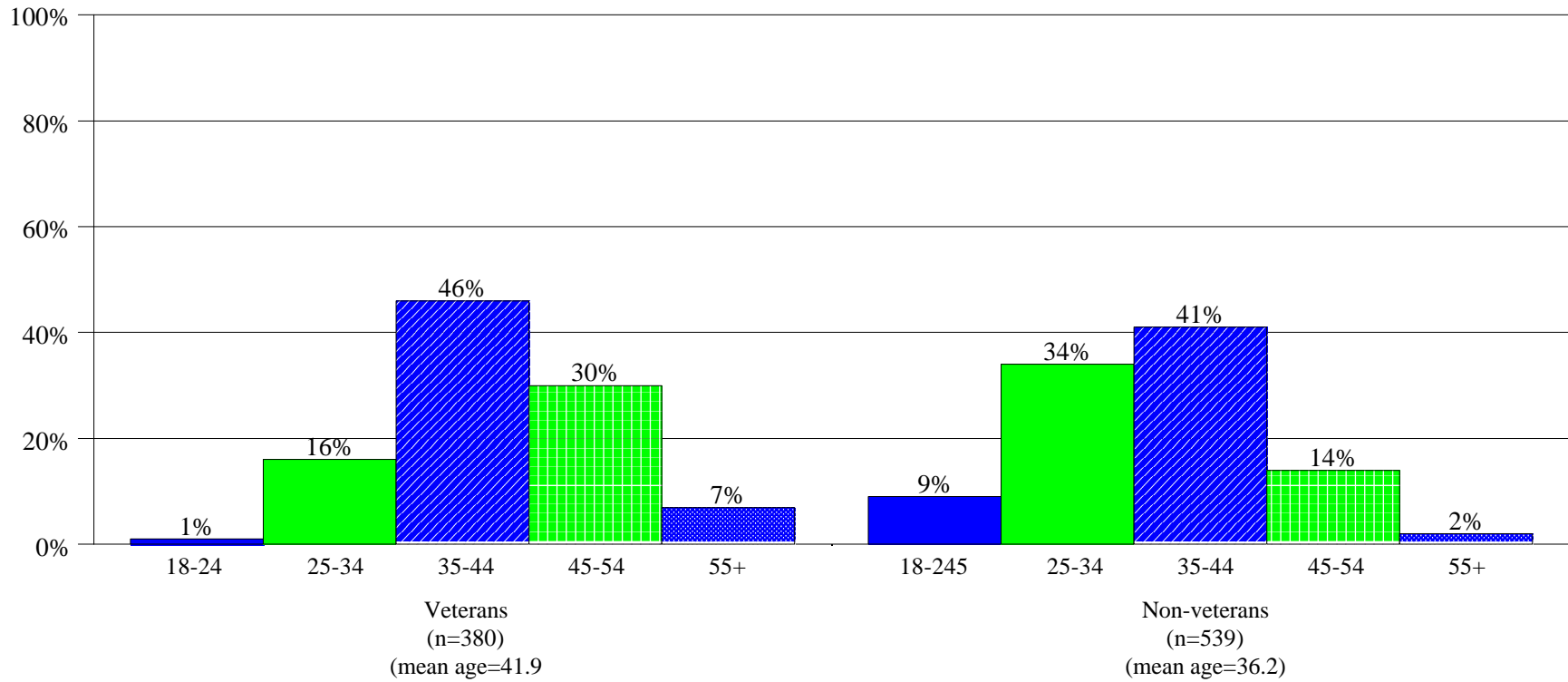
- Demographic and related measures
- Income sources
- Homelessness history
- Criminal justice history
- Satisfaction with current life and living situation
- Psychiatric treatment history and symptoms
- Substance use and history.

## GENDER



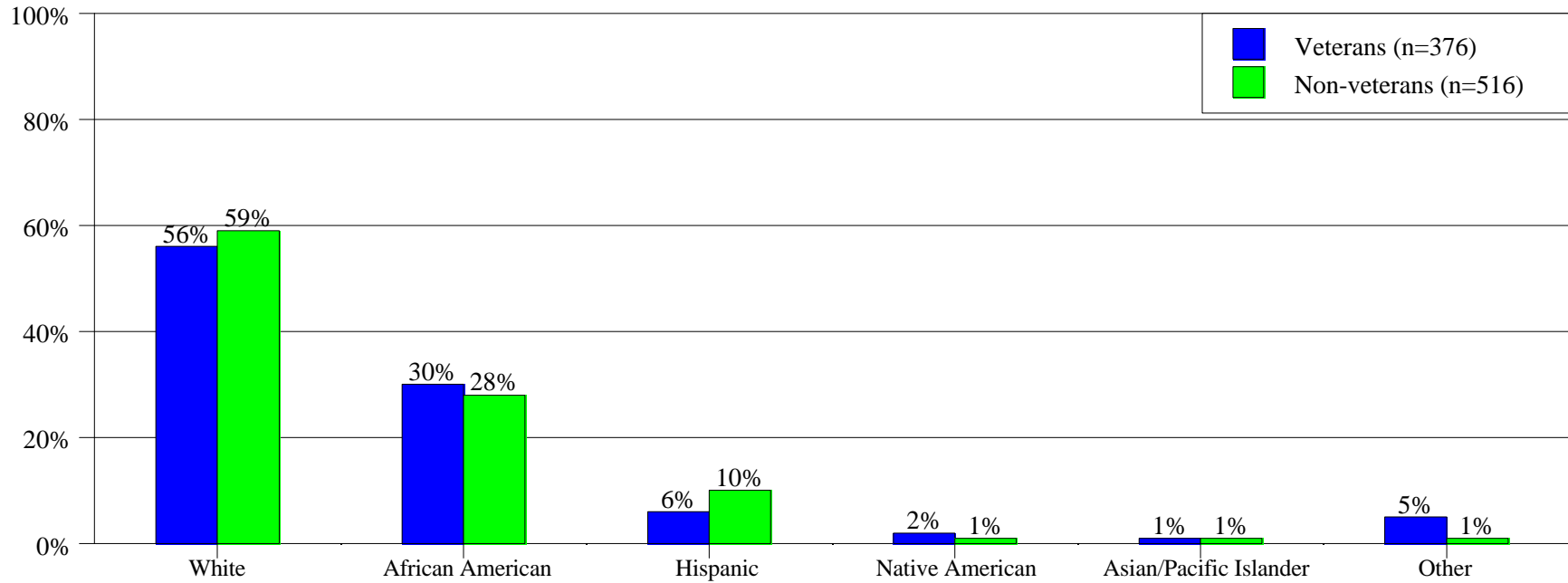
- Veterans are much more likely to be males than are non-veterans (93% for veterans versus 67% for non-veterans).
- Women are slightly under-represented in the veterans group relative to the proportion of women in the general veteran population (11%), based on the 1990 Census.

## AGE



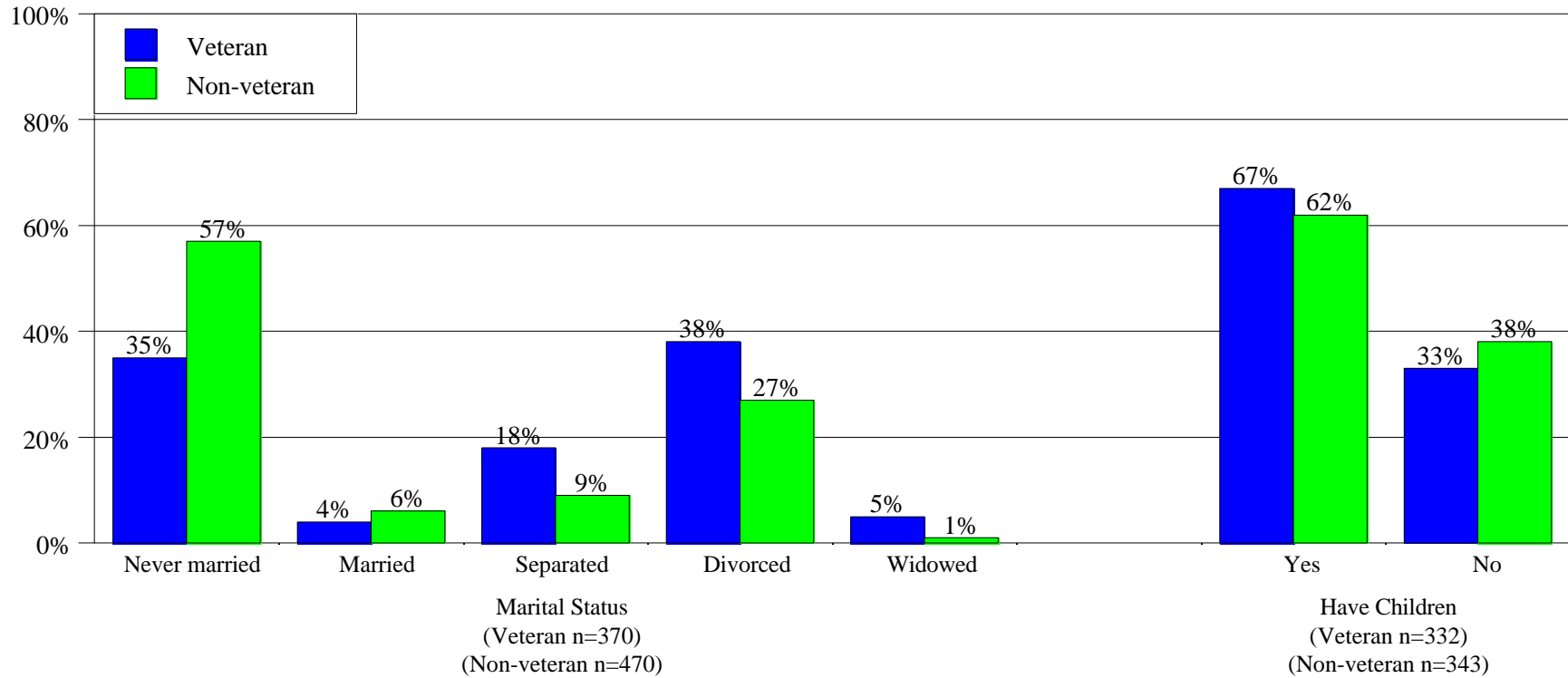
- On average, veterans were six years older than non-veterans (42 years versus 36 years).
- More non-veterans than veterans were less than 35 years old (43% versus 17%).

## RACE/ETHNICITY



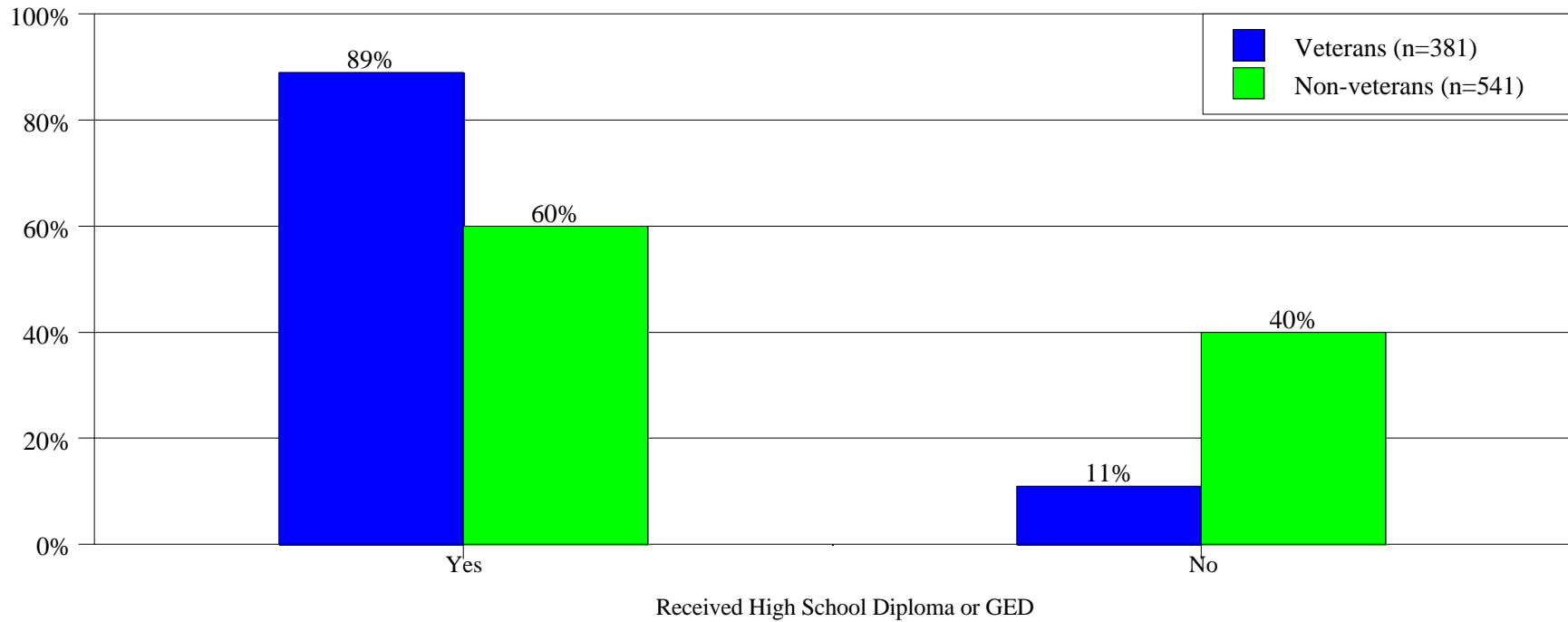
- The racial/ethnic composition of veterans and non-veterans was very similar.
- Veterans were slightly more likely to be a minority, compared to non-veterans.

## FAMILY STATUS



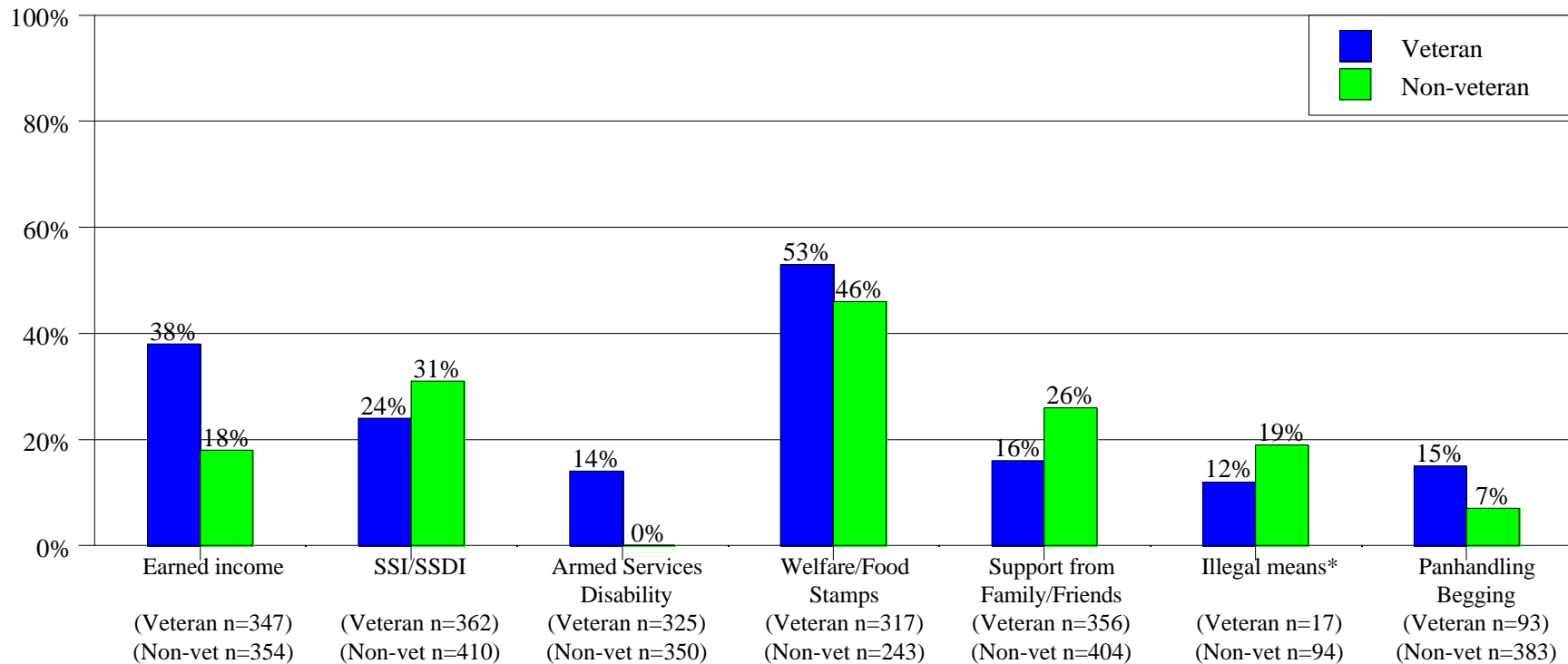
- Overall, veterans were more likely than non-veterans to be formerly married (i.e., separated, divorced, or widowed).
- Veterans were less likely than non-veterans to be currently married or never married.
- Veterans were slightly more likely than non-veterans to have children.

## EDUCATION STATUS



- Veterans were slightly more likely than non-veterans to have children.
- Veterans were more likely than non-veterans to have a High School diploma or equivalency (GED).

## SOURCES OF INCOME IN PAST MONTH



Percentage of Clients Reporting Receiving Income From Each Source

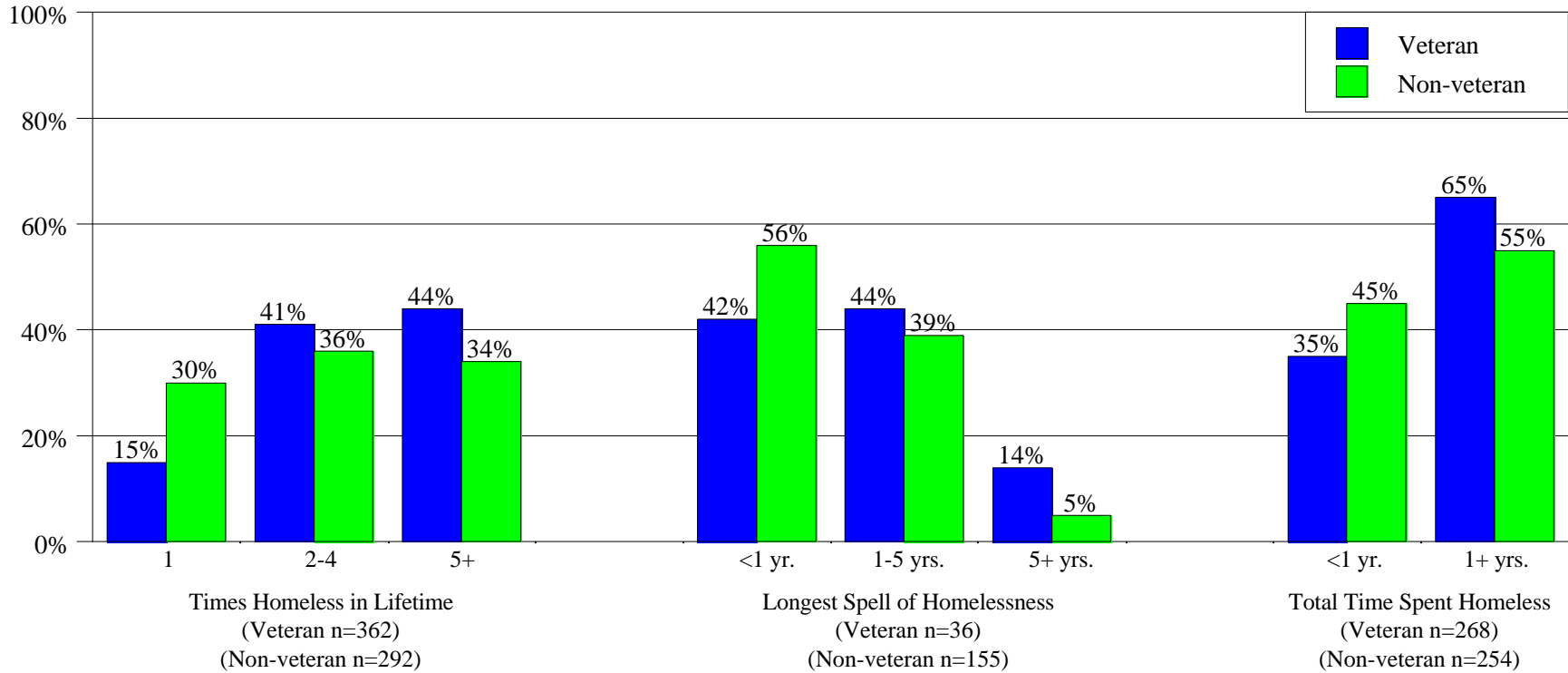
In the 30 days prior to program intake:

- Veterans were more likely than non-veterans to report income from armed services disability, earned income, panhandling, and welfare or food stamps.
- Veterans were less likely than non-veterans to report income from family and friends, SSI/SSDI, and illegal means.
- The largest percentage of both veterans and non-veterans reported welfare/food stamps as an income source.

\* "Illegal means" include selling drugs, prostitution, and gambling.

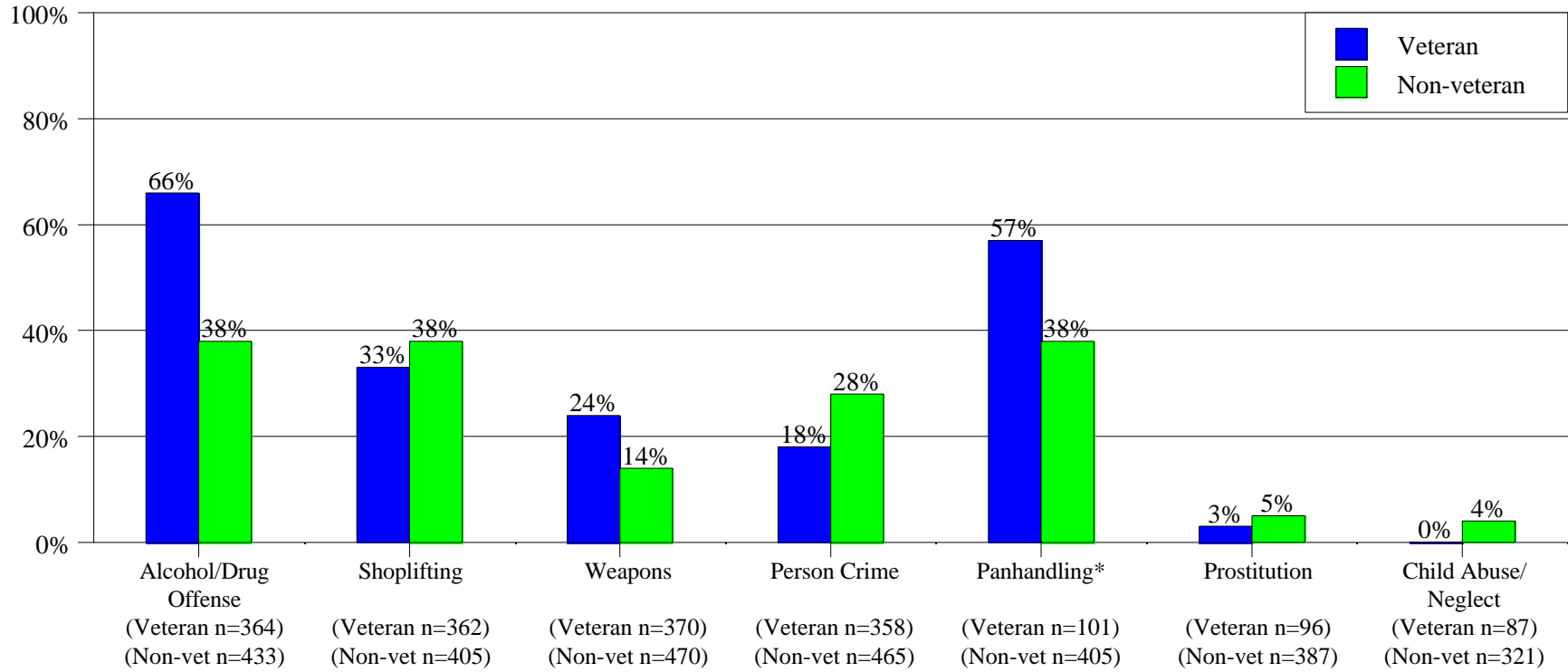
Note: A client may have reported multiple income sources. Therefore percentages do not sum to 100%.

## HOMELESS ISSUES



- A greater proportion of veterans than non-veterans had been homeless more than once in their lives (85% versus 70%).
- Veterans were more likely than non-veterans to have had a homeless spell that lasted a year or longer (58% versus 45%).
- Counting all the time that clients had ever spent homeless, veterans were more likely than non-veterans to have spent a year or more homeless (65% versus 55%).

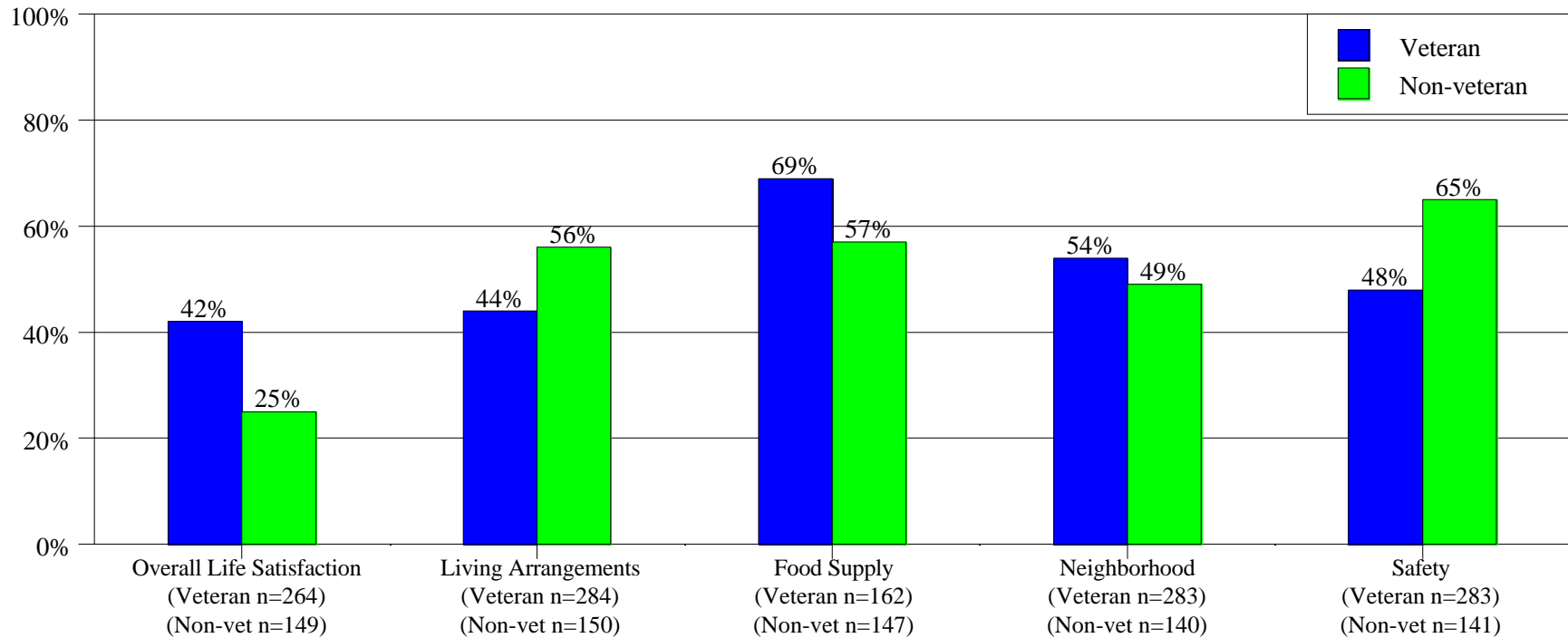
## ARRESTS/CHARGES



- Veterans were more likely than non-veterans to have been arrested for alcohol/drug offenses, panhandling, and weapons violations.
- Veterans were less likely to have been arrested for person crimes and shoplifting, compared to non-veterans.

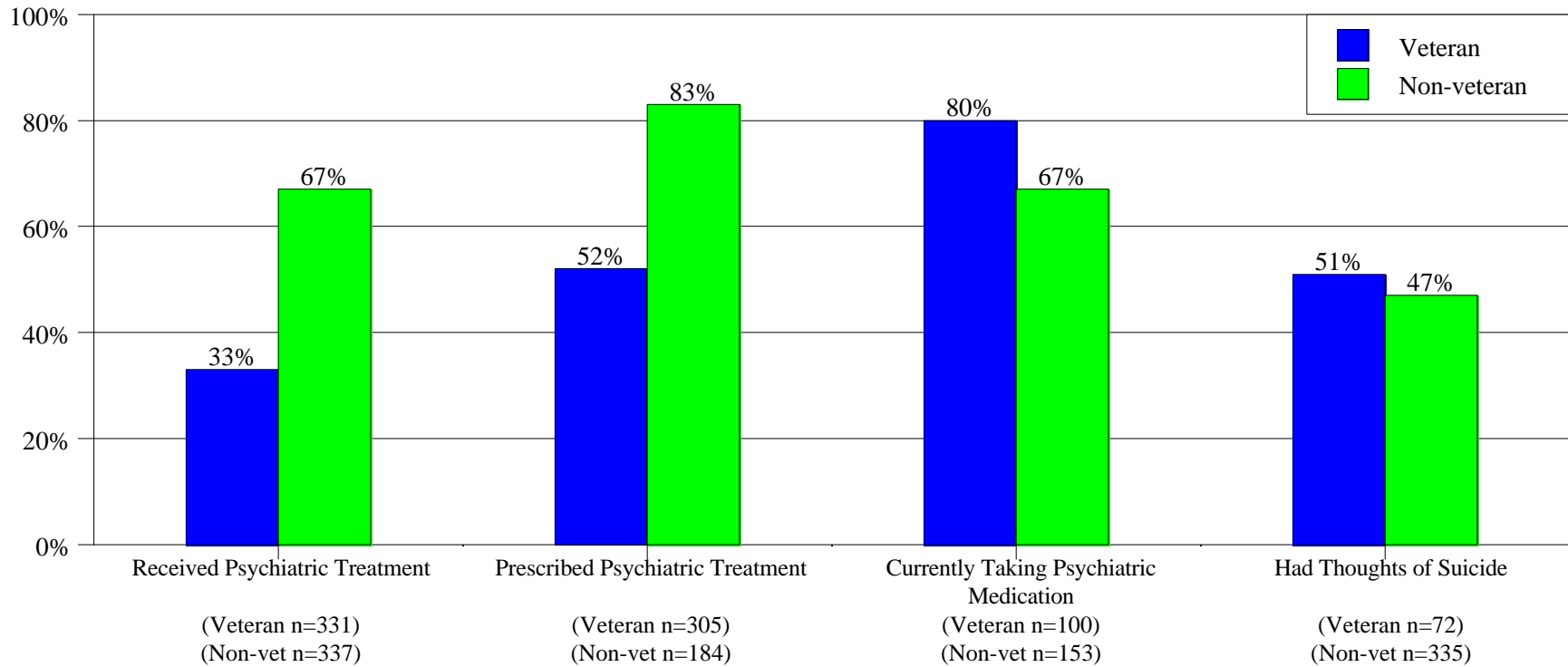
\* Panhandling includes charges for public drunkenness and disorderly conduct.

## SUBJECTIVE WELL-BEING AT PROGRAM INTAKE



- Fewer veterans than non-veterans felt satisfied about life in general, neighbors, and food.
- More veterans felt satisfied with their current living situation and safety, compared to non-veterans.

## PSYCHIATRIC TREATMENT HISTORY



- Veterans were less likely to have ever received psychiatric treatment than were non-veterans (33% versus 67%).
- Non-veterans were more likely to have been prescribed psychoactive medication in the past (83% versus 52%).
- Among those who had ever been prescribed psychoactive medication, veterans were more likely than non-veterans to be taking psychoactive medication when they entered program treatment (80% versus 67%).
- Veterans were slightly more likely to have ever had thoughts of suicide than were non-veterans (51% versus 47%).

## COMPARISON OF PSYCHIATRIC SYMPTOMS AT INTAKE

BSI Primary Symptom Dimensions	Description of Dimension <sup>1</sup>	Veterans		Non-Veterans	
		Mean Score	Total Number of Cases (n)	Mean Score	Total Number of Cases (n)
Somatization	Reflect distress arising from perceptions of bodily dysfunction	1.2	112	1.0	470
Obsessive- Compulsive Behavior	Reflects symptoms that are identified with the standard clinical syndrome of the same name	1.6	112	1.5	468
Interpersonal Sensitivity	Centers on feelings of personal inadequacy and inferiority particularly comparison with others	1.5	97	1.4	387
Depression	Reflect a representative range of the indications of clinical depression	1.7	111	1.6	471
Anxiety	Comprised of a set of symptoms and signs that are associated clinically with high levels of manifest anxiety	1.6	112	1.5	469
Hostility	Indicates thoughts, feelings, or actions that are characteristics of the negative affect stage of anger	1.0	111	1.0	470
Phobic Anxiety	Defined as a persistent fear response to a specific person, place, object, or situation which is characterized as being irrational and disproportionate to the stimulus, and which leads to avoidance or escape behavior	1.2	87	1.1	318
Paranoid Ideation	Represents paranoid behavior fundamentally as a disordered mode of thinking	1.4	111	1.4	471
Psychoticism	Developed in a fashion representative of the construct as a continuous dimension of human experience	1.5	112	1.3	468

■ Veterans reported more severe symptoms than did non-veterans on all dimensions except hostility and paranoid ideation.

- Both groups were most troubled by depression, anxiety and obsessive-compulsive behavior.
- Both veterans and non-veterans were least troubled by hostility and somatization.

<sup>1</sup>Definitions obtained from the BSI Administration, Scoring and Procedures Manual II by Leonard R. Derogatis, Ph.D.

## LIFETIME ALCOHOL AND DRUG USE

Substance	Non-Veterans		Veterans	
	Percent Ever Used	Total Number of Cases (n)	Percent Ever Used	Total Number of Cases (n)
Alcohol	84%	287	99%	306
Heroin	29%	235	72%	146
Methadone	64%	217	81%	73
Other Opiates	51%	272	83%	143
Barbiturates	49%	270	86%	147
Other sedatives, hypnotics	67%	233	89%	150
Cocaine/crack	68%	279	90%	243
Amphetamines	66%	222	93%	221
Cannabis/marijuana	79%	280	94%	270
Hallucinogens	30%	290	75%	169
Inhalants	12%	273	45%	104
Multiple Substances (during a 24-hour period)	71%	271	93%	274

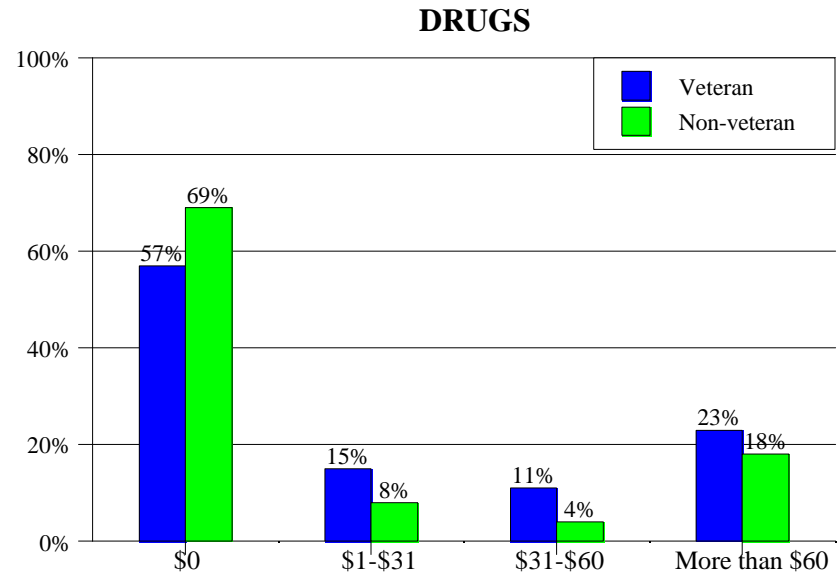
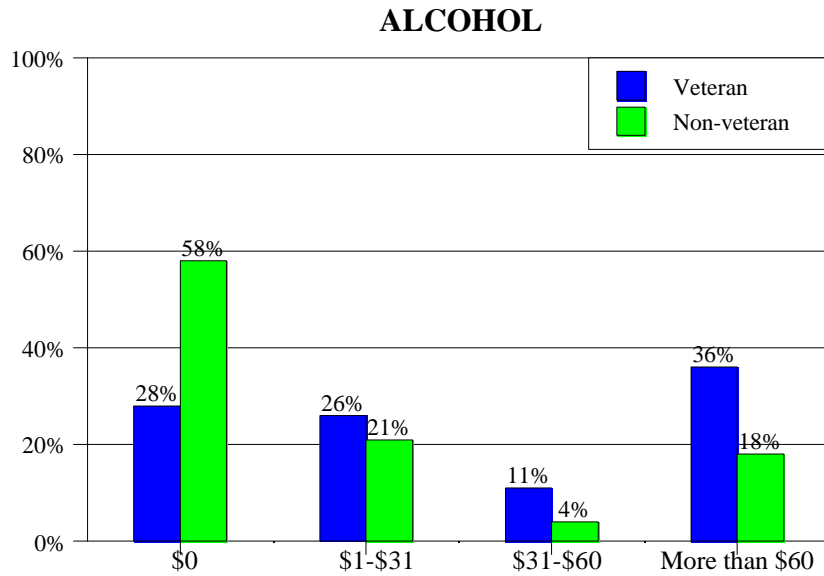
- For every drug type, more veterans than non-veterans reported drug usage.
- Alcohol and cannabis were the most commonly used substances for both groups.
- Veterans were more likely to report using multiple substances during a 24-hour period than were non-veterans.

## ALCOHOL AND DRUG USE IN MONTH BEFORE PROGRAM INTAKE

Substance	Non-Veterans		Veterans	
	Percent used in past 30 days	Total Number of Cases (n)	Percent used in past 30 days	Total Number of Cases (n)
Alcohol	64%	242	89%	149
Heroin	30%	44	64%	36
Methadone	3%	124	3%	40
Other Opiates	5%	138	12%	43
Barbiturates	12%	133	20%	46
Other sedatives, hypnotics	22%	135	33%	43
Cocaine/crack	62%	139	75%	69
Amphetamines	5%	125	40%	60
Cannabis/marijuana	36%	221	71%	103
Hallucinogens	8%	86	9%	23
Inhalants	12%	33	25%	8
Multiple Substances (during a 24-hour period)	48%	189	93%	254

- Among those who had ever used a particular drug, veterans were more likely than non-veterans to have used that drug within the 30 days prior to program intake.
- Veterans were almost twice as likely as non-veterans to report having used multiple substances during a 24-hour period within the 30 days before program intake.

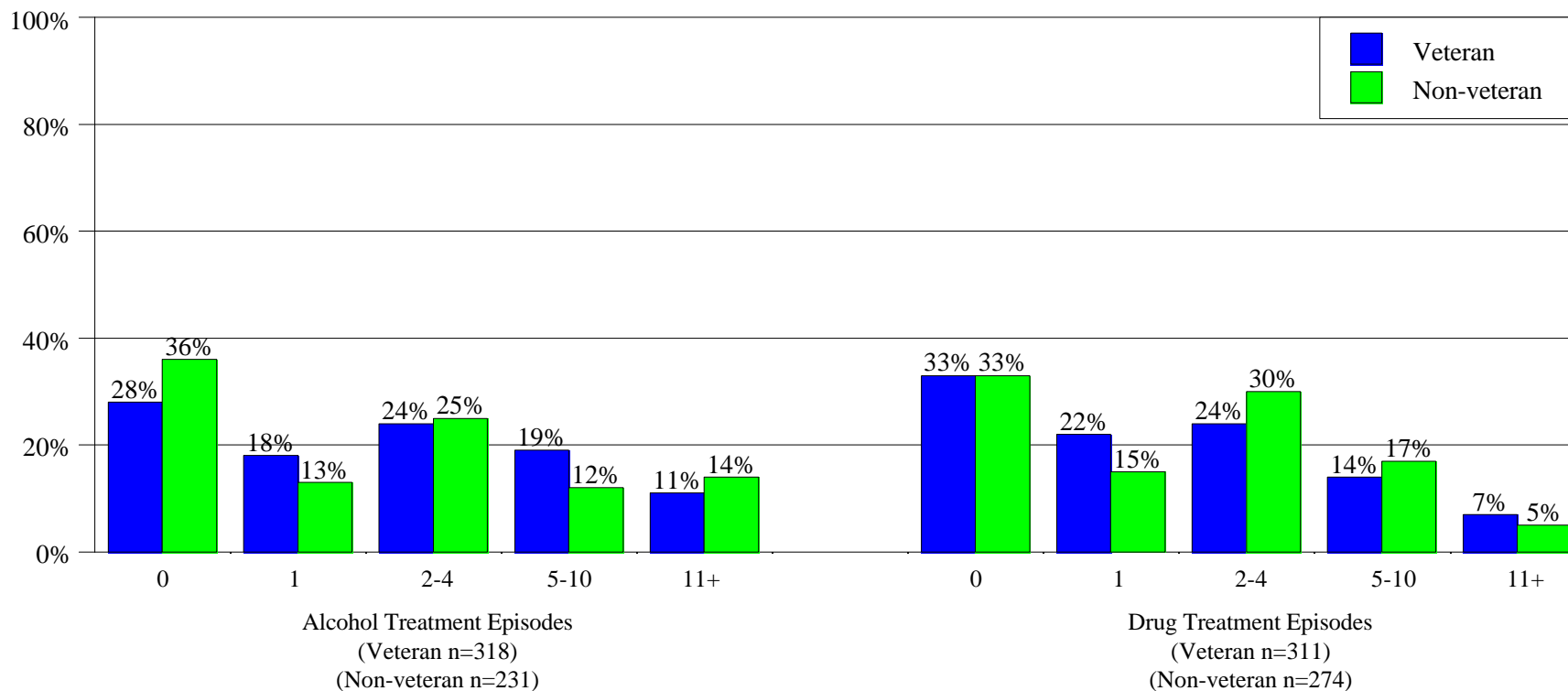
## AMOUNT SPENT ON ALCOHOL AND OTHER DRUGS\*



- The largest percentage of both veterans and non-veterans report spending no money on both alcohol and drugs.
- Overall, veterans spend less money on alcohol and drugs than non-veterans.

\*In the 30 days prior to program intake.

## PREVIOUS SUBSTANCE ABUSE TREATMENT EPISODES



- A larger percentage of non-veterans than veterans reported zero previous alcohol treatment episodes (36% versus 28%).
- Over half of both veterans and non-veterans reported having two or more alcohol treatment episodes (54% of veterans and 51% of non-veterans).
- A third of both veterans and non-veterans reported never having drug treatment.

### **III. WHICH VETERANS STAYED IN TREATMENT FOR SIX MONTHS?**

### **III. WHICH VETERANS STAYED IN TREATMENT FOR SIX MONTHS?**

Among the 381 veterans included in this dataset, 147 remained in treatment for six months, while 234 veterans left treatment prior to the six-month follow-up interview. Compared to veterans who dropped out of treatment before the six-month follow-up, veterans who remained in treatment for six months:

- Were younger, on average
- Were more likely to be female, white, and never married
- Had more severe psychiatric symptoms at program intake
- Reported lower use of alcohol and other drugs.

Thus, veterans who remained in treatment tended to be those who had more severe psychiatric problems but less severe substance use problems, compared to the veterans who dropped out of treatment. These findings suggest that these treatment programs designed to provide services to dually diagnosed clients may have been more effective at retaining clients with psychiatric problems than clients with substance use problems.

#### **IV. DID VETERANS BENEFIT FROM PROGRAM PARTICIPATION?**

## **IV. DID VETERANS BENEFIT FROM PROGRAM PARTICIPATION?**

In order to assess whether program treatments benefitted the 147 veterans who remained in treatment for at least six months, we compared their status at program intake to their status at the six-month follow-up interview on the following indicators:

- Income sources
- Subjective well-being, including health and satisfaction with life
- Psychiatric symptoms.

On most measures, veterans showed improvement. In these analyses of program outcomes, we were not able to examine changes in alcohol or drug use patterns because the grantee that contributed the largest proportion of veterans to the pooled dataset did not collect information about alcohol and drug use at their six-month follow-up interview.

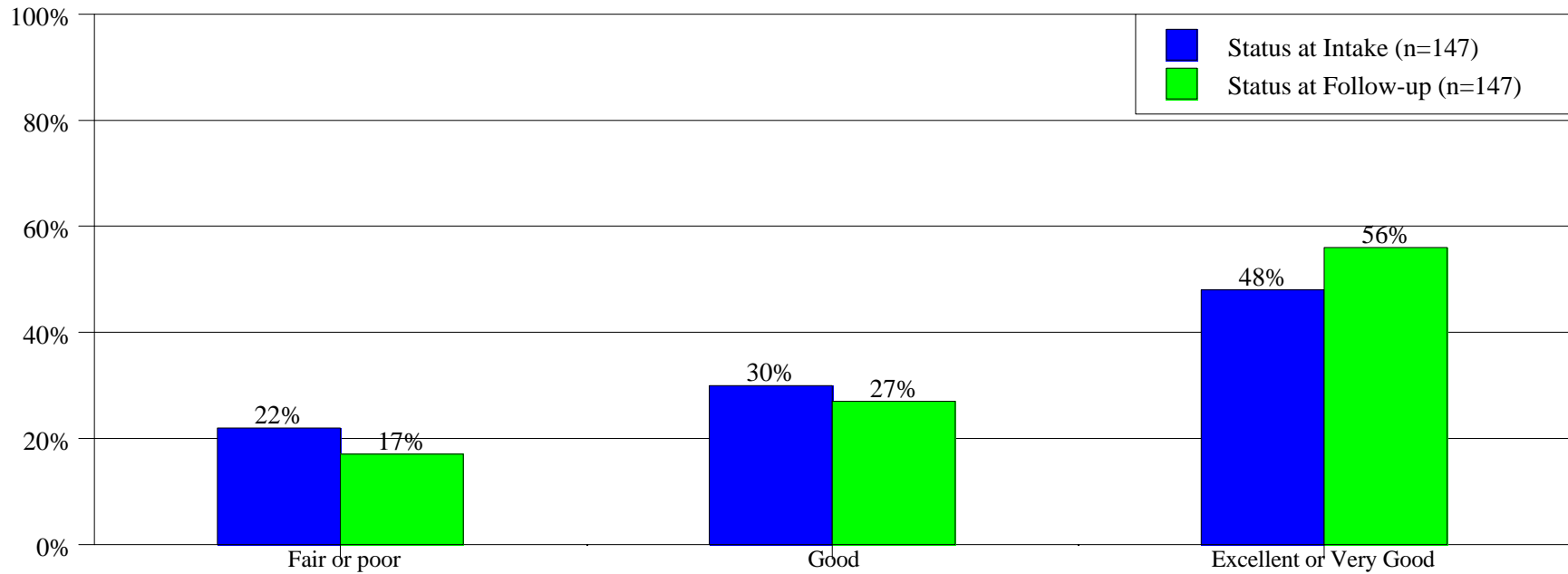
The following figures display the comparisons of these veterans' income sources, subjective well-being, and psychiatric symptoms at program intake with their status after six months of treatment.

## CHANGE IN VETERANS' INCOME SOURCES

Income Source	Program Intake		Six-month Follow-up	
	Percent Receiving	Total Number of Cases (n)	Percent Receiving	Total Number of Cases (n)
Earned Income	48%	137	49%	136
SSI/SSDI	26%	142	25%	142
Armed Services Disability	15%	121	7%	119
Other Welfare/Food Stamps	56%	133	62%	130
Vocational Training	0%	121	8%	119
Unemployment	5%	147	8%	145
Retirement/Investment/Savings	3%	121	3%	118
Family/Friends/Spouse	23%	138	23%	128
Illegal Means	0%	10	0%	9
Panhandling	17%	36	3%	36

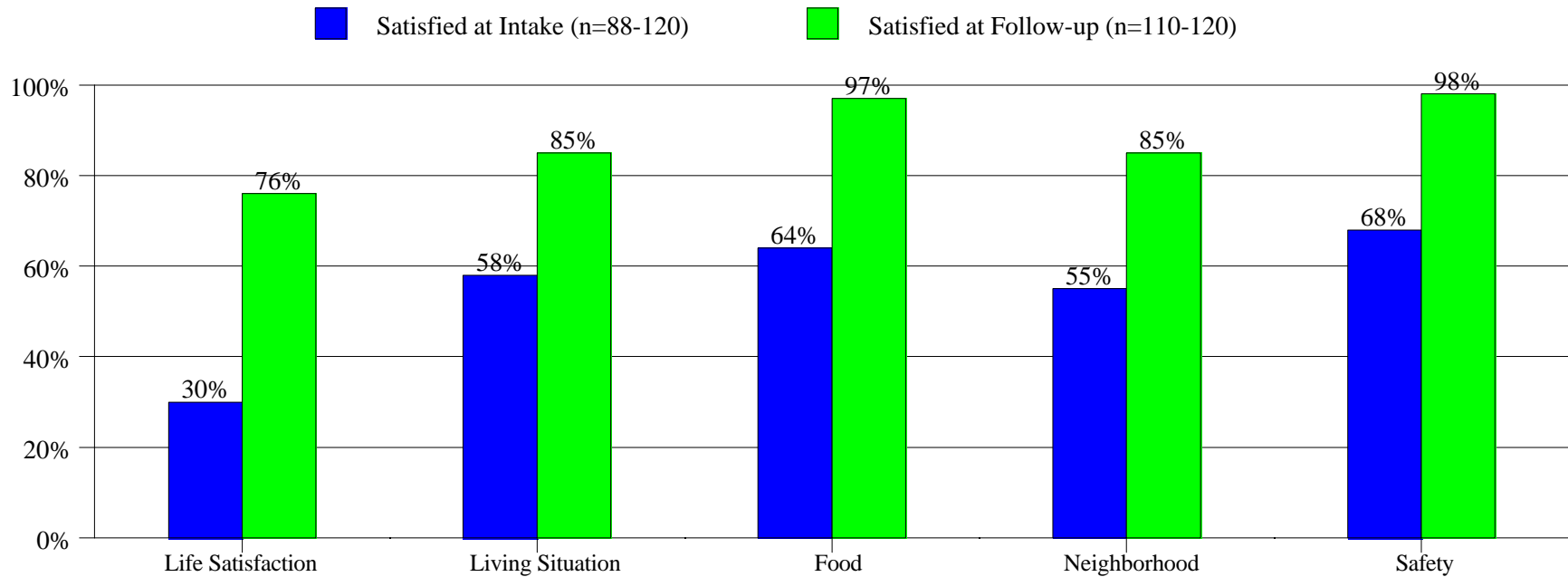
- A larger proportion of veterans were getting income from vocational training and welfare/food stamps at follow-up, compared to their income sources at program intake.
- Six times fewer veterans were receiving money from panhandling at follow-up, compared to program intake.
- Approximately half as many veterans were getting armed services disability income at follow-up.

## GROUP IMPROVEMENT IN SUBJECTIVE HEALTH STATUS



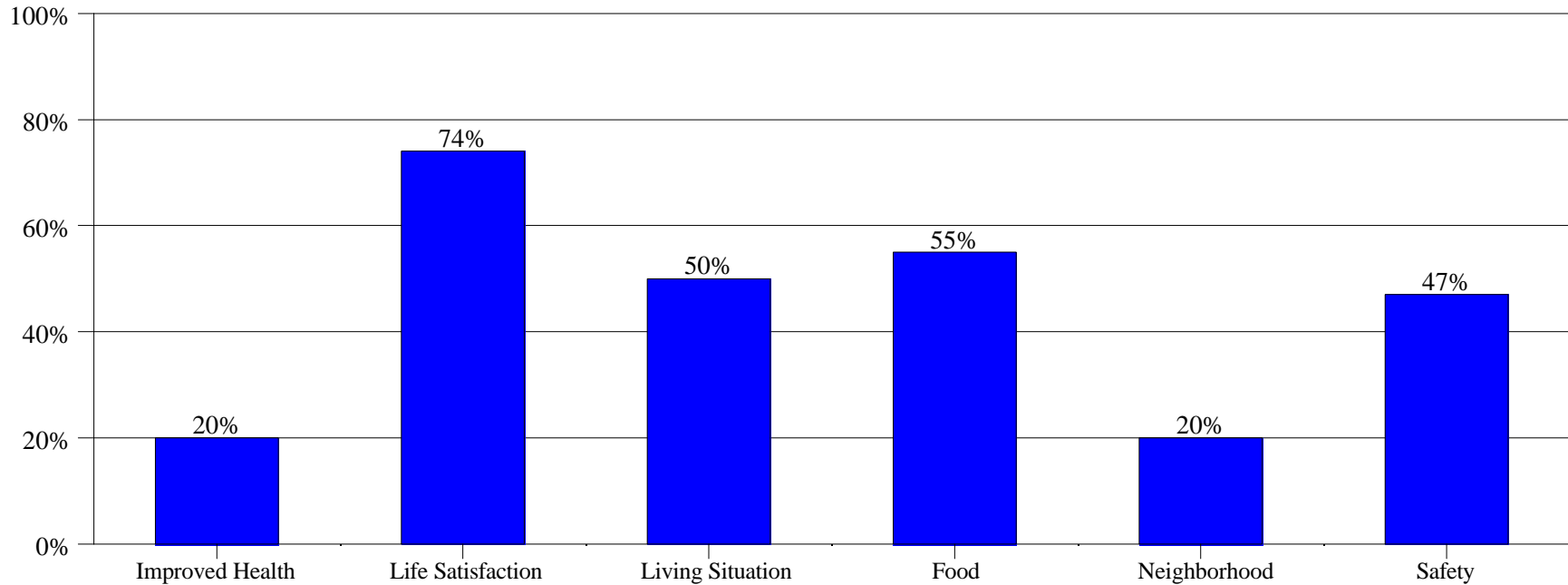
- As a group, veterans' subjective health status improved slightly during the first six months of program participation.
- At the six month follow-up interview the majority of veterans rated their health status as excellent, very good or good.

## GROUP IMPROVEMENT IN SUBJECTIVE WELL-BEING



- Overall, veterans were more satisfied with their life circumstances after 6 months in treatment.
- Veterans' subjective well-being improved the most (46% increase) in their overall life satisfaction.
- Veterans' subjective well-being increased the least (27% increase) in their satisfaction with current living situation.

## INDIVIDUAL IMPROVEMENT IN SUBJECTIVE HEALTH AND WELL-BEING



Comparing individual veterans' reports at program intake to their reports six months after entering treatment:

- Almost 3 out of 4 veterans reported increased general life satisfaction.
- About half of all veterans reported increased satisfaction with their food, living situation, and personal safety.
- Veterans' satisfaction with their health and neighborhood improved the least.

## GROUP IMPROVEMENT IN PSYCHIATRIC SYMPTOMS

BSI Primary Symptom Dimensions	Program Intake		Six-month Follow-up	
	Mean score	Total Number of Cases (n)	Mean score	Total Number of Cases (n)
Somatization	1.4	46	.96	46
Obsessive-Compulsive Behavior	1.7	46	1.4	43
Interpersonal Sensitivity	1.8	36	1.2	34
Depression	1.9	46	1.2	43
Anxiety	1.7	46	1.1	43
Hostility	1.1	46	.75	43
Phobic Anxiety	1.4	26	1.1	24
Paranoid Ideation	1.5	46	1.1	42
Psychoticism	1.7	46	1.1	43

Compared to average scores at program intake:

- On average, veterans' symptoms decreased on all subscales after 6 months of treatment.
- The mean scores for depression, anxiety, psychoticism and interpersonal sensitivity decreased the most.
- The mean scores for phobic anxiety and obsessive-compulsive behavior decreased the least.

## INDIVIDUAL IMPROVEMENT IN BSI SYMPTOMS

BSI Primary Symptom Dimensions	Percent With Decreased Symptoms	Total Number of Cases (n)
Somatization	61%	43
Obsessive-Compulsive Behavior	54%	43
Interpersonal Sensitivity	53%	34
Depression	49%	43
Anxiety	56%	43
Hostility	49%	43
Phobic Anxiety	54%	24
Paranoid Ideation	67%	42
Psychoticism	58%	43

Comparing individual veterans' symptom levels at program intake to their symptom levels after six months in treatment:

- Half or more showed improvement (decrease in symptom severity) in their psychiatric symptoms.
- The greatest proportion showed improvement in paranoid ideation, somatization, and psychoticism.
- Symptoms of depression and hostility were least likely to have improved.

## **V. CONCLUSIONS**

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The purpose of this analysis was to answer four research questions:

- What are the characteristics of veterans who participated in the CMHS-CSAT Homeless Demonstration Project?
- How do veteran clients differ from non-veteran clients at program intake?
- Which veterans were most likely to remain in treatment for six months?
- Did veterans who stayed in treatment for six months benefit from their program participation?

The results of these analyses are summarized below.

### **The Typical Veteran**

The analyses to answer the first research questions found that the typical veteran who entered treatment in the CMHS-CSAT Homeless Demonstration Project was a white male, aged 42, who had been married in the past and had at least one child. He had graduated from high school or had a GED, and had been homeless two to four times during his lifetime for a total of two or more years. At the time that he entered treatment, the typical veteran had not received any psychiatric treatment in the past and was depressed and anxious. He had at least one previous episode of drug or alcohol treatment, used primarily alcohol but reported having used many other drugs as well, and was more troubled by alcohol problems than drug problems.

### **Comparisons of Veterans and Non-veterans at Program Intake**

The second set of analyses disclosed that, at program intake, veteran clients differed substantially from non-veteran clients in several key areas. Veterans who entered program treatment were older, had different marital, homeless, and criminal justice histories, were better educated, and in general felt less satisfied with aspects of their life and health, compared to non-veterans who entered program treatment. Veterans reported more severe psychiatric symptoms yet were less likely to have had previous psychiatric

treatment than did non-veterans. Veterans also reported higher alcohol and drug use, relative to non-veterans, yet were less likely to have had previous drug or alcohol treatment.

### **Comparisons of Veterans Who Remained in Treatment and Veterans Who Dropped Out**

The third set of analyses examined differences between veterans who remained in treatment for six months and veterans who dropped out of treatment before six months. In addition to demographic differences, veterans who remained in treatment tended to be those who had more severe psychiatric problems but less severe substance use problems, compared to the veterans who dropped out of treatment. These findings suggest that these treatment programs designed to provide services to dually diagnosed clients may have been more effective at retaining clients with psychiatric problems than clients with substance use problems.

### **Benefits for Veterans Who Remained in Treatment for Six Months**

The final set of analyses explored whether veterans who remained in treatment for six months benefitted from program treatments. These analyses were conducted using only data from the 147 veterans who remained in treatment for six months. Information reported by these veterans at program intake were compared to the information they reported at the six-month follow-up interview. Analyses could not examine changes in substance use because the site that contributed the most veteran cases to the dataset did not ask about substance use at the six-month follow-up interview. The analysis indicated that, after remaining in treatment for six months, veterans were more likely to be receiving income from vocational training and welfare/food stamps, and were less likely to be receiving income from panhandling or veterans' disability payments. As a group, veterans' subjective health status improved during the six months of program participation, and overall they were more satisfied with their life circumstances. Individual veterans were most likely to report being more satisfied with life in general at the follow-up. As a group, veterans who stayed in treatment exhibited lower levels of psychiatric symptoms at the follow-up, particularly symptoms of depression, anxiety, psychoticism, and interpersonal sensitivity. Overall, half or more of the veterans who remained in treatment reported a decrease in the severity of their psychiatric symptoms; the greatest proportion showed improvement in paranoid ideation, somatization, and psychoticism. These findings indicate that veterans who stayed in treatment benefitted from their program participation.

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