

# A National Study of Veterans Treatment Court Participants: Who Benefits and Who Recidivates

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**Abstract** Although there are now over 400 veterans treatment courts (VTCs) in the country, there have been few studies on participant outcomes in functional domains. Using national data on 7931 veterans in the Veterans Affairs (VA) Veterans Justice Outreach program across 115 VA sites who entered a VTC from 2011 to 2015, we examined the housing, employment, income, and criminal justice outcomes of VTC participants; and identified veteran characteristics predictive of outcomes. VTC participants spent an average of nearly a year in the program and 14% experienced a new incarceration. From program admission to exit, 10% more participants were in their own housing, 12% more were receiving VA benefits, but only 1% more were employed. Controlling for background

characteristics, a history of incarceration predicted poor criminal justice, housing, and employment outcomes. Participants with property offenses or probation/parole violations and those with substance use disorders were more likely to experience a new incarceration. Participants with more mental health problems were more likely to be receiving VA benefits and less likely to be employed at program exit. Together, these findings highlight the importance of proper substance abuse treatment as well as employment services for VTC participants so that they can benefit from the diversion process.

**Keywords** Treatment courts · Veterans · Homelessness · Criminal justice · Incarceration

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## Introduction

Veterans treatment courts (VTCs) are one of the fastest growing specialty courts types in the U.S. with over 461 VTCs currently existing nationally (Flatley et al. 2017). Modeled after mental health and drug courts, VTCs were established to address the needs of U.S. veterans facing criminal charges and divert them from incarceration (Russell 2009). VTCs have the potential to reduce rates of incarceration among veterans who constitute 8% of all inmates in state and federal prison and local jails (Bronson et al. 2015).

VTCs operate independently of the Department of Veterans Affairs (VA), but are supported by the VA's Veterans Justice Outreach (VJO; U.S. Department of Veterans Affairs 2015) program, which provides direct outreach, assessment, and case management for criminal justice-involved veterans. VJO staff dedicate much of their work to liaising with local justice system partners and coordinating

care for veterans in VTCs. VJO staff work with courts to determine whether veterans meet court eligibility criteria, and then provide ongoing support to connect enrolled participants to treatment in the VA healthcare system and/or other community health systems, as mandated by the judge to fulfill court requirements.

Eligibility criteria for VTCs vary across jurisdictions (Baldwin 2015a; McGuire et al. 2013). For example, a recent inventory of 461 operational VTCs across the U.S. found that 66% of courts will accept veterans with either misdemeanor or felony charges, but the remaining courts restrict participation to misdemeanor only (20%) or felony only (14%) (Flatley et al. 2017). The inventory also found that 62% of courts will consider all violent offenses when determining veteran court eligibility, however, 18% of courts will not consider violent charges other than domestic violence, and 4% of courts will consider violent offenses at the exclusion of domestic violence. The remaining 16% of courts do not accept violent offenses.

While court eligibility criteria may differ, all VTCs follow a similar framework. Veterans facing criminal charges who meet court admission requirements are provided the opportunity to avoid incarceration and receive a reduced sentence and/or have charges dropped once they successfully complete an individualized treatment program (Clark et al. 2010). Judges supervise veterans, and operations are managed by an interdisciplinary court team including representatives from the District Attorney and public defender's offices, probation officers, treatment providers, court administrators, VJO staff, and a mentor coordinator who matches veterans to a volunteer veteran mentor.

The effectiveness of VTCs on various outcomes, including recidivism, housing, employment, and health is unclear, and comprehensive analyses of VTC outcomes is lacking. One local study of over 250 veterans found that overall, there was no significant difference in recidivism among VTC participants and traditional court participants (Hartley and Baldwin 2016). However, further analysis revealed that VTC participants who completed the VTC program, as opposed to those who dropped out of the program, did have consistently lower recidivism rates than traditional court participants across multiple time periods. A national study of over 22,000 veterans in the VJO program found that VTC participants had better housing and employment outcomes as compared to other criminal justice-involved veterans. However, VTC participants were also more likely to have new incarcerations, possibly due to the increased monitoring that occurs in VTCs (Tsai et al. 2016). Finally, one small study of 86 veterans enrolled in VTCs showed that VTC participants experienced improvements in mental health, overall functioning, and social connectedness over 12 months (Knudsen and Wingefeld 2016). It is important for the discourse on the effectiveness VTCs to continue to

examine these other life domains, such as housing, employment, and public benefits, as they are crucial for long-term recovery and permanent exit from the criminal justice system.

Using data on a national sample of over 7000 VTC participants, we sought to (1) describe the housing, employment, income, and criminal justice outcomes of VTC participants; and (2) identify veteran characteristics predictive of these various outcomes. The results provide information about national outcomes and predictors in VTCs to guide continued development of VTCs to help criminal justice-involved veterans exit the criminal justice system.

## Methods

National VJO program data were extracted from the VA's Homeless Operations Management and Evaluation System (HOMES). The VJO program consists of specialists who serve veterans involved in the criminal justice system to avoid the unnecessary criminalization of mental illness and extended incarceration by ensuring timely access to VA services as clinically indicated (U.S. Department of Veterans Affairs 2015). At program admission, VJO specialists record whether veterans are entered into a VTC, which is defined as a separately designated veterans court or a veteran docket in a mental health, drug, or criminal court. The current study used data on all 7931 veterans in the VJO program across 115 associated VA sites who entered a VTC from March 2011 to November 2015 and who had exited the program. The original data included 5% duplicate veteran cases, which were randomly removed so the study sample included only unique veterans. The data were extracted from a just-in-time database, so we included all veterans who provided program exit data but did not include those veterans who had not exited at the time of data extraction.

## Measures

VJO specialists conducted in-person assessment interviews with veterans enrolled in the VJO program at admission and exit using structured forms. The date of program admission and exit is documented, which allows calculation of length of time in the program.

### *Background Characteristics*

At program admission, VJO specialists collected information on sociodemographic characteristics, military service history, physical and mental health, and incarceration history. Combat exposure was assessed by asking veterans whether they ever received hostile or friendly fire in a

combat zone. Incarceration history was assessed by asking veterans the amount of total time they have spent in jail or prison during their lifetime, which was categorized as none, 1 year or less, or more than 1 year.

### *Legal Status*

At program admission, VJO specialists document the type of offense(s) the veteran is facing, including violent offenses (e.g., manslaughter, sexual assault, robbery), property offenses (e.g., burglary, motor vehicle theft, vandalism), drug offenses (e.g., possession, trafficking), public order offenses (e.g., weapons offense, public intoxication, disorderly conduct), probation/parole violations, or some other offense. VJO specialists also record whether the veteran is involved in a Driving Under the Influence (DUI) offense, domestic dispute, or has arrearage or delinquency problems with child support orders. Multiple offenses are recorded for some veterans. At program exit, VJO specialists document the number of jail sanctions (i.e., non-compliance with the treatment program or any infractions are reported to the judge who imposes sanctions, such as brief incarceration), and arrests and incarcerations for new offenses during a veteran's time in the program.

### *Health Status*

At program admission, medical history was assessed by asking veterans whether a doctor or nurse has ever told them they had any of a list of ten conditions (e.g., heart disease, diabetes), which was summed for a total score. During assessment interviews, VJO specialists made a preliminary assessment of veterans' mental health and substance abuse diagnoses based on their clinical judgement, veteran self-report, and review of any existing medical records. These diagnoses included alcohol use disorder, drug use disorder, schizophrenia, other psychotic disorder, bipolar disorder, military or non-military related posttraumatic stress disorder, anxiety disorder, and affective disorder. Veterans were also asked whether they have ever been psychiatrically hospitalized.

### *Public Benefits*

At program admission and exit, veterans were asked whether they were receiving any VA financial benefits (i.e., service-connected disability payments or non-service connected pension). Veterans were also asked whether they received any non-VA financial benefits (e.g., Supplemental Security Income, Social Security Disability Income, welfare) in the past month.

### *Housing and Employment*

At program admission, veterans were asked where they stayed the past night and each of the past 30 nights, which were collapsed into five categories: own place (own or rented apartment or house), someone else's place (family or friend's house or apartment), residential treatment/transitional housing (VA or non-VA residential treatment, domiciliary, transitional housing, or hotel), institution (hospital, prison, or jail), or homeless (shelter, outdoors, or automobile). At program exit, veterans were asked about their current housing in the same categories, which was dichotomized as in own housing or not.

At program admission, veterans were asked about their employment history in the past 3 years which was coded as employed (i.e., part- or full-time employment), unemployed, in vocational rehabilitation (i.e., VA work program, vocational training), or disabled/retired. Veterans were also asked about the number of days they worked in the past month which was used to categorize their employment status at program admission. At program exit, veterans were asked about their employment status and any full/part-time employment was coded as employment.

### **Data Analysis**

First, we used descriptive statistics and frequency analyses to describe participants' sociodemographic, military, psychosocial, legal, and health characteristics at program admission as well as their housing, employment, benefits, and criminal justice outcomes at program exit. Second, we used generalized linear mixed modeling (GLMM) to examine the association between program admission characteristics and outcomes at program exit. A logit link with a binomial distribution was specified for the GLMM. In the first set of GLMM, we examined background characteristics-sociodemographic, military, and psychosocial characteristics-as predictors of outcomes. Predictor variables were entered as fixed effects (or known as "specific intercepts" in the health services research literature). Site ( $n = 115$  associated VA facilities) was entered as a random effect so the LGMM incorporated site specific random effects and accounted for clustering of outcomes within site or site-specific mean differences. Given the large sample size and number of tests, we set the significance level at a more stringent  $\alpha = .01$  and calculated odds ratios with 99% confidence intervals. In a second set of models, we entered health and legal variables after controlling for background characteristics as predictors of outcomes. The reason for having this second set of models was to understand the unique health and legal variables predictive of outcomes beyond background characteristics as VTCs presumably

operate based on various procedures related to health and legal issues.

There was less than 3% missing data among all independent variables and all linear mixed modeling used listwise deletion. GLMM has an assumption that site-specific random effects are not correlated with other included covariates which is reasonable to assume in our study because we used a sample from a large number of sites and there are no systematic patterns across sites on participant characteristics or court operations. Additionally to examine potential multicollinearity issues, correlational analyses revealed there were no correlations above  $r = |.25|$  between any independent variables.

## Results

### Participant Characteristics

As shown in Table 1, the majority of VTC participants were White, unmarried, male, in their 40s, with at least a high school education, and a monthly income above \$1000. Notably, over one-third of participants reported serving in Iraq/Afghanistan. Less than half of participants reported receiving any VA or non-VA financial benefits at program admission. In terms of psychosocial status, many veterans were unstably housed and less than half reported they were living in their own housing at time of program admission. Additionally, less than half had been employed in the past 3 years. In terms of legal status, well over three-quarters of participants had an incarceration history and they were facing a range of current offenses at program admission with the most common offenses being public order offenses, driving under the influence offenses, and drug offenses. In terms of health status, over half of veterans reported symptoms indicative of substance use disorders and over one-third for posttraumatic stress disorder.

### Outcomes

Table 2 describes the outcomes of VTC participants at program exit. Participants stayed an average of 11 months in the program. At program exit, 58% of participants were in their own housing at program exit (compared to 48% at program admission); 28% were employed at program exit (compared to 27% at admission); 50% were receiving VA benefits at program exit (compared to 38% at admission); and 9% were receiving non-VA benefits compared to 18% at admission. Importantly, about one-fifth received any jail sanctions and about 14% experienced any new incarcerations while in the program.

Changes in housing, employment, and benefits from program admission and exit are examined in Table 3. Most

**Table 1** Admission characteristics of veterans treatment court participants (N = 7931)

Sociodemographics	Mean/n (SD/%)
Age	43.7 (13.9)
Male	7517 (94.8%)
Race	
White	5211 (65.7%)
Black	2063 (26.0%)
Other	657 (8.3%)
Married/coupled	1934 (24.4%)
Years of education	13.2 (1.8)
Monthly income	1400.7 (2250.7)
Military history	
Theatre of operations	
WWII/Korean War	31 (0.4%)
Vietnam War	909 (11.5%)
Persian Gulf War	617 (7.8%)
Afghanistan/Iraq	2800 (35.3%)
Other	667 (8.4%)
None	2907 (36.7%)
Combat exposure	3763 (47.4%)
Public benefits	
Any VA financial benefits <sup>a</sup>	3017 (38.0%)
Any non-VA financial benefits <sup>b</sup>	1392 (17.6%)
Psychosocial status	
Nights stayed in past month	
Own place	14.8 (14.7)
Someone else's place	7.1 (12.2)
Residential/transitional	2.1 (7.1)
Institution	3.6 (8.9)
Homeless	1.4 (5.8)
In own housing	3781 (47.7%)
Employment history, past 3 years	
Employed	3333 (42.0%)
Unemployed	1956 (24.7%)
Vocational rehabilitation	29 (0.4%)
Disabled/retired	2439 (30.8%)
Any employment in past month	2138 (27.0%)
Legal status	
Incarceration history	
None	1427 (18.0%)
1 year or less	5175 (65.3%)
More than 1 year	1329 (16.8%)
Current legal offense(s)	
Violent	1703 (21.5%)
Property	1129 (14.2%)
Drug	1804 (22.7%)
Public order	2787 (35.1%)
Probation/parole violation	523 (6.6%)
Other	676 (8.5%)
Driving under influence	2498 (31.5%)
Domestic dispute	1244 (15.7%)

**Table 1** (continued)

Sociodemographics	Mean/n (SD/%)
Child support issues	436 (5.5%)
Health status	
Total no. of medical conditions	.7 (.9)
Preliminary diagnoses	
Alcohol use disorder	4368 (55.1%)
Drug use disorder	2980 (37.6%)
Psychotic disorder	367 (4.6%)
Bipolar disorder	615 (7.8%)
Other affective disorder	2572 (32.4%)
Posttraumatic stress disorder	2977 (37.5%)
Other anxiety disorder	1701 (21.4%)
Any psychiatric hospitalizations	2672 (33.7%)

<sup>a</sup>Among those receiving VA financial benefits, 46.5% reported compensation for a service-connected psychiatric condition, 48.7% reported compensation for other service-connected condition, and 9.4% reported a non-service connected pension

<sup>b</sup>Among those receiving non-VA financial benefits, 22.4% reported receiving supplemental security income, 59.9% reported social security disability income, .9% private disability insurance, 14.7% unemployment insurance, 1.0% temporary assistance for needy families, and 2.6% for general assistance

**Table 2** Outcomes of veterans treatment court participants (N = 7931)

Outcomes	Mean/n (SD/%)
Days in the program	329.5 (221.5)
No. of jail sanctions	.40 (1.6)
Any jail sanctions	1607 (20.3%)
No. of new incarceration episodes	.21 (.76)
Any new incarceration episode	1103 (13.9%)
In own housing	4561 (57.5%)
Employed	2211 (27.9%)
Received VA benefits	3950 (49.8%)
Received non-VA benefits	739 (9.3%)
Total income	\$960.4 (1847.9)

participants exited the program in the same situation they entered (e.g., in own housing at program admission and exit). However, it is notable that 39% of veterans who were not in their own housing at program admission obtained their own housing at program exit and 29% who were initially not receiving VA benefits were receiving VA benefits at program exit. Additionally, 38% who were employed were no longer employed at program exit and 59% who were receiving non-VA benefits were no longer receiving non-VA benefits at program exit.

## Predictors of Outcomes

Table 4 describes the results of multivariable analyses examining background characteristics that were predictive of incarceration, housing, employment, and benefit outcomes at program exit. Participants who were older, more educated, and who were in their own place and were employed at program admission were significantly less likely to experience a new incarceration. Participants who were older, female, White, married, receiving VA benefits, and were in their own place and were employed at program admission were significantly more likely to be in their own housing at program exit. Participants who were younger, male, more educated, and were in their own place and were employed at program admission were significantly more likely to be employed at program exit. Participants who reported combat exposure and were receiving any VA or non-VA benefits were less likely to be employed at program exit. Finally, participants who were younger, female, married/coupled, with combat exposure, receiving VA benefits, and were in their own place at program admission were more likely to be receiving VA benefits at program exit. Participants who were employed at program admission were less likely to be receiving VA benefits at program exit. Finally, participants who were older, receiving non-VA benefits, and were not employed at program admission were more likely to be receiving non-VA benefits at program exit.

To examine this further, multivariable analyses were conducted controlling for these background characteristics to examine legal and health characteristics that were predictive of outcomes. As Table 5 shows, participants with a history of incarceration were significantly more likely to experience a new incarceration, and less likely to be in their own housing or employed at program exit. Participants with a property offense or probation/parole violation were significantly more likely to experience a new incarceration. Participants with a property offense were also significantly less likely to be employed at program exit, whereas those with a DUI offense were significantly more likely to be employed at program exit. Participants with alcohol or drug use disorders were significantly more likely to experience a new incarceration. Participants who had PTSD, a history of psychiatric hospitalizations, or more medical problems were less likely to be employed; those with PTSD and a history of psychiatric hospitalizations were more likely to be receiving VA benefits at program exit.

## Discussion

This national study of VTC participants shows moderate positive outcomes in various domains, including criminal

**Table 3** Changes in outcomes from program admission to exit (N = 7931)

	Own housing at program exit	Not own housing at program exit
Own housing at program admission (row %)	2932 (77.5%)	849 (22.5%)
Not in own housing at program admission	1629 (39.3%)	2521 (60.7%)
	Employed at program exit	Not employed at program exit
Employed at program admission	1333 (62.3%)	805 (37.7%)
Not employed at program admission	878 (15.2%)	4915 (84.8%)
	VA benefits at program exit	No VA benefits at program exit
VA benefits at program admission	2549 (84.5%)	468 (15.5%)
No VA benefits at program admission	1401 (28.5%)	2549 (84.5%)
	Other benefits at program exit	No other benefits at program exit
Other benefits at program admission	565 (40.6%)	827 (59.4%)
No other benefits at program admission	174 (2.7%)	6365 (97.3%)

**Table 4** Background characteristics predictive of outcomes in veterans treatment courts, controlling for site (N = 7931)

	Any new incarceration	In own housing	Employed	Receiving VA benefits	Receiving non-VA benefits
	Odds ratio (99% CI)	Odds ratio (99% CI)	Odds ratio (99% CI)	Odds ratio (99% CI)	Odds ratio (99% CI)
Age	.99 (.98–.99)**	1.02 (1.01–1.03)**	.97 (.97–.98)**	.99 (.98–.99)**	1.04 (1.03–1.05)**
Male	1.04 (.68–1.58)	.69 (.50–.95)*	1.55 (1.08–2.23)*	.63 (.45–.88)**	.95 (.49–1.83)
White	.89 (.73–1.08)	1.09 (.94–1.27)	1.06 (.89–1.27)	1.03 (.87–1.21)	1.03 (.78–1.38)
Married/coupled	.96 (.77–1.21)	1.70 (1.43–2.01)**	1.05 (.87–1.26)	1.25 (1.05–1.50)*	1.24 (.91–1.68)
Years of education	.93 (.89–.98)*	1.03 (.99–1.07)	1.06 (.98–1.11)**	1.02 (.98–1.06)	.95 (.89–1.01)
Combat exposure	.96 (.79–1.17)	1.13 (.97–1.31)	.80 (.67–.95)*	1.78 (1.51–2.09)**	1.11 (.83–1.48)
Any VA financial benefits	.98 (.81–1.19)	1.24 (1.07–1.43)**	.55 (.46–.65)**	13.52 (11.43–15.97)**	1.14 (.86–1.50)
Any non-VA financial benefits	.91 (.71–1.17)	1.11 (.92–1.34)	.43 (.32–.56)**	.99 (.80–1.22)	19.38 (14.63–25.69)**
Own place at program admission	.48 (.39–.59)**	4.84 (4.17–5.60)**	1.47 (1.24–1.74)**	1.27 (1.08–1.49)**	1.26 (.95–1.67)
Employed at program admission	.58 (.45–.73)**	1.27 (1.08–1.51)*	6.86 (5.79–8.13)**	.65 (.54–.77)**	.28 (.16–.49)**

\*p &lt; .01, \*\*p &lt; .001

justice, housing, employment, and VA benefits. Although 20% of VTC participants received jail sanctions during the program, only 14% experienced a new incarceration during an average of nearly 1 year in the program, which is lower than the 23–46% 1-year recidivism rate found among U.S. prisoners (Durose et al. 2014). However, VTC participants who had a history of past incarcerations were more likely to experience new incarcerations, and so recidivism remains an issue in this population.

Alcohol and drug use problems were also predictive of new incarcerations, which is perhaps not surprising given that drug law violations are the most common type of criminal offense (Motivans 2015) and 60% of individuals arrested for most types of crimes test positive for drugs at the time of their arrest (National Council of Alcoholism and Drug Dependence 2015). Substance abuse treatment is often mandated as part of sentencing in VTCs, but our results suggest many continue to struggle with substance

**Table 5** Legal and health characteristics predictive of outcomes in veterans treatment courts, controlling for site and background characteristics (N = 7931)

	Any new incarceration	In own housing	Employed	Receiving VA benefits	Receiving non-VA benefits
	Odds ratio (99% CI)	Odds ratio (99% CI)	Odds ratio (99% CI)	Odds ratio (99% CI)	Odds ratio (99% CI)
<b>Legal status at admission</b>					
<b>Incarceration history</b>					
None	.29 (.19–.45)**	1.73 (1.32–2.27)**	1.37 (.98–1.92)	1.10 (.81–1.48)	.91 (.55–1.51)
1 year or less	.59 (.46–.75)**	1.45 (1.19–1.78)**	1.35 (1.03–1.77)*	.96 (.77–1.20)	.93 (.65–1.33)
More than 1 year	Ref	Ref	Ref	Ref	Ref
Violent offense	1.20 (.88–1.64)	1.01 (.79–1.28)	1.01 (.76–1.33)	1.07 (.82–1.40)	1.07 (.66–1.72)
Property offense	1.51 (1.16–1.98)**	.90 (.72–1.13)	.76 (.58–.99)*	1.09 (.85–1.38)	.82 (.52–1.30)
Drug offense	1.25 (.97–1.61)	.83 (.68–1.02)	.90 (.70–1.15)	.98 (.78–1.24)	1.00 (.67–1.49)
Public order offense	.84 (.65–1.10)	1.03 (.85–1.26)	.91 (.73–1.15)	1.02 (.82–1.26)	1.04 (.72–1.52)
Probation/parole violation	1.63 (1.20–2.22)**	.97 (.74–1.29)	.85 (.60–1.21)	1.06 (.77–1.45)	1.06 (.62–1.84)
Driving under influence	.93 (.71–1.23)	1.11 (.91–1.35)	1.34 (1.07–1.67)*	1.02 (.82–1.27)	1.06 (.73–1.55)
Domestic dispute	1.24 (.89–1.72)	1.22 (.95–1.57)	1.20 (.90–1.60)	1.03 (.78–1.36)	.84 (.50–1.39)
Child support issues	1.37 (.97–1.93)	.94 (.70–1.25)	.95 (.68–1.34)	1.06 (.76–1.48)	.53 (.25–1.11)
<b>Health status at admission</b>					
Total no. of medical conditions	.97 (.87–1.09)	.96 (.88–1.04)	.85 (.76–.95)**	1.02 (.93–1.12)	1.01 (.88–1.15)
Alcohol use disorder	1.28 (1.04–1.56)*	.98 (.84–1.14)	1.01 (.84–1.20)	1.01 (.85–1.19)	.92 (.69–1.23)
Drug use disorder	1.59 (1.29–1.97)**	.81 (.69–.95)*	.90 (.74–1.10)	.96 (.80–1.15)	1.06 (.78–1.45)
Psychotic disorder	.96 (.63–1.47)	1.24 (.89–1.73)	.61 (.36–1.04)	1.29 (.89–1.87)	1.59 (.98–2.60)
Bipolar disorder	1.07 (.77–1.48)	.83 (.64–1.08)	.95 (.68–1.34)	1.12 (.84–1.49)	1.26 (.82–1.95)
Other affective disorder	1.03 (.84–1.27)	1.06 (.90–1.24)	.98 (.81–1.18)	1.02 (.86–1.21)	1.23 (.92–1.66)
Posttraumatic stress disorder	1.04 (.83–1.30)	1.06 (.89–1.26)	.76 (.62–.92)**	1.64 (1.37–1.97)**	1.15 (.83–1.61)
Other anxiety disorder	.91 (.72–1.15)	1.04 (.87–1.24)	.98 (.81–1.18)	1.15 (.95–1.40)	.83 (.58–1.17)
Any psychiatric hospitalizations	1.20 (.97–1.48)	.88 (.75–1.04)	.64 (.52–.78)**	1.29 (.89–1.87)*	1.15 (.85–1.55)

\* $p < .01$ , \*\* $p < .001$ 

abuse problems in the program underscoring the importance of proper sentencing and tailoring of mandated addiction treatment.

Interestingly, participants with property offenses or probation/parole violations were at higher risk for new incarcerations. Certainly, a probation/parole violation is indicative of a participant's inability to adhere to rules and requirements while out in the community, which may ultimately lead to new infractions and incarcerations. However, it is not clear why participants with property offenses might be at particularly high risk for new incarcerations although we speculate it may be related to the association between property offenses and unemployment (Raphael and Winter-Ebmer 2001) and because property offenses are one of the most common categories of offenses encompassing a broad range of criminal offenses (Motivans 2015).

Notably, there were substantial gains in housing and VA benefits that were observed during the program. The

majority of VTC participants were in their own housing at program admission and even more (10% increase) obtained their own housing at program exit. Similarly, 38% of VTC participants were receiving VA benefits at program admission which increased to 50% by program exit. Participants with a history of incarceration were less likely to be housed at program exit, supporting previous studies that have pointed to the link between incarceration and homelessness (McGuire 2007; Tsai et al. 2014). Additionally, participants who received VA benefits were more likely to be in their own housing at program exit, consistent with studies that have found VA service-connection confers reduced risk for homelessness (Edens et al. 2011).

VTC outcomes were likely due to a combination of the effectiveness of VJO specialists in engaging VTC participants, treatment adherence of VTC participants, and the quality of services they received. However, further study is needed to tease out the critical elements of each of these

components. Additionally, we suggest there is an important need to examine what types of mandated treatments VTCs are requiring for participants. Many VTCs may be using a legal sentencing framework to make decisions about the type, frequency, and duration of mandated treatment, when treatment decisions should be based on evidence-based practices and in consultation with mental health providers.

While we found gains in housing and employment among VTC participants, there was no change in employment from program admission to exit (27–28%). This low rate of employment is important to underscore because employment can be an important part of recovery, and those with criminal histories often face barriers to finding employment (Pager 2003; Western et al. 2001). To the extent that crimes are committed out of financial necessity, obtaining employment and having a steady source of income may presumably help reduce recidivism (Berg and Huebner 2011; Uggen 2000). VTCs are focused on helping participants receive needed mental health and substance abuse treatment, but there have been less direct efforts to help participants obtain employment. Perhaps, VTCs should be further encouraged to provide vocational assistance to participants through their partnerships with VA medical centers that have many resources, including the compensated work program and supported employment (U.S. Department of Veterans Affairs 2016).

Finally, we found that participants who were receiving VA or non-VA benefits were less likely to be employed. Studies have suggested that VA disability compensation and other public benefits can be a disincentive to employment (Maestas et al. 2012; Tsai and Rosenheck 2013, 2016) and so special efforts to help participants overcome any disincentives are worth exploring. Participants who were receiving VA benefits reported more medical and mental health problems so certainly this is a high-need group. However, a large body of studies have shown that people with various physical and mental disabilities can and want to work, and many derive major health benefits from working (Bond 2004; Pawłowska-Cyprysiak et al. 2013).

Several limitations of the study are worth noting. This study did not include a control group because we were focused on identifying veteran characteristics that predicted positive outcomes in VTCs. The lack of a control group allows for threats to internal validity, such as history effects, regression to the mean, and other confounding variables. VA administrative data collected on veterans were mostly based on self-report; assessment of psychiatric diagnoses was preliminary and made by VJO specialists. Our study lacked data on the characteristics of VTCs (e.g., size, target population, operations), so we were not able to compare features of different VTCs and their effects on veteran outcomes. Unlike previous studies that have conducted detailed inventories of the VTCs themselves, (Baldwin

2015a, b), our study provides detailed information about individual veteran characteristics and outcomes, and serves as a complement to those descriptive VTC studies.

Our study included criminal justice-involved veterans in the VJO program during a specified time period so our sample may not represent all criminal justice-involved veterans or veterans in the VJO program. Our analyses were based on data collected at program admission and exit, and did not include fluctuations in outcomes between time-points. We also dichotomized many outcomes based on what we judged to be optimal outcomes (e.g., in own housing versus staying at someone else's house). These limitations notwithstanding, this study presents a national picture of VTC participants and highlights the importance of further developing and supporting substance abuse treatment and vocational training among this population.

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#### Compliance with Ethical Standards

**Conflict of interest** All authors declare they have no conflicts of interest with this work.

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**Ethical Approval** All procedures performed were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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