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Use of Veterans Health Administration Mental Health and Substance Use Disorder Treatment After Exiting Prison: The Health Care for Reentry Veterans Program

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Abstract

The Veterans Health Administration (VA) Health Care for Reentry Veterans (HCRV) program links veterans exiting prison with treatment. Among veterans served by HCRV, national VA clinical data were used to describe contact with VA health care, and mental health and substance use disorder diagnoses and treatment use. Of veterans seen for an HCRV outreach visit, 56% had contact with VA health care. Prevalence of mental health disorders was 57%; of whom 77%

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entered mental health treatment within a month of diagnosis. Prevalence of substance use disorders was 49%; of whom 37% entered substance use disorder treatment within a month of diagnosis. For veterans exiting prison, increasing access to VA health care, especially for rural veterans, and for substance use disorder treatment, are important quality improvement targets.

Keywords

Veterans Health; Prisoners; Mental Disorders; Substance Use Disorders; Mental Health Services; United States Department of Veterans Affairs

Introduction

People in prison face a multitude of challenges as they transition back to their communities. In addition to medical treatment needs (Binswanger, Krueger, & Steiner, 2009), many ex-prisoners have mental health or substance use disorders (Binswanger et al., 2010; James & Glaze, 2006) and may face barriers to accessing treatment. Furthermore, treatment participation rates drop off after inmates leave prison compared to their treatment use while in prison (Mallik-Kane & Visher, 2008). Possible explanations for this drop off include a lack of health insurance, less structure in community settings, a lack of available or easily accessible services, and low motivation to seek treatment. Untreated mental health and substance use disorders may put individuals at risk for homelessness and housing instability (Geller & Curtis, 2011), criminal recidivism (Nally, Lockwood, Ho, & Knutson, 2014), and mortality (Binswanger, Blatchford, Mueller, & Stern, 2013). Due to factors such as stigma, newly released prisoners also have diminished opportunities for employment and limited social, financial, and community support (Binswanger et al., 2012; McDonough, Blodgett, Midboe, & Blonigen, 2015; Nally et al., 2014; Re-entry Policy Council, 2005).

Incarcerated Veterans

The Bureau of Justice Statistics reported that military veterans comprised roughly 8% of the incarcerated population from 2011–2012 (Bronson, Carson, Noonan, & Berzofsky, 2015). Incarcerated veterans experience many of the challenges of reentry faced by the general criminal justice population; more than half report mental health or substance use disorders (Noonan & Mumola, 2007) and, among incarcerated veterans who served in Iraq or Afghanistan, 43% had an alcohol use disorder and 37% a drug use disorder (Tsai, Rosenheck, Kasprow, & McGuire, 2013). In a national sample of incarcerated veterans, 30% had a history of homelessness (Tsai, Rosenheck, Kasprow, & McGuire, 2014). The risk for mortality following prison release is similarly high for veterans and the general prison population (Wortzel, Blatchford, Conner, Adler, & Binswanger, 2012).

In addition to general reentry-related challenges experienced by many adults leaving prison, veterans may have unique challenges. For example, some veterans have adjustment issues from post-traumatic stress disorder (PTSD), which may be related to combat trauma, military sexual trauma, or other traumatizing events during military service that factor into prolonged or repeated justice involvement (Brown, 2008; Sreenivasan et al., 2013). Among veterans in prison and jail, combat experience ranged from 25%–35% (Bronson et al., 2015;

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Saxon et al., 2001; Williams et al., 2010). Combat-related PTSD was found in 38% of incarcerated veterans who served in Iraq or Afghanistan (Tsai et al., 2013).

The Health Care for Reentry Veterans Program

To address the needs of incarcerated veterans who are reentering their communities, the VA created the Health Care for Reentry Veterans (HCRV) program in 2007 (Blue-Howells, Clark, van den Berk-Clark, & McGuire, 2013; McGuire, 2007). The HCRV program provides outreach to veterans in prisons who are due for release, and links them to health care treatment and other transition assistance. The overarching goal of the HCRV program is to reduce and prevent homelessness and criminal justice recidivism, and to facilitate readjustment to community life. Corrections staff and HCRV Specialists coordinate efforts to identify prisoners who are veterans, or veterans self-identify. Next, an HCRV Specialist conducts an in-prison assessment of the veteran to determine needed treatment services and assists with VA eligibility paperwork. The HCRV Specialist then facilitates linkage to care at the local VA facility and/or other appropriate programs in the local community for the veteran to use once released from prison. Once a veteran is connected with services at a VA facility or in the community, HCRV services cease. HCRV Specialists nationally serve veterans in all 50 states. At the end of 2013, HCRV Specialists were providing outreach to veterans at 81% of adult state and federal correctional facilities. While not a focus of this paper, VA also has a Veterans Justice Outreach (VJO) program for veterans who are not incarcerated in prison but encounter the justice system via law enforcement contact, court involvement, and/or incarceration in jail (Blue-Howells et al., 2013).

Treatment Use After Incarceration

Previous research indicates that treatment use after prison is highly varied. Among the general incarcerated population reentering the community, use of mental health treatment ranges from 3% to 50%, and for substance abuse treatment ranges from 12% to 61% (Hartwell et al., 2013; Lattimore et al., 2012; Mallik-Kane & Visher, 2008). In the Department of Labor’s Incarcerated Veterans Transition Program, a precursor to HCRV geared towards facilitating employment, 39% of veterans seen during prison outreach used outpatient or inpatient VA treatment in the two year period following prison release (McGuire, 2008). Given the high rates of mental health and substance use disorders among veterans who are incarcerated, connecting Veterans with needed treatment may help attenuate not only their disorder symptoms but also their risk for homelessness, recidivism, and mortality. For example, adults with opioid use disorder and criminal justice involvement who were receiving methadone treatment were less likely to fail out of supervision and had reduced rates of criminal activity, including drug-and property-related crimes (Clark, Hendricks, Lane, Trent, & Cropsey, 2014; Gryczynski et al., 2012; Marsch, 1998). However, little is known about veterans’ use of VA mental health or substance use disorder treatment after contact with the HCRV program.

Present Study

Understanding what happens to veterans in the HCRV program after their initial prison-based outreach visit will be useful to the HCRV program for quality improvement purposes. To the extent it is successful in achieving its goals, the HCRV program can also provide

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lessons for other healthcare and public health programs striving to link individuals to treatment as they transition from prison back into community settings. Therefore, in this study, we determined contact with VA health care in the one-year period after the HCRV outreach visit, and among those receiving VA services, we examined the prevalence of mental health and substance use disorders, and rates of entry and engagement in VA psychosocial and pharmacological treatment. We also conducted exploratory analyses of the patient characteristics associated with mental health disorder treatment and substance use disorder treatment use.

Methods

Participants

This study is a retrospective cohort study of veterans who had an HCRV outreach visit from October 1, 2007 through September 30, 2013. Using national VA clinical and administrative records, we included all veterans eligible for VA services at any VA facility (N = 140 medical centers) nationwide with an HCRV encounter. We excluded veterans previously seen by a VJO Specialist in jail, court, or other law enforcement settings.

Measures

Patient characteristics—Patient variables included *gender*, *age*, *race, ethnicity*, *marital status*, urban or rural *residence* (drawn from a geographic file that indicated a veteran's last known address), *homeless* status (drawn from a homeless indicator variable, receipt of housing services, and International Classifications of Diseases-9th Edition codes for housing and homelessness), *service in Iraq or Afghanistan,* and *service-connected disability rating* (reflecting a disability caused by illness or injury that occurred during or was aggravated by military service). Gender, age, race, ethnicity, marital status, homeless status, and service-connected disability rating were drawn from a veteran's HCRV outreach visit or, when missing, next closest VA visit. Homeless status reflected the veteran's status at the time of the first face-to-face VA visit. Residence was drawn from a geographic file indicating the veteran's residence during the fiscal year when the HCRV outreach visit occurred. Service in Iraq or Afghanistan was drawn from the Iraq/Afghanistan Roster indicating whether a veteran had served in those conflicts prior to her/his HCRV outreach visit.

Mental health and substance use disorder diagnoses—A veteran was considered to have a mental health or substance use disorder if s/he had at least one relevant clinically documented diagnosis in the one year after or including her/his first face-to-face contact with VA health care. During an outreach visit, HCRV Specialists conduct an assessment to match a veteran with treatment, but do not record mental health or substance use disorder diagnoses into the health record. Diagnoses, if any, were determined as part of a more detailed clinical assessment, typically by a physician or psychologist who saw the veteran at a VA health care clinic after the HCRV encounter. These diagnoses were determined in a variety of clinical settings including primary care and mental health settings, but were separate from clinic codes.

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A veteran was considered to have a diagnosis if a diagnosis code appeared in her/his health record in the one-year period starting with her/his initial face-to-face visit to a VA facility as this was the first opportunity s/he would have to receive a diagnosis. We selected the first face-to-face visit as our index date for analyses examining the prevalence of diagnoses as it was possible that a veteran was not released from prison within one year of her/his outreach visit. By using the face-to-face visit as our index date we ensured we selected veterans who were released from prison and who were able to visit a VA facility.

Mental health and substance use disorders were defined based on International Classification of Diseases-9 (ICD-9) diagnosis codes, a modified version of codes we used previously (Authors, 2014). Mental health disorders included: *depressive disorders*, *PTSD*, *anxiety disorders*, *bipolar disorder*, *schizophrenia*, *other psychosis*, and *personality disorders*. Substance use disorders included: *alcohol use disorder*, *cocaine use disorder*, *cannabis use disorder*, *opioid use disorder*, *amphetamine use disorder*, *sedative use disorder*, and *other drug use disorders*. All diagnoses were current; codes indicating remission were not included.

Treatment service use—For mental health treatment, in the one-year period after each veteran's first mental health disorder diagnosis, we counted the number of *mental health outpatient visits*, *mental health inpatient days*, and *mental health residential days.* We also calculated if a veteran received *pharmacotherapy for depressive disorders, PTSD, bipolar disorders, or schizophrenia.* For substance use disorder treatment, in the one-year period after each veteran's first substance use disorder diagnosis, we counted the number of: *substance use disorder outpatient visits*, and *substance use disorder residential days*. We also calculated if a veteran received *pharmacotherapy for alcohol use disorder* or *opioid use disorder*. All treatment use occurred within the VA health care system.

Entry to mental health treatment was any use of any mental health outpatient, inpatient, or residential care or any receipt of pharmacotherapy for depressive disorders, PTSD, bipolar disorder, or schizophrenia in the first month after initial diagnosis. *Engagement* in mental health treatment was coded as three or more mental health disorder outpatient visits or more than seven consecutive days of residential treatment in first month after initial diagnosis. *Entry* to substance use disorder treatment was any use of substance use disorder outpatient or residential care or any receipt of pharmacotherapy for alcohol or opioid use disorders in the first month after initial diagnosis. *Engagement* was coded as three or more substance use disorder outpatient visits or more than seven consecutive days of residential treatment in the first month after initial diagnosis. For secondary analyses, we also tested one-year treatment entry (any use of services in one-year) and engagement (3+ outpatient visits or 8+ consecutive residential days). These measures were based on previous literature of treatment use (Harris et al., 2015; Harris, Kivlahan, Bowe, Finney, & Humphreys, 2009).

Analysis

Among the full sample of veterans eligible for VA health care who received an HCRV outreach visit, we examined descriptive statistics of their characteristics, stratified by veterans who did not or did have contact with VA health care in the one-year period after

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their outreach visit. A multi-level logistic regression model with a random effect for facility (N = 140 medical centers) was used to test what veteran characteristics were associated with entry into VA care. For veterans who did not have contact with VA, we used the VA facility of the outreach specialist. For veterans who had contact with VA, we used the facility they used most frequently. We compared the most frequently used facility with the outreach specialist facility for veterans who had contact with VA and found that 81% of veterans used the same facility that the outreach specialist they had contact with was assigned to. Next, we excluded veterans who did not have a face-to-face visit at a VA facility in the one-year period after her/his HCRV visit because these veterans would not have had the opportunity to receive a mental health or substance use disorder diagnosis. Then, we examined prevalence of mental health and substance use disorder diagnoses of all veterans who met inclusion criteria. We then calculated the percentage of veterans who entered and engaged in treatment in the first month after initial diagnosis, separately for mental health and substance use disorder treatment. Finally, we modeled the odds of entry or engagement in VA mental health or substance use disorder treatment in the month following diagnosis using logistic regression tests with a random effect for facility (N = 140 medical centers). We also examined treatment entry and engagement in the first year (i.e., 12 months) after initial diagnosis.

Results

Patient Characteristics

There were 32,155 veterans eligible for VA health care who received an outreach visit from an HCRV Specialist in fiscal years 2008–2013. Of veterans who had an HCRV outreach visit, 18,073 (56%) had contact with VA health care within the subsequent year, including primary care, mental health or substance use disorder treatment, homeless or employment programs, or any other VA services. Table 1 shows the characteristics of veterans with an HCRV outreach visit, stratified by those who did and did not have contact with VA health care within one year after their outreach visit, and the logistic regression model testing contact with VA health care. The majority were men age 45 or older. The logistic regression model indicated that veterans who were women, age 55 or older, Black/African American, single, separated/divorced, or widowed, who served in Iraq or Afghanistan, or who had a service-connected disability rating had higher odds of entering VA face-to-face treatment whereas veterans who lived in rural areas had lower odds.

Prevalence of Diagnoses

Among veterans with an HCRV outreach visit who had contact with VA health care, 69% were diagnosed with at least one mental health or substance use disorder: 57% were diagnosed with at least one mental health disorder and 49% were diagnosed with at least one substance use disorder (Table 2). Furthermore, 35% were diagnosed with co-occurring mental health and substance use disorders (i.e., at least one mental health and one substance use disorder). The three most common mental health disorders were depressive disorders, PTSD, and anxiety disorders. Alcohol, other drug, and cocaine use disorders were the most common substance use disorders.

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Entry to and Engagement in Mental Health Disorder Treatment

One-month post-diagnosis—Of veterans with an HCRV outreach visit who were diagnosed with a mental health disorder, 77% entered mental health treatment in the first month after diagnosis and 28% engaged in treatment. Being homeless or having a substance use disorder was associated with higher odds of entry into treatment in the first month after initial diagnosis (Table 3). Factors associated with higher odds of engagement in treatment in the first month included being unmarried, being homeless, or having a substance use disorder. Living in a rural area was associated with lower odds of treatment engagement in the first month.

One-year post-diagnosis—In the first year after diagnosis, 93% of veterans entered, and 52% engaged in, mental health treatment. Being homeless, having a service-connected disability rating, and having a substance use disorder were associated with higher odds of treatment entry in the first year after diagnosis (Table 3). In addition to the factors associated with treatment entry in the first year, being age 45 or older was associated with higher odds of treatment engagement in the first year.

Entry to and Engagement in Substance Use Disorder Treatment

One-month post-diagnosis—Among veterans with an HCRV outreach visit who were diagnosed with a substance use disorder, 37% entered, and 24% engaged in, substance use disorder treatment in the first month after diagnosis. Factors associated with higher odds of treatment entry in the first month included being widowed, being homeless, having less than 50% service-connected disability rating, and having a mental health disorder (Table 4). Living in a rural area was associated with lower odds of treatment entry. Factors associated with higher odds of engagement in the first month included being widowed, being homeless, and having a service-connected disability rating of less than 50%.

One-year post-diagnosis—Substance use disorder treatment entry was 57%, and engagement was 39%, in the first year after diagnosis. Being Black/African American, unmarried, homeless, and having a service-connected disability rating of less than 50% were associated with higher odds of substance use disorder treatment entry in the first year after diagnosis (Table 4). Living in a rural area was associated with lower odds of entry. The same factors were associated with treatment engagement in the first year.

Discussion

The results of the current study indicate that veterans exiting prison have extensive treatment needs; 69% of these veterans were diagnosed with a mental health and/or substance use disorder after contact with VA health care. These high prevalence rates are not surprising given that combat trauma, military sexual trauma, or other trauma experienced while serving in the military may be a contributing factor to veterans' involvement in the justice system (Brown, 2008; Sreenivasan et al., 2013). Furthermore, the prevalence rates of these disorders may be underestimated as they are based on clinician diagnoses of patients presenting for treatment as opposed to a more formal structured diagnostic assessment of population samples. For example, the prevalence of PTSD was somewhat lower in the current sample

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than in previous studies with incarcerated veteran populations that used self-report or structured assessments (Hartwell et al., 2014; Saxon et al., 2001; Tsai et al., 2013).

Contact with VA Health Care

In this study, 44% of veterans exiting prison did not have contact with the VA system within a year of their outreach visits. Given the substantial medical and mental health treatment needs of justice involved populations (Binswanger et al., 2009; James & Glaze, 2006) as well as other psychosocial challenges such as homelessness, unemployment, and recidivism (McDonough et al., 2015; Nally et al., 2014; Tsai et al., 2014), it is crucial to determine whether these veterans are receiving treatment and support outside of VA or whether these veterans are still incarcerated. Community-based programs may be meeting some of these veterans needs and may provide guidance on improving VA outreach services. However, given that the post-incarceration health care contact rate is higher in our study than in previous studies with veterans and general incarcerated populations (Lattimore et al., 2012; McGuire, 2008), veterans who do not come into VA may forego health care altogether. More research is needed to understand what non-VA services the 44% of veterans who do not access VA face-to-face care are using as well as what their treatment needs are. Fortunately, more than half of the veterans seen during HCRV outreach enter VA treatment and the majority who are diagnosed with a mental health disorder received mental health care (77% in the first month after diagnosis and 93% in the first year). These rates are much higher than the 3% to 50% rates of mental health treatment use that have been observed in the general incarcerated population after prison exit (Lattimore et al., 2012; Mallik-Kane & Visher, 2008).

Veterans Living in Rural Areas

One group of veterans in the HCRV program who had lower odds of contact with VA health care was veterans living in rural areas. These results are congruent with other VA studies indicating that rural veterans have more difficultly accessing VA health care (Wallace, West, Booth, & Weeks, 2007; West & Weeks, 2006). The recent Veterans Choice Act of 2014 (Public Law 113–146) is in part designed to help address issues pertaining to access to VA care in rural areas. However, even among those patients who had contact with the VA health care system, veterans in rural areas had lower odds of engaging in mental health services and entering or engaging in substance use disorder treatment. Low utilization of VA mental health care is especially concerning for rural veterans because they may have limited other treatment options, delays starting treatment, and transportation challenges getting to treatment (Pullen & Oser, 2014). For example, methadone clinics in rural areas often have extensive waitlists and there are fewer clinicians willing to prescribe buprenorphine (Sigmon, 2014). Alternative health care delivery strategies such as telehealth or video conferencing may help meet the treatment needs of veterans in rural areas.

Substance Use Disorder Treatment Entry and Engagement

In addition to improving initial contact with VA health care, increasing use of substance use disorder treatment is an important quality improvement target for the HCRV program. Only 37% of veterans with substance use disorders entered VA substance use disorder treatment in the first month after initial diagnosis and 57% entered within the first year. There are

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shared challenges to entering substance use disorder treatment for all veterans, but for veterans exiting prison, adjustment challenges to reentry and difficulty securing employment (Geller & Curtis, 2011; Nally et al., 2014), may divert their time and energy away from treatment. However, 24% in the first month and 37% in the first year engaged in treatment suggesting that a substantial minority of veterans are getting linked and persisting in treatment.

Providing treatment for substance use disorders in settings other than specialty care for substance use disorder may improve access to needed services. For example, veterans who received treatment for alcohol use disorder in a primary care setting had higher treatment engagement and fewer drinking days compared to veterans in specialty care settings (Oslin et al., 2014). However, screening and brief intervention for drug use disorders have not been found to be effective in primary care settings (Saitz et al., 2014). VA provides integrated primary care and mental health services through Patient Aligned Care Teams (PACTs), which has been linked with lower risk for emergency department visits, hospitalizations, and mortality for veterans who receive integrated care compared to those who do not receive integrated care (Trivedi et al., 2015). However, substance use disorder treatment does not occur in most VA primary care or mental health care clinics and more resources are needed to integrate addiction treatment in these settings (Tracy, Trafton, Weingardt, Aton, & Humphreys, 2007).

Coordination among various treatment settings as well as coordination between VA and the criminal justice system is needed to capitalize on opportunities for intervention. For example, screening and brief intervention for drug and alcohol use in criminal justice settings is currently being tested (Prendergast & Cartier, 2013). Almost half of veterans in federal prison were serving drug sentences and a quarter were using drugs at the time of their offense (Noonan & Mumola, 2007). Substance use disorder treatment, such as methadone for opioid use disorder, has been linked with reduced criminal activity (Gryczynski et al., 2012; Marsch, 1998), suggesting the importance of prioritizing substance use disorder treatment for veterans exiting prison. However, many of these veterans have competing needs such as housing and employment. Programs that address these various needs with integrated substance use disorder treatment may be most successful in supporting veterans as they exit prison.

Limitations

There are limitations to this study. First, our analyses of entry into VA face-to-face treatment included limited information on veterans who had an HCRV outreach visit. Thus, our conclusions about veterans who did not subsequently enter VA treatment are limited in scope. Although more than half of veterans who received an HCRV outreach visit have contact with VA health care, the coordination required to meet with veterans in prison and link them to VA facilities is extensive and more work is needed to understand and address any barriers to entering VA. Second, we were unable to assess treatment veterans were receiving in the community. For example, some veterans may receive treatment at community-based methadone clinics not affiliated with VA and thus no data was available in our database. Data systems that track this usage will be important to ensure veterans are

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receiving the care they need. Finally, our analyses lack a comparison group. Veterans in prison who do not receive HCRV outreach may be similar to their counterparts who received HCRV services, but we were unable to assess any similarities or differences from our data.

Conclusion

Although the HCRV program is successfully connecting 56% of veterans exiting prison with face-to-face VA health care, efforts to understand the treatment needs of the 44% of veterans who do not have contact with VA health care are needed. Furthermore, it is unknown what percent of veterans exiting prison would connect to VA without HCRV contact, so the true impacts of the program have not been rigorously evaluated. Given the high prevalence rate of mental health and/or substance use disorders among these veterans, there are likely some veterans who have treatment needs not being met by other service delivery systems. Access and engagement in services for veterans living in rural areas or with substance use disorders is especially challenging. However, for veterans who connect with VA health, the majority entered mental health treatment and more than half entered needed substance use disorder treatment within a year, suggesting that for a substantial proportion of veterans exiting prison the HCRV program is successful in its mission to link these veterans to care.

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Table 1

Characteristics of Veterans Eligible for VA Health Care with an HCRV Outreach Visit in Fiscal Years 2008–2013 and Who Did and Did Not Have VA Health Care Contact

	No VA health care contact (n = 14,082)		VA health care contact (n = 18,073)			
	n	%	*n*	%	OR	(95% CI)
Female	153	1%	451	3%	1.97***	(1.59–2.43)
Age						
< 25	170	1%	151	1%	ref	
25–34	1,342	10%	1,211	7%	0.83	(0.59–1.16)
35–44	2,636	19%	2,404	13%	0.98	(0.70–1.37)
45–54	5,383	38%	7,215	40%	1.40	(1.00–1.97)
55+	4,544	32%	7,090	39%	1.65**	(1.17–2.31)
Hispanic	685	5%	860	5%	1.05	(0.93–1.20)
Non-Hispanic						
American Indian/Alaskan Native	143	2%	278	2%	-	
Asian	108	1%	182	1%	-	
Black/African American	4,241	30%	7,018	39%	1.14***	(1.07–1.22)
White	7,145	51%	8,540	47%	ref	
Marital status						
Single	3,377	34%	6,306	35%	1.40***	(1.29–1.52)
Married	1,952	19%	2,828	16%	ref	
Separated/Divorced	4,399	44%	8,200	46%	1.43***	(1.33–1.55)
Widowed	330	3%	602	3%	1.34***	(1.14–1.57)
Rural residence	4,312	38%	4,539	25%	0.57***	(0.54–0.61)
Homeless	0	0%	821	5%	-	
Service in Iraq or Afghanistan	498	4%	999	6%	1.37***	(1.17–1.60)
Service-connected disability rating						
No	11,213	80%	10,508	58%	ref	
< 50%	2,378	17%	5,871	32%	1.96***	(1.84–2.08)
50%	491	3%	1,694	9%	2.91***	(2.59–3.27)

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Note. The logistic regression model tested contact with VA health care and did not include American Indian/Alaskan Native and Asian veterans due to small sample sizes. Homeless was not included as a covariate because no veterans in the no VA health care contact group had information indicating they were homeless. Service-connected reflects a disability caused by illness or injury occurring during or aggravated by military service.

HCRV = Health Care for Reentry Veterans. OR = odds ratio. CI = confidence interval. Ref = reference group.

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

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Table 2

Prevalence of Mental Health and Substance Use Disorder Diagnoses Among Veterans With an HCRV Outreach Visit in Fiscal Years 2008–2013 and Who Had VA Health Care Contact

	Veterans (n = 18,073)	
Diagnoses	**n**	**%**
Any mental health or substance use disorder	12,556	69%
Any mental health disorder	10,372	57%
Depressive disorders	7,699	43%
PTSD	3,613	20%
Anxiety disorders	3,066	17%
Bipolar disorder	1,853	10%
Schizophrenia	1,151	6%
Other psychosis	888	5%
Personality disorders	1,558	9%
Any substance use disorder	8,550	47%
Alcohol use disorder	5,929	33%
Opioid use disorder	1,356	8%
Cocaine use disorder	3,504	19%
Cannabis use disorder	1,825	10%
Amphetamine use disorder	602	3%
Sedative use disorder	216	1%
Other drug use disorders	4,833	27%
Dual mental health and substance use disorders	6,366	35%

Note.

HCRV = Health Care for Reentry Veterans.

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Table 3

Characteristics Associated with Mental Health Disorder Treatment Use Among Veterans with an HCRV Outreach Visit in Fiscal Years 2008–2013, VA Health Care Contact, and a Mental Health Disorder Diagnosis

Characteristics	1-Month Entry		1-Month Engagement		1-Year Entry		1-Year Engagement	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Gender (ref: male)	0.87	0.67–1.11	0.99	0.76–1.29	1.36	0.82–2.24	1.14	0.91–1.44
Age, years (ref: <25)								
25–34	0.76	0.45–1.29	0.92	0.56–1.52	1.13	0.49–2.59	1.48	0.94–2.33
35–44	1.04	0.61–1.80	0.93	0.55–1.58	1.44	0.61–3.41	1.52	0.95–2.44
45–54	1.13	0.66–1.95	1.19	0.70–2.00	1.37	0.59–3.23	1.82*	1.13–2.91
55+	0.84	0.49–1.45	1.06	0.63–1.79	1.22	0.52–2.87	1.59*	0.99–2.55
Race/Ethnicity (ref: non-Hispanic White)								
Black/African American	0.91	0.82–1.01	1.02	0.92–1.13	1.07	0.89–1.28	1.10	1.00–1.21
Hispanic	0.86	0.69–1.06	0.97	0.77–1.23	1.08	0.75–1.57	0.93	0.76–1.14
Marital status (ref: married)								
Single	1.14	0.98–1.32	1.35***	1.16–1.58	1.13	0.88–1.45	1.11	0.98–1.27
Divorced/Separated	1.03	0.89–1.18	1.20*	1.03–1.39	1.01	0.80–1.28	1.03	0.91–1.17
Widowed	1.27	0.93–1.73	1.42*	1.06–1.90	1.06	0.65–1.72	1.31	1.00–1.71
Rural (ref: urban)	1.02	0.91–1.15	0.77***	0.68–0.88	1.07	0.88–1.30	0.76***	0.68–0.85
Homeless (ref: no)	1.49***	1.32–1.68	2.85***	2.56–3.17	1.57***	1.26–1.95	2.13***	1.92–2.37
Service in Iraq/Afghanistan (ref: no)	1.06	0.83–1.35	1.30	1.00–1.67	1.02	0.67–1.54	1.10	0.88–1.37
Service-connected disability rating (ref: no)								
< 50%	1.09	0.98–1.21	1.05	0.94–1.16	1.53***	1.27–1.83	1.42***	1.29–1.56
50%	1.05	0.91–1.22	0.97	0.83–1.13	1.71***	1.31–2.24	1.30***	1.14–1.49
Substance use disorder	1.67***	1.51–1.84	2.30***	2.07–2.57	2.79***	2.35–3.29	2.54***	2.32–2.77

Note. N = 10,046. Cases with missing data ($n = 52$; <1%) were excluded from the logistic regression models. Entry to treatment is defined as any use of mental health disorder outpatient, inpatient or residential services or pharmacotherapy for depressive disorders, PTSD, schizophrenia, or bipolar disorder in the first month after initial diagnosis. Engagement in treatment is defined as three of more mental health disorder outpatient visits or more than seven consecutive days in mental health residential treatment within the first month after initial diagnosis.

HCRV = Health Care for Reentry Veterans. OR = odds ratio. CI = confidence interval.

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

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Table 4

Characteristics Associated with Substance Use Disorder Treatment Use Among Veterans with an HCRV Outreach Visit in Fiscal Years 2008–2013, VA Health Care Contact, and a Substance Use Disorder Diagnosis

	1-Month Entry		1-Month Engagement		1-Year Entry		1-Year Engagement	
Characteristics	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**
Gender (ref: male)	1.03	0.76–1.39	0.94	0.67–1.32	1.03	0.76–1.40	1.07	0.79–1.44
Age, years (ref: <25)								
25–34	1.11	0.65–1.90	0.80	0.45–1.42	1.19	0.69–2.04	1.09	0.63–1.88
35–44	1.06	0.60–1.88	0.78	0.42–1.43	1.22	0.69–2.16	1.21	0.68–2.16
45–54	1.16	0.70–2.05	0.81	0.44–1.48	1.37	0.78–2.41	1.40	0.79–2.48
55+	0.89	0.50–1.58	0.68	0.37–1.25	0.95	0.54–1.68	1.01	0.57–1.80
Race/Ethnicity (ref: non-Hispanic White)								
Black/African American	1.10	0.99–1.22	1.11	0.99–1.25	1.22***	1.10–1.35	1.20***	1.08–1.33
Hispanic	1.06	0.83–1.34	1.04	0.79–1.36	0.91	0.72–1.15	0.96	0.76–1.22
Marital status (ref: married)								
Single	1.08	0.92–1.26	1.03	0.85–1.23	1.21*	1.03–1.41	1.22*	1.04–1.43
Divorced/Separated	1.07	0.92–1.26	1.11	0.93–1.32	1.18*	1.01–1.37	1.22*	1.04–1.43
Widowed	1.67***	1.25–2.25	1.59**	1.15–2.20	1.53**	1.13–2.07	1.52**	1.13–2.05
Rural (ref: urban)	0.82**	0.73–0.94	0.88	0.76–1.02	0.78***	0.69–0.89	0.79***	0.70–0.90
Homeless (ref: no)	1.25***	1.12–1.39	1.19**	1.06–1.35	1.29***	1.16–1.44	1.25***	1.12–1.40
Service in Iraq/Afghanistan (ref: no)	1.13	0.85–1.49	1.10	0.80–1.49	1.04	0.79–1.38	1.13	0.86–1.50
Service-connected disability rating (ref: no)								
< 50%	1.12*	1.01–1.24	1.15*	1.01–1.29	1.19***	1.08–1.32	1.21***	1.09–1.34
50%	0.90	0.76–1.07	0.93	0.76–1.13	0.97	0.83–1.15	0.98	0.83–1.16
Mental health disorder	1.21***	1.08–1.35	1.12	0.98–1.27	1.78***	1.60–1.99	1.68***	1.49–1.88

Note. N = 8,316. Cases with missing data (n = 32; <1%) were excluded from the logistic regression models. Entry to treatment is defined as any use of substance use disorder outpatient or residential services or pharmacotherapy for alcohol or opioid use disorders in the first month after initial diagnosis. Engagement in treatment is defined as three of more substance use disorder outpatient visits or more than seven consecutive days in substance use disorder residential treatment within the first month after initial diagnosis.

HCRV = Health Care for Reentry Veterans. OR = odds ratio. CI = confidence interval.

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.