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Criminal Typology of Veterans Entering Substance Abuse Treatment

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Abstract

Criminal justice involvement among veterans is a critical and timely concern, yet little is known about criminal histories and clinical characteristics among veterans seeking treatment for substance use disorders (SUDs). The present study examined criminal typology, clinical characteristics, treatment utilization, and 12-step mutual-help group (MHG) participation among veterans ($N=332$) at intake to SUD treatment at the Department of Veterans Affairs (VA), and 6 months and 1 year post-intake. Cluster analysis yielded three types of criminal histories mild—(78.9%), moderate (13.6%), and severe (7.5%)—distinguished by type of offense, number of convictions, and number of months incarcerated. At intake, participants with mild criminal histories reported more alcohol problems and fewer legal and employment problems than participants with moderate and severe criminal histories. Participants with severe criminal histories were most likely to attend a 12-step MHG meeting in the year post-intake, but all groups had high attendance. When only participants who had attended at least one meeting in the year post-intake were compared, participants with mild criminal histories worked more steps and were more involved in 12-step practices. All groups improved between baseline and follow-up and did not differ at follow-ups on substance use or other clinical outcomes. Multiple regressions identified treatment utilization and MHG attendance, but not baseline criminal history, as significant predictors of improved substance use problem severity at follow-up. Outpatient treatment and 12-step MHG attendance appear to be important components of recovery for veterans with varying criminal histories. Clinicians in SUD treatment programs should screen for criminal histories at treatment intake to ensure appropriate treatment planning.

Keywords

Veterans; Crime; Substance use disorders; Mutual-help groups

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1. Introduction

1.1. Criminal justice involvement among veterans

Veterans may be at especially high risk of becoming involved with the criminal justice system (Elbogen et al., 2012; Mays, Gordon, Kelley, & Forman, 2005; Weaver, Trafton, Kimerling, Timko, & Moos, 2013). Incarcerated veterans are more likely to suffer from substance use disorders (SUDs) and mental illness than non-incarcerated veterans (Black et al., 2005; McGuire, Rosenheck, & Kaspro, 2003; Saxon et al., 2001), especially veterans who were previously homeless (Benda, Rodell, & Rodell, 2003). Additionally, veterans involved with the criminal justice system often have lengthy (Tejani, Rosenheck, Tsai, Kaspro, & McGuire, 2013) and repeated (Saxon et al., 2001; Tsai, Rosenheck, Kaspro, & McGuire, 2013; Weaver et al., 2013) incarcerations, marked by a history of violent, property, and drug offenses (Tsai et al., 2013).

1.2. Substance use disorders, mental health, and criminal offending

The relationship between SUDs and criminal offending has long been established (Bennett & Holloway, 2005; Degenhardt et al., 2013; Kouri, Pope, Powell, Oliva, & Campbell, 1997). SUDs are more prevalent among individuals entering the criminal justice system than among the general population (Fazel, Bains, & Doll, 2006), and may be the best predictor of criminal justice involvement (Mateyoke-Scrivner, Webster, Hiller, Staton, & Leukefeld, 2003; Sacks et al., 2009). Other mental health and social problems (e.g., homelessness) are also risk factors associated with criminal justice involvement (Bailargeon, Binswanger, Penn, Williams, & Murray, 2009; Daff & Thomas, 2014; Donley et al., 2012). Combinations of these factors exacerbate the risk of offending (Gelberg, Linn, & Leake, 1988), especially violent offending (Barrett, Teesson, & Mills, 2014; Daff & Thomas, 2014; Elbogen & Johnson, 2009). Additionally, they are associated with longer (McGuire et al., 2003) and repeated (Bailargeon et al., 2009) incarcerations.

Veterans may be especially at risk for criminal offending compared to the general population, as they have an increased risk of developing SUDs (Seal et al., 2011) and other psychosocial problems (Seal, Bertenthal, Miner, Sen, & Marmar, 2007; Seal et al., 2011), including homelessness (Perl, 2013) and unemployment (Tsai & Rosenheck, 2013). Of considerable concern is the increased prevalence of PTSD among veterans (Fischer, 2010; Richardson, Frueh, & Acierno, 2010), which has been associated with increased perpetration of violent behavior among civilian (Barrett et al., 2014; Donley et al., 2012) and veteran populations (MacManus et al., 2013; McFall, Fontana, Raskind, & Rosenheck, 1999).

Patterns of criminal behavior among veterans with specific psychosocial problems vary. Weaver et al. (2013) found that, among veterans entering SUD treatment, substance-specific charges (including DUIs) were the most common criminal charge reported (64%), but violent crimes were also common (24%). In contrast, Tsai and Rosenheck (2013) found that veterans entering supportive housing reported histories primarily involving minor crimes such as disorderly conduct, vagrancy, or public intoxication (41.7%) and driving while intoxicated (41.4%), whereas serious crimes (e.g., homicide, rape) were less common (11%). These differences highlight the importance of evaluating criminal histories of

veterans in different treatment settings to make specific recommendations or referrals based on the severity of criminal history and criminogenic risk factors (Andrews & Bonta, 2010).

1.3. Criminal justice involvement and treatment utilization

With high proportions of veterans with criminal histories suffering from SUDs and other psychosocial problems, targeted treatment to reduce recidivism is essential. According to the risk–need–responsivity (RNR) model (Andrews & Bonta, 2010), treatment should be reserved for higher-risk groups of offenders (risk principle); focus on criminogenic needs (need principle); and be matched to individuals' specific needs and other characteristics (responsivity principle). Indeed, SUD and other mental health treatment utilization has been shown to reduce recidivism risk among non-veterans (Cosden, Ellens, Schnell, Yamini-Diouf, & Wolfe, 2003; Garnick et al., 2014; Gumpert et al., 2010; Hiller, Knight, & Simpson, 1999) and veterans with criminal histories (Groppenbacher, Batzer, & White, 2003; Pandiani, Ochs, & Pomerantz, 2010). Engagement in SUD treatment has also been shown to improve outcomes such as employment (Dunigan et al., 2014) and stable housing (Gonzalez & Rosenheck, 2002). Despite positive outcomes associated with treatment utilization, individuals with SUDs reentering the community from incarceration may face barriers to treatment such as stigma related to their SUD or criminal history (Glynn et al., in press; Van Olphen, Eliason, Freudenberg, & Barnes, 2009) or inability to pay for treatment (Center for Substance Abuse Treatment, 1998).

Mutual-help groups (MHGs), such as Alcoholics Anonymous (AA) and Narcotics Anonymous (NA), may serve as an additional or alternative source of help to formal SUD treatment, as they are community-based resources that are free of charge and easily accessible (Donovan, Ingalsbe, Benbow, & Daley, 2013; Kelly & Yeterian, 2008). Studies have documented reductions in substance use among patients with SUDs attending MHGs (Gossop et al., 2003; Schonbrun et al., 2011; Timko, DeBenedetti, & Billow, 2006), especially with more frequent and sustained attendance (Kaskutas, 2009). Further, as SUDs are a major predictor of criminal involvement (Mateyoke-Scriver et al., 2003), MHGs that improve SUD outcomes may also improve legal outcomes (Timko, Moos, & Moos, 2009). For example, Blonigen, Timko, and Moos (2013) found that, among 686 patients diagnosed with alcohol use disorders, longer duration of MHG attendance reduced impulsivity, which was linked with fewer legal problems.

1.4. Purpose of the current study

Veterans' involvement with the criminal justice system is a critical concern recognized by the Department of Veterans Affairs (VA), which has established outreach programs for veterans involved with the criminal justice system to connect them with needed SUD and mental health treatment (Blodgett, Fuh, Maisel, & Midboe, 2013; Department of Veterans Affairs, 2014; Weaver et al., 2013). Despite this recognition, relatively little is known about the criminal histories of veterans initiating SUD treatment, or the extent to which criminal histories are associated with treatment engagement and outcomes over time. The purposes of this study were to (1) develop a typology of the criminal histories of veterans seeking SUD treatment; (2) examine associations between type of criminal history and participants' characteristics at treatment intake; and (3) examine associations between criminal history

type, MHG and treatment utilization, and functional outcomes (e.g., alcohol and drug use severity) at 6 months and 1 year post-intake to treatment. We examined associations between criminal history severity and treatment and MHG utilization to expand on studies finding previous incarceration to be related to less use of health care (Frank, Wang, Nunez-Smith, Lee, & Comfort, 2014; Kulkarni, Baldwin, Lightstone, Gelberg, & Diamant, 2010; Marlow, White, & Chesla, 2010), as well as poorer functioning (Cuellar, Snowden, & Ewing, 2007; McGuire & Rosenheck, 2004). Finally, we examined the extent to which criminal history and use of treatment and MHGs were independent predictors of alcohol and drug use severity at follow-up. These findings inform whether interventions targeted to patients with more severe criminal histories are necessary to enhance outcomes.

2. Method

2.1. Sample

The sample included 345 participants who were recruited upon entering a VA SUD outpatient treatment program. The multidisciplinary treatment was based on a phase model of abstinence and recovery, progressing from more to less structured approaches, reflected current evidence-based practices (e.g., availability of cognitive-behavioral and twelve-step facilitation therapy), and taught skills such as relapse prevention. The only exclusion criterion was being too cognitively impaired to understand the study's questionnaire and interview procedures. Of 384 patients, 382 were judged by treatment program staff to be cognitively able, and all were willing to meet with the study's research assistant. After receiving an introduction to the study from the research assistant, 37 declined and 345 accepted participation (recruitment rate = 90%). All participants signed an informed consent form and all study procedures were approved by Stanford University's Institutional Review Board for Human Subjects in Medical Research. Of the sample, 98% were male, 43% were Caucasian, and 13% were married. On average, participants were 50 years old ($SD = 8.1$), had 13 years of education ($SD = 2.1$), had worked only 1.7 days in the past month ($SD = 5.7$; median = 0.0), and had 8.6 ($SD = 10.5$; median = 5.0) previous episodes of professional alcohol or drug treatment. At intake, participants' self-reported primary substances were: alcohol (45.9% of the sample); cocaine (36.0%); cannabis (21.9%); amphetamines (8.1%); methadone (7.5%); heroin (7.2%); other opiates or analgesics (7.2%); sedatives, hypnotics, or tranquilizers (4.5%); and barbiturates (0.6%). Almost half of participants (41.6%) were using more than one substance.

We compared participants followed-up ($n = 281$, 81.4%) or not followed-up ($n = 64$, 18.6%) at 6 months on baseline demographic and clinical outcomes. Those followed-up were somewhat more likely to be Caucasian and married; the groups did not differ on any clinical outcomes (i.e., Addiction Severity Index [ASI] composite scores). Participants followed-up at 1 year ($n = 307$; 89.0%) had more severe drug problems assessed on the ASI at baseline ($p < .05$) than those who were not followed-up ($n = 38$; 11.0%); no other differences in demographics or clinical outcomes (i.e., ASI composite scores) were found.

2.2. Measures

2.2.1. Baseline—A study research assistant not associated with the treatment program collected self-report data from study participants at treatment intake using the ASI (McLellan, Luborsky, Woody, & O'Brien, 1980; McLellan et al., 1992, 1985), which is a structured, 40-minute clinical research interview. The ASI included demographics (gender, age, race and ethnicity, education, employment, and marital status), criminal history, alcohol and drug use, psychological functioning, and employment status. In each area, questions focus on the number, extent, and duration of symptoms in the patient's lifetime and past 30 days (McKay, Alterman, McLellan, & Snider, 1994). ASI composites provide an index of functioning in the past 30 days and are used as outcome criteria that are compared between baseline and follow-ups. The composite scores are produced from sets of objective items that are standardized and summed; they provide internally consistent evaluations of patient status in the problem areas (Calsyn et al., 2004; McKay et al., 1994). The ASI composites range from zero to one, with higher scores indicating more severe problems.

In addition to the psychological ASI composite score, we examined individual items from the psychological status section of the ASI, including whether participants had experienced trouble controlling violent behavior, depression, trouble understanding or concentrating, or serious anxiety. These individual items were examined because these mental health symptoms often co-occur with SUDs (Watkins et al., 2004; Zweben et al., 2004).

2.2.2. 12-Step mutual-help—To measure 12-step MHG attendance and involvement, we used the AA Affiliation Scale, which has been shown to be valid and internally consistent across diverse groups in terms of demographic and health characteristics and treatment histories (AAAS; Humphreys, Kaskutas, & Weisner, 1998; Timko, Sutkowi, Cronkite, Makin-Byrd, & Moos, 2011). Regarding attendance, participants were asked if they had ever attended a 12-step meeting (yes or no), and if so, the total number of meetings ever attended. Regarding involvement, participants were asked if they had ever engaged in each of 10 program practices (e.g., read 12-step group literature, had a sponsor, been a 12-step group sponsor, called peers for help). *Involvement* is the sum of "yes" responses to these 10 items. Additionally, participants were asked how many of the 12 Steps they had worked.

2.2.3. Follow-ups—Participants were followed at 6 months and 1 year after treatment intake. Follow-up assessments covered criminal history, alcohol and drug use, psychological functioning, employment status (ASI), and 12-step MHG attendance and involvement (AAAS). The interviews were conducted by telephone by a project research assistant. To measure 12-step MHG attendance and involvement, the time frame used at baseline on the AAAS (i.e., "ever") was changed to refer to the last 6 months. Thus, the extent of attendance and involvement was measured for the intervals from baseline to the 6-month follow-up and from the 6-month to the 1-year follow-up.

2.2.4. Outpatient Treatment—We collected information on each patient's SUD and other mental health treatment utilization between baseline and the 1-year follow-up using VA administrative data (these data did not differentiate between SUD and mental health

treatment). This included the number of outpatient visits, and the duration, in days, of any inpatient or residential stays.

2.3. Analytic strategy

2.3.1. Criminal history typology—To identify differences in criminal history among participants, the 16 lifetime criminal charges assessed by the ASI were placed into five categories modeled after the Homeless Operations Management and Evaluation System (HOMES) user manual. The HOMES is an assessment tool used by specialists who work with veterans involved in the criminal justice system (LaSalle, 2011). For each category of offenses, the number represents arrests with charges, with or without subsequent convictions. Violent offenses was the sum of the numbers of rape; homicide; robbery; and assault offenses ($M = 0.83$, $SD = 3.92$). Property offenses was the sum of burglary; larceny or breaking and entering; arson; shoplifting or vandalism; and forgery offenses ($M = 2.09$, $SD = 9.63$). Public order offenses were the sum of weapons; prostitution; disorderly conduct; vagrancy or public intoxication; driving while intoxicated; contempt of court; and major driving violation offenses ($M = 5.62$, $SD = 9.00$). The fourth and fifth categories were single-item number of drug offenses ($M = 1.33$, $SD = 3.14$), and parole or probation violations ($M = 1.23$, $SD = 4.09$), respectively.

To identify the criminal history typology, seven variables assessed at baseline were used in the cluster analysis: number of (1) violent offenses, (2) property offenses, (3) public order offenses, (4) drug offenses, (5) parole or probation violations, (6) convictions, and (7) months incarcerated. Cluster analysis classifies cases into relatively homogenous groups based on their similarity or dissimilarity on one or more variables. Ward's method is a hierarchical approach that generates clusters to minimize the variance within them. Of the 345 participants, 13 (3.8%) were excluded from the cluster analysis due to missing data for one or more of the seven variables used to calculate criminal history clusters. Using Ward's method, the squared Euclidean distance was the index of similarity among the 332 participants with respect to the seven baseline variables.

2.3.2. Criminal history type and intake and follow-up status—After participants were clustered by severity of criminal history, chi-square tests and one-way analyses of variance (ANOVA) were used to test for differences across the observed clusters in terms of criminal behaviors, demographic characteristics, and clinical outcomes (i.e., ASI composite scores) at baseline. Next, analyses of covariance (ANCOVAs) that controlled for baseline clinical outcomes were used to examine associations between criminal history and problem severity at 6-month and 1-year follow-ups. Additionally, ANOVAs were used to examine associations between criminal history clusters and MHG participation and treatment utilization at 1-year follow-ups. Least significant difference (LSD) post-hoc comparisons were conducted following ANOVAs and ANCOVAs with significant results. Finally, we conducted multiple regression analyses to predict alcohol and drug problem severity (ASI composite scores) at 1 year, from baseline criminal history severity and problem severity, and outpatient SUD and mental health treatment utilization and MHG attendance during the year after treatment initiation. The purpose was to determine the association of each predictor with each outcome when the other predictors were also considered.

3. Results

Table 1 shows the results of the cluster analysis, and the criminal behaviors represented by each type of criminal history cluster, including the number of violent, property, drug, public order, and parole or probation offenses (i.e., arrests with charges), and the total number of convictions and months incarcerated. Three distinct clusters representing participants' criminal histories were found: mild ($n = 262$, 78.9%), moderate ($n = 45$, 13.6%), and severe ($n = 25$, 7.5%). In addition to results on Table 1, analyses of total number of offenses (arrests with charges) showed that participants with mild criminal histories had fewer ($M = 5.91$, $SD = 8.11$) than participants with moderate ($M = 21.38$, $SD = 16.31$) and severe ($M = 38.16$, $SD = 39.02$) criminal histories ($F = 75.35$, $p < .001$). Participants with different criminal history types did not significantly differ on any demographic characteristic (not tabled; gender, race, age, education, employment, or marital status).

3.1. Criminal history clusters

3.1.1. Mild—As shown in Table 1, participants with mild criminal histories had low numbers of criminal offenses, convictions, and months incarcerated. Among participants with this history, public order offenses were most prevalent, and violent, property, drug, and parole or probation offenses were negligible. Further, participants with this criminal history had fewer than two convictions, and the average length of incarceration was less than 4 months.

3.1.2. Moderate—Also shown in Table 1, participants with moderate criminal histories had a high number of public order offenses (significantly higher than participants with either mild or severe histories) and low numbers of violent, property, drug, and parole or probation offenses. Although the number of non-public order offenses was low, participants with moderate criminal histories had repeated convictions and had spent over 3 years incarcerated in contrast to participants with mild criminal histories.

3.1.3. Severe—The third cluster, representing a severe criminal history, was characterized by several offenses in each criminal offense category, with property offenses being the most common. Moreover, these participants reported multiple violent offenses, had numerous repeated convictions, and had spent over a decade incarcerated (Table 1).

3.2. Comparisons of criminal histories on baseline characteristics

As shown in Table 2, more severe legal problems (higher ASI composite scores) at baseline were reported by participants with moderate and severe criminal histories than participants with mild criminal histories. Additionally, participants with severe criminal histories had less severe alcohol problems, but more severe employment problems, than those with mild criminal histories. Participants with moderate and severe criminal histories were more likely than participants with mild criminal histories to report having had trouble controlling violent behavior in the previous 30 days.

3.3. Criminal histories and treatment utilization, MHG participation, and clinical outcomes

Table 3 shows the number of outpatient SUD and/or other mental health sessions participants received, and the length of inpatient and/or residential stays (in days, excluding participants with no stays) during the year between baseline and follow-up; treatment utilization did not differ across criminal histories. To be consistent with treatment utilization measures, MHG participation at the 1-year follow-up combined data obtained at the 6-month and 1-year follow-up assessments. To be credited for a MHG participation item (e.g., had a sponsor), participants must have responded “yes” at either the 6-month or 1-year assessment. At the 1-year follow-up, participants with mild criminal histories were less likely to have attended a 12-step meeting than participants with moderate or severe criminal histories, although the majority of the mild group had done so. Groups did not differ on number of MHG meetings attended ($F = 1.10$), number of steps worked ($F = 1.23$), or involvement in 12-step practices ($F = 0.10$) when all participants were considered ($p > .05$).

As shown in Table 3, when we compared only participants who had attended at least one 12-step group meeting during the follow-up period, participants with mild criminal histories worked more steps than participants with moderate criminal histories, and were somewhat more involved in 12-step practices than participants with severe criminal histories. Specifically, participants with mild criminal histories were most likely to have called a 12-step group member for help and to have had a sponsor ($ps < .05$).

At the 6-month follow-up (not tabled), participants with severe criminal histories ($M = .140$, $SD = .158$) had more severe drug use than participants with mild ($M = .047$, $SD = .080$) and moderate ($M = .030$, $SD = .059$) criminal histories ($F = 13.99$, $p < .001$). Participants with varying criminal histories did not significantly differ on any other of the clinical outcomes (ASI composites) or individual psychological functioning items (when baseline responses were controlled) at 6 months (not tabled) or 1 year (Table 3).

We conducted multiple regression analyses to examine predictors of alcohol and drug use severity at the 1-year follow-up when predictors were considered simultaneously (Table 4). Specifically, baseline criminal history cluster (dummy coded), baseline alcohol problem severity, the number of outpatient SUD and mental health visits, and the number of MHG meetings attended at 1-year post-intake, were entered as predictors of ASI alcohol composite scores at the 1-year follow-up. Significant predictors of better (lower) scores were lower baseline alcohol problem severity and more outpatient SUD and mental health visits. In the parallel regression to predict 1-year ASI drug composite scores, significant predictors of less severity were lower baseline drug problem severity and more 12-step MHG meeting attended.

4. Discussion

The present study examined criminal typology, clinical outcomes (e.g., alcohol and drug use), and treatment utilization among veterans entering SUD treatment at the VA. This sample of veterans reported extensive criminal histories, including numerous incarcerations across a variety of criminal charges, especially public order, property, and parole or

probation offenses. A small subset of veterans had severe criminal histories, characterized by repeated offenses, including violent offenses, and repeated, lengthy incarcerations.

Although participants with severe criminal histories were more likely to have attended a 12-step MHG meeting than participants with mild or moderate criminal histories post-intake, all three groups were likely to attend. Treatment and 12-step MHG utilization at follow-ups did not differ across criminal history groups when all participants were included in the analysis. When only participants who reported attending a meeting in the year post-intake were compared, participants with severe criminal histories worked fewer steps and were less involved overall, perhaps because they had relatively milder alcohol problems at baseline and so perceived 12-step practices as less important.

Despite being less involved in MHGs overall, and having similar patterns of treatment use, participants with severe criminal histories had similar clinical outcomes to those with mild and moderate criminal histories. Indeed, the greater dysfunction of the severe and moderate groups relative to the mild group at baseline in the legal and employment domains was not present at follow-ups. Although participants with mild criminal histories were less likely to attend MHGs in the year post-intake, when they did attend, they were more involved in 12-step practices; and, as noted, although the severe group was less involved in 12-step practices, they were most likely to attend MHG meetings. These results underscore that both attendance and involvement are important indicators of 12-step group participation, and suggest that both components may help to explain better functioning among SUD patients studied longitudinally (Tonigan, Miller, Juarez, & Villanueva, 2002).

Results of the multiple regression models suggest that substance abuse and mental health treatment utilization and MHG attendance are significant predictors of less severe substance use severity at follow-ups, in contrast to baseline criminal history severity. Although criminal history severity was related to poorer functioning at treatment entry, it did not deter treatment utilization or MHG participation, and participants with varying criminal history severities who attended treatment or MHGs improved on substance use problem severity. These findings support previous literature suggesting that treatment plans that focus on both substance abuse and mental health are important components of improving clinical outcomes and reducing recidivism risk (Andrews & Bonta, 2010; Garnick et al., 2014; Groppenbacher et al., 2003; Gumpert et al., 2010).

Overall, these findings have important implications for clinicians in SUD treatment settings. First, they are consistent with previous literature indicating that criminal histories are common among veterans entering SUD treatment (Tsai & Rosenheck, 2013; Weaver et al., 2013). However, they also clarify that the majority of these veterans are likely to report a mild criminal history. Second, these data highlight the importance of comprehensive screening of criminal histories, as there appears to be a small proportion of veterans entering SUD treatment with extensive criminal histories, marked by repeated criminal charges, including violent offending. Our findings suggest that veterans with more severe clinical problems and criminal histories, although more likely to attend MHGs, may be less involved in 12-step practices, but achieve comparable outcomes to patients with less severe criminal histories when they attend comparable amounts of outpatient treatment and MHG groups.

Screening patients with substance use or mental health disorders for severity of criminal history may inform treatment planning, such as monitoring 12-step engagement to improve involvement (Timko et al., 2006), addressing treatment readiness (Joe, Simpson, & Broome, 1998), providing longer-term residential treatment (Bleiberg, Devlin, Croan, & Briscoe, 1994), or providing supportive housing (Cheng, Lin, Kaspro, & Rosenheck, 2007). Comprehensive treatment plans that address criminogenic risk factors (e.g., substance abuse, treatment motivation) decrease recidivism risk and high costs associated with incarceration (McCollister, French, Prendergast, Hall, & Sacks, 2004), as well as improve patients' clinical functioning (Holliday, Heilbrun, & Fretz, 2012). Finally, these data have important policy implications; programs that specifically focus on community reentry may need to be expanded to address the growing needs of those involved with the criminal justice system.

4.1. Limitations and future research

Despite its strengths (e.g., prospective design with high rate of retention at follow-up; ethnically-diverse sample; use of validated self-report and administrative data sources), the current study had several limitations. First, our sample primarily consisted of male veterans seeking SUD treatment at a VA treatment program, and therefore may not represent veterans with criminal histories treated in the VA or in the community. Studies examining criminal justice involvement among veterans in non-VA treatment settings are necessary before any conclusions on the generalizability of these findings can be made. Second, the number of veterans classified as having a severe criminal history was low, most likely limiting statistical power. However, this subsample highlights important distinctions between groups with varying criminal histories; mainly, it highlights that a portion of this veteran population is suffering from an intense, cyclical relationship with the criminal justice system, marked by a variety of criminal charges, numerous convictions, and lengthy incarcerations. Additionally, including this small group shows the potential importance of both outpatient treatment and 12-step MHG utilization, in that participants with severe criminal histories were high utilizers of these resources and their poorer baseline legal and employment functioning was not present at follow-ups. Third, although we used VA administrative data to assess treatment utilization, separating SUD from other mental health treatment in future research may provide useful information about the utility of each type of care. Lastly, although participants who were followed-up at 1 year had more severe drug problems at baseline than participants who were not followed-up, we controlled for baseline functioning in all follow-up analyses.

We used criminal history, a static factor, to define the severity typology, whereas the RNR model includes both static and dynamic (e.g., antisocial beliefs and values, impulsivity) risk factors for recidivism and needs for treatment (Andrews & Bonta, 2010). Interactions between static and dynamic risk factors and substance use severity may provide more useful information about recidivism risk; in other words, the effect of risk factors on recidivism may depend on substance use severity, and vice versa. For example, high impulsivity may be associated with increased criminal recidivism when substance use is quite severe, but not when individuals achieve abstinence from alcohol and drugs. Future work that defines typologies of justice-involved patients based on both static and dynamic criminogenic risk

and need factors may reveal additional implications for treatment planning with different subgroups.

Future research, possibly utilizing national samples of veterans seeking all modalities of SUD treatment (as opposed to only outpatient) should evaluate if this typology is representative of all veterans seeking treatment at the VA and in the community. For example, it is possible that the criminal histories of veterans seeking outpatient SUD treatment differ from those seeking residential SUD treatment, or those seeking non-VA treatment, which may translate to different treatment needs. If this typology is consistent, future research should examine what components of treatment or 12-step MHG utilization enhance clinical outcomes. Additionally, given the chronicity of criminal justice involvement in this sample, particularly among participants with severe criminal histories, future studies should examine both clinical outcomes and criminal recidivism at longer-term follow-up. Helping veterans break the cycle of criminal justice involvement will improve their lives and the communities in which they live.

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Table 1

Criminal histories of participants in mild ($n = 262$), moderate ($n = 45$), and severe ($n = 25$) criminal history clusters.

Criminal history (<i>M</i>, <i>SD</i>)	Mild	Moderate	Severe	<i>F</i>
Violent offenses	0.38 (1.71) ^a	0.64 (1.33) ^a	5.44 (12.46) ^b	21.12 ^{***}
Property offenses	0.74 (2.82) ^a	1.33 (2.01) ^a	10.52 (24.31) ^b	21.88 ^{***}
Drug offenses	0.76 (1.71) ^a	1.62 (2.35) ^a	5.40 (6.39) ^b	41.20 ^{***}
Public order offenses	3.63 (5.06) ^a	15.73 (17.02) ^b	8.64 (9.32) ^c	44.85 ^{***}
Parole/probation offenses	0.40 (1.14) ^a	2.04 (3.04) ^b	8.16 (11.39) ^c	60.24 ^{***}
Number of convictions	1.47 (4.23) ^a	2.91 (2.97) ^a	10.56 (11.16) ^b	38.82 ^{***}
Months incarcerated	3.53 (5.47) ^a	40.49 (18.60) ^b	124.0 (39.03) ^c	989.33 ^{***}

Note. Means with different superscripts (a, b, c) are significantly different from one another.

 $p < .001$.

Table 2

Baseline characteristics of participants in mild ($n = 262$), moderate ($n = 45$), and severe ($n = 25$) criminal history clusters.

	Mild	Moderate	Severe	
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>F</i>
ASI composite scores				
Legal	.094 (.169) ^a	.184 (.242) ^b	.182 (.198) ^b	6.46 ^{**}
Alcohol	.318 (.286) ^a	.294 (.302)	.157 (.212) ^b	3.53 [*]
Drugs	.111 (.114)	.142 (.143)	.131 (.111)	1.48
Employment	.744 (.252) ^a	.798 (.249)	.880 (.178) ^b	3.90 [*]
	% (<i>n</i>)	% (<i>n</i>)	% (<i>n</i>)	χ^2
Psychological functioning (past 30 days)				
Experienced trouble controlling violent behavior	12.7 (33) ^a	26.7 (12) ^b	25.0 (6) ^b	6.70 [*]
Experienced serious depression	58.7 (152)	48.9 (22)	58.3 (14)	1.50
Experienced serious anxiety	64.9 (168)	62.2 (28)	58.3 (14)	0.47
Experienced trouble understanding	53.2 (138)	57.8 (26)	45.8 (11)	0.90

Note. Means with different superscripts (a, b, c) are significantly different from one another.

^{*}
 $p < .05$.

^{**}
 $p < .01$.

Table 3

Treatment utilization, MHG participation, and 1-year outcomes of participants in mild ($n = 236$), moderate ($n = 39$), and severe ($n = 18$) criminal history clusters.

	Mild	Moderate	Severe	
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>F</i>
Treatment Utilization				
Number outpatient SUD/MH visits	60.8 (66.1)	80.7 (97.3)	70.3 (88.4)	1.54
Length of inpatient SUD/MH stays (day, excluding 0 s)	56.3 (54.5)	55.8 (41.6)	20.0 (14.1)	0.46
MHG participation				
Attended meeting (% , n)	86.1 (173)	97.0 (32)	100.0 (15)	7.94 *
Number meetings attended	125.3 (98.0)	138.3 (177.2)	87.3 (71.0)	1.08
Number steps worked	6.4 (4.1) ^a	4.8 (3.7) ^b	4.5 (3.4)	3.21 *
Involvement	7.2 (2.2)	6.4 (2.4)	6.0 (2.8)	2.91
Called a member for help (% , n)	78.6 (136)	53.1 (17)	66.7 (10)	8.81 *
Had a sponsor (% , n)	86.1 (149)	71.9 (23)	66.7 (10)	6.05 *
ASI composite scores				
Legal	.056 (.124)	.050 (.125)	.034 (.120)	0.30
Alcohol	.133 (.200)	.116 (.176)	.116 (.178)	0.17
Drugs	.041 (.071)	.035 (.064)	.064 (.075)	1.07
Employment	.687 (.269)	.737 (.294)	.681 (.266)	0.73
	% (n)	% (n)	% (n)	χ^2
Psychological functioning (past 30 days)				
Experienced trouble controlling violent behavior	9.3 (22)	15.4 (6)	11.8 (2)	1.25
Experienced serious depression	51.7 (122)	64.1 (25)	66.7 (12)	3.32
Experienced serious anxiety	52.5 (124)	64.1 (25)	72.2 (13)	4.15
Experienced trouble understanding	45.3 (107)	59.0 (23)	50.0 (9)	2.55

Note. Results are for total sample at 1-year. MHG participation items include only participants who reported attending at least one meeting during the follow-up period. Means with different superscripts (a, b, c) are significantly different from one another.

* $p < .05$.

Table 4

Regression analyses predicting alcohol and drug problem severity at 1 year.

Predictors	Alcohol ($R^2 = .30^{***}$)	Drug ($R^2 = .11^{***}$)
	β	β
Criminal history severity	-.015	.027
Baseline problem severity	.255 ^{***}	.272 ^{***}
# Outpatient SUD/MH visits	-.131 [*]	.097
# MHG meetings	-.040	-.129 [*]

Note. β = standardized beta coefficient.

^{*} $p < .05$.

^{***} $p < .001$.