

A Specialized Treatment Court for Veterans with Trauma Exposure: Implications for the Field

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Abstract This study examines the efficacy of providing a Veterans Treatment Court specialized docket to trauma-affected veterans. Eighty-Six veterans enrolled in a jail diversion and trauma recovery Veterans Treatment Court program. Veteran participants were interviewed at baseline, 6- and 12-months to determine if the program led to improvements in jail recidivism, psychiatric symptoms, quality of life, and recovery. The results suggest that veteran's involved in the Veterans Treatment Court programs experienced significant improvement in PTSD, depression, substance abuse, overall functioning, emotional wellbeing, relationships with others, recovery status, social connectedness, family functioning, and sleep.

Keywords Veterans · PTSD · Veterans treatment court · Outcomes · Trauma · Combat exposure · Specialized docket

Introduction

It is well established that veterans in the United States report high rates of post-traumatic stress disorder (PTSD), and these factors can produce an increased risk of criminal justice involvement (Yager et al. 1984). Approximately 18 % of veterans experience PTSD and depression symptoms (Tanielian and Jaycox 2008). Data from the National Comorbidity Study (Kessler et al. 1995) suggest PTSD prevalence in the veteran population is around three times higher than in community samples. In terms of criminal

justice involvement, roughly 200,000 veterans were incarcerated in U.S. jails and prisons in 2007, accounting for about 10 % of the total inmate population (Elbogen et al. 2012). A large number of these veterans suffer the effects of untreated PTSD. In one study, the rate of positive PTSD screens was as high as 39 % (Saxon et al. 2001). Studies have also noted significant non-service related trauma in veterans. One study found that 9 % of soldiers screened positive for PTSD and 11 % screened positive for depression pre-service (Hoge et al. 2004). These findings suggest that there are likely large numbers of veterans who may not be diagnosed with PTSD, but endured a traumatic experience, possibly influencing behavior and thinking. Veterans with PTSD have been shown to exhibit chronic functional impairments in homelessness (Rosenheck et al. 1996), unemployment, income disparities (Savoca and Rosenheck 2000), relationship problems (Riggs et al. 1998), poor problem-solving, aggressive behavior (McFall et al. 1999), poor self-care, and quality of life (Buckley et al. 2004). Several studies of combat exposed veterans with PTSD have also shown significant impairment in memory (Vasterling et al. 1998), learning (Yeduda et al. 2005), and executive function (Koso and Hansen 2006). Anger has also been associated with poorer therapeutic alliance, adherence to treatment, and associated outcomes (Forbes et al. 2008). One study found only half of Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) veterans with a referral for mental health services at post-deployment actually sought and received treatment (Hoge et al. 2006; Milliken et al. 2007).

Veterans with combat experience also present more severe PTSD (Kaylor et al. 1987). At present, over 1.64 million veterans have been exposed to combat stress in both OEF and OIF conflicts. Veterans of different theatres present varying degrees of PTSD, with OEF/OIF veterans

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reporting higher PTSD instances than veterans of other conflicts (Litz et al. 1997). Current estimates put the PTSD rate for OEF/OIF veterans at nearly 20 % (Tanielian et al. 2008). Studies examining PTSD effects on veterans have also shown a strong positive association between the presence and severity of PTSD in veterans and increased rates of arrests and convictions (Calhoun et al. 2005).

Veterans Treatment Court Services

Specialized mental health and drug treatment dockets have proven successful at decreasing recidivism (McNiell and Binder 2007) and improving treatment outcomes, such as reduced psychological distress, fewer drug problems, and improved quality of life (Cosden et al. 2005).

Veterans treatment courts (Vet Court) are a recent adaptation of the specialized docket format to meet the needs of veterans involved in the criminal justice system (Russell 2009). Often as a requirement for jail diversion, Vet Court participants are linked to an array of services. In this project, the veteran's administration (VA) and several other partnering organizations provided most of the services (see Table 1).

The Vet Court served as the main point of contact for all study participants. Vet Court enrollees attended weekly court sessions and meetings with a probation officer. They also received linkage to services by a court team that included the judge, court coordinator, veteran justice outreach officer, and probation officer. The Vet Court's typical duration intervention was about a year. The court assigned about 57 % of veterans a Veteran Peer Mentor, a volunteer experienced in dealing with the mental health and/or criminal justice system. Core program components included case management and mental health services. Eighty-seven percent of the participants received case

management, through the VA, a community mental health center (Court Clinic), or the court's Department of Pretrial Services. About 79.1 % of the sample received outpatient counseling or treatment, and 22.1 % received residential treatment; 40.7 % of the sample used Trauma-Specific Cognitive Behavioral Therapy through the VA or Court Clinic; 67.4 % reported receiving outpatient substance abuse treatment, and 40.7 % spent at least one night in a residential substance abuse treatment facility. Over half (59.3 %) the participants received psychiatric medications for behavioral health disorders. Other services included physical therapy (59.3 %), transportation support (54.7 %), housing support (47.7 %), and vocational services (36 %).

The current pilot study in a large Midwestern criminal justice system grew out of a need to understand whether implementing a multifaceted Court would result in improved quality of life and treatment outcomes. Based on findings that trauma-focused cognitive therapy and social support significantly influences PTSD symptoms (Brewin et al. 2000; Ozer et al. 2003) we hypothesized that involvement in court services would result in significant symptoms decrease in PTSD, depression, substance abuse, and self-harm. We hypothesized that involvement would improve overall functioning, emotional wellbeing, relationships, recovery status, social connectedness, family functioning, and sleep. Improvement in other areas such as reduced recidivism, employment, and housing were also expected to occur.

Method

Participants

Participants included 86 veterans, containing four females; aged 21–73 years involved the criminal justice system due to felony and misdemeanor offenses. A large, urban justice/pretrial services center was the primary referral source. Veterans were assigned to this program based upon their veteran status and presence of PTSD symptoms, and thus, were not randomly assigned for study purposes. The participants' demographic characteristics are described in Table 2. The sample was racially split, with 46.5 % African Americans, 50 % White, and 2.3 % multi-racial. There were no Hispanic or Latino participants. Veterans also varied in era served and combat experience. Most participants (37.2 %) served in Iraq/Afghanistan, and 10.5 % served during operation desert storm and/or prior to September 11th. About 18.6 % served in multiple eras, most commonly during both pre and post 9/11 conflicts. Another 22.1 % served in the post-Vietnam era (1970 and 1980s), and 11.6 % served during the Vietnam conflict. Over half of the sample (60.5 %) saw significant combat

Table 1 Veteran court services

| Intervention/service received | n | % |
|---------------------------------------|----|------|
| Case management | 75 | 87.2 |
| Outpatient mental health treatment | 68 | 79.1 |
| Outpatient substance abuse treatment | 58 | 67.4 |
| Physical therapy | 51 | 59.3 |
| Psychiatric medication | 51 | 59.3 |
| Peer mentor services | 49 | 57.0 |
| Transportation services | 47 | 54.7 |
| Housing services | 41 | 47.7 |
| Trauma-specific treatment | 35 | 40.7 |
| Residential substance abuse treatment | 35 | 40.7 |
| ER services | 31 | 36.0 |
| Vocational services | 31 | 36.0 |
| Inpatient mental health services | 19 | 22.1 |

Table 2 Demographic characteristics of participants

| Measure | N | % |
|-----------------------|----|------|
| Gender | | |
| Male | 82 | 95.3 |
| Female | 4 | 4.7 |
| Age ($\mu = 41.20$) | | |
| 18–26 years old | 14 | 16.3 |
| 27–35 years old | 24 | 27.9 |
| 36–45 years old | 13 | 15.1 |
| 46–59 years old | 25 | 29.1 |
| 60+ years old | 10 | 11.6 |
| Ethnicity | | |
| Multi-racial | 2 | 2.3 |
| African American | 40 | 46.5 |
| White | 43 | 50.0 |
| Hispanic/Latino | 0 | 0.0 |
| Unknown | 1 | 1.2 |
| Era served | | |
| Iraq/Afghanistan | 32 | 37.2 |
| Gulf War/Middle East | 9 | 10.5 |
| Post-Vietnam era | 19 | 22.1 |
| Vietnam era | 10 | 11.6 |
| Multiple eras | 16 | 18.6 |
| Combat experience | | |
| Yes | 52 | 60.5 |
| No | 34 | 39.5 |

experience with an average of two tours of duty. Veterans participated in the program's evaluation, which included in-person interviews. Participants signed a consent form approved by the Ohio Department of Health Institutional Review Board. Consents included agreeing to treatment and filling out baseline, 6 and 12 months follow-up assessments. Inclusion criteria were veteran status and significant PTSD symptoms identified through positive responses to three of four items in the primary care PTSD screen (PC-PTSD) (Prins et al. 2003) at intake. Exclusionary criteria were absence of trauma history, too extensive a criminal history, and other legal considerations. Most individuals screened were excluded for these reasons.

Instruments

Treatment effectiveness was measured with the following: The PTSD Checklist-Civilian version (PCL-C) (Weathers et al. 1993) is a 17-item instrument designed to measure PTSD symptoms. A total score is an indicator of PTSD symptom severity. Cutoff score for PTSD diagnosis is 44 for nonmilitary samples. Among Persian Gulf veterans, the PCL was significantly associated with another the Mississippi Scale (correlation = .85) (Weathers et al.

1993). The PCL has shown excellent internal consistency in Vietnam and Persian Gulf veterans, victims of motor vehicle accidents, and sexual assault survivors (*rs* ranging from .94 to .97) (Weathers et al. 1993; Blanchard et al. 1996). Test-retest reliability over 2–3 days was .96 for the Vietnam veterans (Weathers et al. 1993).

The Mental Health Statistics Improvement Program Consumer Survey (MHSIP) (Jerrell 2006) is a 36-item self-report scale designed to assess the care of mentally ill persons. The MHSIP comprises seven factors: perception of general satisfaction, access to services, quality and appropriateness of care, participation in treatment planning, service outcomes, functioning, and social connectedness. Response options ranged on a 5-point scale from strongly agree to strongly disagree, where higher numbers corresponded with greater disagreement, and thus greater dissatisfaction. Reliability of the MHSIP was high in pilot studies (Cronbach's $\alpha = .95$) (Minsky and Lloyd 1996).

The 24-item self-report Behavior and Symptom Identification Scale (BASIS-24) (Cameron et al. 2007) assesses self-reported symptom and problem difficulty over the course of treatment. There are six subscales, including depression and functioning, relationships, self-harm, emotional lability, psychosis, and substance abuse. The BASIS-24 have been found to have adequate reliability (coefficient alpha for combined clinical sample across subscales ranging from .75 to .91, validity and responsiveness to change (effect size for change was .56 compared with .48 for the BSI Global Severity Index) (Cameron et al. 2007).

The 23 item self-report Recovery Markers Questionnaire (RMQ) (Ridgway and Press 2004) measures common aspects of a person's recovery, for example, "I'm using my personal strengths, skills or talents," and "I have more good days than bad." Recovery markers are rated on a 4-point scale (1 = strongly agree; 4 = strongly disagree) The RMQ has been found to have strong internal consistency with Cronbach's alpha of .87 (Ridgeway et al. 2004).

The 36-item Short Form-36 (SF-36) is a multi-purpose, quality of life survey with 8 subscales measuring functional health and well-being scores as well as psychometrically-based physical and mental health summary measures and a preference-based health utility index. The eight subscales are: physical functioning, role limitations due to physical health, role limitations due to emotional problems, energy/fatigue, emotional well-being, social functioning, pain, and general health. The SF-36 has been found to have strong internal consistency with Cronbach's alphas ranging from .75 to .93 (Ware et al. 1995).

The 12-item Medical Outcomes Study Sleep Measure (MOS) evaluates sleep quality. It provides an assessment of several sleep dimensions, including initiation, maintenance,

respiratory problems, quantity, perceived adequacy, and somnolence. Internal consistency reliability estimates for the MOS were high with a Cronbach's alpha of 0.73 or higher (Hays et al. 2004).

The 24-item Questionnaire of Family Functioning (QFF) assesses family functioning before and after mental health intervention. It has three core dimensions related to interpersonal family relationships, including problem-solving, communication skills, and personal goals. Responses are scored on a 4-point scale based on the frequency that a positive family related behavior occurs. The reliability estimates, measured by Cronbach's alpha, was 0.84 for the total score of the scale (Roncone et al. 2007).

Instrument Administration

The PCL-C, BASIS-24, SF-36, the RMQ, SLEEP, and the QFF were administered to veteran participants before services commenced, after 6 and at 12 months. The MHSIP questionnaire was administered at 6 and 12 months. Instruments were administered by a trained independent evaluator external to participants' court proceedings or behavioral health treatment. The interviewer read each item from each instrument to the participants. If unable to understand an item, the interviewer explained its meaning in simpler terms until the participant could correctly comprehend its meaning.

Procedures

County Justice Center staff explained the treatment study at intake to the veterans identified for participation in the program. Interested veterans were scheduled for an initial assessment of PTSD symptoms. A minimum of three positive responses out of four on the PC-PTSD was required for study inclusion. Some 715 persons screened did not meet the eligibility requirements and were excluded from the study. Eighty-six met program and study inclusion requirements. Services were provided free of charge for all study participants.

Data Analysis

No data were missing as all participants were interviewed individually and required to answer each question. Data analysis was conducted using SPSS general linear modeling programs. We used repeated measures analysis of variance to evaluate sequential change over time on all outcome measures (PCL-C, BASIS-24, SF-36, Sleep, Family Functioning, MHSIP, and RMQ). We computed Pearson correlations between service type and participant outcomes factors. The service factors significantly related to participant outcomes were then entered into a multilevel

linear regression analysis to determine which services predicted specific participant outcomes. We also conducted exploratory correlational analyses between age, gender, ethnicity, and outcome measures.

Results

Analyses revealed that neither age, gender, nor ethnicity was significantly correlated with initial measures.

Symptom and Resiliency Measures

As Tables 3 and 4 illustrate PTSD symptoms as measured by the PCLC decreased significantly during treatment ($F = 36.93, p < .001$). Improvements occurred between pre-treatment and 6 months and 6 and 12 months. We also found significant improvements over the course of treatment in recovery orientation ($F = 12.25, p < .001$), sleep ($F = 7.94, p < .001$), family relations ($F = 5.60, p < .004$), substance abuse ($F = 21.36, p < .001$), depression ($F = 28.29, p < .001$), emotional wellbeing ($F = 17.59, p < .001$), self-harm ($F = 3.26, p < .041$), and overall energy ($F = 5.11, p < .007$). The MHSIP functioning ($F = 25.34, p < .001$), outcomes ($F = 12.18, p < .001$), social connectedness ($F = 14.74, p < .001$), and SF social functioning ($F = 14.65, p < .009$), and SF emotional limitations ($F = 14.65, p < .001$) measures also evidenced significant improvement over time. The BASIS relationship factor ($F = 7.33, p = .001$) and the SF-36 general health factor ($F = 3.99, p = .02$) each showed significance, as well. At the 12-month post-treatment period, medium effect sizes ($>.33$) were found for PTSD (measured with the PCL-C), depression, substance abuse, emotional wellbeing, and family functioning. Most measures showing improvements between pre-treatment and 6 months also showed further improvement or maintenance of gains between 6 and 12 months. We failed to reject the null hypothesis regarding increased social functioning as measured by the SF-36.

Recovery Indicators

Of the 86 participants, nine were rearrested during their time in the program. Seven veterans were rearrested after 6 months, and four after 12 months, two were arrested at both 6 and 12 months. In terms of housing, veterans were grouped into the following categories depending on their change in residence; stable housing was defined as owning or renting a home or apartment, unstable housing was defined as couch surfing/staying with a friend or family member, homelessness, jail, or other institution, and no change to or from either category. Throughout the

Table 3 Repeated-measures analysis of variance (SPSS general linear modeling)

| Measure | Pre-treatment Mean \pm SD | 6 Months Mean \pm SD | 12 Months Mean \pm SD | Time <i>F</i> | <i>P</i> | η^2 effect size |
|----------------------------|--------------------------------|---------------------------|----------------------------|---------------|----------|-------------------------|
| PCL-C | 50.19 \pm 17.34 | 39.34 \pm 16.75 | 35.80 \pm 15.89 | 36.93 | .001 | .33 |
| BASIS–full score | 31.34 \pm 15.76 | 22.14 \pm 14.87 | 20.80 \pm 16.34 | 24.20 | .001 | .22 |
| Depression and functioning | 10.31 \pm 6.06 | 7.02 \pm 5.48 | 5.81 \pm 5.29 | 28.29 | .001 | .25 |
| Substance abuse | 4.65 \pm 3.75 | 2.78 \pm 2.56 | 2.29 \pm 2.82 | 21.36 | .001 | .20 |
| Self harm | .506 \pm 1.16 | .205 \pm .712 | .205 \pm .960 | 3.26 | .041 | .04 |
| Relationships | 7.81 \pm 4.96 | 5.56 \pm 4.37 | 6.14 \pm 5.40 | 7.33 | .001 | .08 |
| Emotional lability | 5.81 \pm 3.08 | 4.74 \pm 3.32 | 4.42 \pm 3.49 | 9.02 | .001 | .09 |
| SF36–Full score | 2156.41 \pm 641.20 | 2368.76 \pm 802.92 | 2421.12 \pm 796.89 | 7.83 | .001 | .09 |
| Emotional limitations | 103.57 \pm 124.62 | 160.71 \pm 133.55 | 186.90 \pm 129.67 | 14.65 | .001 | .15 |
| Energy/fatigue | 182.82 \pm 97.55 | 216 \pm 98.65 | 212.23 \pm 91.55 | 5.11 | .007 | .06 |
| Emotional well-being | 268.71 \pm 128.41 | 325.65 \pm 113.33 | 343.76 \pm 114.66 | 17.59 | .001 | .17 |
| Social functioning | 93.75 \pm 50.88 | 98.81 \pm 47.67 | 114.29 \pm 46.62 | 4.87 | .009 | .06 |
| General health | 297.94 \pm 97.91 | 325 \pm 118.59 | 323.53 \pm 117.73 | 3.99 | .020 | .05 |
| RMQ | 47.84 \pm 12.26 | 42.73 \pm 11.12 | 41.47 \pm 12.38 | 12.25 | .001 | .13 |
| MHSIP | | | | | | |
| Functioning | 12.75 \pm 5.82 | 15.79 \pm 5.63 | 16.75 \pm 5.19 | 25.34 | .001 | .23 |
| Outcomes | 26.61 \pm 6.77 | 29.78 \pm 5.63 | 29.75 \pm 6.06 | 12.18 | .001 | .13 |
| Social connectedness | 13.49 \pm 4.07 | 15.47 \pm 3.52 | 15.45 \pm 3.81 | 14.74 | .001 | .15 |
| Perception of care | | 60.21 \pm 9.58 | 59.81 \pm 8.64 | .098 | .755 | .00 |
| MOS (sleep hours) | 5.02 \pm 1.65 | 5.63 \pm 1.85 | 5.52 \pm 1.68 | 7.94 | .001 | .09 |
| QFF | 29.31 \pm 11.95 | 32.31 \pm 10.39 | 32.56 \pm 10.31 | 5.60 | .004 | .06 |

12 month study period 57 % saw no change in housing, 11.6 % transitioned from stable to unstable housing, and 31.4 % improved from unstable to stable housing. Homelessness, employment and school enrollment remained unchanged.

Service Component Effectiveness

For exploratory purposes, we determined which services predicted positive treatment outcomes. Univariate correlations revealed that peer mentoring, trauma treatment, psychiatric medication, and substance abuse services were related to positive clinical outcomes, and these were then entered into a multilevel model. As shown in Table 5, receiving peer support positively predicted improvements in social connections ($p < .05$) and emotional limitations ($p < .05$); receiving trauma treatment significantly predicted improvements in PTSD ($p < .001$), depression ($p < .01$), functioning ($p = .01$) and emotional limitations ($p < .01$); and inpatient substance abuse treatment predicted improvements in substance abuse ($p < .05$) and sleep hours ($p < .05$). Finally, psychiatric medication was related to improvements in depression ($p < .01$), emotional lability ($p < .05$), psychosis ($p < .05$), and functioning ($p < .05$).

Discussion

Goldkamp and Weiland (1993) first identified the utility of specialized dockets for persons with drug addiction after the implementation of the first drug treatment court in 1989 (Goldkamp and Weiland 1993). Since then, specialized dockets have emerged to address mental health, domestic violence, and presently, veterans (Russell 2009). Our findings emphasize the promise of extending specialized dockets to veterans with behavioral health issues as a method to reduce recidivism in jails, and enhance treatment outcomes and quality of life.

Veterans reported better treatment outcomes and quality of life over time when involved in the Vet Court. When provided programs and services that fostered recovery, veterans improved markedly on all study measures. Veterans particularly improved when provided a combination of trauma-specific treatment, peer mentor services, and medication. The importance of trauma-specific therapy and positive peer role models may be important for veterans with combat exposure who have re-integrated into a society unfamiliar with the struggles associated with combat experience. According to our findings and previous research (Neale and Rosenheck 1995), when veterans receive comprehensive services focusing on recovery, their

Table 4 Pairwise Comparisons of Study Measures

| Measure | Pre-treatment–6 months mean difference \pm SE | 6–12 months mean difference \pm SE | Pre-treatment–12 months mean difference \pm SE |
|----------------------------|--|---|---|
| PCLC | -10.40 \pm 1.92*** | -3.53 \pm 1.75*** | -13.90 \pm 1.81*** |
| BASIS-full score | -9.09 \pm 1.61*** | -1.34 \pm 1.77*** | -10.54 \pm 1.77*** |
| BASIS-depression | -3.23 \pm .590*** | -1.21 \pm .574*** | -10.49 \pm .574*** |
| BASIS-substance abuse | -1.85 \pm .276* | -.482 \pm .306*** | -2.35 \pm .306*** |
| BASIS-self harm | -.259 \pm .083 | -.024 \pm .113** | -.301 \pm .105** |
| BASIS-relationship | -2.22 \pm .471** | .576 \pm .585*** | -1.67 \pm .585** |
| BASIS emotional lability | -1.07 \pm .360*** | -.318 \pm .379*** | -1.39 \pm .379*** |
| SF-36-full | 216.28 \pm 86.66*** | 52.35 \pm 86.43*** | 264.71 \pm 86.43*** |
| Emotional limitation | 58.82 \pm 14.49* | 26.19 \pm 14.15*** | 85.88 \pm 14.04*** |
| Energy | 33.95 \pm 10.75** | -3.77 \pm 9.93*** | 29.41 \pm 9.93*** |
| Emotional wellbeing | 59.77 \pm 12.32*** | 18.12 \pm 12.44*** | 75.06 \pm 12.44*** |
| Social functioning | 4.07 \pm 5.08 | 15.48 \pm 5.09*** | 20.54 \pm 5.09 |
| General health | 28.49 \pm 12.87*** | -1.47 \pm 12.77*** | 25.59 \pm 12.77*** |
| Recovery markers (RMQ) | -5.10 \pm 1.20*** | -1.26 \pm 1.34*** | -6.36 \pm 1.34*** |
| MHSIP-outcomes | 3.16 \pm .609** | -.024 \pm .657*** | 3.14 \pm .657*** |
| MHSIP functioning | 3.00 \pm .605*** | .965 \pm .563*** | 4.00 \pm .563*** |
| MHSIP-social connectedness | 1.98 \pm .380*** | -.024 \pm .413*** | 1.95 \pm .413*** |
| MHSIP-perception of care | - | -.403 \pm .985* | - |
| Hours of sleep | .61 \pm .201*** | -12 \pm .183*** | .5 \pm .185*** |
| Family functioning | 3.06 \pm 1.11*** | .259 \pm .985*** | 32.56 \pm 1.12*** |

SE standard error

* $p < .05$; ** $p < .01$; *** $p < .001$ **Table 5** Results of linear regressions predicting services and treatment outcomes

| Variable | Standard coeff. | T | P | 95 % CI | |
|------------------------------|-----------------|-------|------|---------|--------|
| | | | | Lower | Upper |
| Peer mentoring | | | | | |
| MHSIP-Social Connectedness | .25 | 2.15 | .035 | .140 | 3.67 |
| SF36-Emotional Limitations | .23 | 2.07 | .042 | 2.23 | 117.43 |
| Trauma treatment | | | | | |
| PCL-C (PTSD) | .47 | 4.50 | .001 | 8.28 | 21.47 |
| BASIS-depression | .29 | 2.67 | .009 | .784 | 5.40 |
| BASIS-emotional lability | .29 | 2.67 | .009 | .524 | 3.62 |
| MHSIP-functioning | -.27 | -2.51 | .014 | -5.07 | -.58 |
| SF36-emotional limitations | -.30 | -2.67 | .009 | -134.45 | -19.61 |
| Inpatient substance abuse tx | | | | | |
| BASIS-substance abuse | .30 | 2.29 | .025 | .215 | 3.15 |
| Sleep hours | .28 | 2.07 | .042 | .037 | 1.85 |
| Psychiatric medication | | | | | |
| BASIS-depression | .33 | 2.71 | .008 | .931 | 5.40 |
| BASIS-emotional lability | .27 | 2.21 | .031 | .185 | 3.66 |
| BASIS-psychosis | .29 | 2.34 | .022 | .261 | 3.22 |
| MHSIP-functioning | -.26 | -2.19 | .032 | -5.29 | -.249 |

mental health improves, and they receive tools to rebuild their lives (Ferguson and Weinberger 1998). Navigating complex social and mental health systems necessary for recovery is difficult for veterans with PTSD and other mental health conditions. Vet Courts are designed to integrate therapy, social services, and peer support to help the veteran navigate these systems.

The specialized docket literature suggests that the service array provided has a significant effect on the court participant's well-being and quality of life (Cosden et al. 2005). Researchers have devoted efforts toward evaluating the effectiveness of specialized dockets because specific criminal justice system populations need unique services not available in local community courts. However, little is known about the impact that Vet Courts have on its participants. This study represents a critical first step toward identifying the Vet Court components and their effectiveness. Changes occurred in the expected time frame of the intervention, particularly within the first 6 months. Without a control group, it is impossible to know whether significant improvements seen in this study were in response to the service array offered or due to other external factors not considered in this study. A randomized, controlled trial is needed to address that question. However, the fact that the participants had clinically significant levels of PTSD and depression at baseline and improved during their involvement with court services suggests that the participants needed and benefited from Vet Court services.

When examining specific services, participants receiving trauma treatment and peer support services had greater clinical improvement in PTSD symptom severity, depression, supportive relationships, and self-harm. One important indicator to consider is consumer perception of care, and Vet Court participants were generally satisfied with the services received over the course of treatment.

A fundamental strength of the treatment court approach is its ability to hold participants accountable in seeking and complying with a treatment plan. The stigma attached with seeking mental health and substance abuse treatment is well documented among the veteran population (Hoge et al. 2006; Milliken et al. 2007). One such study looked at 85,000 OEF/OIF veterans who entered the VA healthcare system with new mental health diagnoses post deployment. Of those 85,000 veterans, 49,925 were identified as meeting the criteria for PTSD diagnosis. Only one-third of those veterans who took the time to enroll in the VA system and receive a psychiatric screen actually sought PTSD treatment from a VA clinic. Of that one-third, only 10 % attended the nine or more weekly sessions over 15 weeks recommended by the VA as satisfying the requirement for evidence based treatment (Seal et al. 2010). Considering these low service utilization numbers from another study of a treatment seeking veteran population, the rate at which

other veterans receive mental and health and addiction services is likely even more concerning.

By mandating treatment in lieu of a number of punitive measures; such as fines, probation, and jail time, individuals are more compelled to accept and adhere to treatment (Swartz et al. 2010). For many veterans, interaction with the criminal justice system serves as a wake-up call that there is a problem that needs to be addressed. The structured, yet peer driven environment of the Veterans Treatment Court can provide a more tolerable path to recovery for many of those who otherwise would likely not have sought help.

Limitations

The current study has limitations in that the study lacks a control or comparison group. A randomized, controlled trial is needed to further test the impact of the Vet Court approach for veterans with PTSD related to combat exposure. Given the study design is a program evaluation involving multiple interventions introduced simultaneously; the efficacy of specific components needs to be further evaluated. Future studies could assess the differential treatment response to various services offered as a part of a Vet Court. However, little evidence exists to suggest that services alone, if delivered in an uncoordinated manner, would produce similar results as those found in the study. In point of fact, Peer Mentor services provided by a veteran are not generally available in the community but are a specific feature of the Vet Court. Despite its limitations, this study does support the use of these courts and demonstrates that implementing them is possible and beneficial to its participants.

Conclusion

The current study is among the first to preliminarily evaluate the efficacy of a Veterans Treatment Court for veterans involved in the criminal justice system. The findings suggest that involvement in Vet Court services produce sustainable improvements in recovery and PTSD for participants. Despite study limitations, the results support the promise of this treatment approach for justice-involved veterans involved in the criminal justice system and lend a degree of empirical support to providing substance abuse and mental health services under the umbrella of a Veterans Treatment Court.

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Conflict of interest The authors report no competing interests.

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