The Role of the SOAR Model in Successful Community Reintegration

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ABSTRACT

Justice-involved adults with serious mental illnesses face significant barriers to successful community reintegration, contributing to a cycle of repeat offending that has been termed "the revolving door" of the criminal justice system. The SSI/SSDI Outreach, Access, and Recovery (SOAR) model has been implemented in Miami-Dade County, Florida's mental health diversion programs to increase receipt of disability benefits in this population to promote successful community reintegration. However, little is known about the effectiveness of disability benefit receipt in decreasing recidivism for this population. Even less is known about *how* or *for whom* receipt of disability benefits may facilitate successful community reintegration. The purpose of the present study was to address these limitations. In *Aim 1*, I conducted a systematic literature review on associations between disability benefit receipt and community integration outcomes. Findings provided very limited evidence on community integration outcomes following receipt of disability benefits, particularly among justice-involved adults with mental illnesses. Findings from similar populations (e.g., adults with mental illnesses more generally) suggested disability benefit receipt may have a positive impact on outcomes such as housing status, mental health treatment, employment, and well-being. In *Aim 2*, I empirically investigated the effectiveness of disability benefit receipt on 1-year recidivism in a sample of 227 SOAR clients participating in Miami-Dade County's mental health jail diversion programs. Results showed some evidence of the impact of disability benefit receipt on jail days following disability determination. Importantly, participants who had both moderate-to-high levels of criminogenic risk and co-morbid substance use (i.e., high-risk, high-needs participants) experienced fewer jail days and new charges following disability benefit receipt relative to lower-risk, lower-needs participants. Application processing time through the SOAR model, however, was unrelated to recidivism. Overall, findings suggest receipt of disability benefits may be a promising intervention for justice-involved adults with mental illnesses to aid community reintegration; however, future research is needed to replicate study findings in other justice settings.

Adults with serious mental illnesses, such as schizophrenia, bipolar disorder and major depression, are disproportionately represented in U.S. jails; prevalence estimates are 14.5% for male and 31.0% for female inmates (Steadman, Osher, Robbins, Case, & Samuels, 2009), compared to 3.2% and 4.9% for men and women, respectively, in the general population (Substance Abuse and Mental Health Services Administration, 2013). They also are at increased risk of recidivism post-release (Baillargeon, Binswanger, Penn, Williams, & Murray, 2009). Trapped in a 'revolving door' of repeat offending, justice-involved adults with serious mental illnesses incur significantly greater costs to state agencies compared to adults with serious mental illnesses who are not involved in the justice system (Swanson et al., 2013). Given these realities, re-entry from jail into the community provides a critical intervention point to promote access to mental health treatment services and, ultimately, decrease recidivism within this population. Yet, many justice-involved adults with serious mental illnesses have difficulty accessing mental health services upon release (Baillargeon, Hoge, & Penn, 2010). As such, the criminal justice system has become increasingly responsible for coordinating access to community mental health treatment for adults with serious mental illnesses who come in contact with the system (Wilson & Draine, 2006).

Existing literature on re-entry for justice-involved adults with serious mental illnesses has examined many outcomes, including mental health treatment and service utilization (e.g., Constantine, Robst, Andel, & Teague, 2012; Van Dorn, Desmarais, Petrila, Haynes, & Singh, 2013), healthcare benefits (e.g., Morrissey et al., 2006), housing status (e.g., Folsom et al., 2005; Serowik & Yanos, 2013), and employment (e.g., Becker, Whitley, Bailey, & Drake, 2007; Bond, Drake, & Becker, 2008). However, little research has examined the "how" and "why" of successful re-entry (Osher, D'Amora, Plotkin, Jarrett, & Eggleston, 2012). Moreover, there has been a lack of attention to the role of disability benefits, mainly Supplemental Security Income (SSI) and Social Security Disability Insurance (SSDI) in re-entry outcomes. We know that they are an important piece of the puzzle (Blandford & Osher, 2013; Osher, Steadman, & Barr, 2002), but whether receipt of disability benefits leads to improved outcomes for justice-involved adults with serious mental illnesses is unknown. Even less is known about how and for whom receipt of disability benefits might lead to improved re-entry outcomes. These questions are the focus of the present investigation.

The Present Study

The purpose of the present study is to understand the relationship between disability benefit receipt and community reintegration outcomes among justice-involved adults with serious mental illnesses. This project includes two related aims.

In Aim 1, I conduct a systematic and critical review of existing literature on associations between receipt of disability benefits and relevant reentry outcomes. This investigation is contextualized in terms of relevant theoretical frameworks, including the Risk-Needs-Responsivity (RNR) model and the Criminogenic Risk and Behavioral Health Needs Framework. In addition to addressing the current state of this literature among justice-involved adults with serious mental illnesses, this review summarizes literature among adults with mental illnesses more generally, adults experiencing homelessness, adults who are substance users, and veterans. Finally, I synthesize findings, including the extent to which they are consistent with the above models and the extent to which they inform whether, how, and for whom receipt of

disability benefits may improve reentry outcomes for justice-involved adults with serious mental illnesses.

In Aim 2, I conduct a quantitative data analysis that addresses empirically whether, how, and for whom disability benefit receipt is associated with positive reentry outcomes, mainly decreased recidivism, in a sample of justice-involved adults with serious mental illnesses. First, I investigate whether disability benefit receipt impacts recidivism following disability determination. Second, I explore whether the ability of disability benefit receipt to affect recidivism following disability determination differs as a function of an offender's level of criminogenic risk and degree of behavioral health needs. Third, I examine whether the ability of disability benefit receipt to impact recidivism following disability determination is dependent on application processing time.

AIM 1: SYSTEMATIC LITERATURE REVIEW

Although the number of disability applications nearly doubled from 1999 to 2011, approval and allowance rates declined substantially over the same period (Social Security Administration, 2012a, 2012b). Although benefits are becoming harder to secure, they are increasingly recognized as an integral part of community integration, particularly for justice-involved populations (Blandford & Osher, 2013; Osher et al., 2002). Indeed, the growth of literature on disability benefits since 2000 reflects the increasing consensus among practitioners and researchers that disability benefits may provide needed support to vulnerable populations. Although there is a noticeable dearth of empirical literature on associations between receipt of disability benefits and relevant community integration or reentry outcomes among justice-involved adults with mental illnesses, findings from other populations may help inform the utility of disability benefit receipt for justice-involved populations. To that end, the current literature review: 1) outlines the SSI and SSDI application processes; 2) describes national trends in SSI/SSDI applications and approval rates among adults with mental illnesses; 3) provides an overview of relevant theoretical frameworks to contextualize the extant literature; 4) explores linkages between disability benefits and relevant community integration outcomes among non-justice-involved populations; and 5) reviews linkages between disability benefit receipt and employment outcomes among adults with mental illnesses. The goals of the present review are to provide an overview of the current state of the literature, including relevant background information, identify important gaps in the literature, and suggest lines of inquiry for further research.

Relevant Background

Brief Overview of SSI/SSDI

SSI. Supplemental Security Income (SSI) was legislated by the Title XVI of the Social Security Act in 1972 and implemented in 1974 to replace state-level disability programs previously matched by federal funds. Today, SSI is a federal, needs-based program providing monthly income support to three groups of eligible recipients who have limited income and resources: adults who are 65 and older, adults who are blind or disabled, and children who are blind or disabled. To qualify as disabled, an individual must have a medical condition that will last for a minimum period of one year or result in death. As of 2015, the maximum monthly SSI stipend

was $733 for a single individual and $1,100 for a married couple where both individuals are eligible.

SSDI. The Social Security Disability Insurance (SSDI) program was created in 1954 to protect workers from benefits lost during periods of unemployment due to disability. In 1956, legislation passed to provide cash benefits to unemployed disabled workers aged 50-64, and cash benefits were extended to dependents of disabled workers and adults under 50 in 1958 and 1960, respectively. Today, SSDI provides benefits to adults qualifying as disabled who have a sufficient and recent work history in a job covered by Social Security. SSDI payments are determined by previous work history, up to 35 years, and vary across eligible recipients.

For both SSI and SSDI, disability impairments currently fall under 15 distinct categories (see DI 34005.00 for complete listing). For adults with mental disorders, qualifying diagnoses fall under the following sub-categories: Organic mental disorders; schizophrenic, delusional, schizoaffective, and other psychotic disorders; mood disorders; mental retardation; anxiety disorders; somatoform, eating, and tic disorders; personality disorders; psychoactive substance dependence disorders; autistic and other pervasive developmental disorders; attention deficit hyperactivity disorder; and developmental and emotional disorders of newborn and younger infants (see DI 24005.112). Regarding justice-involved adults, if a disability recipient is incarcerated for a period of longer than 30 days, benefits are suspended but may be reinstated following release. However, the reinstatement of benefits may only occur if a period of incarceration was less than 12 months, otherwise a new disability application is necessary.

National Trends in SSI/SSDI Application Outcomes

SSI. Among adults with mood disorders, there has been a steady growth in application numbers from 1999 to 2011. The numbers of applications for adults with schizophrenia spectrum diagnoses, in contrast, have remained relatively stable over the same period. Although award rates among adults with qualifying schizophrenia spectrum diagnoses are, on average, higher than those for adults with mood disorders, award rates have seen dramatic decreases in recent years (i.e., 2009-2011); allowance rates for these groups follow a similar trend. Although award rates are higher among applications for adults with schizophrenia spectrum disorders, there are a greater number of mood disorder applications awarded and allowed relative to applications where the adult is claiming disability due to schizophrenia.[1]

SSDI. For all applications, mood disorders represent the largest category of SSDI applications for mental disorders; the numbers of applications have increased steadily over the 1999 to 2011 period. However, the overall number of applications has declined in recent years (i.e., 2010-2011). Award and allowance rates have decreased steadily from 1999 to 2011 across all mental disorder categories, though the award rates for adults with schizophrenia spectrum diagnoses are, on average, around 10% higher than those for adults with mood disorders; allowance rates follow a similar trend. Significantly more applications are awarded and allowed for adults with qualifying mood disorders relative to adults with schizophrenia spectrum disorders, though there

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[1] Data retrieved via Freedom of Information Act request from Dawn S. Wiggins in the Office of Privacy and Disclosure of the Social Security Administration in June 2014

has been a decrease in numbers of applications awarded and allowed to adults with mood disorders since 2009.[1]

Theoretical Frameworks Overview

Risk-Needs-Responsivity. Risk-Needs-Responsivity (RNR) is a classification model for the effective rehabilitation of offenders (Andrews, Bonta, & Hoge, 1990). The model is based in the psychology of criminal conduct, which emphasizes both exploration into factors accounting for differences in criminal behavior and the need for differential treatment targeting individual risk factors for criminal behavior. The RNR model has three organizing principles. The Risk principle states that service delivery should be proportional to an offender's level of risk, such that higher risk cases received more comprehensive and enhanced services. The Needs principle states that services should be delivered according to the specific criminogenic needs of offenders. Finally, the Responsivity principle states that service delivery should align with an offender's level of ability and learning style.

Criminogenic Risk and Behavioral Health Needs Framework. Based in the Risk-Needs-Responsivity approach, the Criminogenic Risk and Behavioral Health Needs Framework was developed as a resource for practitioners working at the intersection of criminal justice and behavioral health systems (Osher et al., 2012). The Framework is designed to classify offenders based on level of criminogenic risk and degree of behavioral health needs to promote the allocation of treatment resources toward the highest risk, highest need offenders. The Framework categorizes offenders first based on their level of criminogenic risk (Low vs. Medium/High), second on severity of substance use (Low vs. Medium/High), and finally based on severity of mental illness (Low vs. Medium/High). This system of categorization results in eight distinct categories with varying levels of risk and needs.

Method

As part of the systematic literature review, I included articles that described an association between disability benefit receipt and some relevant reentry outcome in one of five populations: 1) justice-involved adults with serious mental illnesses, 2) adults with mental illnesses, 3) adults experiencing homelessness, 4) adults using substances, and 5) veterans. Due to the limited nature of the literature, no date restriction was imposed. The PSYCHInfo database was used to identify articles using a combination of search terms. "Disability Benefit Receipt" yielded 3 results, "Supplemental Security Income" 213 results, "Social Security Disability Insurance" 116 results, "Disability Income" 65 results, "Disability Benefits" 325 results, and "SSI/SSDI" 17 results. Articles were screened by title and abstract to determine if inclusion criteria were met. Reference lists of relevant articles were consulted further to identify additional articles.

Results

Justice-involved adults with serious mental illnesses. The literature review failed to reveal empirical findings describing an association between disability benefit receipt and any relevant community integration outcome in a justice-involved population. Notwithstanding this deficit, receipt of disability benefits and the SOAR model may play a key role in criminal justice settings,

and some evidence exists to support the feasibility of implementing SOAR in these settings (Ware & Dennis, 2013).

Adults with mental illnesses. Current evidence on receipt of disability benefits among adults with mental illnesses applying for and receiving disability benefits largely suggests these adults are a high-risk population. For example, in an investigation of 169 adults in the early stages of a major psychiatric disorder who were receiving treatment services, impairment due to a psychiatric disorder coupled with a lack of financial and social resources precipitated disability benefit receipt (Estroff, Patrick, Zimmer, & Lachicotte, 1997). Other studies similarly have found low levels of social support to be associated with disability benefit receipt. Segal and Choi (1991) surveyed 393 adults with serious mental illnesses living in sheltered care facilities (e.g., board-and-care facilities or halfway houses), comparing those who received SSI versus those who did not. Adults who received SSI were less likely to have informal family support, including less contact with family and friends and a lower likelihood of being married. However, importantly, this study did not find a positive association between psychiatric symptom severity and disability benefit receipt; rather, more severe psychiatric symptoms and a longer duration in a psychiatric hospital were inversely predictive of time spent on SSI. More broadly, adults who apply for disability benefits, including SSI and SSDI, tend to report lower incomes, less education, and less social interaction (Bilder & Mechanic, 2003). Finally, among adults using illicit substances, receipt of disability benefits has been associated with a diagnosis of schizophrenia and bipolar disorder, but not with a diagnosis of major depressive disorder (Stein, Anderson, Lassor, & Friedmann, 2006).

Few studies have investigated associations between disability benefit receipt and community integration outcomes among adults with mental illnesses. In one study, Elinson, Houck, and Pincus (2007) investigated associations between disability benefit receipt, access to mental health treatment, and access to health insurance among 1,855 adults with bipolar disorder. Receipt of disability benefits was associated with increased access to mental health treatment as a result of publicly funded health insurance. Adults who were not working and on disability rolls had the most contact with health care treatment providers, particularly psychiatrists. Conversely, adults who were working were less likely to have health insurance.

Adults experiencing homelessness. Mental illnesses occur with a high frequency among homeless populations; up to 11.4% of homeless adults experience depression, 12.7% experience psychosis, and 37.9% experience substance use (Fazel, Khosla, Doll, & Geddes, 2008). Although research is limited, at least one prior investigation suggests beneficial effects of disability benefit receipt in this population. Rosen, McMahon, Lin, and Rosenheck (2006) found that, in a sample of 6,199 homeless adults with mental illnesses, receipt of SSI and SSDI were not associated with increased substance use. Additionally, although recipients spent less time employed relative to non-recipients, recipients also reported more days housed relative to non-recipients.

Veterans. U.S. Veterans experience high prevalence rates of mental illness. Recent estimates show between 25-31% of Veterans have a mental health diagnosis, including 13% with PTSD, 6% with other anxiety disorders, 5% with substance use, and 5% with depression (Seal, Bertenthal, Miner, Sen, & Marmar, 2007). In one previous investigation, Rosenheck, Dausey, Frisman, and Kasprow (2000) examined outcomes following disability benefit receipt among 173 homeless Veterans with mental illnesses who applied for SSI or SSDI benefits through an

outreach program. Disability benefit receipt was associated with higher incomes and higher self-reported quality of life three months following receipt of benefits. Additionally, receipt of benefits was not associated with increased substance use, a finding consistent with earlier research using a larger sample of 2,474 homeless veterans diagnosed with comorbid schizophrenia and substance use disorders (Frisman & Rosenheck, 1997).

Disability benefit receipt and employment. Although limited research has investigated whether disability benefit receipt impacts non-employment community integration outcomes, a much larger body of research has examined the extent to which disability benefit receipt discourages or encourages employment among adults with mental illnesses and the extent to which supported employment interventions may increase employment activity in this population. Several studies have asked participants to self-report their perceptions of employment and disability. In one study, MacDonald-Wilson, Rogers, Ellison, and Lyass (2003) surveyed 539 adults with psychiatric disorders receiving treatment services and Social Security Work incentives. They found that participants were largely unaware of incentives, but participants self-identified barriers to returning to work, including the potential loss of health benefits (i.e., Medicaid). Another study by O'Day and Killeen (2002) found similar levels of misunderstanding of Social Security Work Incentives, including Earned Income Exclusion and Trial Work Period incentives, among 30 adults with serious mental illnesses who were either employed or unemployed but eligible for disability benefits. Greater misunderstanding in this instance was associated with decreased motivation to find work, and similar to the previous study, fear of losing health insurance was identified as a significant barrier, which has been replicated in other studies as well (e.g., Becker et al., 2007). Finally, Schutt and Hursh (2009) interviewed 35 adults with mental illnesses who were experiencing homelessness. Participants largely reported that receiving disability benefits lessened their motivation to locate and maintain employment. However, although participants may report a decreased willingness to work, a larger study of 7,603 adults receiving disability benefits found presence of mental illness was not associated with a decreased willingness to work relative to adults without mental illnesses (Livermore, 2011).

Existing interventions targeting employment as a way to decrease disability benefit receipt among adults with mental illnesses have yielded mixed results. In an early intervention, Okpaku, Anderson, Sibulkin, Butler, and Bickman (1997) conducted a randomized controlled trial with 152 adults with mental illnesses receiving community mental health treatment services. The intervention consisted of case management, including coordination with other agencies and employment counseling. The intervention resulted in a higher probability of employment, but no difference in earnings. In contrast, in a study by Tremblay, Smith, Xie, and Drake (2006), 364 adults with mental illnesses with disability benefits who received specialized benefits counseling (i.e., financial planning, education about disability and work incentives) gained an average of $1,256 in annual wages over a 2-year post-enrollment period. However, some experts believe that more comprehensive services are needed in order to move adults with mental illnesses off of disability payrolls. Some experts believe supported employment, specifically, is thought to have the potential to decrease disability caseloads for adults with mental illnesses and ultimately result in net federal savings of $368 million (Drake, Skinner, Bond, & Goldman, 2009). Others acknowledge that select interventions (e.g., supported employment, including Individual Placement and Support) may be particularly impactful for adults with mental illnesses; however,

such programs overall likely will not prevent the growth of disability payrolls (Wittenburg, Mann, & Thompkins, 2013).

Existing research on the impact of supported employment on disability benefit receipt and employment status among adults with mental illnesses is mixed. Salyers, Becker, Drake, Torrey, and Wyzik (2004) investigated the effectiveness of supported employment for 36 adults with mental illnesses, finding that although supported employment increased knowledge of benefits, participants reported continued receipt of disability benefits. In this case, income gains were not sufficient to subsist on independent income, especially in consideration of medication costs. In another study, Bond, Xie, and Drake (2007) investigated the impact of supported employment (Individual Placement and Support) on 546 adult beneficiaries and 131 nonbeneficiaries with mental illnesses. Supported employment resulted in higher rates of job acquisition among non-beneficiaries; however, the relative differences in job acquisition and length of time in competitive employment between the control and supported employment conditions were greater among beneficiaries, suggesting supported employment produces better outcomes coupled with disability benefit receipt. In contrast, Cook, Leff, Blyler, and colleagues (2005) found, in a sample of 1,273 adults with mental illnesses across multiple states, that after controlling for treatment effects, being an SSI or SSDI beneficiary was negatively associated with monthly earnings. Additionally, being an SSI beneficiary was negatively associated with having competitive employment. Finally, Campbell, Bond, Drake, McHugo, and Xie (2010) found similarly in a sample of 307 adults with mental illnesses receiving supported employment that receipt of SSI was associated with decreased length of employment relative to 374 adults who were not receiving supported employment services.

Synthesis of Existing Literature

Overall, findings showed limited research on community integration outcomes following receipt of disability benefits, particularly among justice-involved adults with mental illnesses. Among similar populations, existing evidence suggests receipt of disability benefits may produce positive effects on outcomes including well-being (Rosenheck et al., 2000), housing status (Rosen et al., 2006), and access to mental health treatment (Elinson et al., 2007). Additionally, disability benefit receipt does not appear to increase the risk of substance use among homeless adults (e.g., Rosen et al., 2006) or Veterans (e.g., Frisman & Rosenheck, 1997). However, the extent to which disability benefits may affect community integration outcomes relevant to justice-involved populations, mainly recidivism, is uncertain based on the current literature.

Regarding the relationship between disability benefits and employment, adults with mental illnesses identify barriers to moving off of disability benefits, including loss of health insurance (e.g., O'Day & Killeen, 2002). Although supported employment has been touted as an intervention with the potential to decrease reliance on disability benefits (Drake et al., 2009), current research has not produced ubiquitous findings on its effectiveness in place of disability benefit receipt among adults with mental illnesses. Rather, disability benefit receipt may actually increase the effectiveness of supported employment to increase wages and work-related activities (e.g., Bond et al., 2007). Although these findings are specific to adults with mental illnesses more generally, justice-involved adults with mental illnesses face similar barriers to employment and the effectiveness of such interventions may be worthy of investigation in this population as well (Osher & Steadman, 2007).

Importantly, due to the dearth of research investigating disability benefit receipt among justice-involved populations, studies have not relied on the principles of RNR to guide the delivery of disability and employment-related services to offender populations. The application of these principles, however, are key to the effective rehabilitation of justice-involved adults with behavioral health needs and may be of particular relevance in the context of disability benefit receipt.

Conclusion

To date, receipt of disability benefits has not been investigated as an intervention for justice-involved adults with mental illnesses to improve community integration outcomes. However, disability benefit receipt has been investigated in similar populations, including adults with mental illnesses more broadly, adults experiencing homelessness, and Veterans. Particularly with respect to disability benefit receipt and employment outcomes, a solid body of research has developed among adults with mental illnesses. Given high prevalence rates of serious mental illnesses among justice-involved adults (e.g., Steadman et al., 2009), investigation of these relationships in justice-involved samples is warranted to determine the extent to which disability benefit receipt may promote or discourage community integration outcomes (e.g., reoffending, employment, treatment engagement) in the broader justice-involved population.

AIM 2: SOAR AND JUSTICE-INVOLVED ADULTS

Introduction

In 2011, adult workers with qualifying mental disorders represented 32.3% of adult beneficiaries receiving Social Security Disability Insurance (SSDI) and 58.6% of adult beneficiaries receiving Supplemental Security Income (SSI) (Tables 6 and 36, respectively, Social Security Administration, 2012a, 2012b). As alluded to previously, approval rates for SSI and SSDI applications have dropped by over 15% in the past decade (Social Security Administration, 2012a, 2012b). The SSI/SSDI Outreach, Access, and Recovery (SOAR) program is a federal initiative to improve application outcomes by training case managers on the disability application process (Kauff, Brown, Denny-Brown, & Martin, 2009). The SOAR program has proven effective in increasing access to benefits for homeless populations by increasing application approval rates and decreasing time between application and decision (Dennis, Lassiter, Connelly, & Lupfer, 2011).

Statement of Problem

Further research is needed to clarify the role that SOAR may play in successful community reintegration of justice-involved adults with serious mental illnesses. One possibility is that, by increasing receipt of Medicaid/Medicare benefits, SOAR may contribute to increased use of routine mental health treatment and, ultimately, reduce recidivism. Indeed, prior research has established associations between receipt of SSI/SSDI benefits and receipt of Medicaid/Medicare benefits (Elinson et al., 2007); receipt of Medicaid/Medicare benefits and mental health service utilization (Burt & Sharkey, 2002; Clark, Samnaliev, & McGovern, 2007; Morrissey et al., 2006; Morrissey, Cuddeback, Cuellar, & Steadman, 2007); and mental health service utilization and decreased recidivism (Constantine et al., 2012; Gilbert et al., 2010; Morrissey et al., 2007). No

research to date, however, has established direct associations between disability benefit receipt—via the SOAR model—and decreased recidivism in mental health jail diversion participants, or justice-involved adults with serious mental illnesses more generally.

Furthermore, we know little regarding how the implementation of the SOAR model, specifically, may impact the ability of disability benefit receipt to contribute to reductions in recidivism among adults with mental illnesses. One feature of the SOAR model that has been described in the empirical literature is its ability to decrease time between application submission and disability determination (e.g., Dennis et al., 2011). The faster processing time of disability applications through the SOAR model may contribute to the effectiveness of disability benefits in reducing recidivism through better engagement with the SOAR process or by reducing the period of time an offender is at-risk in the community without disability benefits. To date, these aspects of the SOAR model have not been tested in the existing literature.

Even less is known about for whom disability benefits are most effective in promoting successful re-entry, a question that may be informed by the Criminogenic Risk and Behavioral Health Needs Framework (CRBHNF). Specifically, the CRBHNF describes the importance of assessing offender risk and service needs in order to inform resource allocation and improve outcomes (Osher et al., 2012). This framework is grounded within the larger theoretical model of Risk-Needs-Responsivity (RNR) (Andrews et al., 1990; Andrews & Dowden, 2007). The RNR model posits three principles of effective offender rehabilitation: 1) those at higher *risk* of recidivism should receive more resources than those at lower risk; 2) interventions should target each offender's criminogenic *needs;* and 3) intervention strategies should be *responsive* to identified risk levels and needs, while also taking into account individual factors that can affect treatment outcomes. Although the CRBHNF provides a framework for targeting the most at-risk and at-need clients, research is needed to "more clearly articulate what works, for whom, in what dosage for each type of risk and need, and in what setting" (Osher et al., 2012, pg. 51).

To summarize, prior research suggests that adults with serious mental illnesses are overrepresented in the criminal justice system and face barriers to successful community re-entry, such as accessing and sustaining community-based mental health treatment. One reason that adults with serious mental illnesses face barriers to treatment is a lack of insurance or way to pay for services. Thus, receipt of disability benefits—and the SOAR model, specifically—may have a role to play in their successful community reintegration. Unfortunately, there have been few efforts to examine whether disability benefits improve re-entry outcomes, mainly recidivism, for justice-involved adults with serious mental illnesses. Additionally, little is known about *how* receipt of disability benefits may lead to better re-entry outcomes, including whether faster application processing is associated with decreased reoffending. Finally, little is known about *for whom* disability benefits may lead to improved re-entry outcomes.

Study Context

Florida Trends in SSI/SSDI Application Outcomes. In Florida, specifically, SSI and SSDI applications have shown unique trends over the most recent decade. For SSI, the numbers of applications for mood disorders have more than doubled from the 1999 to 2011 period; applications for schizophrenia spectrum diagnoses increased slightly over the same period, but not substantially. However, award rates for SSI applications decreased steadily over the 1999 to

2011 period, slightly more than 30 percentage points for adults with mood disorders and slightly less than 20 percentage points for adults with schizophrenia spectrum diagnoses; allowance rates over the same time period show similar trends. Overall, the total numbers of applications awarded and allowed have fluctuated over the 1999 to 2011 period; mood disorders represent the greatest number of awarded applications, followed by applications for adults with schizophrenia spectrum diagnoses.[2]

For SSDI, the numbers of applications for mood disorders similarly have more than doubled from 1999 to 2011; however, there has been little change in the numbers of schizophrenia spectrum applications over the same period. Since 1999, award and allowance rates across for applications across all categories of mental disorders have generally shown a downward trend, though there has been fluctuation in this trend at the disorder level over time. Since 2009, however, there has been a consistent decrease in award and allowance rates across all disorder categories, with the exception of organic mental disorders. Award and allowance rates are higher overall for schizophrenia spectrum applications relative to mood disorder applications, though there are substantially greater numbers of mood disorder applications awarded and allowed relative to schizophrenia spectrum applications. Numbers of applications awarded and allowed for both disorder categories have declined since 2009.[2]

Miami-Dade County and SOAR. Informed by the Access, Plan, Identify, Coordinate (APIC) model (Osher et al., 2002), the Criminal Mental Health Project (CMHP) of Miami-Dade County, Florida implemented the SOAR model to increase access to disability benefits for adults with serious mental illnesses participating in its diversion programs. Briefly, the APIC model is a best-practice approach to transitioning adults with serious mental illnesses from jail into community care by having practitioners *assess* client needs and risk to community, *plan* for immediate and long-term release into the community, *identify* agencies and programs that can deliver services upon re- entry, and *coordinate* with those agencies to ensure inmates receive continuous services upon release (Osher et al., 2002). The SOAR model specifically facilitates planning for successful community re-entry by providing access to income support upon release.

A pilot evaluation of Miami-Dade County's SOAR implementation yielded promising results (Telford, 2013). Specifically, initial findings for 178 clients showed high rates of approval for benefits; up to 88.1% of clients were awarded SSI/SSDI benefits. Moreover, clients experienced significant decreases in jail bookings two years following the date of disability determination. This evaluation, however, did not examine the mechanisms through which the SOAR program resulted in decreased recidivism nor did it determine whether outcomes differed for clients with varying levels of criminogenic risk and mental health needs.

Method

Setting

The Eleventh Judicial Circuit of Miami-Dade County, Florida implemented the Criminal Mental Health Project (CMHP) in 2000 to combat high prevalence rates of adults with mental illnesses

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[2] Data retrieved via Freedom of Information Act request from Dawn S. Wiggins in the Office of Privacy and Disclosure of the Social Security Administration in June 2014.

in its criminal justice system. Approximately 1,200 jail inmates received psychopharmacologic medications on a daily basis, which constitutes roughly one-fourth of the total inmate population. The CMHP operates four court-based diversion programs, serving up to 400 clients each year: 1) pre-booking jail diversion; 2) post-booking, misdemeanor-level pre-trial jail diversion; 3) post-booking, felony-level pre-trial jail diversion; and 4) post-booking, state forensic hospital diversion. Data from this study are drawn primarily from post-booking, pre-trial misdemeanor, and felony diversion programs.

Participants

Participants were 227 adults with serious mental illnesses (schizophrenia spectrum, bipolar, and major depressive disorders) who were referred to the SOAR program to apply for disability benefits between September 2011 and August 2013. The final sample N (population $N = 355$) reflects clients referred to SOAR who had both 1-year of recidivism data available and a disability disposition (i.e., the client either received benefits or did not receive benefits). Overall, participants were predominantly male with an average age of 35.71 ($SD = 12.93$). About half of participants identified as having non-white or minority racial background. The most frequent mental health diagnoses were schizophrenia spectrum disorders, followed by bipolar disorders and lastly major depressive and other mood disorders. See Table 1 for full participant descriptives.

Procedures

Data for this study were pulled from CMHP administrative records and provided by the CMHP project director. County-level criminal activity data for number of arrests, jail days, and new charges taking place in Miami-Dade County, Florida were also provided by CMHP staff.

Measures

Covariates. Covariates that are assessed here and previously have demonstrated associations with measures of criminal activity include *age* (continuous; Cox, Morschauser, Banks, & Stone, 2001; Van Dorn et al., 2013), *sex* (male, female; Becker, Andel, Boaz, & Constantine, 2011; Cloyes, Wong, Latimer, & Abarca, 2010; Lovell, Gagliardi, & Peterson, 2002; Van Dorn et al., 2013), and *race* (white, non-white; Lovell et al., 2002; Van Dorn et al., 2013).

Disability benefit receipt. *Disability benefit receipt* was operationalized by whether a participant received (approved for disability benefits) or did not receive (application was denied, a client refused to apply, or SOAR staff deemed a client ineligible) disability benefits (yes, no).

Time from application to disposition. *Time from application to disposition* was measured by the number of days between the date that an application was submitted to the disability field office for forwarding to Disability Determination Services and the date that a disability determination on that application was received.

Criminogenic risk and behavioral health needs. *Criminogenic risk and behavioral health needs* was operationalized using the Short-Term Assessment of Risk and Treatability (START; Webster, Martin, Brink, Nicholls, & Desmarais, 2009). The START is a 20-item structured professional judgment guide designed to assess risk of eight outcomes, including general

offending risk. For all 20 items, trained assessors rate a client's strength and vulnerability with respect to the past three months on a 3-point scale from 0 (minimally present) to 2 (maximally present). Final risk ratings of adverse outcomes are judged by assessors to be low, moderate, or high. Because all participants have a diagnosis of a serious mental illness, all participants are defined as having medium/high severity of mental illness. To operationalize severity of substance use, the START substance abuse item, measuring a client's vulnerability with respect to substance use in the past three months, was used. Participants who had minimally present (0) substance use were coded as low and participants with present to maximally present (1 to 2) ratings were coded as medium/high severity of substance use. Criminogenic risk was operationalized using the START general offending risk estimate. Participants who had been rated as having low general offending risk were coded as having low criminogenic risk and participants with moderate or high general offending risk were coded as medium/high criminogenic risk. The described coding scheme resulted in four distinct categories of criminogenic risk and behavioral health needs: 1) low substance use, low criminogenic risk; 2) medium/high substance use, low criminogenic risk; 3) low substance use, medium/high criminogenic risk; and 4) medium/high substance use, medium/high criminogenic risk. However, a disproportionate number of participants were placed in the fourth category, and substantially fewer in categories 1-3, resulting in a loss of statistical power in multivariate models. As a result, the four categories were collapsed into a bivariate measure of lower-risk, lower-needs participants (categories 1-3) versus high-risk participants (category 4).

Criminal activity. Criminal activity was defined as the number of *arrests* (continuous), *jail days* (continuous), and *new charges* (continuous; charges for new offenses only, excluding probation violations, outstanding warrants, etc.) one year prior to the date of disposition (pre-disposition criminal activity) and one year following the date of disposition (post-disposition criminal activity). Additionally, to test time between application and disposition in relation to criminal activity, criminal activity variables based on date of application were calculated (i.e., one year pre-application and one year post-application).

Analytic Strategy

First, correlations were conducted between criminal justice variables to test whether previous 1-year criminal activity variables should be included as covariates in subsequent models as predictors of subsequent 1-year criminal activity. Variables were significantly correlated (*r* range: .19 to .47) and thus, previous 1-year criminal activity variables were included as covariates in subsequent models.

Second, bivariate analyses were conducted to assess for differences between likelihood of disability benefit receipt and age, sex, race, diagnosis, and criminogenic risk and behavioral health needs. Variables demonstrating significant associations with disability benefit receipt were included in subsequent multivariate analyses. Sex and diagnosis were both significantly associated with likelihood of disability benefit receipt. Post-hoc tests on diagnosis revealed a different distribution of disability benefit receipt likelihood based on whether or not someone had a schizophrenia spectrum versus other diagnosis. As a result, dichotomous measures of schizophrenia diagnosis (yes, no) as well as sex (male, female) were included in all subsequent analyses.

Third, bivariate associations were investigated between study dependent variables (i.e., post-disposition measures of criminal activity) and individual covariates of age, sex, and race, controlling for pre-disposition criminal activity. Because all criminal activity dependent variables represented count variables, assumptions of linearity and normality were not satisfied to proceed with linear regression analyses. Alternative approaches include the use of negative binomial or Poisson regressions, both of which are designed for count dependent variables. Negative binomial regression, however, is a preferred approach to Poisson regression because it carries fewer overall assumptions (Long, 1997; Walters, 2007). Specifically, excess zeros in the dependent variables are less of a concern in negative binomial regression compared to Poisson and negative binomial regression allows for overdispersion in the dependent variable. In Poisson regression, the conditional mean must be equivalent to the conditional variance; violation of this assumption can lead to artificially low p values when overdispersion occurs (Atkins & Gallop, 2007). For all subsequent analyses, negative binomial regression analyses were conducted with the dispersion parameter fixed at 1.

Fourth, negative binomial regression analyses were conducted examining the impact of disability benefit receipt on post-disposition arrests, jail days, and new charges while controlling for relevant pre-disposition criminal activity measures and covariates. Fifth, the interaction between criminogenic risk and behavioral health needs and disability benefit receipt was investigated using negative binomial regression models. An interaction term of criminogenic risk and behavior health needs by disability benefit receipt was added to the model, which additionally controlled for relevant pre-disposition criminal activity and covariates.

Sixth, the interaction between time between application and disability disposition by disability benefit receipt was investigated using negative binomial regression analyses with an interaction term. For the first set of analyses, disposition-based criminal activity measures were used to test whether time to decision was associated with subsequent criminal activity above and beyond simply expediting access to disability benefits. For example, clients who experience faster time to decision may stay more engaged with the diversion programs and be more likely to use disability benefits to address basic needs and engage in prosocial activities compared to clients who become less engaged as a result of slower application processing. To test whether faster time to decision simply decreased the amount of time a client was at risk for reoffending, an additional set of analyses were conducted using application-based measures of criminal activity.

Results

Descriptive Statistics

Full descriptive statistics are presented in Table 1. Across all measures of criminal activity, participants had greater numbers of arrests, jail days, and new charges in the 1-year periods prior to date of disposition and application relative to the subsequent 1-year periods. These trends were consistent both for participants who received SSI/SSDI and those who did not. As a result of missing START data for the sample, only a subset of participants ($n = 122$) were categorized according to criminogenic risk and behavioral health needs. Roughly a third of participants ($n = 42$) were classified as lower-risk, lower-need and two-thirds classified as high-risk ($n = 80$). Time from application to disposition averaged 7.02 days longer for participants who did not receive disability benefits relative to those who did.

Disability Benefit Receipt

As shown in Table 1, receipt of disability benefits differed significantly between men and women, such that men were more likely to receive disability benefits. Similarly, there was a significant difference in the likelihood of disability benefit receipt by diagnosis, such that participants with a diagnosis of schizophrenia were more likely to receive disability benefits relative to participants with a diagnosis of bipolar disorder or major depression. Results showed no differences in the likelihood of disability benefit receipt by race or age. Additionally, there was no significant difference in the likelihood of disability benefit receipt by level of criminogenic risk and behavioral health needs, $X^2(1) = 0.64$, $p = .424$. Participants who were higher risk and higher needs had a similar likelihood of receiving disability benefits relative to participants who were lower risk and lower needs.

Negative binomial regression results for disability benefit receipt on post-disposition criminal activity are presented in Table 2.

Arrests. Results failed to show a significant effect of disability benefit receipt on post-disposition arrests, controlling for sex, schizophrenia spectrum diagnosis, and pre-disposition arrests (overall model fit: $X^2 = 21.96$, $p < .001$, AIC = 555.47, BIC = 572.46).

Jail days. There was a trending effect of disability benefit receipt ($p = .081$) on post-disposition jail days, controlling for race, sex, schizophrenia spectrum diagnosis, and pre-disposition jail days (overall model fit: $X^2 = 202.52$, $p < .001$, AIC = 1751.14, BIC = 1771.53). Specifically, participants who did not receive disability benefits had 1.29 times more jail days in the year following date of disability disposition relative to participants who received disability benefits.

New charges. Results also failed to show a significant effect of disability benefit receipt on post-disposition charges, controlling for sex, schizophrenia spectrum diagnosis, and pre-disposition new charges (overall model fit: $X^2 = 23.75$, $p < .001$, AIC = 559.80, BIC = 576.79).

Criminogenic Risk and Behavioral Health Needs

Negative binomial regression results for the interaction of criminogenic risk and behavioral health needs by disability benefit receipt on post-disposition criminal activity are presented in Table 3.

Arrests. No significant main effects of criminogenic risk and behavioral health needs ($p = .705$) or disability benefit receipt ($p = .961$) on post-disposition arrests were observed. Additionally, there was no significant interaction of disability benefit receipt by criminogenic risk and behavioral health needs ($p = .209$). The overall model fit was good, $X^2 = 18.62$, $p = .005$, AIC = 316.38, BIC = 336.01).

Jail days. Results showed a significant main effect of disability benefit receipt on post-disposition jail days ($p = .011$); however, there was no significant main effect of crimingenic risk and behavioral health needs ($p = .635$). The model showed a significant interaction between disability benefit receipt and criminogenic risk and behavioral health needs ($p = .021$). Specifically, as shown in Table 3, high-risk, high-needs participants had more jail days relative

to lower-risk, lower-needs participants overall (i.e., among both groups of participants who received and did not receive disability benefits); however, disability benefit receipt was associated with fewer jail days for high-risk, high-needs participants and more jail days for lower-risk, lower-needs participants relative to those who did not receive benefits. This difference in jail days between participants who were lower-risk, lower-needs versus high-risk, high-needs was 3.42 times greater among participants who did not receive disability benefits compared to participants who did (see Figure 1 for estimated marginal means depicting interaction). The overall model was significant, $x^2 = 102.85$, $p < .001$, AIC = 875.99, BIC = 898.42).

New charges. Although the model showed no significant main effect for either disability benefit receipt ($p = .503$) or criminogenic risk and needs ($p = .335$), there was a significant interaction between disability benefit receipt and criminogenic risk and behavioral health needs ($p = .046$). Similar to jail days, high-risk, high-needs participants had more new charges relative to lower-risk, lower-needs participants among both groups of participants who received and did not receive disability benefits, but lower-risk, lower-needs participants who did not receive disability benefits had substantially fewer new charges relative to lower-risk, lower-needs participants who received disability benefits. The difference in new charges between participants who were lower-risk, lower-needs versus high-risk, high-needs was 10.20 times greater among participants who did not receive disability benefits compared to participants who did (see Figure 2 for estimated marginal means depicting interaction). The overall model fit was significant, $x^2 = 32.07$, $p < .001$, AIC = 299.93, BIC = 319.55).

Time from Application to Disposition

Arrests. Results showed no significant main effects of time from application to disposition ($p = .197$) or disability benefit receipt ($p = .997$) on post-disposition arrests. Additionally, there was no significant interaction of time from application to disposition by disability benefit receipt ($p = .931$). The overall model fit was good, $x^2 = 17.40$, $p = .008$, AIC = 395.40, BIC = 416.75). For arrests measured from the date of application, however, time from application to disposition showed a trending effect on arrests ($p = .052$), such that each additional day between date of application and disposition was associated with a 1.01 increase in arrests. Disability benefit receipt was not associated with post-application arrests ($p = .988$) nor was there a significant interaction between time from application to disposition and disability benefit receipt ($p = .932$). The overall model fit for post-application arrests was good, $x^2 = 17.66$, $p = .007$, AIC = 395.90, BIC = 416.49.

Jail days. No significant main effects emerged for time between application and disposition ($p = .443$) or disability benefit receipt ($p = .471$) on post-disposition jail days. Similarly, there was no significant interaction of time between application and disposition with disability benefit receipt ($p = .916$). The overall model fit was significant, $x^2 = 106.23$, $p < .001$, AIC = 1141.87, BIC = 1166.27. Similarly, for jail days based on date of application, no significant main effects were observed for either time between application and disposition ($p = .663$) or disability benefit receipt ($p = .247$), nor was there a significant interaction of time between application and disposition by disability benefit receipt ($p = .471$). The overall model, however, was significant, $x^2 = 94.47$, $p < .001$, AIC = 1130.16, BIC = 1151.51.

New charges. There were similarly no effects of time between application and disposition (p = .934) or disability benefit receipt (p = .721) on post-disposition jail days. No interaction effect of time between application and disposition with disability benefit receipt was observed (p = .436), though the overall model fit was good, X^2 = 19.31, p < .001, AIC = 377.55, BIC = 398.90. For new charges measured from the post-application period, neither time between application and disposition (p = .240) nor disability benefit receipt (p = .638) showed main effects on post-application charges. There was no significant interaction of time between application and disposition with disability benefit receipt (p = .366). The model fit was good, X^2 = 26.21, p < .001, AIC = 381.90, BIC = 403.25.

Discussion

Summary of Findings

The purpose of the present study was to examine whether, for whom, and how disability benefit receipt through the SOAR program impacts recidivism in a justice-involved sample of adults with mental illnesses. First, the main study analyses addressed whether disability benefit receipt impacted post-disposition recidivism in the total sample. Findings showed a trending effect of disability benefit receipt on jail days one year following date of disposition, but no effects on arrests or new charges. These findings are largely consistent with a prior investigation finding no effect of disability benefit receipt on jail bookings (Telford, 2013). However, a longer follow-up period (e.g., two years) may have been necessary to see the effect of disability benefits on reductions in jail days.

Second, the present study investigated for whom disability benefit receipt is associated with reductions in recidivism. This is perhaps the most important finding of the present study. Consistent with the RNR approach and Criminogenic Risk and Behavioral Health Needs Framework, higher-risk and higher-needs participants (specifically those who had both moderate to high levels of substance use and criminogenic risk) experienced fewer post-disposition jail days and new charges following receipt of disability benefits relative to lower-risk, lower-needs participants. These findings support the RNR approach, which states that resources should be provided to offenders with the highest risk and highest need in order to achieve maximum reductions in recidivism (Andrews & Bonta, 2010; Andrews et al., 1990). Additionally, findings support the categorization of offenders based on the Criminogenic Risk and Behavioral Health Needs Framework as a possible avenue of determining who may benefit most from receipt of disability benefits.

Third, the present study informed how disability benefit receipt impacts recidivism by investigating the impact of application processing time, or time between application and disposition, on recidivism. However, application processing time was not a significant predictor of either post-disposition or post-application recidivism, nor did processing time interact with disability benefit receipt to impact recidivism. Although there could be other benefits to faster processing time (e.g., increased engagement in diversion services), recidivism was not affected by processing time. These findings could reflect the overall speed of application processing in this sample (i.e., an average of 32 days), which is drastically different from national SOAR estimates (94 days in 2014; SAMHSA SOAR TA Center, 2014).

Implications

Disability Determination Process. Findings from the present study inform the Disability Determination Process (DDP) in three key ways. First, the likelihood of successful disability application seems to differ as a result of select individual characteristics. For example, national, Florida-level, and site-level data show consistently that adults with schizophrenia remain a population with a higher likelihood of receiving disability benefits relative to adults with other serious mental illnesses; importantly, these trends are consistent in a justice-involved sample. Furthermore, in this sample, men were more likely to receive disability benefits relative to women, which could reflect the high-risk, high-needs nature of men in this particular sample. However, disability outcome did not differ based on age, race, or level of criminogenic risk and behavioral health needs. Whether or not these individual differences are exclusively byproducts of factors unrelated to the DDP (e.g., functional impairment in adults with schizophrenia relative to other diagnoses) cannot be addressed by the present findings; however, future investigation into why systematic differences exist in application outcomes based on individual characteristics would inform whether steps should be taken to correct such disparities in application outcomes.

Second, despite the similar likelihood of disability benefit receipt by criminogenic risk and behavioral health needs status, findings from the present study show that high-risk, high-needs justice-involved adults with mental illnesses are more likely to experience reductions in jail days and new charges as a result of disability benefit receipt relative to lower-risk, lower-needs participants. Although the DDP is a pre-determined and structured process for determining eligibility for benefits, there could be increased emphasis placed prior to application submission on the quality control of applications for high-risk and high-needs applicants to increase the likelihood of disability benefit receipt in this group of offenders.

Third, although faster processing time as a result of the SOAR model was not associated with community integration outcomes in the present study, SOAR and the receipt of disability benefits produced effects on recidivism that were above and beyond any reductions in recidivism resulting from participation in a successful jail diversion program. This implies that the SOAR initiative is valuable in justice settings as an intervention for justice-involved adults. Additionally, SOAR application rates and processing times remain higher than national averages for both SSI and SSDI, suggesting that there is value in the SOAR process in terms of the efficient processing of applications and the overall quality control of applications. Both of these components may be applicable to the DDP more generally as a means for increasing the efficiency of application processing.

Advances research. Overall, there exists limited research on outcomes following receipt of disability benefits. In particular, there is a dearth of published research investigating how disability benefit receipt may improve community reintegration outcomes for justice-involved persons. Some research has been published on the SOAR model (e.g., Dennis et al., 2011), but to my knowledge there has been no published research on the use of SOAR for justice-involved persons, specifically, or on outcomes following receipt of disability benefits through the SOAR model. Importantly, this study provides the first empirical evidence evaluating receipt of disability benefits as an intervention for justice-involved persons with mental illnesses. Findings suggest that disability benefit receipt has the potential to generally improve recidivism outcomes among all justice-involved persons with serious mental illnesses but may be most effective for

offenders with co-occurring substance use disorders and moderate to high levels of criminogenic risk. These findings have specific implications for future research, including whether the effectiveness of disability benefit receipt on recidivism can be demonstrated in other justice-involved samples. Additionally, there may be other SOAR-specific process components (e.g., application components) that may contribute to the effectiveness of disability benefit receipt above and beyond the faster processing of disability applications. Finally, findings suggest the need for a potential follow-up study investigating the cost-effectiveness of disability benefit receipt through the SOAR model for justice-involved adults, particularly for those who are regular users of the criminal justice and behavioral health systems (i.e., high-risk and high-needs clients).

Limitations and Future Directions

Limitations. Findings from the present study must be considered in light of several limitations, which may inform future research on this topic. First, SOAR was implemented in the context of a successful jail diversion program. Thus, participants were receiving enhanced supervision and treatment supports in this setting, which may imply a stronger impact of disability benefit receipt on community integration outcomes in other settings without such supports. Second, due to data limitations, only a 1-year period of recidivism was investigated, though it is possible that disability benefits may be associated with more long-term reductions in reoffending. Third, as a result of limited data, all participants who were approved for benefits were assumed to have received them. Additionally, the study was not able to control for how long someone received benefits; thus, a participant may not have received benefits during the entire 1-year post-disposition recidivism period. Fourth, the application processing time from the date of application to date of disposition may not reflect national norms due to the substantially lower mean time to decision. Fifth, as a result of sample size limitations, in order to operationalize the Criminogenic Risk and Behavioral Health Needs Framework, it was necessary to dichotomize the resulting categories into a higher-risk/higher-needs and lower-risk/lower-needs categorization. As a result, the dichotomous categorization did not represent the full range of variability in levels of risk and needs. Finally, the sample size in this study may have limited the ability to find significant results for some recidivism variables as a result of low statistical power.

Future directions. Future research investigating the impact of disability benefit receipt on recidivism among justice-involved samples would benefit from addressing some of these limitations. Specifically, SOAR should be implemented and evaluated in other justice settings where no diversion programming exists to determine the impact of disability benefit receipt on recidivism in the absence of other supports. Additionally, there is a need to examine the effectiveness of months receiving disability benefits on longer-term recidivism outcomes (e.g., a 2-year period). Furthermore, the relationship between application processing time and recidivism should be investigated in other samples where the processing time more closely reflects national SOAR rates. Moreover, the effectiveness of disability benefit receipt on recidivism should be investigated across all eight categories of the Criminogenic Risk and Behavioral Health Needs Framework to determine the extent to which the Framework could serve as a resource for criminal justice agencies using the SOAR model as a means to identify which offenders are most likely to benefit from disability benefits. Finally, and more broadly, although community integration outcomes following receipt of disability benefits have been investigated across adults with mental illnesses (e.g., Elinson et al., 2007), adults experiencing homelessness (e.g., Rosen et

al., 2006), and Veterans (e.g., Rosenheck et al., 2000), existing research is by no means comprehensive; even with existing research, we know little regarding which populations are most likely to benefit—and how they are likely to benefit—from disability benefits.

Conclusion

Although limited research has explored associations between disability benefit receipt and community integration outcomes, existing evidence suggests that receipt of disability benefits has a positive effect on overall well being (Rosenheck et al., 2000), housing status (Rosen et al., 2006), and access to mental health treatment (Elinson et al., 2007). The present study adds significantly to this limited body of research, demonstrating that disability benefits may contribute to reductions in jail days for justice-involved adults with mental illnesses and may be particularly useful in decreasing recidivism risk among adults who have moderate to high levels of criminogenic risk and co-morbid substance use issues. Findings from the present study suggest disability benefit receipt, and the SOAR model, as a promising intervention for justice-involved adults with mental illnesses.

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TABLES

Table 1

Demographic Characteristics and Criminal Activity for SOAR Participants

Variables	SOAR participants						
	Overall (*N* = 227)		Received SSI/SSDI (*N* = 126)		Did not receive SSI/SSDI (*N* = 101)		Comparison
	n		*n*		*n*		X^2
Sex							6.30* (1)
Male	169		102		67		
Female	58		24		34		
Race							0.02 (1)
Non-white	118		66		52		
White	109		60		49		
Diagnosis							9.33** (2)
Schizophrenia spectrum	131		85		46		
Mood/Major depressive	35		13		22		
Bipolar	53		28		25		
	M	*SD*	*M*	*SD*	*M*	*SD*	*t* (df)
Age	35.71	12.93	35.49	13.31	35.99	12.51	0.29 (225)
Time from application to disposition	32.10	20.13	30.75	19.54	37.77	21.91	1.73 (154)
Arrests							
1-year pre-disposition	2.01	2.78	2.15	3.03	1.84	2.44	-0.83 (225)
1-year post-disposition	0.86	1.37	0.88	1.46	0.83	1.27	-0.27 (225)
1-year pre-application	2.04	2.84	2.21	3.08	1.37	1.22	-2.38* (120.12)
1-year post-application	0.85	1.29	0.86	1.32	0.80	1.19	-0.25 (154)
Jail days							
1-year pre-disposition	75.04	93.36	53.65	69.70	101.74	111.04	3.79*** (160.34)
1-year post-disposition	29.87	68.10	19.10	52.80	43.31	81.66	2.58* (163.57)
1-year pre-application	56.51	74.98	55.96	72.92	58.83	84.39	0.19 (154)
1-year post-application	17.32	45.98	17.48	48.69	16.63	32.89	-0.09 (154)
New charges							
1-year pre-disposition	2.65	3.80	2.48	3.87	2.85	3.72	0.72 (225)
1-year post-disposition	0.89	1.77	0.80	1.56	1.01	2.00	0.88 (225)
1-year pre-application	2.49	3.60	2.56	3.84	2.20	2.37	-0.48 (154)
1-year post-application	0.83	1.58	0.83	1.56	0.83	1.66	<0.01 (154)

Notes. All percentages represent valid percentages. Discrepancies in cell sizes reflect missing

data. Pre-disposition was defined as the 1-year period prior to date of disposition. Post-

disposition was defined as the 1-year period following date of disposition. Pre-application was

defined as the 1-year period prior to date of application. Post-application was defined as the 1-

year period following the date of application.

‡*p* < .10, *p < .05, **p < .01, ***p < .001.

Table 2

Summary of Negative Binomial Regressions for Disability Benefit Receipt

Predictors by dependent variable	*B*	*SE B*	Wald X^2	*OR*	OR 95% CI
Arrests					
Disability benefit receipt	0.07	0.21	0.10	1.07	[0.70, 1.63]
Pre-disposition arrests	0.13	0.03	14.71***	1.14	[1.06, 1.21]
Sex	0.30	0.25	1.35	1.34	[0.82, 2.22]
Schizophrenia spectrum diagnosis	-0.07	0.21	0.11	0.93	[0.62, 1.41]
Jail days					
Disability benefit receipt	0.26	0.15	3.04‡	1.29	[0.97, 1.72]
Pre-disposition jail days	0.01	<0.01	113.14***	1.01	[1.01, 1.01]
Sex	0.70	0.18	15.10***	2.01	[1.41, 2.86]
Schizophrenia spectrum diagnosis	0.31	0.15	4.43*	1.36	[1.02, 1.82]
Race	-0.28	0.15	3.73‡	0.75	[0.57, 1.00]
New charges					
Disability benefit receipt	0.25	0.21	1.34	1.28	[0.84, 1.94]
Pre-disposition new charges	0.08	0.02	12.93***	1.08	[1.04, 1.13]
Sex	0.56	0.26	4.65*	1.76	[1.05, 2.94]
Schizophrenia spectrum diagnosis	0.24	0.21	1.27	1.27	[0.84, 1.91]

Notes. $N = 227$. CI = confidence interval. For disability benefit receipt, non-recipients of

SSI/SSDI represent 0. For sex, male participants represent 0. For race, white participants

represent 0. For schizophrenia spectrum, participants without a schizophrenia spectrum diagnosis

represent 0. All dependent variables measured from 1-year following date of disposition.

‡$p < .10$, *$p < .05$, **$p < .01$, ***$p < .001$.

Table 3

Summary of Negative Binomial Regressions for Criminogenic Risk and Needs (CRN) by

Disability Benefit Receipt

Predictors by dependent variable	*B*	*SE B*	Wald X^2	*OR*	*OR* 95% CI
Arrests					
CRN x disability benefit receipt	-0.95	0.76	1.58	0.39	[0.09, 1.70]
CRN	-0.14	0.37	0.14	0.87	[0.42, 1.79]
Disability benefit receipt	0.02	0.37	<0.01	1.02	[0.49, 2.11]
Pre-disposition arrests	0.09	0.04	4.66*	1.10	[1.01, 1.20]
Sex	0.85	0.45	3.53‡	2.33	[0.96, 5.63]
Schizophrenia spectrum diagnosis	-0.08	0.29	0.07	0.93	[0.52, 1.65]
Jail days					
CRN x disability benefit receipt	-1.23	0.53	5.36*	0.29	[0.10, 0.83]
CRN	-0.13	0.27	0.22	0.88	[0.52, 1.49]
Disability benefit receipt	0.70	0.27	6.49*	2.01	[1.17, 3.44]
Pre-disposition jail days	0.01	<0.01	53.18***	1.01	[1.01, 1.02]
Sex	1.66	0.32	26.29***	5.25	[2.79, 9.90]
Schizophrenia spectrum diagnosis	0.36	0.24	2.26	1.43	[0.90, 2.28]
Race	-0.40	0.21	3.67‡	0.67	[0.44, 1.01]
New charges					
CRN x disability benefit receipt	-2.32	1.17	3.97*	0.10	[0.01, 0.96]
CRN	-0.39	0.41	0.93	0.68	[0.30, 1.50]
Disability benefit receipt	0.24	0.36	0.45	1.27	[0.63, 2.57]
Pre-disposition new charges	0.06	0.03	3.20‡	1.06	[0.99, 1.14]
Sex	1.51	0.58	6.83**	4.54	[1.46, 14.10]
Schizophrenia spectrum diagnosis	<0.01	0.30	<0.01	1.00	[0.56, 1.80]

Note. *N* = 122. CI = confidence interval. For CRN, lower-risk participants represent 0. For

disability benefit receipt, non-recipients of SSI/SSDI represent 0. For sex, male participants

represent 0. For race, white participants represent 0. All dependent variables measured from 1-

year following date of disposition.

‡*p* < .10, *p* < .05, **p* < .01, ***p* < .001.

Table 4

Summary of Negative Binomial Regressions for Time between Application and Disposition by Disability Benefit Receipt

Predictors	Criminal activity measured from date of disposition					Criminal activity measured from date of application				
	B	*SE B*	Wald X^2	*OR*	OR 95% CI	B	*SE B*	Wald X^2	*OR*	OR 95% CI
Arrests										
Time x receipt	<0.01	0.02	0.01	1.00	[0.97, 1.03]	<0.01	0.02	0.01	1.00	[0.97, 1.03]
Time	0.01	0.01	1.67	1.01	[0.99, 1.02]	0.01	0.01	3.77‡	1.01	[1.00, 1.03]
Disability benefit receipt	<-0.01	0.72	<0.01	1.00	[0.24, 4.11]	0.01	0.72	<0.01	1.01	[0.25, 4.16]
Prior arrests	0.12	0.04	8.91**	1.13	[1.04, 1.22]	0.11	0.04	7.90**	1.12	[1.03, 1.21]
Sex	0.22	0.32	0.47	1.24	[0.66, 2.33]	0.17	0.32	0.29	1.19	[0.64, 2.22]
Schizophrenia spectrum	-0.20	0.26	0.63	0.81	[0.49, 1.35]	-0.16	0.26	0.39	0.85	[0.51 1.41]
Jail days										
Time x receipt	<-0.01	0.02	0.01	1.00	[0.96, 1.03]	-0.01	0.02	0.52	0.99	[0.96, 1.02]
Time	<-0.01	0.01	0.59	0.99	[0.98, 1.01]	<0.01	0.01	0.19	1.00	[0.99, 1.01]
Disability benefit receipt	0.46	0.64	0.52	1.59	[0.45, 5.63]	0.72	0.62	1.34	2.06	[0.61, 7.00]
Prior jail days	0.01	<0.01	72.68***	1.01	[1.01, 1.02]	0.01	0.02	64.71***	1.01	[1.01, 1.02]
Sex	1.19	0.24	23.84***	3.30	[2.04, 5.33]	0.99	0.23	18.23***	2.68	[1.71, 4.22]
Schizophrenia spectrum	0.14	0.19	0.57	1.15	[0.80, 1.67]	0.23	0.18	1.70	1.26	[0.89, 1.80]
Race	0.15	0.18	0.70	1.16	[0.82, 1.66]	-	-	-	-	-
New charges										
Time x receipt	0.01	0.02	0.61	1.01	[0.98, 1.05]	0.02	0.02	0.82	1.02	[0.98, 1.05]
Time	<-0.01	0.01	0.01	1.00	[0.99, 1.01]	0.01	0.01	1.38	1.01	[0.99, 1.02]
Disability benefit receipt	-0.26	0.74	0.13	0.77	[0.18, 3.28]	-0.35	0.75	0.22	0.64	[0.16, 3.06]
Prior new charges	0.10	0.03	11.36**	1.10	[1.04, 1.17]	0.11	0.03	14.36***	1.12	[1.05, 1.18]
Sex	0.67	0.35	3.69‡	1.95	[0.99, 3.84]	0.62	0.35	3.12‡	1.85	[0.93, 3.68]
Schizophrenia spectrum	-0.01	0.26	<0.01	0.99	[0.59, 1.65]	0.05	0.26	0.03	1.05	[0.63, 1.75]

Note. $N = 156$. CI = confidence interval. For disability benefit receipt, non-recipients of SSI/SSDI represent 0. For sex, male participants represent 0. For race, white participants represent 0. For schizophrenia spectrum, participants without a schizophrenia spectrum diagnosis represent 0.

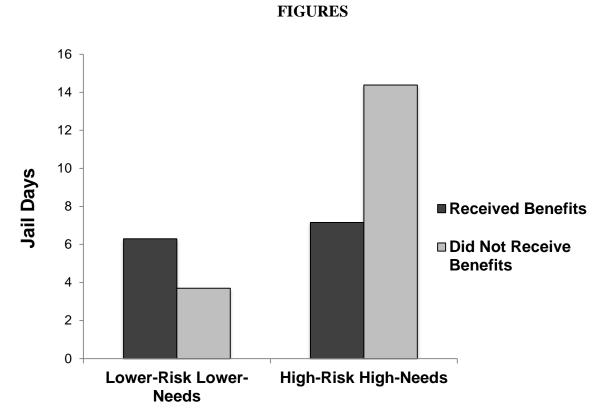‡$p < .10$ *$p < .05$ **$p < .01$ ***$p < .001$.

FIGURES

Figure 1. Interaction between level of criminogenic risk and behavior health needs with

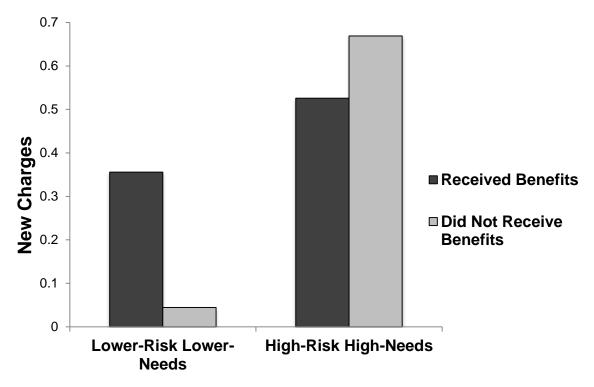disability benefit receipt on post-disposition jail days based on estimated marginal means.

Figure 2. Interaction between level of criminogenic risk and behavior health needs with

disability benefit receipt on post-disposition new charges based on estimated marginal means.