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Inmate Pre-Release Assessment (IPASS) Aftercare Placement Recommendation as a Predictor of Rural Inmate's 12-Step Attendance and Treatment Entry Post-Release

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Abstract

The purpose of this study is to use the Criminal Justice Drug Abuse Treatment Studies' (CJ-DATS) Inmate Pre-Release Assessment (IPASS), which recommends either intensive or non-intensive treatment after release, to predict rural offenders' 12-step attendance and treatment entry within 6 months of release from prison. IPASS scores indicated that 52% of rural offenders needed intensive treatment upon community re-entry. In bivariate analyses, rural offenders with an intensive aftercare placement recommendation were significantly younger, more likely to have been employed more months in the year prior to incarceration, to have ever injected drugs, and to have ever received outpatient substance abuse treatment. The variables which were significant at the bivariate level were entered into two logistic multivariate models predicting 12-step attendance and treatment entry within 6 months of being released from prison. Age and having ever injected drugs were positive predictors of having attended a 12-step meeting, while the number of months legally employed was negatively related to 12-step attendance. In the treatment entry model, age increased the odds of entering formal treatment while having ever injected a drug decreased the odds. IPASS aftercare placement recommendation was not significant in either of the multivariate models. Findings from this study suggest that offenders re-entering rural communities may receive limited community-based continued care and future studies should explore geographic-specific treatment barriers. Implications for rural substance abuse treatment are provided.

Keywords

Rural; Inmates; Re-entry; Assessment; 12-Step Programs; Substance Abuse Treatment

According to the Bureau of Justice Statistics the majority of inmates are alcohol or drug involved and approximately half meet the DSM-IV criteria for drug dependence or abuse (Mumola & Karberg, 2006), indicating a population with sizeable treatment needs. Numerous studies have shown that substance abuse treatment during incarceration improves offender outcomes including reducing relapse and recidivism (Burdon, Dang, Prendergast, Messina, & Farabee, 2007; Inciardi, Martin, & Butzin, 2004; Knight, Simpson, Chatham, & Camacho, 1997; Prendergast, Hall, Wexler, Melnick, & Cao, 2004). Despite the documented effectiveness of treatment, only a small percentage of inmates receive treatment while

incarcerated (West & Sabol, 2008). Moreover, linking offenders who received prison-based treatment to continued care after community re-entry has added benefits in reducing relapse and recidivism above and beyond that of prison-based treatment alone (Burdon et al., 2007; Hiller, Knight, & Simpson, 1999; Inciardi, Martin, Butzin, Hooper, & Harrison, 1997; Martin, Butzin, Saum, & Inciardi, 1999).

Offenders who are returning to rural communities may face unique barriers during re-entry in accessing community-based care. It is unknown the extent to which rural substance users with documented service needs are accessing community-based care when re-entering rural communities with limited treatment services (Schoeneberger, Leukefeld, Hiller, & Godlaski, 2006; Warner & Leukefeld, 2001). Therefore, the purpose of this study is to use the Criminal Justice Drug Abuse Treatment Studies' (CJ-DATS) Inmate Pre-Release Assessment (IPASS), which recommends either intensive or non-intensive treatment after release, to predict rural offenders' 12-step attendance and formal treatment entry within 6 months of release from prison. The IPASS recommendation is derived from both the client and counselor's rating of in-prison treatment performance as well as static risk measures (e.g., historical drug use and criminal activity). The inmate rating also includes motivation measures, readiness to enter community-based care, and what treatment modality is preferred. Thus, it is important to examine if IPASS can accurately predict rural offenders continued care since previous research indicates that inmates who received continued care fare better in terms of post-treatment outcomes (Burdon et al., 2007; Hiller et al., 1999; Inciardi et al., 1997; Martin et al., 1999).

Assessment tools

In order for offenders with substance use disorders (SUDs) leaving prison to be referred to substance abuse treatment in the community, it is important for prison treatment staff to identify those clients' needs for continued care. One way of making that determination is with the aid of an assessment tool, which can help predict whether offenders need treatment and at what level of care once back in the community. Until recently, prison treatment staff only had two instruments (i.e., Level of Services Inventory and American Society of Addiction Medicine Patient Placement criteria) to use in this regard, neither of which was developed for use with offenders (Farabee, Knight, Garner, & Calhoun, 2007). A third instrument, the Offender Profile Index (OPI) was specifically designed for use with criminal justice populations in order to provide staff with recommendations about treatment placement (McBride & Inciardi, 1993). Unfortunately, the OPI was not found to improve upon previously used treatment assessment tools (McBride & Inciardi, 1993).

In 2000, a group of researchers and practitioners as part of the National Institute on Drug Abuse (NIDA) supported CJ-DATS research cooperative focused on developing an assessment instrument to assist prison treatment staff with making recommendations for post-release treatment services for those inmates who are re-entering the community (Farabee et al., 2007). The Inmate Pre-release Assessment (IPASS) takes into consideration the inmates criminal history, drug use history, and their performance in treatment as indicators of their identified need for community treatment following release. The IPASS includes four scales: the General Background Risk Index (GBRI), the Texas Christian University Drug Screen (TCUDS), the Client Evaluation of Treatment (CET), and the Counselor Evaluation of Client (CEC). While the GBRI and TCUDS scales look at more historical information (i.e., criminal history and drug use severity), the CET and CEC scales are more interested in how well clients perform in treatment and their motivation levels (Farabee et al., 2007).

All four scales play an integral role in determining the best type of treatment for the offender (i.e., either intensive or non-intensive). During initial evaluations of the scales, the IPASS scales were found to have good to excellent psychometric properties and to have strong internal

consistency (Farabee et al., 2007). Specifically, a confirmatory factor analysis investigated the construct validity of the TCUDS, CET, and CEC sections of the IPASS and found that the fit indices support the hypothesized factor structure of the IPASS. The root mean squared error of approximation (RMSEA) was .06, the standardized root mean square residual (SRMR) was .07, and the comparative fit index (CFI) was .95. Regarding the internal consistency, the TCUDS, CET, and CEC scales of the IPASS have coefficient alphas of .88, .91, and .83, respectively. Since the GBRI was an index rather than a scale, its internal consistency was not computed. And although only preliminary analysis has been conducted on the IPASS to determine validity and consistency, it appears to be a practical tool for prison treatment staff. Future studies are in progress to examine the ability of the IPASS to predict recidivism (Farabee et al., 2007). This is the first study examining IPASS aftercare placement recommendation as a predictor of rural inmate's continued care (i.e., either self-help attendance or formal treatment entry) upon community re-entry. In particular, inmates released to rural communities are the focus of this study since these areas may present unique challenges because of limited substance abuse treatment service delivery.

Continued Care in Rural Communities

Fortney and Booth (1998, p. 690) define continuing care as “a set of supportive and therapeutic activities designed to prevent relapse and maintain behavioral changes achieved in previous stages.” The rationale behind continued care is that the offender has been institutionalized and needs supervision during the re-entry process not only with their treatment needs, but also with finding housing, employment, and a positive social support network (Hiller et al., 1999; McCarthy & McCarthy, 1997). This continued care can either be non-intensive or intensive, based upon the pre-release assessment. Non-intensive aftercare services could include 12-step groups such as Alcoholics Anonymous (AA), Cocaine Anonymous (CA), or Narcotics Anonymous (NA), whereas intensive aftercare can be represented by either outpatient or inpatient formal treatment programs. Research studies have shown that offenders who participate in prison-based treatment followed by community-based aftercare fare better than both offenders who receive no treatment and those who engage only in treatment while incarcerated (Burdon et al., 2007; Hiller et al., 1999; Inciardi et al., 1997; Martin et al., 1999). Despite these convincing findings, a focus on the disparities in availability of rural treatment and the impact on the continued care for re-entering rural offenders are remiss in the literature.

While VanderWaal, Taxman, & Gurka-Ndanyi (2008) call for a continued care model that includes cross-system collaboration, the majority of offenders are not formally linked to services after being released from prison. About 600,000 state prison inmates are released back into the community each year, yet approximately two-thirds of them will be rearrested within three years (Travis, Solomon, & Waul, 2001). Additionally, more than a third of all prison admissions are due to parole violations, with alcohol and drug addiction being the leading cause of those violations (Travis et al., 2001). This clearly illustrates the need for continued community-based care after release.

A variety of factors are associated with treatment entry including demographic characteristics as well as lifetime substance abuse history variables; although, few studies have examined 12-step attendance or treatment entry after being released from prison. Previous research suggests no gender differences in the likelihood of entering either self-help groups or treatment (Greenfield, Ye, & Giesbrecht, 2007). While race has not been found to be a good predictor, age has been positively associated with attendance at 12-step meetings (Weiss et al., 2000). Employment and insurance coverage are two variables that have been consistently linked to continued care for individuals with SUDs. While employment has been negatively related to self-help attendance (Weiss et al., 2000), both employment and insurance have been positively

associated with treatment entry (Saum, Hiller, Leigey, Inciardi, & Surratt, 2007). Moreover, individuals who have a history of prior treatment for a substance use disorder are more likely to attend self-help groups (Weiss et al., 2000) and enter treatment (Schutz, Rapiti, Vlahov, & Anthony, 1994).

Offenders with substance abuse treatment needs who return to rural areas face even more barriers to treatment entry than their counterparts in urban areas. For example, national studies including the National Epidemiologic Survey on Alcohol and Related Conditions (Dawson et al., 2005), the National Survey on Drug Use and Health (Wright, Sathe, & Spagnola, 2007), and the National Survey of Substance Abuse Treatment Services (N-SSATS) (Lenardson & Gale, 2008) indicate limited availability and utilization of treatment among rural populations. While more than one-fourth of the US population resides in rural areas, only 8.9% of all treatment facilities are located in rural counties that are not adjacent to an urban county (Lenardson & Gale, 2008). There are fewer treatment beds in rural areas, as compared to urban areas, and opioid treatment programs are almost non-existent (Lenardson & Gale, 2008).

Although rural substance abuse parallels urban substance abuse with regard to the number of individuals affected, those living in rural areas typically must travel further distances to engage in treatment, and without the availability of public transportation (Schoeneberger et al., 2006). Traveling greater distances to reach treatment services has a dramatic impact on length of stay and treatment completion. Research has shown that there is a fifty percent reduction in treatment completion for outpatient substance abuse clients who must travel more than one mile to treatment (Beardsley, Wish, Fitzelle, O'Grady, & Arria, 2003). While this research was focused on urban clients, the authors expect the findings to hold for rural clients, as the cost of travel increases with greater distance.

Rural substance abuse treatment clients also face barriers related to cultural characteristics that might prevent those in need of seeking treatment. With values such as self-reliance combined with a distrust of mental health services, including substance abuse treatment, rural residents are less likely to seek help for their SUDs (Sullivan, Hasler, & Otis, 1993). In addition, there is less anonymity in rural areas, which might make those in need more reluctant to attend group counseling sessions and 12-Step meetings.

The present study will examine three IPASS related research questions using data from 106 inmates who participated in prison-based substance abuse treatment and are re-entering rural communities. First, do rural offenders whose IPASS scores indicate the need for intensive treatment upon community re-entry significantly differ from rural offenders with a non-intensive aftercare placement recommendation? Second, what factors predict rural offender's 12-step attendance within six months of release from prison? Third, what factors predict rural offender's treatment entry within six months of release from prison?

Methods

Sample

Data were collected as part of the NIDA CJ-DATS research cooperative. Specifically, these analyses use data collected from the Inmate Pre-Release Assessment (IPASS) protocol. This protocol's main objective is to refine and test an assessment tool which may help treatment counselors match offenders to a particular level of aftercare following release from prison. The IPASS protocol was originally developed to measure post-release risk for prison-based treatment graduates as well as to examine a "passive matching" procedure between the IPASS recommendation and the treatment counselors recommendation as part of their existing practices. Differences between IPASS-concordant and IPASS-discordant referrals can be explored in terms of participants being re-arrested, entering treatment, and treatment duration

(Farabee et al., 2007). Since examining “passive matching” was a goal of the larger research study, participants were referred to community-based treatment based on the recommendation of their prison-based counselor, not IPASS. However, it should be noted that both the participant preferred community-based treatment modality and the prison-based counselors community-based treatment recommendation were included as part of IPASS. Thus, while the participants were not officially told what IPASS recommended in terms of the intensity of treatment, the participant was aware of both their personal preference (Client Evaluation of Treatment - CET) as well as their counselor’s recommendation (Counselor Evaluation of Client - CEC). The CET and CEC were two of the scales used in calculating the IPASS recommendation. Additional details on IPASS can be found on the CJ-DATS website (www.cjdats.org) or in an article by Farabee and colleagues (2007).

Four CJ-DATS Research Centers participated in the IPASS protocol (n=501); however, the Central States Center located in Kentucky was unique in that only offenders re-entering rural communities were recruited and additional information was collected from participants at both the baseline and follow-up interview. Therefore, only data from the Central States Center at the University of Kentucky will be used in these analyses.

Between 2005 and 2006, 106 participants were recruited from three prison-based substance abuse treatment programs in Kentucky. Eligibility criteria included the following: being over the age of 18, being incarcerated, currently participating in a substance abuse treatment program, and being within 90 days of release to a rural county. A county was considered rural if it had a code of 6, 7, 8, or 9 on the Rural-Urban Continuum Codes (RUCC). The RUCC takes into consideration the size of the population, degree of urbanization, and adjacency to a metro area (ERS, 2004).

The baseline interview was conducted in prison and took approximately one hour. The 6-month follow-up interview was conducted over the phone and took approximately 15 minutes. The brief 6-month follow-up interview contains questions on 12-step attendance, formal treatment attendance, dosage of treatment, reasons for discharge, treatment experiences, and treatment motivation. Respondents were compensated for completing the face-to-face baseline interview (\$10) and for completing the 6-month follow-up telephone interview (\$20). Nine participants were not released from prison during the study timeframe; therefore, only 98 participants were eligible for the 6-month follow-up interview. Of the 98 participants, 84 were interviewed resulting in an 86% follow-up rate. The Institutional Review Board of the University of Kentucky maintained oversight ensuring the ethical treatment of participants over the course of this study.

Measures

Two dichotomous dependent variables were examined in the multivariate models. These variables were derived from the 6-month follow-up interview. Participants were asked if they had participated in any AA/NA/CA meetings in the six months since they were released from prison (0=no; 1=yes) and if they have been in any form of community-based treatment in the six months since release (0=no; 1=yes).

Independent variables of interest were derived from the baseline interview and included demographic characteristics and lifetime substance abuse history prior to incarceration. Three dichotomous demographic characteristics were examined including gender (0=female; 1=male), race (0=non-white; 1=white), and having insurance in the year prior to incarceration (0=no; 1=yes). In addition, age was measured in number of years and participants were asked how many months they were legally employed in the year prior to incarceration. Lifetime substance abuse history was measured by a series of six dichotomous variables (0=no; 1=yes). Participants were asked if they had ever injected drugs or if they had ever participated in any

of the following forms of substance abuse treatment in their lifetime prior to entering prison: inpatient drug treatment, methadone program, outpatient drug treatment, prison/jail-based treatment, or short-term detoxification program.

The primary variable of interest is intensity of aftercare placement as indicated by the IPASS. To calculate this variable, four sets of scores were calculated using data from the IPASS protocol. The first score was based on the participants' criminal history and sociodemographic characteristics; the second score was based on participant's reports of their drug use prior to incarceration; the third score was calculated based upon the participant's experiences in prison-based treatment; and the fourth score was based on the counselor's report of how engaged the inmate was in prison-based treatment. Once the first two scores were calculated, they were summed to create the "Baseline Score." The "Adjustment Score" was calculated by summing the scores for the third and fourth sections of the instrument. The Adjustment Score was subtracted from the Baseline Score to calculate the "Priority Score." A more intensive aftercare treatment placement after community re-entry was recommended for those with a Priority Score greater than or equal to -3 and less intensive aftercare treatment placement was recommended for those with Priority Scores of less than -3 .

Analytic Strategy

Chi-square and t-tests were used to identify significant differences in demographic characteristics and lifetime substance abuse history between rural offenders recommended to receive a non-intensive aftercare placement ($n=50$) and those recommended to receive an intensive aftercare treatment placement ($n=56$). In addition, bivariate differences between the independent variables of interest, including IPASS aftercare placement recommendation, and both of the dependent variables of interest (self-help attendance and treatment entry in the six months after release) were examined. Both extant literature and results of the bivariate analyses influenced the multivariate analysis plan. Variables which were significant at the bivariate level were entered into two multivariate models, with the intensity of an aftercare placement recommendation as measured by the IPASS being the primary variable of interest. Specifically, given the dichotomous nature of the dependent variables, logistic regression (Mertler & Vannatta, 2002) was used to identify the significant correlates of both self-help attendance and substance abuse treatment entry in the six months after community re-entry. Results of the logistic regression models reported the unstandardized coefficients, standard errors, adjusted odds ratios, 95% confidence intervals, -2 log likelihood, Hosmer & Lemeshow chi-square goodness of fit statistic, and Nagelkerke R^2 .

Results

Similar to the demographic characteristics in Kentucky, participants in this study were primarily white (see Table 1). Rural offenders with a recommended intensive aftercare placement as indicated by IPASS were significantly younger and had been legally employed for fewer months in the year prior to incarceration when compared with rural offenders with a non-intensive aftercare treatment recommendation. The majority of the total sample were male (93%) and a little less than half (43.94%) reported having health insurance in the year prior to incarceration.

Rural offenders re-entering the community with an intensive aftercare placement recommendation were significantly more likely to have injected drugs and to have received substance abuse treatment at an outpatient drug treatment program in their lifetime. The two groups did not differ in prior receipt of other modalities of drug treatment (i.e., inpatient treatment program, methadone program, prison/jail-based treatment, or short-term detoxification program). Overall, the utilization of substance abuse treatment services prior to incarceration was quite low (ranging from 5 to 22%) and the most common modality of

treatment for the total sample of rural offenders before entering prison was inpatient drug treatment at 22.43%.

While four-fifths of participants (80%) had attended a self-help group during the six months after their release, only 29% of the total sample had attended a treatment program during this same timeframe (results not shown in table). Of the total sample, 28% attended both formal treatment and a self-help group after re-entering their rural community. More specifically for those who had attended 12-step groups, the average participant attended about 30 meetings ($x=29.66$, median=18.00, $SD=36.00$, range=0 to 160 meetings) over the course of about three and a half months ($x=3.67$, median=5.00, $SD=2.64$, range=0 to 6 months).

In terms of rural offenders' formal treatment entry after being released from prison, 3% entered an inpatient program ($n=3$) and 24% entered an outpatient program ($n=20$). Of the 3 individuals who entered an inpatient program, one participant was missing data on the duration of treatment and reason for discharge. One participant attended a therapeutic community for a total of 24 weeks in the past six months and was discharged because they completed treatment. The other participant attended a 28-day inpatient program but was discharged because they had a "parole violation/on the run." Regarding the participants in the outpatient program, the average participant was in treatment for a little over 3 weeks ($x=3.43$, $SD=7.41$, range=0 to 24 weeks) and the most commonly cited reasons for being discharged from treatment were treatment completion, voluntarily dropped out before treatment was completed for personal reasons (e.g., moving, probation/parole ended, can control use, etc), and other. No offenders received substance abuse treatment in a methadone program or a short-term detoxification program.

Bivariate associations between the independent variables of interest (including IPASS aftercare placement recommendation) and self-help attendance and treatment entry were examined; however, only one significant difference was found (results not shown in Table 1). Specifically, having ever injected drugs prior to incarceration was positively associated with self-help attendance in the six months after being released from prison ($\chi^2= 5.34$; $p=.02$). Therefore, only variables significant at the bivariate level in Table 1, including having ever injected any drug, were entered into the multivariate models, with the intensity of aftercare placement as the primary variable of interest. Table 2 displays the results of the logistic regression model predicting self-help attendance within the six-months after release. Both of the demographic characteristics were significant predictors of rural offender's self-help attendance. Specifically, an increase in one year in age was associated with a 7% increase in the likelihood of attending a self-help meeting. The number of months legally employed in the year prior to incarceration significantly decreased the odds of self-help attendance in the six months after release. In addition, rural offenders who had ever injected any drug were 4.1 times more likely to have attended a self-help group. Neither outpatient drug treatment nor having an intensive aftercare placement was a significant predictor of self-help attendance.

In the multivariate model predicting rural offender's substance abuse treatment entry within the six months after release, only two variables were statistically significant (see Table 3). First, each year of age increased the likelihood of treatment entry by 6%. Contrary to the model predicting self-help attendance, having ever injected drugs was negatively associated with rural offender's entry into a substance abuse treatment program. Specifically, rural offenders who had ever injected any drug were 61% less likely, as compared to non-injectors, to enter a treatment program in the six months after being released from prison. Overall, this model was more statistically reliable in predicting self-help attendance than treatment entry because the $-2 \log$ likelihood was smaller and the Nagelkerke R^2 accounted for more of the variance in the dependent variable of interest.

Discussion

This is first known study to examine the factors that predict 12-step attendance as well as substance abuse treatment entry among rural offenders after release from prison. These rural offenders received residential substance abuse treatment during incarceration and were assessed using the IPASS to determine the level of aftercare needed upon release. While the psychometric properties of IPASS have been preliminarily validated and the relationship between the level of care recommended by the IPASS and recidivism rates are currently being examined with the entire sample (Farabee et al., 2007); this is the first study exploring the use of IPASS to predict service utilization post-release with a sample of rural offenders.

According to the IPASS, a little over half of the inmates (53%) paroling or serving out to rural counties received an intensive aftercare placement recommendation. While most rural offenders (80%) attended 12-step meetings, only 29% attended a structured substance abuse treatment program upon community re-entry. Additional analyses reveal that of the rural offenders who received an intensive aftercare placement recommendation as indicated by IPASS, only 38% received formal substance abuse treatment services. Rural residents could be less likely to seek formal treatment because of geographic factors (e.g., greater distances to services, fewer substance abuse treatment providers). In addition, cultural factors may play a role in that individuals residing in rural areas could be less likely to seek services because of limited anonymity, stigma, as well as values that emphasize self-reliance and distrust of mental health services (Schoeneberger et al., 2006; Warner & Leukefeld, 2001).

Bivariate analyses reveal that those who received an intensive aftercare placement recommendation were significantly younger, had been legally employed fewer months prior to incarceration, had received outpatient drug treatment, and were more likely to have ever injected any drug. These findings are commonsensical. For example, drug dependence is a chronic medical illness (McLellan, 2002; McLellan, Lewis, O'Brien, & Kleber, 2000), and younger participants may be in need of a more intensive level of care because they may be earlier in their drug use careers and have had fewer substance abuse treatment episodes. Individuals with SUDs often need multiple treatment episodes in order to reduce the likelihood of relapse and/or recidivism (Booth, Staton, & Leukefeld, 2001; Lundgren, Sullivan, & Amodeo, 2006; Oser et al., 2009); therefore, those who only received outpatient treatment before prison entry, but relapsed and became involved in criminal activities might need a more intensive treatment plan both during and after incarceration. A negative relationship between legal employment and drug use severity has consistently been documented in the literature (Webster, Staton-Tindall, Duvall, Garrity, & Leukefeld, 2007; Wolkstein & Spiller, 1998). Moreover, individuals with a history of injecting drugs may be more entrenched in the drug subculture, which is most likely a stable insular network of people in a rural community (Leukefeld et al., 2002) suggesting the need for more intensive treatment upon release. Assistance is needed in finding positive social support networks of non-deviant peers (Hiller et al., 1999), especially in isolated rural areas.

According to the NSDUH (Hughes, Sathe, & Spagnola, 2009), Kentuckians have high rates of illicit drug dependence and are in need, but not receiving, substance abuse treatment. In the past year among persons aged 12 and older, the percentage of illicit drug dependence was higher in Kentucky (2.09) than in the United States (1.98). Moreover, the percentage of persons aged 12 and older who need but are not receiving treatment is also slightly higher in Kentucky (2.68) than in the United States (2.61) (Hughes et al., 2009). In this study, the use of previous substance abuse treatment services prior to incarceration was quite low which may be reflective of limited opportunities for substance abuse treatment services in less densely populated areas (Warner & Leukefeld, 2001). The most commonly used level of care prior to incarceration was inpatient treatment (22%). Rural offenders are not a transient population (Oser et al., 2006)

and other forms of treatment besides inpatient treatment, such as methadone programs or outpatient treatment programs, may be limited in rural areas. Non-residential forms of treatment require travel to and from treatment, which can often be difficult in rural areas because of poor road conditions, lack of public transportation, as well as monetary and travel time constraints (Schoeneberger et al., 2006; Warner & Leukefeld, 2001).

In both the multivariate model predicting self-help attendance and treatment entry, age and injection history were significant predictors. Specifically, older rural offenders were significantly more likely to attend self-help programs such as AA, CA, or NA as well as to enter a substance abuse treatment program. Older rural offenders may have had the insight and experience to recognize the need for continuing treatment in the community. In addition, it is plausible that age is related to the severity of use (e.g., these rural offenders have more serious substance use) which could influence treatment seeking. Having ever injected any drug increased the odds of rural offenders attending a 12-step program after community re-entry four-fold; however, it decreased the likelihood of entering treatment by 61%. The differential relationship between injection drug use and self-help attendance versus treatment entry could be the result of limited financial resources. High rates of unemployment and being uninsured are problems in rural areas of Kentucky (Oser, Mooney, Staton-Tindall, & Leukefeld, 2008; Leukefeld et al., 2002). Perhaps rural offenders who have injected drugs have fewer monetary resources and/or insurance to cover the costs associated with receiving formal treatment services because they are entrenched in an isolated rural drug using social network. Thus, 12-step programs may have been a more realistic option for re-entering rural offenders with limited resources. Finally, the number of months legally employed in the year prior to incarceration was a negative predictor of self-help attendance. Individuals residing in rural communities may have less choice in the day, time, and location of 12-step meetings as compared to their urban counterparts. Moreover, individuals who were legally employed prior to incarceration may have greater employment opportunities after release; therefore, either the possibility of stigma or time constraints may limit 12-step meeting attendance.

While the level of care recommended by the IPASS was the primary variable of interest, it was not a significant predictor of either self-help attendance or treatment entry. Two explanations for this lack of significance can be offered. First, it is widely known that 12-step programming and substance abuse treatment services are limited in rural settings (Schoeneberger et al., 2006; Warner & Leukefeld, 2001). Therefore, the “need” identified and services recommended by the IPASS may be irrelevant when offenders parole or are released to areas where services simply do not exist. Second, this study has a small sample size of rural offenders which could limit the statistical power needed to detect significant differences. Future studies with larger sample sizes are needed to examine the predictive value of IPASS on substance abuse service utilization among rural offenders

This study has several limitations. First, participants were not selected randomly but were recruited from three residential prison-based substance abuse treatment programs. This non-random sample in Kentucky limits the generalizability. Second, the self-reported nature of the data could also impact how truthful participants were, despite the voluntary nature of the study; nonetheless, there is reassuring research available on the validity of self-report data (Darke, 1998; Harrison & Hughes, 1997). In addition, recall bias could occur because behaviors are self-reported. Third, it is unknown if either self-help attendance or formal treatment was mandated by the criminal justice system as a condition of release. Nor is it known the extent to which prison-based treatment staff facilitated offenders’ transitions from prison-based treatment to the appropriate level of care in the community. Fourth, other variables could impact the use of 12-step programs and treatment entry, namely these barriers could include the availability of existing self-help programming and formal treatment services in each of the target areas. This data was not available for the current study. Future research could examine

additional measures on rural barriers to treatment, financial resources, treatment seeking behaviors, and treatment availability in rural areas.

Despite these limitations, this study does make a contribution to the substance abuse treatment literature, especially as it relates to rural offenders. The primary implication from this study suggests that correctional policies, both within correctional institutions and community-based corrections, should emphasize continued care after community re-entry for rural offenders. Rural areas often have limited treatment opportunities, thus cross-system collaboration is needed so that the criminal justice system can play an important role in ensuring that an appropriate level of care is received for offenders re-entering rural communities (VanderWaal et al., 2008). In fact, Kentucky has established of partnership between the University of Kentucky Center on Drug and Alcohol Research and the Kentucky Department of Corrections to develop a set of re-entry guidelines (Staton-Tindall, Rees, Oser, McNeese, Palmer, & Leukefeld, 2007). One of the re-entry guidelines states that “increasing communication and collaboration across agencies – prison treatment, community treatment, and parole – is important in order to establish a continuum of care for offenders at community re-entry” (Staton-Tindall et al., 2007; 44). Next, the partnership worked together to develop a strategic plan for substance abuse offender re-entry which included increasing community service providers’ and parole officers’ access to prison-generated after care plans, increasing the use of technology to facilitate discussion between prison-based and community based providers, as well as increasing consistency in both prison-based and community-based program modalities (Staton-Tindall, Oser, & Leukefeld, 2009). The cooperative establishment of a strategic plan is a first step in improving both public health and public safety in the Commonwealth of Kentucky.

If substance abuse treatment services are needed, but do not exist in rural areas, innovative treatment interventions (such as telemedicine) can be used to provide treatment for offenders transitioning to rural areas. Providing the appropriate level of aftercare following prison-based treatment can reduce the likelihood of relapse and recidivism (Hiller et al., 1999; Leukefeld & Tims, 1993), thereby reducing costs to society. There is a need for future studies to examine IPASS as a predictor of treatment entry with a larger sample of offenders re-entering rural areas.

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Table 1

Descriptive Statistics for Rural Offenders with a Non-Intensive Aftercare Placement (n=50), an Intensive Aftercare Placement (n=56), and the Total Sample (N=106)

	Non-Intensive Placement % or Mean (S.D.)	Intensive Placement % or Mean (S.D.)	Total Sample % or Mean (S.D.)
<i>Demographic Characteristics</i>			
Male	94.00%	93.00%	93.00%
White	84.00%	89.29%	86.92%
Age **	36.67 (8.37)	33.15 (6.37)	34.83 (7.52)
# Months Legally Employed Past Year **	8.92 (4.41)	6.89 (4.88)	7.89 (4.75)
Insured in the Past Year	48.00%	41.07%	43.93%
<i>Lifetime Substance Abuse History</i>			
Ever Injected Any Drug *	49.00%	67.00%	58.00%
Inpatient Treatment	22.00%	23.21%	22.43%
Methadone Program	4.00%	8.93%	6.54%
Outpatient Drug Treatment *	6.00%	17.86%	12.15%
Prison/Jail-Based Treatment	12.00%	12.50%	12.15%
Short-term Detoxification Program	4.00%	7.14%	5.61%

* p<.10;

** p<.05

Table 2

Multivariate Models Predicting Rural Offender's Self-Help Attendance in the Six Months after Release (n=82)

	B	S.E.	AOR	95% CI
<i>Demographic Characteristics</i>				
Age	.07	.04	1.07*	.98–1.17
# Months Legally Employed in Past Year	-.14	.07	.87**	.75–1.00
<i>HIV Risk Behaviors</i>				
Ever Injected Any Drug	1.41	.62	4.10**	1.21–13.93
<i>Lifetime Treatment History</i>				
Outpatient Drug Treatment	1.23	1.19	3.42	.33–35.14
<i>IPASS Intensive Aftercare Placement Recommendation</i>				
	.70	.62	2.02	.60–6.81
-2 Log likelihood				70.30
Hosmer & Lemeshow χ^2 Goodness of Fit Test				3.95
Nagelkerke R ²				.24

Note: B=Unstandardized coefficient; S.E.=Standard Error; AOR= Adjusted Odds Ratio, 95% CI= 95% Confidence Interval

* p<.10;

** p<.05

Table 3

Multivariate Models Predicting Rural Offender's Treatment Entry in the Six Months after Release (n=82)

	B	S.E.	AOR	95% CI
<i>Demographic Characteristics</i>				
Age	.06	.03	1.06*	.99–1.13
# Months Legally Employed in Past Year	-.04	.05	.96	.87–1.06
<i>HIV Risk Behaviors</i>				
Ever Injected Any Drug	-.95	.50	.39*	.15–1.03
<i>Lifetime Treatment History</i>				
Outpatient Drug Treatment	-.28	.70	.76	.19–2.99
<i>IPASS Intensive Aftercare Placement Recommendation</i>				
	.49	.52	1.63	.59–4.52
-2 Log likelihood				102.47
Hosmer & Lemeshow χ^2 Goodness of Fit Test				9.52
Nagelkerke R ²				.10

Note: B=Unstandardized coefficient; S.E.=Standard Error; AOR= Adjusted Odds Ratio, 95% CI= 95% Confidence Interval

*
p<.10;

**
p<.05