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A Randomized Clinical Trial of a Brief Motivational Intervention for Incarcerated Drinkers

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Abstract

Almost half of convicted jail inmates have an alcohol use disorder and many are released to environments that put them in contact with network members and cues that make them more likely to relapse on alcohol or drugs. Given the high-risk period immediately following release, the purpose of this study was to examine the efficacy of a brief motivational intervention administered just prior to release to increase substance use treatment entry and attendance, decrease alcohol and drug use, and change social networks for inmates with alcohol use disorders. Forty adult male inmates were consented into the study and randomized to a motivational intervention or the control condition (an educational intervention), and then they were contacted to do a one-month follow-up interview (62.5% completed this interview). Results indicated that conducting these interventions was feasible and considered extremely helpful by participants. Although there were no significant group differences, effect sizes suggest possible benefits from the motivational intervention in decreasing days of alcohol and drug use and increasing abstinence, and reducing the proportion of heavy drug users or users of any kind in the social network. Future studies should replicate these findings in larger

sample sizes and over longer follow-up time periods, which may have implications for programming at jails for this population.

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Introduction

Of the seven million adults currently involved in the criminal justice system (CJS), approximately two million individuals are incarcerated in prison or jail (Glaze & Parks, 2012). Almost half of individuals incarcerated in jail meet criteria for an alcohol use disorder (AUD) per the Diagnostic and Statistical Manual of Mental Disorders-TR-IV (American Psychiatric Association, 2000), which is a greater proportion than individuals incarcerated in state or federal prisons (Compton, Dawson, Duffy, & Grant, 2010). One-third of convicted jail inmates reported being under the influence of alcohol at the time of their offense, with a higher percentage among incarcerated offenders of violent crimes reporting have been under the influence of alcohol (37.6%; Bureau of Justice Statistics, 2010). The number of individuals who are involved with the CJS, particularly those who are incarcerated, is an important area of attention because of the high costs that the CJS incurs. On average, the cost to incarcerate an individual in prison or jail is approximately $24,000 per year and to supervise an individual on parole or probation is approximately $2,200 per year. In total, the CJS spends approximately $75 billion a year incarcerating and supervising offenders in the United States (Schmitt, Warner, & Gupta, 2010). Despite the strong association of alcohol with criminal behaviors and the high costs associated with incarceration, little is known about how to best address, treat, and rehabilitate individuals with AUDs involved with the CJS.

The positive association between alcohol use and involvement with the CJS suggests that therapeutic interventions aimed at helping individuals decrease their alcohol

use may be one way to lower the number of people who are rearrested and reincarcerated in the United States. There is strong evidence for the efficacy of substance use treatment in reducing alcohol and drug use and criminal recidivism for individuals with AUDs and other substance use disorders involved with the CJS (Bahr, Masters, & Taylor, 2012; Chandler, Fletcher, & Volkow, 2009; Coviello et al., 2013; DeMatteo et al., 2013; French et al., 1993; Kleiman & Heussler, 2011). The types of treatments in prison or jail settings that have empirical support are limited, but include therapeutic communities, cognitive behavioral treatments, 12-step meetings (Bahr et al., 2012), and mindfulness meditation (Bowen et al., 2006). Although some research has been done on substance use treatments in prisons and jails, most clinical research on offenders with AUDs has been done with individuals living in the community (e.g., drug courts).

In 2002, Miller and Wilbourne reviewed the alcohol literature and ranked treatments in terms of the quality of the clinical trials and outcomes. Many of the treatments with the strongest empirical support for individuals with AUDs, which included brief interventions and motivational enhancement therapies, have had little to no research conducted with CJS samples (Litt & Mallon, 2003), and few clinical trials have been done in prison or jail settings. Results are striking regarding the efficacy and cost-effectiveness of substance use treatment for individuals involved with the CJS (Chandler et al., 2009; DeMatteo et al., 2013; French, Salmone, Sindelar, & McLellan, 2002), but there is considerable variability in how individuals with AUDs are treated in the CJS and many of these approaches are not empirically supported (Friedmann, Taxman, & Henderson, 2007). Given the strong evidence for empirically supported treatments for AUDs in general treatment seeking populations, it is likely that the effectiveness of

treatments for individuals involved with the CJS could be improved greatly with the implementation and testing of empirically supported alcohol treatments with CJS populations.

Brief and Motivational Interventions

Brief interventions are characterized by the length of their treatments, with most being one or two treatment sessions (Miller & Wilbourne, 2002). In a review of brief interventions for alcohol problems, Moyer, Finney, Swearingen, and Vergun (2002) found a mean effect size of 0.669 for studies reporting alcohol consumption outcomes three months after engaging in a brief intervention for non-treatment seeking samples when compared to a no-treatment control group. Brief interventions for alcohol problems have been tested in numerous settings and may be a good alternative when longer treatments are not available or are too expensive (Hallgren, Greenfield, Ladd, Glynn, & McCrady, 2012; Moyer et al., 2002). These encouraging data suggest that brief interventions for inmates, which likely will include individuals who prior to the intervention are not intending to seek treatment after release from jail, may be particularly helpful for individuals with shorter sentences, such as those incarcerated in jail.

Motivational interventions include therapies that incorporate motivational interviewing and other motivational enhancement methods (Miller & Wilbourne, 2002). Motivational interventions are efficacious for individuals with AUDs (e.g., Motivational enhancement therapy; Project MATCH Research Group, 1997) and often have been incorporated into brief interventions. Motivation has been purported to be an important factor for individuals in substance use treatment (Hunter-Reel, McCrady, Hildebrandt, &

Epstein, 2010), and is an area of concern for individuals involved with the CJS being referred or mandated to treatment (Kinlock, Sear, O'Grady, Callaman, & Brown, 2009). One study also found a motivational enhancement treatment to be helpful in keeping CJS-involved individuals in outpatient treatment (Lincourt et al., 2002). Utilizing brief interventions that target motivation could be helpful in improving treatment, substance use, and criminal recidivism outcomes for incarcerated individuals with AUDs being released from jail. However, few studies beyond Lincourt and colleagues (2002) have examined brief motivational interventions for offenders specifically, highlighting an area of research that could help to address the large number of individuals with AUDs incarcerated in jails.

Social Support

There is strong evidence for the role of social support and social networks in alcohol and other drug use outcomes (Longabaugh, Wirtz, Zywiak, & O'Malley, 2010; Owens & McCrady, 2014). Many types of network members have been shown to influence individuals' relapses to alcohol and other drugs. Being married, having supportive families and friends are directly and indirectly associated with less alcohol use and relapse (Beattie & Longabaugh, 1997; Gordon & Zrull, 1991; Havassy, Hall, & Wasserman, 1995; Mason & Windle, 2001). Additionally, having a larger percentage of non-drinking friends in the network has been linked with better treatment outcomes (Zywiak, Longabaugh, & Wirtz, 2002) and, similarly, having more drinking friends has been associated with poorer outcomes (Mohr, Averna, Kenny, & Del Boca, 2001). Researchers also have highlighted the importance of social networks for offenders (Lemieux, 2002; Litt & Mallon, 2003). Owens and McCrady (2014) found that

reductions in the proportions of heavy drug users in the social network mediated substance use from pre- to post-incarceration and that the first month was the most critical time for implementing changes in the social network after release from jail. The connection between social networks and relapse has been established for both drinkers in treatment and offenders with substance use disorders, suggesting that targeting post-release social networks may be an effective method for decreasing substance use and recidivism rates for individuals with AUDs being released from jail.

Current Study

Individuals with AUDs comprise a major proportion of jail inmates and yet most alcohol treatment studies have not sampled this high-risk group. The strong support for alcohol treatments such as brief and motivational interventions suggests that implementing these approaches with inmates with AUDs could improve post-release outcomes. Further, social networks appear to influence the substance use of offenders recently incarcerated, particularly during the first month out of jail. The accrued evidence on brief interventions and importance of the social network together suggest that utilizing a brief motivational intervention with inmates with AUDs focused on substance use and their social networks, provided just prior to their release from jail, could decrease their risk for relapse and criminal recidivism, and help to address the gap in the literature on effective treatments for incarcerated individuals with AUDs.

The first aim the current study was to test the feasibility of performing a brief motivational intervention that targets substance use treatment attendance, alcohol and drug use, and social networks for adults with alcohol problems being released from jail. Brief motivational interventions have been found to be feasible in school, primary care,

and outpatient substance use treatment settings (Hallgren et al., 2012). Based on previous research on brief interventions, it was hypothesized that a brief intervention focusing on treatment entry, alcohol and drug use, and social networks would be feasible as evidenced by the intervention being rated as "moderately" or "very helpful" on post-intervention reaction questionnaires completed by participants and therapists (see descriptions of these questionnaires below).

The second aim tested the efficacy of a brief motivational intervention for increasing the entry and attendance of substance use treatment, decreasing alcohol and drug use, and changing social networks after release from jail. It was hypothesized that compared to a control condition, participants in the motivational intervention condition would engage in more help-seeking behaviors (i.e., greater rates of substance use treatment entry and more days attending substance use treatment) after release from jail. Similarly, after controlling for current substance use treatment attendance (if necessary), it was hypothesized that participants in the motivational intervention would use alcohol and other drugs less (as measured by percent days abstinent from alcohol and drugs), and reduce the proportion of heavy drinkers and drug users among their social network members.

The third aim focused on potential mechanisms of behavior change for this brief motivational intervention, particularly changes in motivation and confidence levels to attend substance use treatment, decrease alcohol and drug use, and alter social networks. First, it was hypothesized that compared to the control condition, participants in the motivational intervention would have higher ratings of motivation and confidence to attend substance use treatment, decrease alcohol and drug use, and change their social

networks at the end of the intervention. Second, it was hypothesized that motivation and confidence to attend substance use treatment, decrease their alcohol and drug use, and change their social networks would significantly mediate pre- to post-incarceration attendance of substance use treatment, abstinence, and changes in substance using social network members, respectively.

Method

Participants

With the support of the Metropolitan Detention Center (MDC) in Albuquerque, New Mexico, 40 adult males incarcerated at this facility were recruited for the study. Participants were recruited using flyers (see Appendix A) and information slips (see Appendix B) as recruitment materials.

Inclusion criteria. To target individuals with AUDs with upcoming release dates, inmates were screened at the MDC (see screening form, Appendix C). All interested inmates completed an information slip (see Appendix B) to reduce the number of individuals who were screened in person. Initial inclusion criteria included (a) recent legal involvement related to alcohol or drug use (e.g., committing crimes under the influence of alcohol or drugs, driving while intoxicated), (b) being sentenced, in order to recruit individuals who had a set release date in less than 30 days, to find individuals who were relatively close to being released from jail; and (c) being available for follow-up interviews after release from jail. Information provided on the slips received by the study staff were cross-referenced with inmate information to verify that inmates were sentenced and had a release date within 30 days. Individuals who denied any substance-related

legal consequences in the year prior to their most recent incarceration were considered ineligible.

Inmates who met the three initial screening criteria were contacted at the jail to complete additional in-person screening, which included the following inclusion criteria: (a) moderate or high alcohol use involvement in the 3 months prior to incarceration, as measured by the National Institute on Drug Abuse-Modified Alcohol, Smoking, and Substance Involvement Screening Test (see below); (b) current incarceration or having an arrest within the year prior to incarceration that was related to alcohol or drugs, which may have included but was not limited to driving while intoxicated, drug possession, being under the influence of alcohol or drugs while committing a crime, or probation violations because of alcohol or drug use; and (c) scheduled for release from jail within 14 days. All individuals who were scheduled to be released from the MDC in more than 14 but less than 30 days opted for study staff to retain their information and recontact them when they were eligible (within 14 days of being released).

Exclusion criteria. Exclusion criteria included: (a) not being proficient in English, because many of the measures were not available in other languages; (b) being unwilling or unable to provide any post-release location information (at least two points of contact), which precluded them from being reached for the follow-up assessment; (c) being unable to complete a follow-up interview in Albuquerque, NM; (d) currently were participating in the MDC methadone maintenance therapy program, as these inmates had substantially different experiences related to substance use treatment during their incarceration than other inmates (e.g., daily interaction with treatment staff); (e) experiencing active psychotic symptoms, as indicated by the Structured Clinical

Interview for DSM-IV Diagnoses psychotic screening questions (see screening form, Appendix C), as current psychotic symptoms might have interfered with individuals' abilities to complete self-report measures accurately; and (f) exhibiting gross cognitive impairment as measured by the Mini-Mental Status Exam (see description below) at the time of screening, which might have interfered with the accuracy of the data collected.

Measures

National Institute on Drug Abuse-Modified Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST). During the screening interview, the ASSIST was administered to determine if individuals had significant alcohol involvement prior to incarceration. Substance Involvement cutoff scores measuring low, moderate, and high substance use involvement were assessed for alcohol, marijuana, opiates, amphetamines, and other drugs. The three months prior to incarceration served as the time period for this measure to screen out individuals without moderate or high alcohol use before coming to jail. Overall the ASSIST shows good reliability (Cronbach's alpha reliability for assessing alcohol: 0.75, marijuana: 0.86, opiates: 0.87, and amphetamines: 0.88) and has been used in settings other than substance use treatment (Hides et al., 2009). For the current study, alphas were 0.809 for questions about alcohol, 0.848 for cannabis, 0.965 for opiates, and 0.976 for methamphetamine. This measure also assessed lifetime and pre-incarceration injection drug use. An additional question was added at the end of the ASSIST that asked the participants to name a single substance as their "drug of choice" for the three months prior to going to jail, where options included: alcohol, marijuana, cocaine, opiates, methamphetamine, other amphetamines, or other drugs. The variable "drug of choice" will be assessed as a possible moderator variable for post-hoc analyses.

Mini-Mental Status Examination (MMSE). The MMSE was used to identify cognitive impairment, where a cutoff score of 20 indicated impairment without providing diagnoses (Folstein, Folstein, & McHugh, 1975). MMSE questions target eight areas of cognitive functioning including: (a) orientation to time, (b) orientation to place, (c) immediate recall, (d) attention, (e) delayed verbal recall, (f) naming, (g) repetition, and (h) 3-stage command (reading, writing, copying). The MMSE has been used previously to measure cognitive function of substance abusers (Smith, Horton, Saitz, & Samet, 2006), although reliability information of the MMSE with this population was not reported. In the present sample, the Cronbach's alpha for the MMSE was 0.713, suggesting acceptable internal reliability.

Test of Blood Alcohol Content (BAC; prior to the informed consent). Prior to beginning the informed consent process, individuals' BACs were tested to ensure that they were not under the influence of alcohol by using BAC strips. Intoxicated individuals may not have been able to weigh the benefits and risks of participating in the study, which could have impacted their ability to provide autonomous consent. Further, participants under the influence from alcohol may have been unable to provide accurate information on the assessments and checking their BACs helped to ensure their safety as well as the integrity of the data collected. No participant had a BAC over 0.02 when tested just before consent.

Post-incarceration location information. Information about how participants could be contacted after release from jail for the purposes of completing the 4-week follow-up were collected at the baseline interview. Participants were informed that providing specific location information would imply that they were giving permission to

be contacted at that phone number, mailing address, or email address. Location information included: (a) participants' personal phone numbers (e.g., personal cell phone, voicemails), mailing addresses (e.g., home or work address), or email addresses; (b) phone numbers, mailing addresses, and email addresses of participants' mothers, fathers, and/or other close relatives (e.g., grandmothers, aunts); (c) phone numbers, mailing addresses, and email addresses of participants' partners, spouses, and/or children; (d) phone numbers, mailing addresses, and email addresses of participants' friends and/or coworkers; (e) phone numbers and mailing addresses of homeless shelters and/or food banks that participants might go to after release from jail; (f) and other information that may have been helpful to locate the participants after discharge (e.g., other individuals' contact information, Google Voice phone numbers).

Measures of motivation and confidence. Measures of motivation and confidence to attend substance use treatment services, decrease or stop using alcohol and other drugs, and change social networks after release from jail were assessed at the start of the baseline interview and at the end of both interventions (see Appendix D). The format of these questionnaires was based on the Readiness Ruler (LaBrie, Quinan, Schiffman, & Earleywine, 2005) and the wording of the questions was adapted to fit the needs of the current study. Cronbach's alphas ranged from acceptable for assessing baseline motivation and confidence to decrease substance use (0.764) to good for assessing motivation and confidence to attend substance use treatment and change social networks (0.895, 0.829, respectively). Revised versions of this questionnaire also were administered at the follow-up interview.

Demographic information. The CASAA Demographic Interview form (CASAA Research Division, 1997) is a self-report measure that collected participants' demographic information, including age, education levels, race/ethnicity, income, and other information. Demographic information was used to help determine the generalizability of the current study results to the larger CJS population. An additional question was asked about the participants' ethnic and racial categories as defined by the National Institutes of Health.

Structured Clinical Interview for DSM-IV Diagnoses (SCID): Substance Use Disorders Modules. Current and lifetime substance use disorder diagnoses both were assessed using the appropriate modules of the SCID (First, Spitzer, Gibbons, & Williams, 2002). The new version of the SCID was not available at the time of data collection. Because the SCID for DSM-5 module E was unavailable, criterion E4 from the SCID (recurrent legal consequences) was assessed to maintain standardized procedures but was dropped from related analyses, and the new substance use disorder criterion for craving was included at the end of the SCID (see Appendix E). Peters and colleagues (2000) found strong reliability of the substance use disorder modules of the SCID-IV with prisoners, with percent agreements for 30-day substance use disorder diagnoses ranging from 85.4% to 100.0%, and lifetime substance use disorder diagnoses ranging from 76.7% to 100.0%.

Important People Drug and Alcohol Interview (IPDA). The IPDA is a revised version of the Important People and Activities interview (Beattie & Longabaugh, 1999) that asks participants to list members in their social network, as well as the importance, supportiveness, drinking and drug use status, and support for substance use treatment of

each network member (Zywiak, Neighbors, Martin, Johsnson, Eaton, & Rohsenow, 2009). Longabaugh et al. (1998) found that the earlier version, the Important People Interview, had high 2-3 day test-retest reliability ($r = 0.95$). For the current study, a revised version of the IPDA was used that included questions about network members' drugs of choice, as well as the frequency with which participants drank and used drugs with each network members. During the baseline interview the IPDA captured participants' social networks in the 4 months prior to incarceration and at the follow-up interview it assessed social networks since release from jail.

Addiction Severity Index (ASI)

Substance Use Treatment Section. The Addiction Severity Index 5th edition (McLellan et al., 1992) measures information on seven areas of functioning (general, medical, psychiatric, alcohol use, drug use, criminal history, and family and social relationships) to assess the impact of individuals' substance use on these seven domains of their lives. Leonhard, Mulvey, Gastfriend, and Shwartz (2000) found modest internal consistency for the alcohol and drug sections of the ASI (Cronbach's alphas of 0.84 and 0.69, respectively), which includes information on substance use treatment attendance. The current study did not assess all of the questions in the alcohol and drug sections of the ASI (e.g., frequency of alcohol and drug use); therefore, Cronbach's alphas were not calculated for these sections. The ASI has been administered to criminal justice populations (Hiller et al., 2009) and homeless individuals (Zanis, McLellan, Cnaan, & Randall, 1994), and has been used in substance use treatment settings (French et al., 2002). The alcohol and drug use sections of the ASI were used to assess previous detoxifications, inpatient and outpatient experiences, and twelve-step attendance. The

substance use treatment history data were examined as potential covariates for the post-incarceration treatment attendance analyses performed for the second aim.

Criminal History Section. The criminal history section of the ASI 5th edition (McLellan et al., 1992) was used to assess participants' criminal history and included their current charges and time incarcerated. Participants' criminal histories also were updated at the follow-up to assess recent legal involvement. The legal section of the ASI quantified lifetime number of arrests and charges by types of offense, total convictions, and months incarcerated. Leonhard and colleagues (2000) found a Cronbach's alpha of 0.65 for this section of the ASI, which was similar to the current study (0.659).

Alcohol and Substance Use Form-90 (Form-90). Alcohol and drug use prior to incarceration and after release from jail were assessed using an adapted version of the Form-90. The Form-90 has shown consistent results for retests with the same interviewer, with correlation coefficients of 0.93-0.99 for the recent alcohol and drug use assessment sections (Tonigan, Miller, & Brown, 1997). The Form-90 included a calendar portion to measure substance use and some treatment-related events and was similar to that of the Timeline Followback interview (Sobell & Sobell, 1992). The Form-90 also was used to quantify days of incarceration and residential treatment, health care utilization, employment, and 12-step meeting attendance prior to the current period of incarceration and at the follow-up interview. An additional question was included on the Form-90 that assessed the number of days of injection drug use during the baseline and follow-up time periods, as well as a binary "Yes/No" question about seeking any substance use treatment during the respective time periods (e.g., seeking medication for their alcohol use from a primary care physician). Data from the Form-90 were used to

calculate quantity and frequency of alcohol and drug use, and to calculate percent days abstinent from both alcohol and drugs (PDA). Information on the Form-90 also was used to assess pre- and post-incarceration substance use treatment and 12-step group attendance.

The Form-90 QF was administered at the baseline interview to measure substance use treatment and 12-step attendance and alcohol and drug use in the past 30 days of incarceration (or less if the participant had been incarcerated for less than 30 days). The Form-90 QF was used to measure the number of days drinking alcohol, the amount of alcohol consumed on average, and the first and last days of alcohol use during the incarceration time period. Participants' drug use during incarceration also was measured as the number of days that participants' used each type of drug (using the Form-90 drug use page), the total number of days using alcohol only, the total number of days using drugs only, and the total number of days of abstinence from alcohol and drugs. Additional questions also asked for the number of days that participants' engaged in injection drug use while incarcerated, and the number of days that participants attended substance use treatment or 12-step groups while incarcerated.

Post-intervention reaction questionnaires (for participants and therapists). After participants finished the post-intervention questionnaire of motivation and confidence they completed a brief questionnaire assessing their perception of the helpfulness of the intervention (see Appendix F). Therapists also completed a post-intervention reaction questionnaire after finishing either intervention (see Appendix G). The post-intervention reaction questionnaire for therapists was used to gather information about the feasibility and administration of the treatment intervention. Both of the post-

intervention reaction questionnaires were administered to help make improvements to the treatment interventions for future studies.

Test of BAC (for the follow-up interview). Prior to beginning the follow-up interview, participants' BACs were tested using either a digital breathalyzer or BAC strips to verify that they were not under the influence of alcohol. Similar to the procedures for the baseline interview, participants with BACs estimated to be under 0.02 proceeded with the follow-up interview normally. If participants' BACs were between 0.02 and under 0.08, study staff asked them to reschedule the appointment or they were asked to wait and were retested until their BACs were below 0.02. If participants with BACs greater than 0.08 opted to reschedule, they were allowed to leave if they were walking, taking the bus, or were getting a ride from someone else. All participants who had BACs over 0.08 at the follow-up interview had been driven by someone else (n = 3).

Barriers to Treatment Inventory (BTI). Staff at the MDC expressed interest in knowing why individuals did not access substance use or mental health treatment services after release from jail. The BTI is a measure of barriers to substance use treatment using a seven factor model that includes: perceived absence of problem, negative social support, fear of treatment, privacy concerns, time conflict, poor treatment availability, and admission difficulty (Rapp et al., 2006). Measures of internal consistency (Cronbach's alphas) across these seven factors ranged from 0.65 to 0.86, demonstrating good reliability (Rapp et al., 2006). The BTI was administered only at the follow-up interview to assess possible barriers to engaging in substance use treatment after release from jail. An additional question was added to the BTI that assessed qualitatively the

participant's perceptions of barriers to treatment he or she experienced ("Please describe any other barriers to treatment in your own words").

Urine analysis. Although previous studies have shown consistent results between participants' self-reported substance use and urine analyses for drug use (e.g., Owens & McCrady, 2014), a urine analysis (Six Drug [THC/Coc/Opi/Amph/Mamph/Benzo] Dip Test) was performed on-site at the follow-up interview. Urine analyses were not completed for interviews at MDC or a public location to help protect confidentiality of the participant. The urine analysis helped to corroborate reported abstinence and measured recent drug use. The Form-90 was used to assess all drug use since release from jail to help discern positive results on the urine analyses that were due to illicit versus prescribed drug use.

Procedures

Recruitment. Flyers (see Appendix A) and presentations to inmates were used for recruitment and individuals completed the information slips if they were interested in participating (see Appendix B). Information slips stated that individuals who were not eligible would not be contacted for screening; this reduced the number of inmates that needed to be notified that they were ineligible for the study.

Screening. Information slips that were collected by study staff were crosschecked with jail information to verify that interested inmates currently were sentenced and with a release date in 30 or less days. If individuals were going to be released in more than 30 days, they were not contacted for screening until 30 days prior to release. Inmates who were not sentenced were not screened. If inmates reported being sentenced with their release scheduled in less than 30 days, any alcohol or drug related

arrest in the 12 months prior to incarceration, and were willing to provide post-release location information, they were screened further in-person at MDC (see Screening Form, Appendix C) and also completed the MMSE interview. At in-person screenings, inmates were asked to verify their understanding that participating would not affect their legal status while at MDC and provided verbal consent before moving on to the screening questions. No names were recorded on the screening forms unless inmates were determined to be eligible to participate. If eligible at the time of screening (being released in less than 14 days), inmates moved forward with baseline procedures at that time (if possible) or were asked if they would like to participate at another time. Inmates who were going to be released in 14 to 30 days but otherwise were eligible were asked if they would like to participate; all eligible individuals stated that they wanted to participate. If inmates were found to be ineligible, they were thanked and their names were detached from their information slips and shredded.

Baseline procedures. All baseline interviews were held in a private room at the MDC that had windows to ensure the safety of the inmate and study staff, but offered auditory confidentiality. If interested, individuals began the baseline interview by reviewing the consent form. Participants were consented an average of 6.7 days prior to their release (*SD* = 3.9; range of 1 to 13).

Informed consent. A Federal Certificate of Confidentiality was obtained for this study, because participants' identifying information was retained for the purposes of the follow-up interview and also because this study collected sensitive information (e.g., alcohol and illicit drug use). Prior to the informed consent process, research staff informed individuals of the procedures around testing their BACs: (a) *we will test your*

blood alcohol content to ensure that you are not intoxicated; (b) *if your blood alcohol content is over 0.02, you will be given the option to reschedule the interview or choose not to participate, and the corrections officers and case manager will not be informed of why we are rescheduling or why you terminated participation;* (c) *if your blood content is over 0.30, we will inform the corrections officer of this to ensure your safety because individuals are at high risk for passing out, going into a coma, or dying at blood alcohol contents over 0.30;* and (d) *please feel free to ask additional questions about the procedures around testing your blood alcohol content.* Next, research staff asked individuals to provide their verbal consent indicating that they understood these procedures.

Individuals with BACs of 0.02 or less proceeded to the informed consent process where research staff highlighted the following (a) *participation at all times is voluntary;* (b) *participation will in no way affect your status at MDC, your release date, or your legal status once you are released;* (c) *following the screening, this research study will include two, possibly three, in-person interviews: one that will take place if you decide to participate today that should take about 3 to 3 ½ hours, one that will take place approximately 4 weeks after you are released from jail, and a possible third interview about two months after that;* (d) *if you decide to participate, for today's interview you will be paid $15 in a store gift card that will be kept in your inmate property; for the follow-up interview in 4 weeks you will be paid $25 in a store gift card; and for the third interview you could be paid $40;* (e) *so that we may contact you after you are released, it will be important for us to collect post-release location information – by providing any location information, you are giving us permission to contact you via those methods;* (f)

if you choose to participate, you will be randomly assigned to one of two groups: if you are assigned to the first group, you will meet with someone for 60 minutes to review some of the information that you provide during the assessment and your plans for after you are released from jail; if you are assigned to the second group, you will watch two 20 minute videos on alcohol and drugs and discuss the content of the videos with someone; (g) *all information that you provide during all parts of the study will be confidential from MDC staff unless you express intent to harm yourself or someone else – only combined results will be presented to MDC staff (this means that they will not know any individual's specific information, but only will see results that are grouped by all of the participants); in fact, your information will be protected by a Certificate of Confidentiality issued by the United States government;* (h) *we ask that we can record the 60 minute meetings and all of this information also will be kept confidential except for those circumstances we just talked about;* (i) *the MDC staff will be aware of your participation in order for us to put your $15 store gift card in your inmate property;* and (j) *if at any time you do not feel comfortable answering a question you may decline to answer or terminate your participation. If you have no further questions and would like to participate, you will be asked to complete a brief quiz about the information from the consent and provide your initials on the last page of the consent inform indicating that you consent to being audio recorded during the meeting portion only. However, if you do not feel comfortable with being recorded, you may choose not to be recorded.*

Individuals then had the opportunity to read the consent form and ask any questions about the study procedures. If individuals decided to participate, they completed an informed consent quiz to help ensure that they understood five important aspects of the study and

consent form: (a) participation in this study would in no way affect their legal status while at the MDC or after release from jail; (b) by providing post-release location information this was giving consent to be contacted by these means; (c) during this study, participants would be asked about alcohol and drug information; (d) all the information provided would be kept private from MDC staff except in situations where others' safeties are at risk; and (e) participation in this study would include an interview the same day the consent procedures were completed, and then participants would be contacted to complete a four week follow-up interview after release from jail. Incorrect answers on the informed consent quiz were clarified by study staff until the individual understood all of the information from the consent form and quiz. If individuals still wanted to participate, they signed the consent form that also explained the related information on the Health Information Portability and Accountability Act (HIPAA) and provided their initials giving their permission to be audio recorded or opted out of being recorded. A HIPAA authorization was necessary for this study because participants were asked to disclose health-related behaviors (e.g., alcohol and drug use) and their identifying information was retained for the purposes of contacting them for the follow-up interview. Throughout the baseline interview process any information provided by participants regarding current or past illegal behaviors was kept confidential and not disclosed to MDC staff. Only reports of current intentions to harm themselves or others, the possible neglect or abuse of children or the elderly, sexual contact with another person while at MDC, and if participants' BACs were over 0.30 at MDC were grounds for breaking confidentiality, but doing this was not necessary with any participant.

Assessment battery. Participants completed the following questionnaires: (a) post-release location information, where participants were reminded that by providing the location information they were consenting to the study staff using that information to location them; (b) pre-intervention motivation and confidence to attend treatment, decrease their alcohol and drug use, and change their social networks questionnaire; (c) demographic information; (d) SCID for lifetime and past year substance use disorder diagnoses; (e) IPDA structured to assess their social networks in the four months prior to incarceration; (f) ASI criminal and treatment history sections; and (g) Form-90 structured for the 90 days prior to incarceration and the Form-90 QF for the 30 days prior to the baseline interview to capture their substance use and treatment attendance while incarcerated. Participant location information and the pre-intervention motivation and confidence questionnaire always were completed first. The other measures were counterbalanced. After completing these measures, participants were randomized to one of the two conditions. Each participant ID number was randomly assigned to a study condition using computer-generated output, although syntax did not control for equal group numbers.

Once randomized, participants proceeded to the intervention with a therapist for either the motivational interviewing or education intervention and the research assistant left the interview room (if this person was different). Due to scheduling and availability of study staff, seventeen participants (43%) had the same therapist as research assistant. At the end of the intervention therapists administered the post-intervention questionnaires that assessed motivation and confidence (Appendix D) and reactions to the interventions (Appendix F), thanked the participants, and then the therapist left. Therapists also

completed a post-intervention reaction questionnaire (Appendix G). After the baseline intervention, study staff had the participants' gift cards stored with the inmate's property.

Treatment conditions. Both interventions were approximately 50-60 minutes (*M* = 57:03, *SD* = 5:43) and were delivered by advanced clinical psychology graduate students who were trained in motivational interviewing and had experience in delivering brief motivational interventions. Study therapists conducted both types of interventions to reduce therapist bias and interventions were recorded for the purposes of supervision with a certified motivational interviewing trainer, Dr. Theresa Moyers, and to assess treatment fidelity. Study therapists and research assistants were crossed when possible for baseline interviews and always were crossed for follow-up interviews, such that follow-up interviews always were conducted by a different study staff member than was the participant's therapist.

Motivational interviewing intervention (MI). The basic format of this intervention built upon existing brief motivational interventions and used a motivational interviewing style. At the time of consent, participants were asked if the session could be recorded to ensure that therapists were adhering to the manual, and were reminded at the start of the intervention that everything that they said would be kept confidential within the study staff unless they expressed intent to harm themselves or others. MI sessions followed the manual provided in Appendix H, which was developed and elaborated more fully for the treatment manual with the assistance of Drs. McCrady and Moyers. It was decided not to provide normative feedback in order to increase ecological validity, should this intervention be used in jail settings in the future without the extensive assessments of participants' substance use and behaviors. During the recruitment period therapists

attended biweekly supervision meetings with Dr. Moyers to ensure the fidelity of the treatment and motivational interviewing style.

Educational intervention (EI). Similar to the MI condition and for consistency, participants in the EI condition were reminded of confidentiality procedures. Next, participants watched two videos from *HBO's Addiction* series ("What Is Addiction?" and "Understanding Relapse") and completed a quiz while watching the videos to focus the participant on the material and not their own experiences. Therapists then reviewed the quizzes with the participants and reviewed any incorrect answers to questions. Therapists in this condition utilized closed-ended questions, reduced the use of reflections, and discouraged self-disclosure of participants beyond their opinions of the video or its content. For example, if participants began to talk about their own experiences with alcohol or drugs the therapist quickly redirected the conversation to the next question.

Follow-up interviews. Participants were contacted 21 days after being released from jail to schedule the follow-up interview for days 28 to 49 days after release. Participants were ineligible to complete this interview if they could not be reached within 7 weeks (49 days) of being released. Of the full sample, 18 (45.0%) completed the one-month interview. The majority of one-month follow-up interviews took place at the Center on Alcoholism, Substance Abuse, and Addictions (CASAA; n = 17, 94.4%); one was completed at MDC while a participant was incarcerated (6.6%). An additional seven participants who missed their one-month interviews were reached and completed their three-month interview, with five of these interviews happening at CASAA (71.4%), one completed at MDC (14.3%), and one completed at a public location (14.3%); data from the three-month interviews determined outcomes within the first month and these were

used in lieu of missing one-month data for these individuals only. In total, follow-up data were available for 25 participants (62.5%) and participants completed this interview an average of 33.5 days (*SD* = 7.3) after being released.

At the start of all follow-up interviews, participants were administered a test of their BAC. If participants had BACs less than 0.02 they completed the following questionnaires: (a) current levels of motivation and confidence for seeking treatment, decreasing substance use, and changing their social networks to compare to their post-intervention levels; (b) IPDA to assess their social networks since being released; (c) ASI criminal and treatment history sections to assess arrests, charges, and treatment attendance since release from jail; (d) Form-90 to assess the time period since being released from jail; and (e) a urine analysis (unless the participant completed the follow-up interview at a public location or while at MDC). Participants then were given a $25 (for the one-month interview) or $40 (for the three-month interview) store gift card and signed a receipt, and were thanked for their participation. If participants completed the follow-up interview at MDC, they received their gift cards in their inmate property using the procedures outlined for the baseline compensation.

During the informed consent process participants were informed that they would be contacted for a second follow-up interview three months after they were released from jail. For the purposes of this study, data collected at the three-month follow-up were used only to fill in data for participants who missed their one month follow-up interview.

Data Analysis

Data management. Distributions of each of the key variables were examined for non-normality and outliers (+/- 2.5 standard deviations from the mean). The substance

use variables were non-normal and required arc-sin transformations; all subsequent analyses were done with these transformations. No other variables violated assumptions of normality.

There were no group differences in most baseline variables, including age, race, education, lifetime number of convictions or months of incarceration; pre-incarceration number of days of alcohol use, poly-substance use, and abstinence; or pre-intervention ratings of motivation and confidence to decrease alcohol or drug use, to attend substance use treatment, and to change social networks. There were baseline group differences on three variables: arcsin transformed pre-incarceration percentage of days of nonalcohol drug use (MI: raw $M = 46.0$, $SD = 38.4$; EI: raw $M = 16.0$, $SD = 25.9$; $t = 2.936$, $p < 0.01$), confidence to attend mental health treatment (MI: $M = 4.7$, $SD = 3.4$; EI: $M = 7.2$, $SD = 3.3$; $t = 2.357$, $p < 0.05$), and a possible difference in motivation to attend mental health treatment (MI: $M = 4.6$, $SD = 3.1$; EI: $M = 6.7$, $SD = 3.5$; $t = 1.968$, $p = 0.054$). However, pre-incarceration percentage of days of nonalcohol drug use was unrelated treatment seeking behaviors, substance use, or social network variables one month after release and, therefore, was not included as a covariate in subsequent analyses.

There were no baseline differences between participants who completed at least one follow-up interview ($n = 25$, 62.5%) and those that did not (37.5%) for age; race; years of education; pre-incarceration substance use; lifetime number of convictions and time incarcerated; and pre-intervention levels of motivation and confidence to change substance use, go to treatment, or change their social networks. There were no group differences in follow-up rates for participants in the MI versus EI group (χ^2 (1, $n = 40$) = 0.061, $p > 0.05$).

Hypothesis testing. To test the first hypothesis, that the intervention would be seen as feasible, post-intervention reaction questionnaires of participants and therapists were compared. Paired-sample *t* tests were used to determine if the MI group had higher participant ratings of helpfulness than the EI condition.

To test the second aim of the study regression models tested study condition as a predictor of entry into treatment (i.e., a binary variable about any help-seeking behaviors related to their alcohol or drug use after release from jail) and the number of days in substance use treatment (formal and informal treatment, measured by the Form-90). The number of days of pre-incarceration substance use treatment was divided by three to make the baseline time period (90 days) comparable to the one-month follow-up period (mean 33 days). If there was a significant group difference in substance use treatment attendance, this variable would have been entered as a covariate in subsequent analyses for this aim. Next, regression models were used to test condition as a predictor of substance use during the time after release from jail. In these analyses, pre-incarceration treatment attendance and pre-incarceration substance use also were used as covariates in their respective analyses. Alcohol and drug use while incarcerated also was examined as a significant covariate if relevant. To test group differences in social networks and to mirror analyses performed by Owens and McCrady (2014), regression models were used to test condition as a predictor of changes in the following social network variables: (a) percentage of heavy drinkers in the social network, (b) percentage of heavy drug users in the social network, (c) percentage of users of alcohol or drugs in the social network, and (d) an index of general support and support for treatment as defined by Zywiak and colleagues (2009), because this was found to be significantly related to substance use

outcomes in a similar sample (Owens & Zywiak, under review). This index of support (general/treatment support; α = .84; Zywiak et al., 2009) incorporated the maximum, average, and minimum ratings of general support and the maximum, average, and minimum ratings of support for substance abuse treatment.

For the third aim, a fully lagged mediation model was used to test post-intervention motivation and confidence to attend substance use treatment as mediators of pre- and post-incarceration number of days attending substance use treatment (including attendance of 12-step meetings) and controlled for pre-intervention motivation and confidence ratings. Similarly, post-intervention motivation and confidence to decrease alcohol and drug use were tested as mediators of pre- and post-incarceration substance use controlling for pre-intervention motivation and confidence ratings. Analyses also tested participants' post-intervention motivation and confidence to change their social networks as a mediator of pre- to post-incarceration social network variables (proportions of social networks that were heavy drinkers, heavy drug users, or users of any kind; and the index of network support) and controlled for pre-intervention motivation and confidence ratings. The mediation analyses tested the significance of the mediation effect using a Monte Carlo approach (Selig & Preacher, 2008). The Monte Carlo approach is a similar to a bootstrap method, and helped to maximize power to detect a mediation effect.

Results

Participants

Recruitment began in March 2014 and was completed in December 2014, with follow-ups ongoing into March 2015. Figure 1 shows the flow of screening and Figure 2

shows the flow of participants after consent into the study. Most individuals were ineligible for the study because they were not sentenced and did not have a scheduled release date, and after in-person screening, most individuals were ineligible because they denied drinking within the year prior to booking.

As shown in Table 1, on average participants were in their early to mid-thirties and the majority identified as being an ethnic minority (total $n = 32$, 80%) with the most dominant ethnic groups being Hispanic ($n = 11$, 27.5%) or biracial/multiracial ($n = 10$, 25.0%). Most participants had less than 12 years of formal education ($M = 11.4$, $SD = 2.4$) and almost half did not have a formal degree ($n = 16$, 40.0%). Approximately two-thirds would be unemployed or retired after they were released ($n = 26$, 65.0%), and many either would be living with their spouse (with spouse $n = 15$, 37.5%), parents or children in their homes ($n = 7$, 17.5%), or with friends ($n = 7$, 17.5%), or were homeless ($n = 7$, 17.5%) or living alone ($n = 4$, 10.0%).

Participants had substantial histories of legal involvement. On average, participants had 11 convictions (see Table 1), with the most common charges being parole/probation violations, such as absconding, ($n = 35$, 87.5% had at least one; $M = 3.7$, $SD = 4.9$; range of 0 to 30); drug charges, such as possession of a controlled substance, ($n = 22$, 55.0% had at least one; $M = 2.4$, $SD = 4.7$; range of 0 to 25); shoplifting or vandalism ($n = 21$, 52.5% had at least one; $M = 2.2$, $SD = 3.9$; range of 0 to 15); and assault, including domestic violence, ($n = 21$, 52.5% had at least one; $M = 2.1$, $SD = 4.4$; range of 0 to 26); and most had been at least charged with driving while intoxicated ($n = 23$, 57.5% had at least one; $M = 1.7$, SD 2.5; range of 0 to 12). Participants reported being incarcerated for approximately four years of their adult lives ($M = 48.3$ months, SD

=52.0; range of 3 to 186 months) and most were on probation at the time of booking (n = 34, 85.0%). For those who completed a follow-up interview, being on probation at the time of the initial booking was unrelated to being on probation after release (χ^2 (1, n = 25) = 0.600, $p > 0.05$). More specifically, 14 of the 21 participants on probation at booking were not on probation after release (70.0%), and two of the four participants not on probation at booking were put on probation after leaving jail (50.0%).

Overall, this was a poly-substance using sample. As intended with the inclusion criteria (recent drinking before booking, moderate or high alcohol use involvement in the 3 months prior to incarceration), all participants reported a lifetime alcohol use disorder, and most also reported a lifetime non-alcohol substance use disorder (n = 36, 90.0%). Everyone reported using substances in the 90 days prior to jail despite most being on probation, with approximately equal percentages of days of alcohol use only, days drug use only, days using both alcohol and drugs on the same day, and days of complete abstinence (see Table 1). Substantial percentages of participants' social networks also were substance users (M = 71.2, SD = 20.5), and social networks tended to have larger percentages of heavy drug users (M = 25.2, SD = 24.2) than heavy drinkers (M = 18.7, SD = 20.2). Table 2 shows the associations between substance use and social network variables during the 90 days prior to incarceration (below the diagonal) and during the one-month follow-up period (above the diagonal).

At baseline, participants reported feeling motivated and confident to decrease their alcohol use (M = 7.2, SD = 3.0; M = 7.6, SD = 2.5, respectively) and to decrease their drug use (M = 8.0, SD = 2.6; M = 7.3, SD = 3.1, respectively; see Table 1). Many endorsed the maximum ratings motivation and confidence to decrease their alcohol use

(ratings of "10" or "extremely motivated/confident;" n = 13, 32.5%; n = 12, 30.0%, respectively) and to decrease their drug use (n = 19, 47.5%, n = 15, 37.5%, respectively). Only two individuals in the full sample denied having any motivation to decrease his drinking (5.0%) and no one reported a rating of "0" for motivation to decrease drug use. Relatedly, participants expressed motivation and confidence to attend substance use treatment (which also included 12-step groups; M = 6.8, SD = 3.2; M = 7.1, SD = 2.7, respectively) with many reporting maximum ratings of motivation (n = 13, 32.5%) and confidence (n = 12, 30.0%) to attend some kind of substance use treatment. Almost all participants wanted to change their social networks at least "some" (n = 11, 27.5%) or "a lot" (n = 28, 70.0%), and they were very motivated (M = 8.4, SD = 1.8) and confident (M = 7.9, SD = 2.0) about making these changes. Table 3 shows mean ratings of motivation and confidence across all three time points (baseline, post-intervention at one-month interview) for participants who completed the one-month interview only (n = 18).

Aim 1

The first aim of this study examined the feasibility of conducting a study on brief motivational interventions with inmates with AUDs and other substance use disorders (SUD) just prior to their release. Overall, this study was shown to be feasible in a number of domains, including recruitment; completing in-person screens, assessments, and confidential therapeutic interventions; and following-up with participants after release. Specifically, over 1,100 flyers were completed in approximately 9 months of recruitment (see Figure 1; this also included some flyers completed by females), demonstrating interest and willingness of inmates to participate in research studies. Flyers also were effective at excluding individuals that were ineligible for the study,

primarily due to not being sentenced, and most individuals who were screened in-person were eligible (47 of the 63 individuals screened; 74.5%). Study staff was able to complete a battery of assessments and interventions within the detention center in a way that still provided auditory confidentiality for participants' information. Although follow-up rates were lower in this sample compared to other substance using treatment samples (e.g., over 90%; Project MATCH Research Group, 1997), it was possible to contact and interview most participants (62.5%; see Table 4).

It was hypothesized that participants in MI would rate the intervention as more helpful than those who completed the EI session. There were no significant differences in length of sessions (see Table 1) or participants' ratings of helpfulness (see Table 5). The MI intervention had a mean rating of helpfulness of 8.7 (SD = 1.6) and the EI condition had a mean rating of 9.3 (SD = 1.2), indicating that both interventions were rated as "extremely helpful." Ratings of helpfulness were unrelated to most baseline measures of substance use, with the exception of pre-incarceration percentage of days of alcohol and drug use, which was negatively related to ratings of helpfulness for participants in the EI group (r = -0.519, $p < 0.05$). In other words, individuals in the EI group who had more days of both alcohol and drug use rated the EI intervention as being less helpful. Therapists rated the MI condition as being more helpful for participants (M = 9.0, SD = 1.8; "extremely helpful") than the EI condition (M = 6.5, SD = 2.3; "somewhat helpful;" t = 3.925, $p < 0.001$).

Aim 2

Substance use treatment. It was hypothesized that individuals in the MI group would be more likely to seek substance use treatment (formal and informal) after release,

would be abstinent on more days, and would make more changes in their social networks. There were no significant differences in treatment engagement or attendance from pre- to post-incarceration for either group. Because there also were no within- or between-group differences in treatment seeking behaviors from pre- to post-incarceration, days in alcohol treatment, or days in drug treatment, substance use treatment was not used as a covariate in subsequent analyses (Table 6). Although more individuals in the MI group sought treatment after jail, study condition was not a significant predictor of post-release seeking substance use treatment after controlling for pre-incarceration seeking of treatment. Results showed a medium effect size in post-release treatment engagement between groups ($g = 0.506$; effect sizes were estimated using Comprehensive Meta-Analysis software Version 2; Borenstein, Hedges, Higgins, & Rothstein, 2005). Post-hoc analyses of power (using G*Power; Faul, Erdfelder, Buchner, & Lang, 2009) showed that a sample size of 126 would have been needed to achieve power estimate of 0.80 for this effect size. The effect size of study condition as a predictor of days in substance use treatment, controlling for baseline number of days, was small ($g = 0.397$) and would have required a total sample size of 202 to achieve a power of 0.80.

Substance use. Compared to pre-incarceration, only the MI group had significant increases in abstinence (see Table 6; MI: Pre PDA = 22.6%, Post = 67.3%, $t = -4.113$, $p < 0.01$; EI: Pre PDA = 32.7%, Post = 65.0%, $t = -2.189$, $p = 0.053$). Percentage of days with only drug use also significantly decreased for the MI group (Pre = 49.1%, Post = 17.2%, $t = 3.025$, $p < 0.05$), but there were no other significant within-group changes in substance use for either group.

Substance use while incarcerated was unrelated to post-release substance use and therefore was not examined as a covariate. Study condition was not a significant predictor of percentages of days of alcohol use only, drug use only, alcohol and drug use in one day, or abstinence, or rates of post-incarceration relapse after controlling for pre-incarceration substance use. Estimates of effect sizes of study condition as a predictor of substance use outcomes (controlling for baseline values) were small for percentage of days of alcohol use only ($g = 0.302$), which favored the EI group, and days of both alcohol and drug use ($g = 0.126$) and days of complete abstinence ($g = 0.294$; Table 6) that both favored the MI group. There was a large effect size for group differences of percentage of days of drug use only ($g = 0.816$). Given these effect sizes, the necessary total sample sizes (equal n in each group) to achieve power of 0.80 would be 348, 1980, 366, and 50 respectively.

Social networks. Compared to social networks before coming to jail, participants in the EI group reduced the proportion of heavy drinkers in their social networks (see Table 6; $t = 2.296$, $p < 0.05$), but participants in the MI group did not. Those in the EI group did not reduce the proportion of heavy drug users or users of any kind in their social networks after they were released. The MI group reduced both the proportion of heavy drug users ($t = 2.947$, $p < 0.05$) and users of any kind ($t = 3.486$, $p < 0.01$) from pre- to post-incarceration.

Study condition did not significantly predict post-release percentages of social networks that were heavy drinkers ($g = 0.148$; Table 6) and slightly favored the EI group; required sample size for power of 0.80 would be 1,436. Study condition also did not reach statistical significance as a predictor of post-release percentage of social networks

that were heavy drug users after controlling for baseline values, which was a large effect size (g = 1.198) and there was adequate power (>0.80) with 24 total participants. Group assignment was not a predictor of post-release percentage of social networks that were users of any kind (i.e., drinkers or drug users of any level of severity), the effect size was g = 0.843, and a sample size of 48 total would be necessary to reach statistical power of 0.80. Similarly, there were no significant within- or between-group differences for the social network index of support, although the effect size was medium for the between-group difference (g = 0.418, required sample size = 182).

Aim 3

The third aim of this study was to examine group differences in ratings of motivation and confidence to change behaviors, and to test these ratings as mediators of pre- and post-incarceration substance use treatment engagement, substance use, and changes in social networks. Study condition was not a significant predictor of any post-intervention motivation or confidence rating after controlling for pre-intervention ratings. Although there were no changes in pre- to post-intervention ratings for the EI group, MI participants reported higher ratings in confidence to decrease drinking (see Table 5; t = 2.091, $p < 0.05$), and motivation and confidence to decrease drug use (t = 2.494, $p < 0.05$; t = 2.902, $p < 0.01$, respectively) after the MI session. Despite these increases, motivation and confidence ratings were not significant mediators of treatment attendance, substance use, or social network variables for individuals in the MI group (see Table 7).

Because of the small sample size and to maximize power to detect an indirect effect, analyses also examined ratings of motivation and confidence to change as mediators of study condition and post-release outcomes. Similarly, a Monte Carlo

approach was used to test the significance of the indirect effect. Analyses of the a path controlled for baseline ratings of motivation/confidence and baseline values of the post-release outcome. Results are displayed in Table 8 and indicated that ratings of motivation and confidence still were not significant mediators in any of these analyses.

Post-Hoc Analyses

Given the few significant findings in predicting post-release outcomes, correlations for all participants were used to examine the associations between baseline variables and post-incarceration outcomes (substance use treatment engagement and attendance, substance use, social networks). These baseline variables included age; ethnic minority status (0 = White, 1 = minority); scores on the Mini-Mental Status Exam; lifetime number of weeks of drug use by type of drug (total weeks of alcohol use was not assessed); substance use prior to incarceration; substance use while incarcerated; social network size; proportion of social networks that were heavy drinkers, heavy drug users, or users of any kind; lifetime number of convictions and months incarcerated (as an adult); as well as pre- and post-intervention ratings of motivation and confidence to decrease alcohol use, drug use, attend substance use treatment, and change social networks.

Substance use treatment. There were few baseline variables related to whether or not participants sought substance use treatment (binary outcome) or the number of days that they attended formal or informal substance use treatment. Individuals who engaged in treatment seeking behaviors before going to jail were more likely to seek some kind of substance use treatment after release ($r = 0.557$, $p < 0.01$). Confidence to decrease drinking, as rated prior to the intervention, also was positively related to seeking

treatment after jail ($r = 0.411$, $p < 0.05$); however, this did not reach statistical significance for post-intervention ratings of confidence to decrease drinking ($r = 0.395$, $p = 0.05$). No other variables were significantly related to substance use seeking behaviors or attendance of treatment.

Substance use. See Table 9 for all significant correlations. Pre-incarceration proportion of days of alcohol use only ($r = 0.644$, $p < 0.01$), drug use only ($r = 0.465$, $p < 0.05$), and days of alcohol and drug use ($r = 0.817$, $p < 0.001$) were positively related to the same variable post-incarceration; however, pre-incarceration proportion of days abstinent was unrelated to post-incarceration abstinence. Minority status was negatively related to proportion of days of drug use only ($r = -0.477$, $p < 0.05$), such that individuals who identified as being part of an ethnic minority group were less likely to only use drugs. Lifetime number of weeks of amphetamine use (including methamphetamine) was related to greater proportion of days with both alcohol and drug use after jail ($r = 0.735$, $p < 0.001$), and weeks of cocaine use was positively related to proportion of days of alcohol use only ($r = 0.477$, $p < 0.05$).

Most baseline ratings of motivation and confidence to decrease alcohol use and drug use, attend substance use treatment, and change social networks were related to post-release substance use, particularly proportion of days of both alcohol and drug use and proportion of days abstinent (see Table 9). Post-intervention ratings of motivation and confidence to decrease alcohol and drug use, attend substance use treatment, and to change social networks also were related to post-incarceration substance use.

Social networks. Only pre-incarceration proportions of heavy drinkers in the social network were related to any post-incarceration network outcomes; specifically,

they were positively related to proportions of post-release heavy drinkers in the social network ($r = 0.435$, $p < 0.05$). Having a higher proportion of days of only alcohol use before jail also was related to having higher proportions of social networks that were heavy drinkers ($r = 0.405$, $p < 0.05$). Post-intervention ratings of motivation and confidence to change social networks were inversely related to proportions of heavy drinkers in the social network ($r = -0.490$, $p < 0.05$; $r = -0.469$, $p < 0.05$, respectively).

Participants who reported greater pre-intervention ratings of motivation to decrease drug use had smaller proportions of heavy drug users in their social networks after release from jail ($r = -0.548$, $p < 0.01$). No other baseline variable was related to post-incarceration proportion of heavy drug users or users of any kind in the social network, or the social network index.

Discussion

The purpose of this study was to examine the feasibility and efficacy of a brief motivational intervention for individuals with alcohol and other drug use disorders administered just prior to their release from jail. This study provided encouraging evidence of the feasibility of conducting brief interventions with individuals with AUDs and other SUDs just prior to their release, suggesting the viability of providing treatment to this high-risk group in the future. Overall, participants rated the MI as being "extremely helpful;" however, they also rated the control condition as "extremely helpful" and the ratings of the two interventions did not differ. Although group differences in treatment, substance use, and changes in social networks did not reach statistical significance, individuals in the MI group reported increases in abstinence and reductions in the proportions of heavy drug users and users of any kind in their social

networks after release from jail, whereas the EI group did not show these changes. Further, effect sizes favored the MI over the EI condition in post-release substance use treatment attendance, days of nonalcohol drug use only and abstinence, and changes in social networks. Contrary to hypotheses, ratings of motivation and confidence for individuals in the MI group were not significantly different from those in the EI condition, and they were not mediators of substance use treatment engagement, substance use, or changes in social networks.

Conducting clinical research with incarcerated individuals with SUDs was feasible. Evidence of feasibility included having a sufficient population from which to recruit, being able to conduct confidential assessments and interventions within the jail, and finding that a brief motivational intervention was well-received by participants. This study provides encouraging evidence that it is possible to do the much-needed research to establish adequate interventions for this high-risk population. Specifically, many inmates showed interest in participating in the study and the majority of those screened in-person were eligible and consented into the study. Although some eligible individuals were released before they could be consented, having more study staff available to run participants could ameliorate this type of attrition. Additionally, among the 46 study participants (including four pilot individuals and one person ultimately excluded because of active psychosis), only one individual's confidentiality was compromised when a corrections staff member demanded that the interview room door be left open during the intervention. Because providing confidentiality to participants is necessary to collect sensitive information and conduct therapy, finding that it was possible to do so in the jail

also speaks to the feasibility of doing clinical research and eventually therapeutic programming in jail settings in the future.

As anticipated, participants considered the motivational intervention to be "extremely helpful;" however, their ratings were not significantly different from the educational intervention as was hypothesized. It is possible that there were ceiling effects for ratings of helpfulness. It also may be that the EI session was well received because the videos used in this session were non-judgmental (i.e., used a disease model perspective) and evidenced-based. Further, despite study attrition during follow-up being higher than desirable, many participants were reached and completed follow-up interviews; this issue could be attenuated by having paid study staff that could devote more time to tracking participants, as will be discussed below.

Although there were no significant group differences in post-release outcomes, there were encouraging effect sizes that ranged from small (e.g., changes in days of both alcohol and drug use, days abstinent) to large (e.g., changes in days of drug use only, changes in proportions heavy drug users in the social networks) that were in the hypothesized direction (favoring the MI condition). Because of group differences in drug use patterns (i.e., the MI group had a larger proportion of days of only drug use), it was important to consider baseline values when examining outcomes. Motivational interviewing may be particularly helpful for those that use only drugs or both alcohol and drugs given the effect sizes, but, from this study alone, it is difficult to determine if the MI session would work equally well with inmates with only alcohol problems.

Despite the promising effect sizes found in this study, others have not found an effect of a brief MI session even with large samples of drug users (e.g., Bogenschutz et

al., 2014, Roy-Byrne et al., 2014; Saitz et al., 2014) or young drinkers (Foxcroft, Coombes, Wood, Allen, & Almeida Santimano, 2014). There may be methodological differences that could explain this discrepancy in findings. For example, individuals with SUDs may be more responsive to a brief MI session in jail than in other settings (e.g., primary care, emergency rooms), because they have had more time to think about changing their substance use primary to the session. Individuals in jail also may have experienced more severe negative consequences related to their alcohol and drug use than those presenting at primary care or emergency rooms (Bogenschutz et al., 2014; Saitz et al., 2014) or to young adults (Foxcroft et al., 2014), which may make them more similar to those presenting for substance use treatment and more able to benefit from motivational interviewing. It will be necessary to examine the efficacy of a brief MI session in a larger, more representative sample of inmates with SUDs, to see if the effect sizes from this study replicate.

Consistent with other findings with similar populations (Owens & McCrady, 2014), participants decreased their substance use and changed their social networks after release from jail. However, substance use and social network outcomes did not differ significantly between the MI and EI conditions; results that are contrary to other findings in the motivational interviewing literature (Burke, Arkowitz, & Mechnola, 2003; Lundahl, Kunz, Brownell, Tollefson, Burke, 2010). However, as discussed, the null results of this study are consistent with the findings from similar randomized clinical trials of brief MI sessions (Bogenschutz et al., 2014; Foxcroft et al., 2014; Roy-Byrne et al., 2014; Saitz et al., 2014). It is possible that the MI session does not have an effect with individuals with SUDs during these "teachable moments" (being released from jail,

being in an emergency room), but instead is more helpful for individuals already seeking substance use treatment. There also may be important moderators of this intervention. For example, some have suggested that it may be too difficult to detect an effect of a brief MI session with a heterogeneous, poly-substance using sample over individuals with only AUDs or those who have less severe substance use histories (Bogenschutz et al., 2014; Roy-Byrne et al., 2014; Saitz et al., 2014).

It also could be difficult to detect an effect of the MI session because participants in the EI group also changed after release from jail. Thus, detecting an effect of MI over EI would require a more robust impact of MI than was observed; this is a phenomenon and concern shared by other researchers who did not find an effect of a brief MI session over a control condition for individuals appearing at emergency rooms because of alcohol and/or drugs (Bogenschutz et al., 2014). The null findings also could be because of the low power to detect an effect related to the small sample size and high attrition rates.

There may be other reasons why there were no significant between-group differences observed in post-release outcomes. Most individuals at the MDC receive no substance use treatment (only 1 male "pod" out of 20 pods provides substance use treatment). Even inmates that do go to the "treatment pod" receive only group therapy and 12-step meetings; there is no individual therapy. For the current study, the control condition was individual therapy, which was not comparable to "treatment as usual" at the jail and likely was better than what the general inmate population typically received. The same therapists also completed both interventions. Despite training, it may be that therapists used motivational interviewing skills during the EI session, resulting in cross-contamination. Further, completing a two to three hour battery on alcohol and drug use,

legal histories, and social networks may have led to assessment reactivity (Clifford, Maisto, & Davis, 2007; Epstein et al., 2005; Roy-Byrne et al., 2014) in both groups, which could have washed out significant group differences. It would have been helpful to have a control group that was not individual treatment and to compare those receiving MI to those receiving no substance use treatment (what most inmates at the jail experience) to provide a clearer picture of the effect of the MI session.

Contrary to prediction, receiving a MI session did not increase ratings of motivation and confidence to decrease substance use, attend treatment, or change networks. There likely was a ceiling effect for these ratings, as evidenced by the significant proportions (~30%) of individuals in both groups who endorsed maximum ratings of motivation and confidence to change various behaviors before the intervention. Other studies also found this population to report high levels of motivation to change (DeMatteo et al., 2013). The ceiling effect of these ratings of motivation and confidence may have inhibited the possibility of detecting a significant increase or change in motivation and confidence ratings for individuals in either of the groups. Further, it is possible that motivational interviewing was not effective with this population because they already were motivated and confident to decrease their substance use and change their social networks, as suggested by their pre-intervention ratings. It has been found that motivational interviewing with individuals who are not ambivalent, particularly those already ready to change, may actually "slow down their progress" and be iatrogenic (Miller & Rollnick, 2009, pg. 136), and it is possible that this also was true in this study.

Although not statistically significant, motivation and confidence ratings decreased slightly from pre- to post-intervention for the MI group in going to substance use

treatment and changing social networks, whereas they increased slightly for the EI group; it may be that exploring these and other behaviors in MI sessions may make individuals look more realistically at implementing these changes. For example, individuals may feel very motivated and confident to discontinue contact with substance using friends or family members prior to the intervention, but when they explore what this may actually look like with an MI therapist, it may become evident that this change will be more difficult than anticipated. This change in perspective may lead to decreases in ratings of motivation and confidence for individuals receiving the MI session. Future analyses should explore if participants are being "over confident" (i.e., reported confidence ratings of "10" on multiple items) in their abilities to make these difficult changes to substance use and social networks, and whether or not this "over confidence" is related to post-release outcomes, which has not yet been examined for this population.

Despite post-hoc analyses showing that some pre- and post-intervention ratings of motivation and confidence to change behaviors were related to post-release outcomes, they did not significantly mediate pre- to post-incarceration treatment engagement or attendance, substance use, or social networks as was predicted. It is possible that this lack of findings may be explained by the reasons discussed previously, such as low power due to small sample size and high attrition rates. The ceiling effects of the ratings of motivation and confidence also may have limited the ability to detect mediation outcomes, because individuals already reported being extremely motivated and confident to change most behaviors, suggesting there may be other processes explaining the encouraging effects of the MI session.

Study Limitations and Strengths

There are limitations of the current study. First, the limited resources available and attempting to track participants during this difficult transition period made it difficult to follow participants after release from jail; this likely resulted in decreased power to detect an effect of participation in the MI intervention, particularly for mediation analyses and future tests of moderators. Further, there are concerns with high attrition rates that participants reached for follow-up would be different from other participants, which could bias results such as effect size estimates. Although individuals who provided follow-up data did not differ from those without follow-up data on baseline characteristics and substance use, the two groups may have differed on other variables that were not assessed for this study (e.g., stability of housing options after release). In response to these concerns, some researchers have examined how results are biased by only having data from participants who were "easy" versus difficult to track. They concluded that having study results from as little as 60% of a substance-using sample (i.e., those "easiest to locate") were only slightly different from results from the full sample, but they did note that this finding could be biased by sample characteristics (e.g., geographic location) and reasons for loss of follow-up (Hansten, Downey, Rosengren, & Donovan, 2000).

As shown in Table 4, there were a number of challenges in contacting participants after they were released. Most individuals were unable to provide their own cell phone numbers or home addresses, because being incarcerated for a significant period of time led to cancelling their phone service and losing stable housing. It may be particularly difficult to follow them during this transition period because participants make plans

about where to live and how to be reached right at the end of their incarceration, but these plans may not work out. Following-up with participants after jail may be more difficult than following individuals who currently are homeless, because these latter individuals already know ways of navigating their unstable situations. Someone who is homeless may already know which shelters, day centers, and voicemail services they access. Someone coming out of jail may plan on living with a family member, but then have to find somewhere new to live after only a few days or weeks out of jail and therefore be difficult to reach. This population also is at high risk to relapse on alcohol and drugs after they are released. Participants reported that their substance use interfered with their relationships with family and friends; relapsing on alcohol and drugs may have disrupted their contact with their social network members and individuals they listed on the locator information forms. A number of participants' contacts sounded noticeably frustrated, reported having no communication with the participant ("he hasn't been around"), and asked not to be called in the future ("you can take this phone number off your list"), and this may have been related to the participants' substance use after he was released.

A second limitation was the short follow-up assessment period, where additional and longer follow-up periods could have detected possible long-term effects of the MI session on treatment attendance, alcohol and drug use, or criminal recidivism. The one-month follow-up was chosen to increase feasibility and because previous research found that most changes of relevance to the present study occurred during the first month after release from jail (Owens & McCrady, 2014). Third, this study only sampled men, which limits generalization to female inmates. Women were recruited, but because they are less

represented at the jail, recruitment was more difficult and consequently there were not enough female participants to examine sex as a moderator.

Rates of substance and legal involvement of individuals in the United States represent a significant public health concern, yet there is a paucity of research on those with SUDs involved in the criminal justice system. A major strength of the current study was helping to address this paucity in the literature by providing a description of this population as well as examining potential therapeutic interventions. This study also offers encouraging evidence of the feasibility of conducting research with individuals with SUDs in jails versus prisons, where most other studies with inmates have been conducted. Many components of the research design add to the strengths of this study. A control group was included as a comparison to the MI group, which was important given it is already known that individuals reduce their substance use and change their social networks after being released from jail (Owens & McCrady, 2014). Although there still were group differences on baseline substance use, this study used random assignment, which helped to control for many other variables that could affect post-release outcomes (e.g., abstinence, education, legal histories). Other methodological strengths included: information was collected using empirically validated and reliable measures, therapists had extensive training and experience in conducting motivational interviewing, and therapists were supervised by Dr. Theresa Moyers, an expert in motivational interviewing. Finally, in response to low follow-up rates, many key strategies were identified about how to improve these rates (see below), which should facilitate studies with this high-need population in the future.

Future Directions

Other analyses of the current study could examine potential moderators of the efficacy of brief motivational interventions with individuals with AUDs and other SUDs prior to release from jail. Potential moderators could include individuals' cognitive functioning and/or level of education, treatment history, legal history, and reporting maximum ratings of confidence to change. Post-hoc analyses showed that some participant characteristics, such as substance use histories (e.g., lifetime number of weeks of a particular substance) were related to treatment seeking behaviors and substance use after release from jail, and could highlight potential moderators. It is also possible that individuals' substances of choice (i.e., primary alcohol users versus primary drug users versus poly-substance users; stimulant users versus depressant users) may influence the efficacy of a brief motivational intervention. Future studies should test for these potential moderators and also should recruit women to examine the efficacy of MI sessions with both sexes.

It could be informative to code the MI sessions conducted with this population to determine if change-talk to reduce substance use or change social networks occurred, and is a mediator of outcomes, as has been found in previous research on alcohol (Gaume, Bertholet, Faouzi, Gmel, & Daeppen, 2013) and drug use outcomes (Walker, Stephens, Rowland, & Roffman, 2011) with non-CJS populations. Similarly, coding the MI and EI sessions for treatment fidelity could be beneficial. The current study used the same therapists for both interventions. It is possible that therapists inadvertently used a motivational interviewing style while doing the EI sessions, such as being collaborative, encouraging participants' autonomy, and being non-confrontational. Coding EI sessions

could elucidate whether the EI sessions truly differed from MI interventions and could explain the null findings of group differences in certain outcomes (e.g., ratings in helpfulness by participants, changes in ratings of motivation and confidence).

Given the high-risk of this population to relapse and return to jail after release, more research is needed. Of particular importance, longitudinal studies are necessary to better understand the processes that individuals with SUDs experience when using substances (e.g., changes in motivation to use), how substance use leads to legal involvement, and ways to intervene, possibly during incarceration. In order to accurately capture these processes over time, it will be important to consistently follow inmates after release from jail or prison. To do this, future studies should collect as many sources of collateral information as possible and begin tracking participants as soon as they leave jail to increase follow-up rates during this transitional period. Additionally, continuing to incentivize participants to complete follow-ups likely could be helpful, as has been shown in previous studies; although, providing more substantial incentives may not further improve follow-up rates (Farabee, Hawken, & Griffith, 2011). For the current study, expanding the protocol to provide cab fare to the research center (n = 1) or completing interviews at nearby public locations (n = 1) did assist with completing more follow-up interviews; as did providing an incentive to participants for updating their location information after release from jail (n = 1). Further recommendations include giving participants advanced notice to collect contact information from their family and friends (many of them did not know phone numbers because they no longer had their cell phones); including female contacts as they tended to be the most accessible and willing to help (e.g., mothers, sisters, female friends); attempting to reach participants immediately

following release in case their living situations become unstable within the subsequent few weeks; and looking for participants in other county, state, and federal facilities (jails and prisons) to provide a more accurate description of criminal recidivism. Additionally, if study funds are available, it could be helpful to put pre-paid, pre-programmed cell phones (programmed to call study numbers only) into participants' inmate properties to have the phones when they are released and be easier to contact. However, providing participants with cell phones may be expensive and participants may not return the phones or may damage them.

Future studies also should recruit and follow larger samples over a longer period of time to test whether or not this type of intervention leads to positive outcomes and if changes persist over longer time periods (e.g., one year post-incarceration). Following participants past one month post-release also would provide a better representation of the impact of this intervention on criminal recidivism, such as rearrest and return to jail. As noted, future research studies should incorporate procedures to track and follow participants more consistently, which likely would be more feasible with a better-funded and staffed study.

Social network member behavior was a primary outcome for this study, but is just one way of examining social network members' influence on individuals' substance use. It was decided to look at the composition of social networks based on members' behaviors (e.g., heavy drinker, heavy drug user, substance user of any kind) because others have found associations between these variables and substance use (Litt, Kadden, Kabela-Cormier, & Petry, 2009; Owens & McCrady, 2014). Others social network variables also have been found to be related to substance use, such as network members'

reactions to individuals' substance use (i.e., encouraged, accepted, neutral, did not accept, would leave if individuals used; Stout, Kelly, Magill, & Pagano, 2012). The Important People Interview and its variations (e.g., the IPDA, as used in this study) have been the most common measure of social networks in the substance use treatment area (e.g., Kelly, Stout, Magill, & Tonigan, 2011; Litt et al., 2009; Project MATCH Research Group; Stout et al., 2012); however, these measures have limitations, which likely stem from the complexity of measuring social networks and their influence on individuals' substance use. As discussed, there are various ways to score the IPDA (or its predecessors) that make it difficult to make comparisons across studies. It is clear from the research that social networks affect individuals' substance use. Given the evidence of this association, it will be important to standardize the procedures by which social influence is operationalized (i.e., by members' behaviors or reactions or both), so that it may be possible to examine the link between networks and substance use as well as how individuals change their social networks to make them more conducive to reducing their substance use. Post-hoc analyses with the data from this study could look at the behavior and reactions of participants' network members and how these relate to post-release substance use.

Context also may be influencing individuals' responses. For many individuals, being incarcerated is inherently unpleasant and is a direct result of their substance use; answering a questionnaire in this context may make feelings of motivation and confidence to change their behavior especially salient and subsequently they may report higher ratings of motivation and confidence. When individuals are released and enter a new context, their feelings of motivation and confidence may actually decrease, but this

may not be accurately reflected in their self-report ratings. Future studies should examine the validity of these questionnaires when they are administered during incarceration, particularly the predictive validity of post-release behaviors. It also may be helpful to administer implicit measures of motivation to examine the psychometric properties of self-report motivation and confidence questionnaires with this population in this context (e.g., the Implicit Associations Test; Ostafin, Marlatt, & Greenwald, 2008).

Future studies also should continue to examine treatments for this population. The EI may be better than treatment as usual within jails for individuals with SUDs. The EI also would be easier and less expensive to implement than an intervention that requires therapists trained in motivational interviewing; future research could examine the efficacy and cost-benefits of conducting the EI session with inmates to improve outcomes with this population.

Although there were few significant group differences between the MI and EI, effect sizes suggested that the participating in a one-hour motivational intervention could help individuals to further decrease their substance use and change their social networks when they are first released beyond receiving education. It also may be the case that providing more treatment beyond a single, brief intervention could bolster the effects of the MI session and lead to improved outcomes for individuals with SUDs being released from jail. For example, other research could build upon the current study by testing the efficacy of four sessions of Motivational Enhancement Therapy (MET; Project MATCH Research Group, 1997), which could be adapted to also encourage changes in social networks, versus a single MI session. The findings from this study on MET versus a single MI session could help determine if increasing doses of treatment could provide

incremental improvements in outcomes for individuals with SUDs and also could identify moderators of efficacy for each treatment condition, such as substance use severity. Future studies then could continue to develop this area of research by examining the efficacy of longer treatment protocols during incarceration, such as eight to 12 sessions of individual cognitive behavioral therapy, to help individuals with SUDs further increase their motivation to be abstinent and learn general problem solving skills (e.g., to seek employment, cope with anger or impulsiveness) or skills to decrease their substance use after release from jail. It also may be possible that developing a treatment protocol that starts with individuals while they are incarcerated and continues after they were released could be most beneficial. More specifically, treatment while individuals are incarcerated could focus on increasing motivation, learning skills to decrease substance use and change social networks, and planning for release, while treatment after release could help with implementing these skills and problem solving for the unanticipated barriers that undoubtedly will arise.

Implications for Treatment Research and Policy

Looking beyond the impact of a single, brief motivational intervention, findings from this study highlight the low resources (e.g., low education, low income, higher rates of homelessness) and high clinical needs of this population (e.g., extensive substance use and criminal histories, most relapsed after release from jail). This combination of low resources and high needs suggests that a single session may not be adequate for individuals with more severe SUDs or other clinical concerns who are being released from jail. It is possible that inmates with more resources (e.g., employment, housing) may benefit most from a single MI session, whereas others coming out of jail may need

additional assistance with finding a job or housing in order to stabilize their lives and make them more successful with reducing their substance use. In other words, the current system of care for individuals coming out of jail could be improved if interventions were tailored to the needs and level of care of the inmate (Prendergast & Cartier, 2013).

It would be informative to see who benefits most or at all from a single MI session, and then examine how a motivational intervention might fit into more comprehensive treatment programs offered through jails for higher-risk individuals. For example, Prendergast and Cartier (2013) are examining the effectiveness of a brief motivational intervention for low- or moderate-risk inmates while in jail, and referring those at high-risk to intensive substance use treatment in the community. Other options could include conducting brief interventions with inmates to motivate further engagement in programming while incarcerated, which could be combined with helping then enroll in health insurance, connect them with housing or public assistance, teach them vocational skills (e.g., employable skills), or refer them to substance use treatment for when they are released.

It also is possible that redirecting funds from incarcerating individuals for longer periods of time to rehabilitation services (e.g., behavioral interventions) while incarcerated may have better outcomes on the individual, community, and national levels. Although there are many proponents among researchers that support treatment for incarcerated or supervised individuals with SUDs (e.g., Chandler et al., 2009), there are larger systemic issues that have impeded progress in this area, such as stigma against this population (e.g., "they deserve punishment not help"), inflexible political campaigns

(e.g., "the war on drugs"), and lack of funding (e.g., cutting funding on programming over security costs). There are strategies to circumvent barriers to implementing more treatment opportunities into jails. It will be necessary for those who support substance use treatment for this population to continue research in this area, demonstrate the cost-effectiveness of treatment, present these findings in a compelling way to administrators in the CJS, and advocate for relevant policies to enact large-scale and mandatory standards. Change in the CJS may be slow and minimal at first; however, given the magnitude of the problem of over-incarceration of individuals with SUDs, any change has the potential to have a substantial impact and certainly is an area for future research and clinical opportunities.

Conclusions

The findings from this study highlight the clinical needs of individuals with SUDs being released from jail and provide encouraging evidence of the feasibility and efficacy of a brief motivational intervention with this population. Both the motivational and the educational interventions were perceived as extremely helpful, which indicates that individual therapy is well received by inmates with SUDs. Although there were no statistical significant group differences in post-release outcomes (treatment engagement and attendance, substance use, and social networks), participants in the MI group used substances less often in their first month out of jail than prior to incarceration, whereas the EI group had no changes in rates of abstinences. Effect sizes also suggest that participating in the MI session may lead to decreases in percentage of days of drug use only or days with both alcohol and drugs, as well as reductions in proportions of heavy drug users or users of any kind in participants' social networks. Ratings of motivation

and confidence to change behaviors did not mediate pre- to post-release improvements. Future research should continue to replicate findings from this study with a larger sample and over a longer follow-up time period, improve treatment for incarcerated individuals with SUDs, and inform policies that affect this population.

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Table 1

Sample Characteristics

Variable	By Condition – *M* (*SD*)		
	MI (*n* = 23)	EI (*n* = 17)	Total (*n* = 40)
Male – *n* (%)	23 (100.0)	17 (100.0)	40 (100.0)
Age	34.8 (10.5)	33.7 (8.9)	34.4 (9.8)
Race – *n* (%)			
Hispanic	4 (17.4)	7 (41.2)	11 (27.5)
Non-Hispanic White	7 (30.4)	1 (5.9)	8 (20.0)
Native American/Alaskan Native	5 (21.7)	2 (11.8)	7 (17.5)
African American	3 (13.0)	0 (0.0)	3 (7.5)
Biracial/Multiracial/Other	4 (17.4)	7 (41.2)	11 (27.5)
Education (years)	11.6 (2.3)	11.1 (2.5)	11.4 (2.4)
Annual Income (dollars)	13,924 (19,256)	25,402 (27,390)	19,344 (23,820)
Days Incarcerated	146.6 (83.0)*	156.8 (93.9)	151.1 (86.9)

Variable	MI (n = 23)		EI (n = 17)		Total (n = 40)	
Lifetime Alcohol Use Disorder – n (%)	23	(100.0)	17	(100.0)	40	(100.0)
Current Alcohol Use Disorder – n (%)	15	(65.2)	14	(82.3)**	29	(72.5)
Lifetime Any Other Substance Use Disorder – n (%)	21	(91.3)	17	(100.0)	38	(95.0)
Current Any Other Substance Use Disorder – n (%)	15	(65.2)	11	(64.7)	26	(65.0)
Baseline Motivation to Decrease Drinking	7.5	(2.7)	6.8	(3.3)	7.2	(3.0)
Baseline Confidence to Decrease Drinking	7.7	(2.4)	7.5	(2.6)	7.6	(2.4)
Baseline Motivation to Decrease Drug Use	7.9	(2.4)	8.1	(2.9)	8.0	(2.6)
Baseline Confidence to Decrease Drug Use	7.0	(3.3)	7.5	(2.9)	7.3	(3.1)
Baseline Motivation to Seek Substance Treatment	6.7	(2.9)	6.9	(3.5)	6.8	(3.2)
Baseline Confidence to Seek Substance Treatment	7.0	(2.4)	7.3	(3.2)	7.1	(2.7)
Baseline Desire to Change Networks – n (%)						
No Change	0	(0.0)	1	(5.9)	1	(2.5)
Some Change	6	(26.1)	5	(29.4)	11	(27.5)
A lot of Changes	17	(73.9)	11	(64.7)	28	(70.0)

Variable	MI (n = 23)	EI (n = 17)	Total (n = 40)
Baseline Motivation to Change Networks	8.7 (1.5)	8.0 (2.1)	8.4 (1.8)
Baseline Confidence to Change Networks	8.0 (2.0)	7.7 (2.1)	7.9 (2.0)
Pre-Incarceration Network Size	7.7 (3.4)	8.3 (3.0)	7.9 (3.2)
Pre-Incarceration Percentage Heavy Drinkers	16.5 (21.2)	21.6 (19.0)	18.7 (20.2)
Pre-Incarceration Percentage Heavy Drug Users	24.8 (26.3)	25.7 (22.0)	25.2 (24.2)
Pre-Incarceration Percentage Users of Any Kind	74.9 (20.8)	66.1 (19.6)	71.2 (20.5)
Pre-Incarceration Network Support Index	-0.111 (1.1)	0.150 (0.8)	0.0 (1.0)
On Probation at Booking – n (%)	21 (91.3)	13 (76.5)	34 (85.0)
Lifetime Incarceration (months)	53.7 (53.7)	41.0 (50.2)	48.3 (52.0)
Lifetime Number of Convictions	10.9 (10.8)	10.8 (6.2)	10.9 (9.0)
Pre-Incarceration Percentage of Days Alcohol Only	16.3 (25.5)	26.6 (37.4)	20.7 (31.1)
Pre-Incarceration Percentage of Days Drug Use Only	46.0 (38.4)	16.0 (25.9)	33.2 (36.5)
Pre-Incarceration Percentage of Days Alcohol and Drugs	14.5 (21.2)	25.0 (38.9)	19.0 (30.0)
Pre-Incarceration PDA	22.6 (26.5)	32.4 (31.4)	27.4 (28.9)

Variable	MI (n = 23)	EI (n = 17)	Total (n = 40)
Length of Session	55:58 (6:14)	57:33 (4:07)	56:48 (5:26)

Notes. Substance use variables are non-transformed data. *One individual was incarcerated for 874 days, which was more than two standard deviations above the mean, and was removed. **Current alcohol use disorder data were missing for one participant. Means for the Network Support Index for the full sample were z-scored.

Table 2

Correlations among Baseline and One-Month Substance Use and Social Network Variables

	Substance Use Variables				Social Network Variables			
	1	2	3	4	5	6	7	8
1. Days Alcohol Use Only	-	-0.210	-0.112	-0.620**	0.667***	-0.187	0.447*	-0.190
2. Days Drug Use Only	-0.508**	-	0.008	-0.445*	0.165	0.199	-0.006	0.138
3. Days Alcohol and Drug Use	-0.243	-0.279	-	-0.345	0.035	0.546**	0.078	-0.024
4. Days Completely Abstinent	-0.134	-0.365*	-0.362*	-	-0.609**	-0.156	-0.362	0.099
5. Heavy Drinkers	0.149	-0.110	0.009	-0.127	-	-0.021	0.524**	-0.261
6. Heavy Drug Users	-0.385*	0.285	0.282	-0.262	0.203	-	0.119	-0.235
7. Users of Any Kind	0.054	0.138	-0.015	-0.216	0.169	0.492**	-	-0.277
8. Network Support Index	-0.009	0.003	0.027	0.30	-0.146	-0.093	-0.240	-

Notes. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. All variables are percentages of days (substance use variables) or of social networks. Correlations below the diagonal are for the 90 days prior to incarceration; correlations above the diagonal are for the one-month follow-up.

Table 3

Motivation and Confidence Ratings Across All Time Points

Variable	By Condition – *M* (*SD*)					
	MI (*n* = 9)			EI (*n* = 9)		
	Pre	Post	1 Month	Pre	Post	1 Month
Motivation to Decrease Drinking	8.3 (2.3)	8.9 (1.3)	7.9 (3.6)	5.6 (3.9)	7.9 (2.9)	7.2 (3.2)
Confidence to Decrease Drinking	7.4 (3.2)	8.3 (1.7)	9.3 (1.4)	7.0 (3.1)	7.9 (2.3)	7.4 (3.6)
Motivation to Decrease Drug Use	8.0 (2.0)	8.9 (1.5)	7.9 (1.9)	7.9 (3.7)	8.4 (2.9)	7.8 (2.8)
Confidence to Decrease Drug Use	7.0 (3.4)	8.1 (1.8)	8.0 (1.9)	7.2 (3.4)	7.7 (2.9)	8.0 (3.0)
Motivation to Seek Substance Treatment	6.3 (3.8)	6.6 (3.8)	4.6 (4.6)	6.6 (4.1)	6.7 (3.8)	6.1 (3.5)
Confidence to Seek Substance Treatment	7.0 (3.0)	6.9 (4.0)	4.6 (4.6)	7.6 (3.5)	7.6 (3.1)	6.9 (3.2)
Motivation to Change Social Network	8.9 (1.4)	9.3 (0.9)	8.3 (1.8)	8.3 (2.1)	8.4 (1.8)	7.9 (2.0)
Confidence to Change Social Network	8.2 (1.6)	8.8 (1.6)	8.1 (1.8)	7.8 (2.2)	8.4 (1.7)	7.7 (2.2)

Note. Only ratings for participants who completed the one-month interview are reported.

Table 4

Follow-Up Rates

Variable	By Condition – *n* (%)		
	MI (*n* = 23)	EI (*n* = 17)	Total (*n* = 40)
Completed One-Month Interview	9 (39.1%)	9 (52.9%)	18 (45.0%)
Missed One-Month, Completed Three-Month Interview	5 (21.7%)	2 (11.8%)	7 (17.5%)
Any Follow-Up Data Available	14 (60.9%)	11 (64.7%)	25 (62.5%)
Reason for Missed One-Month Interview			
No-showed appointment(s); unable to reschedule	4 (17.4%)	5 (29.4%)	9 (22.5%)
Cancelled/missed appointments; intoxicated	1 (4.3%)	0 (0.0%)	1 (2.5%)
Unable to reach any contacts	6 (26.1%)	3 (17.6%)	9 (22.5%)
Contacts reported no communication with participant	3 (13.0%)	0 (0.0%)	3 (7.5%)

Table 5

Group Differences in Substance Use and Social Network Variables Post-Intervention Outcomes (Aim 1)

Variable	By Condition – *M* (*SD*)				β	*g*
	MI (*n* = 23)		EI (*n* = 17)			
	Pre	Post	Pre	Post		
Intervention Helpfulness – Participant		8.7 (1.6)		9.3 (1.2)	-0.190	-0.407
Intervention Helpfulness – Therapist		9.0 (1.8)		6.5 (2.3)	0.537	1.210
Motivation to Decrease Drinking	7.5 (2.7)	8.3 (2.3)	6.8 (3.3)	7.9 (2.5)	0.010	-0.123
Confidence to Decrease Drinking	7.7 (2.4)	8.3 (1.6)*	7.5 (2.6)	7.9 (2.1)	0.072	0.107
Motivation to Decrease Drug Use	7.9 (2.4)	8.6 (1.6)*	8.1 (2.9)	8.6 (2.4)	0.034	0.099
Confidence to Decrease Drug Use	7.0 (3.3)	8.0 (2.0)**	7.5 (2.9)	8.0 (2.3)	0.067	0.230
Motivation to Seek Substance Treatment	6.7 (2.9)	6.4 (3.4)	6.9 (3.5)	7.1 (3.2)	-0.078	-0.148
Confidence to Seek Substance Treatment	7.0 (2.4)	6.7 (3.2)	7.3 (3.2)	7.4 (2.7)	-0.073	-0.131
Motivation to Change Social Network	8.7 (1.5)	8.2 (2.1)	8.0 (2.1)	8.2 (2.1)	-0.105	-0.327
Confidence to Change Social Network	8.0 (2.0)	8.2 (2.1)	7.7 (2.1)	8.2 (2.1)	-0.141	-0.140

Notes. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. Paired sample *t* tests examined pre- and post-intervention within-group differences. There were no significant changes in pre- to post-intervention ratings for individuals in the EI group. Regression models included study condition as a predictor and controlled for baseline values. Negative *g*s indicate results that favored the EI group.

Table 6

Differences in Substance Use and Social Network Variables Pre- and Post-Incarceration (Aim 2)

Variable	By Condition – *M* (*SD*)					
	MI (*n* = 14)		EI (*n* = 11)			
	Pre	Post	Pre	Post	β	*g*
Any Substance Use Treatment Seeking – *n* (%)	4 (28.6%)	5 (35.7%)	5 (45.5%)	3 (27.3%)	0.193	0.506
Substance Use Treatment Days	0.8 (1.6)	3.3 (8.0)	1.3 (1.8)	1.2 (3.0)	0.201	0.397
Percentage of Days with Alcohol Use Only	16.4 (25.2)	14.3 (33.6)	35.4 (42.9)	22.6 (35.1)	0.097	-0.302
Percentage of Days with Drug Use Only	49.1 (40.3)	17.2 (31.7)*	15.2 (28.4)	3.9 (8.1)	0.083	0.816
Percentage of Days with Alcohol and Drug Use	11.9 (19.1)	1.2 (4.5)	16.8 (32.9)	8.5 (27.4)	-0.093	0.126
Percentage of Days Completely Abstinent	22.6 (22.5)	67.3 (41.4)**	32.7 (35.3)	65.0 (40.0)	0.087	0.294
Percentage of Networks – Heavy Drinkers	18.2 (23.8)	9.2 (19.3)	18.8 (16.6)	7.3 (11.3)*	0.067	-0.148
Percentage of Networks – Heavy Drug Users	29.3 (27.5)	7.1 (10.8)*	19.1 (18.3)	15.6 (19.3)	-0.311	1.198
Percentage of Networks – Users of Any Kind	78.3 (18.2)	45.8 (28.1)**	66.3 (23.6)	56.7 (23.7)	-0.265	0.843
Network Support Index	0.02 (1.0)	0.33 (0.9)	-0.01 (1.0)	-0.42 (1.0)	0.377	0.418

Notes. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. Pre-incarceration substance use treatment days were divided by three to account for longer baseline time period. Most participants who sought treatment after jail also had sought pre-incarceration treatment (MI: 3 of 5, 60%; EI: 3 of 4, 75.0%). Paired sample *t* tests examined pre- and post-incarceration within group-differences and were done with arcsin transformed data; *M*s and *SD*s for the substance use variables show raw data. Regression models included study condition as a predictor and controlled for baseline values. Negative *g*s indicate results that favored the EI group.

Table 7

Mediation Analyses (MI Group Only)

Outcome	95% CI LL	95% CI UL	*p*
Post-Incarceration Number of Treatment Days			
Motivation to Attend Substance Use Tx	-0.030	0.043	n.s.
Confidence to Attend Substance Use Tx	-0.047	0.055	n.s.
Post-Incarceration Alcohol Days			
Motivation to Decrease Alcohol Use	-0.137	0.078	n.s.
Confidence to Decrease Alcohol Use	-0.068	0.103	n.s.
Post-Incarceration Drug Days			
Motivation to Decrease Drug Use	-0.064	0.030	n.s.
Confidence to Decrease Drug Use	-0.066	0.083	n.s.
Post-Incarceration Percentage Heavy Drinkers			
Motivation	-0.243	0.281	n.s.
Confidence	-0.320	0.172	n.s.
Post-Incarceration Percentage Heavy Drug Users			
Motivation	-0.045	0.276	n.s.
Confidence	-0.040	0.219	n.s.
Post-Incarceration Percentage Users of Any Kind			
Motivation	-0.764	0.392	n.s.
Confidence	-0.827	0.251	n.s.

Post-Incarceration Network Support Index			
Motivation	-0.080	0.069	n.s.
Confidence	-0.111	0.089	n.s.

Note. Mediation analyses tested the indirect effect using a Monte Carlo approach. Because most participants who sought substance use treatment after release also had looked for treatment before jail, this was not included in mediation analyses (i.e., there was little to no change in this outcome).

Table 8

Mediation Analyses (Both Groups)

Outcome	95% CI LL	95% CI UL	*p*
Post-Incarceration Number of Treatment Days			
Motivation to Attend Substance Use Tx	-0.935	0.307	n.s.
Confidence to Attend Substance Use Tx	-0.898	0.259	n.s.
Post-Incarceration Alcohol Days			
Motivation to Decrease Alcohol Use	-0.158	0.120	n.s.
Confidence to Decrease Alcohol Use	-0.159	0.080	n.s.
Post-Incarceration Drug Days			
Motivation to Decrease Drug Use	-0.066	0.051	n.s.
Confidence to Decrease Drug Use	-0.152	0.059	n.s.
Post-Incarceration Percentage Heavy Drinkers			
Motivation	-0.029	0.066	n.s.
Confidence	-0.193	0.073	n.s.
Post-Incarceration Percentage Heavy Drug Users			
Motivation	-0.026	0.019	n.s.
Confidence	-0.040	0.014	n.s.
Post-Incarceration Percentage Users of Any Kind			
Motivation	-0.034	0.096	n.s.
Confidence	-0.024	0.098	n.s.

Post-Incarceration Network Support Index			
Motivation	-0.146	0.156	n.s.
Confidence	-0.173	0.186	n.s.

Table 9

Associations with Post-Release Substance Use (Post-Hoc)

Baseline Variable	Alcohol Only	Drug Only	Alcohol And Drugs	Abstinence
Days Alcohol Use Only	0.644**	-0.283	-0.153	-0.229
Days Drug Use Only	-0.415*	0.465*	-0.137	0.149
Days Alcohol and Drug Use	-0.212	-0.113	0.817***	-0.108
Days Abstinent	-0.047	-0.094	-0.199	0.074
Minority Status	0.254	-0.477*	0.119	-0.084
Weeks of Amphetamine Use	-0.227	-0.122	0.735***	-0.027
Weeks of Cocaine Use	0.471*	-0.218	-0.029	-0.249
Pre: Decrease Alcohol Use				
Motivation	-0.085	0.014	-0.264	0.304
Confidence	-0.208	-0.150	-0.478*	0.599**
Pre: Decrease Drug Use				
Motivation	0.071	-0.051	-0.554**	0.272
Confidence	0.151	-0.246	-0.568**	0.401*
Pre: Attend Substance Treatment				
Motivation	-0.258	-0.073	-0.295	0.486*
Confidence	-0.336	-0.091	-0.384	0.546**
Pre: Change Social Networks				
Motivation	-0.208	0.025	-0.522**	0.305
Confidence	-0.159	-0.224	-0.566**	0.528**

Baseline Variable	Alcohol Only	Drug Only	Alcohol And Drugs	Abstinence
Post: Decrease Alcohol Use				
Motivation	-0.374	0.126	-0.237	0.404*
Confidence	-0.273	-0.148	-0.562**	0.618**
Post: Decrease Drug Use				
Motivation	-0.375	0.076	-0.414*	0.486*
Confidence	-0.117	-0.218	-0.699***	0.603**
Pre: Attend Substance Treatment				
Motivation	-0.237	-0.072	-0.126	0.409*
Confidence	-0.191	-0.094	-0.081	0.346
Post: Change Social Networks				
Motivation	-0.651***	0.243	-0.319	0.470*
Confidence	-0.635**	0.033	-0.278	0.601**

Notes. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. All outcomes (in columns) are post-release outcomes; all variables (in rows) were assessed at baseline/pre-intervention ("Pre") or post-intervention ("Post"). All substance use variables used arcsin transformed data of percentage of days for each outcome.

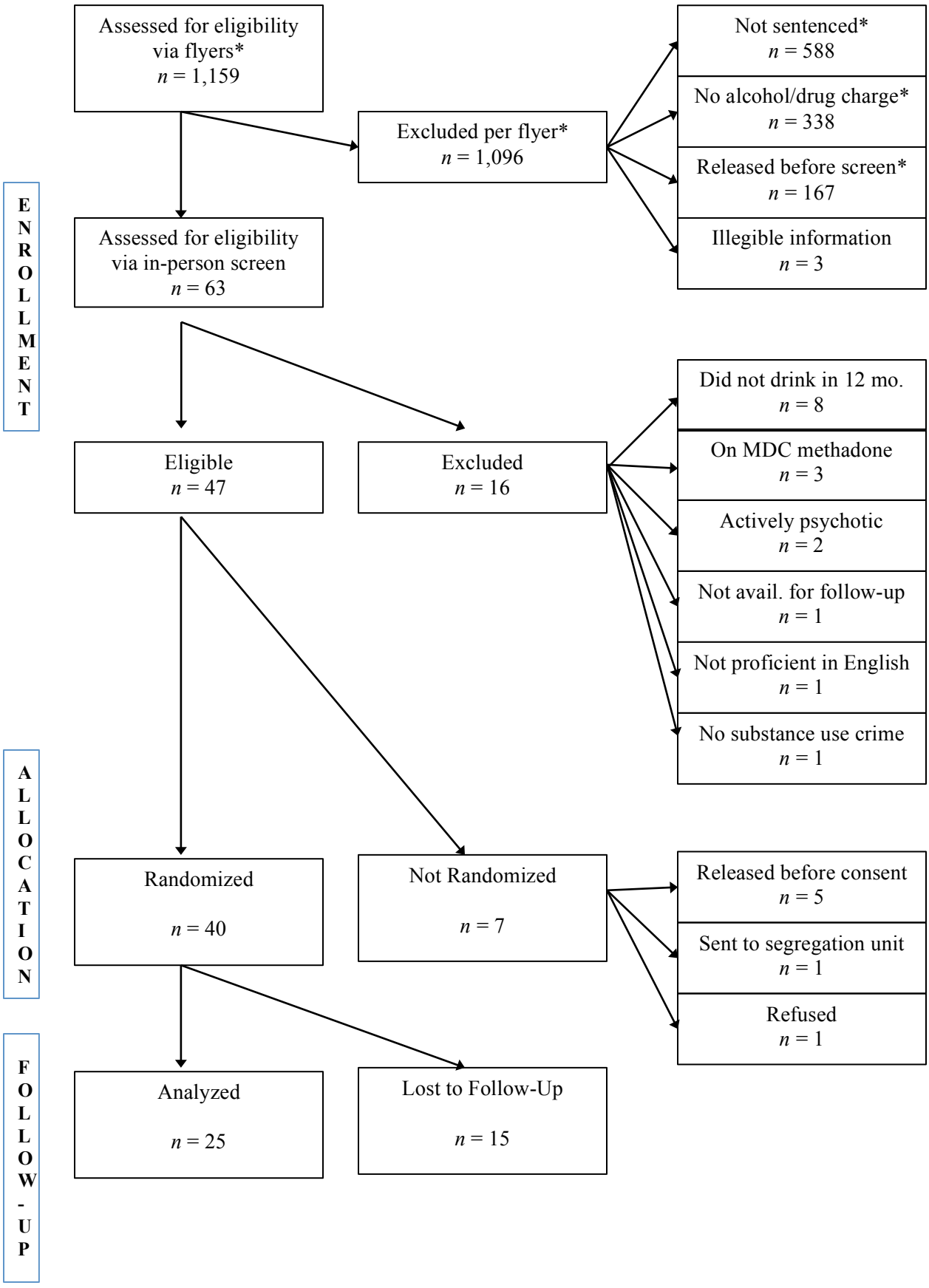


Figure 1. Chart of study flow. Totals for flyers are through March 2015. *Includes flyers by females.

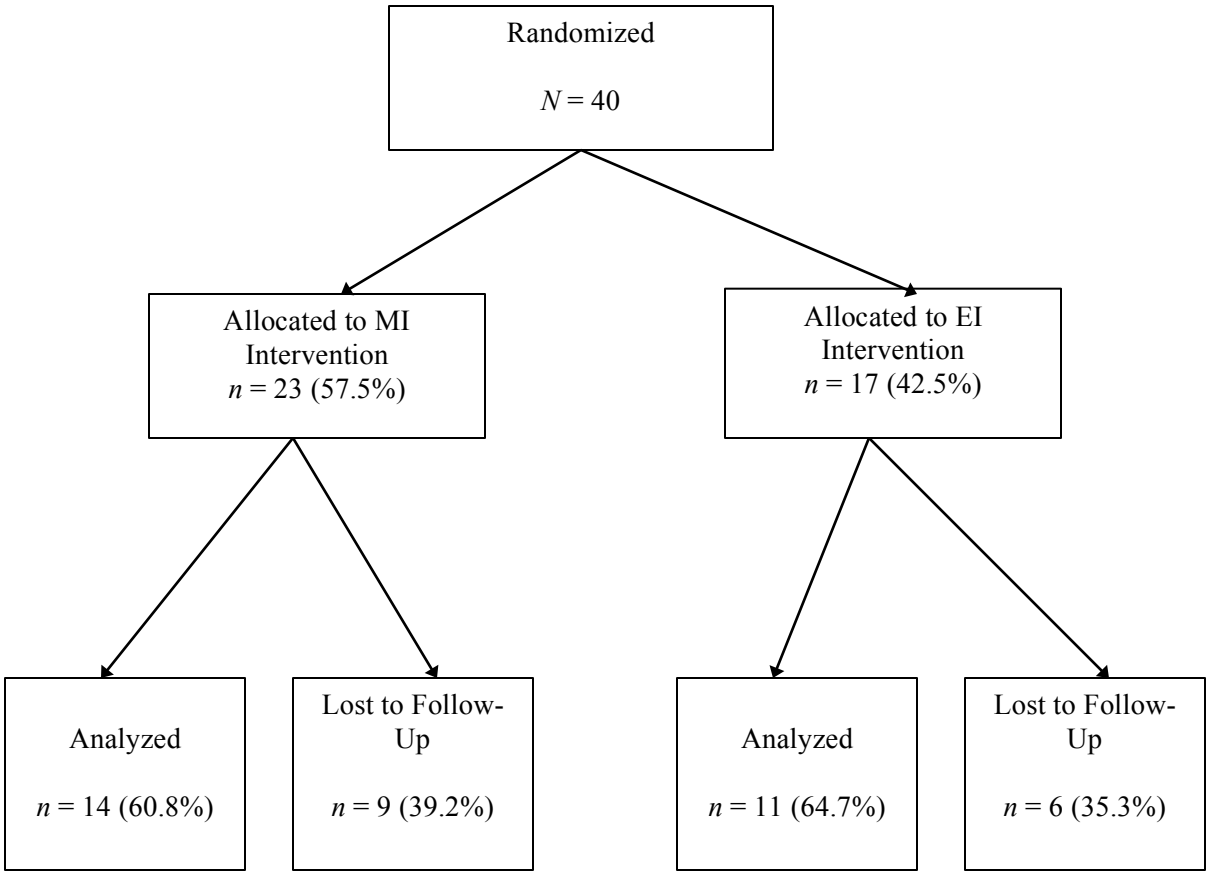


Figure 2. Chart of follow-up rates by study condition.

Appendix A

Research Opportunity:

Project PRIME

Pre-Release Interventions for Managing Environments

Do you speak English?

Currently sentenced?

Being released in 30 days or less?

A research team from the University of New Mexico is recruiting individuals who are sentenced and being released in less than 30 days.

You can make up to **$40** for participating in ONE interview while in jail and ONE follow-up interview after you are released.

All information is kept **confidential**.

This study is in no way affiliated with the detention center and participating in this study will **not** influence your legal status.

Interested? Questions?

Please complete a study slip **and give the slip to your case manager** to be contacted for more information.

Appendix B: **Project PRIME**

You can make up to **$40** for participating in this research study. All information you provide on this form and during the study is kept **confidential**. If you are interested in participating, please answer the following:

1. In the year before coming to jail most recently, I was arrested for an alcohol or drug related offense, such as a DWI, drug possession, or crime under the influence of alcohol or drugs (circle answer):

YES NO DON'T KNOW

2. I have been sentenced and have a release date within 30 days (circle answer):

YES NO DON'T KNOW

3. If eligible, I would be able to provide post-release location information (circle answer):

YES NO DON'T KNOW

If you are eligible, you will be contacted for additional screening within two weeks.
If you are not eligible for the study, you will not be contacted.

Full Name: Unit:

Inmate ID: Case Manager:

Project PRIME

You can make up to **$40** for participating in this research study. All information you provide on this form and during the study is kept **confidential**. If you are interested in participating, please answer the following:

1. In the year before coming to jail most recently, I was arrested for an alcohol or drug related offense, such as a DWI, drug possession, or crime under the influence of alcohol or drugs (circle answer):

YES NO DON'T KNOW

2. I have been sentenced and have a release date within 30 days (circle answer):

YES NO DON'T KNOW

3. If eligible, I would be able to provide post-release location information (circle answer):

YES NO DON'T KNOW

If you are eligible, you will be contacted for additional screening within two weeks.
If you are not eligible for the study, you will not be contacted.

Full Name: Unit:

Inmate ID: Case Manager:

Appendix C

Project PRIME Screening Form

Name of Person Conducting Screen: Date:

Gender: Release Date:

Case Manager: Unit:

"Hi, my name is _____ and I am from the University of New Mexico. If it is all right with you, I can tell you a little bit about our study. (*If yes, proceed*) **We are interested in better understanding the experiences individuals face after being released from jail. First, we would begin by asking you a few more questions to see if you are eligible for the study. If you are eligible, we either would continue with the study now or find a time with your case manager to meet with you again in the near future. The next step then would be to review a consent form, and if you decide to participate, you would sign the consent form, complete some questionnaires, and be randomly chosen to be in one of two groups (there is a 50/50 shot that you would be in either group. For one group you would meet with someone for 60 minutes to talk about your plans for when you are released. For the other group you will two 20 minute videos and talk about them. In total, this appointment will take about 3 to 3 ½ hours. For your time, you will be paid $15 in a store gift card. Then, 4 weeks after you are released you will be contacted for a follow-up interview that will take about 90 minutes and will take place at a research center near the Albuquerque airport. You will be paid $25 in a store gift card for completing this second interview, for a total of $40. Do you have any questions so far?** *(Answer any questions).* **Your participation in this study will not affect your legal status. For example, participating will not affect your release date. All information is kept confidential within the research study, unless you express intent to harm yourself or others. This means that any alcohol or drug use reported to us will be kept confidential from your corrections or probation officer. For safety reasons, MDC staff will know who meets with study staff, but will not be informed of which group you are assigned to or any of the information you provide for the study. What questions do you have so far?** (*Answer any questions*)

Great. Now, to see if you would be a good fit for the study I will need to ask you some brief questions. Some questions ask about sensitive information regarding alcohol or drug use. All

information is kept confidential from anyone outside of the study staff, including corrections officers, unless you express intent to harm yourself or others. If at any time you wish to discontinue, you may do so."

"Do you understand that participating will not affect your legal status at MDC or after release?"

☐ YES ☐ NO → (*Review that participating will not affect legal status, etc.*)

"Do I have your permission to continue?" ☐ YES ☐ NO → Exclusion

(*If YES, proceed to the inclusion and exclusion criteria. If NO, thank and end the screening interview*)

1. Are you fluent in reading and understanding English?

☐ YES ☐ NO → Exclusion

2. Are you able to complete a follow-up interview?

☐ YES ☐ NO → Exclusion

2b. Can provide post-release location info? ☐ YES ☐ NO → Exclusion

3. Did you have a drink containing alcohol in the 12 months prior to being incarcerated currently?

☐ YES ☐ NO → Exclusion

4. Why are you incarcerated? _____

4a. Is this alcohol or drug related? ☐ YES ☐ NO → (See #5a)

5. Were you arrested for an alcohol or drug-related charge in the 12 months before incarceration?

☐ YES (See #5a) ☐ NO (If NO to #4 and #5 → Exclusion)

5a. What was the charge? (list and check a box) _____

☐ DUI/DWI ☐ Probation Violation ☐ Drug Possession ☐ Other

☐ Crime under the influence: _____ of ALCOHOL and/or DRUGS?

(If ELIGIBLE, continue to NIDA Modified ASSIST)

(If Moderate to High Risk of alcohol AND criterion #4 OR criterion #5, continue to following questions)

Now we're going to shift from talking about alcohol and drugs to some other questions that I ask everyone. I'd like to ask you about unusual experiences that people sometimes have.

"In the last six months have you had any strange, unusual, or frightening experiences such as:"

6. "Hearing things that other people couldn't hear?" **Yes ____ No _____**
If yes: **"Can you give me an example?"**

---

7. "What about seeing things other people couldn't see?" **Yes ____ No _____**
If yes: **"Can you give me an example?"**

---

8. "What about having strange ideas like people were out to get you or that you were receiving special messages from the TV or radio?" Yes ____ No _____
If yes: **"Can you give me an example?"**

---

9. "What about feeling that you were losing your mind or having periods of feeling very confused?"

If yes: **"Can you give me an example?"** **Yes ____ No _____**

---

10. "Have you ever been hospitalized for psychiatric treatment?" `
If yes: **"Can you tell me more about that?"** **Yes ____ No _____**

Eligible for study? ☐ YES, ELIGIBLE NOW/IN LESS THAN 14 DAYS (go to outcome A)

☐ YES, AT A LATER DATE/IN MORE THAN 14 DAYS (go to outcome B)

☐ NO (go to outcome C)

Outcome A: **"Thank you for taking the time to answer those questions. It appears as though you would be a good fit for the study, and we would really like you to participate. Do you have any additional questions for me right now?** (*Answer any questions*) **If it is okay with you then, we either**

can complete the rest of the appointment now (*if possible*) **or we can schedule you for an appointment.** (*Schedule appointment, reaffirm confidentiality and no influence on legal status, and inquire if inmate will stay in current unit*). **Great, we'll see you on (*day*) at (*time*) at your unit."**

Inmate's Full Name: _____ Unit: _____

Appointment Date: _____ Time: _____

Outcome B: **"Although you are not eligible to continue in the study in the next week or two, you will be eligible on _____. Would you like to schedule an appointment and be reminded** (*if possible*) **or would you like us to recontact you in a few weeks to see if you still are interested?"**

□ Schedule now: Appointment Date: _____ Time: _____

□ Contact later: **"Do we have permission to retain your information in case you are interested? If we have not heard from you, your information will be destroyed after your release date."**

□ YES □ NO → Exclusion

Outcome C: **"Thank you for taking the time to answer those questions. It appears as though the study might not be a good fit for you right now. Thanks for your interest and have a great day."**

Reason for exclusion:

□ Not proficient in English

□ Unable to attend follow-up interview at CASAA or unable to provide *any* location information

□ Answered NO to #4 *and* #5 (no pre-incarceration substance use-related consequences)

□ No moderate or high alcohol use involvement prior to incarceration

□ Active psychotic symptoms

□ Not eligible now, did not want study staff to retain information

□ Other: _____

Appendix D

Study ID: _____ **Date:** _____

Measure of Motivation and Confidence

Compared to the amount of alcohol and/or drugs that you were using in the 3 months before you went to jail… (PLEASE CIRCLE A NUMBER)

1a. **Right now**, how motivated are you decrease your drinking or be abstinent from alcohol after you are released from jail?

0 1 2 3 4 5 6 7 8 9 10

Not at all motivated Somewhat motivated Extremely motivated

1b. **Right now**, how confident are you that you can decrease your drinking or be abstinent from alcohol l after you are released from jail?

0 1 2 3 4 5 6 7 8 9 10

Not at all confident Somewhat confident Extremely confident

2a. **Right now**, how motivated are you decrease **all** of your drug use or be abstinent from **all** drugs after you are released from jail?

0 1 2 3 4 5 6 7 8 9 10

Not at all motivated Somewhat motivated Extremely motivated

2b. **Right now**, how confident are you that you can decrease **all** of your drug use or be abstinent from **all** of drugs after you are released from jail?

0 1 2 3 4 5 6 7 8 9 10

Not at all confident Somewhat confident Extremely confident

Please answer the following to how you are feeling *right now* (CIRCLE A NUMBER):

3a. How motivated are you to attend any substance use treatment (e.g., counseling, Alcoholics Anonymous and other 12-step groups) after release from jail?

0 1 2 3 4 5 6 7 8 9 10

Not at all motivated Somewhat motivated Extremely motivated

Study ID: _____ **Date:** _____

3b. How confident are you that you can attend any substance use treatment (e.g., counseling, Alcoholics Anonymous and other 12-step groups) after release from jail?

0 1 2 3 4 5 6 7 8 9 10

Not at all confident — Somewhat confident — Extremely confident

4a. How motivated are you to attend any formal mental health treatment (e.g., counseling, not for alcohol or drug use only) after release from jail?

0 1 2 3 4 5 6 7 8 9 10

Not at all motivated — Somewhat motivated — Extremely motivated

4b. How confident are you that you can attend any formal mental health treatment (e.g., counseling, not for alcohol or drug use only) after release from jail?

0 1 2 3 4 5 6 7 8 9 10

Not at all confident — Somewhat confident — Extremely confident

5a. Compared to who you had contact with before you went to jail, do you want to make any changes to your social network (friends, family, people you spend time with) after you are released from jail? (CIRCLE ONE RESPONSE)

I do not want to make any changes — I want to make some changes to my social network — I want to make a lot of changes

5b. Based on how you answered 5a, how motivated are you to keep your social network the same or make these changes to your social network after release from jail?

0 1 2 3 4 5 6 7 8 9 10

Not at all motivated — Somewhat motivated — Extremely motivated

5c. Based on how you answered 5a, how confident are you that you can keep your social network the same or make these changes to your social network after release from jail?

0 1 2 3 4 5 6 7 8 9 10

Not at all confident — Somewhat confident — Extremely confident

Appendix E

Study ID: _____ **Date:** _____

SCID Craving Question (Criterion #4)

(Did you have/have you had) a strong desire, urge, or craving to drink that made it difficult to think of anything else?

How often has this occurred?

(Was it/would it have been difficult to resist the desire, urge, or craving?)

Scoring:

(5) Craving, or a strong desire or urge to use alcohol/other drugs:

? 1 2 3

Appendix F: **Post – Meeting Questionnaire – Participant**

Study ID: _____ **Date: _____**

Your name will not be connected directly with your answers.

1. How helpful was the content of the meeting for you (was the information useful?)?

0 1 2 3 4 5 6 7 8 9 10

Not at all helpful Somewhat helpful Extremely helpful

2. What part of the meeting was most helpful?

_____

_____

3. What part of the meeting was least helpful?

_____

_____

4. How well did you get along with Mandy/Nikki?

0 1 2 3 4 5 6 7 8 9 10

Not at all well Somewhat well Extremely well

5. Overall, how do you feel that the meeting went?

0 1 2 3 4 5 6 7 8 9 10

Not at all well Somewhat well Extremely well

6. Would you recommend this meeting to a friend who was in a similar situation?

NO YES

7. Based on your experience, what suggestions would you have for improving your meeting?

_____

_____

Appendix G: **Post – Intervention Questionnaire – Therapist (MANDY or NIKKI)**

Study ID: _____ **Date:** _____

1. How able were you to cover all of the content prescribed by the manual?

0	1	2	3	4	5	6	7	8	9	10
Was unable to cover any/most of the content				Was able to cover about half of the content				Was able to cover all of the content		

2. How helpful was the content for the participant (i.e., did he/she appear to engaged? Did the structure/content of the intervention help the participant plan for after he/she is released)?

0	1	2	3	4	5	6	7	8	9	10
Not at all helpful				Somewhat helpful				Extremely helpful		

3. What part of the intervention appeared to be most helpful?

_____

4. What part of the intervention appeared to be least helpful?

_____

5. How confident are you that you were able to build a positive rapport with the participant?

0	1	2	3	4	5	6	7	8	9	10
Not at all confident				Somewhat confident				Extremely confident		

6. Overall, how do you feel that the session went with the participant (in terms of all of the points asked above)?

0	1	2	3	4	5	6	7	8	9	10
Not at all well				Somewhat well				Extremely well		

7. Based on this participant, what suggestions would you have for improving the intervention?

_____

_____

Appendix H

Project PRIME

Pre-Release Interventions for Managing Environments

Therapist Manual
2014

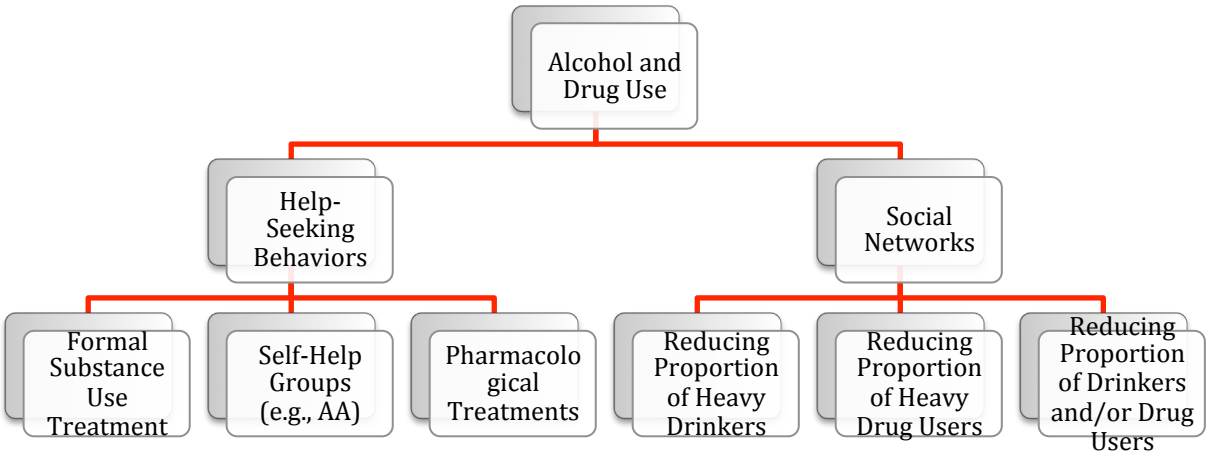
Motivational Intervention (MI)

Session Targets

The primary target of the Motivational Intervention (MI) will be decreasing individuals' alcohol and drug use (see figure below). For example, therapists should focus on and reinforce participant language about motivation or commitment to reduce his or her alcohol or drug use. How the therapists should selectively direct conversations will be elaborated more fully below. If a participant uses both alcohol and drugs, therapists should target a participant's reasons for decreasing both alcohol and drugs if this is consistent with his or her goals. If a participant expresses motivation to change either alcohol or drugs but not both, the therapist still should explore the participant's ambivalence for both alcohol and drugs. However, the therapist should not push the participant to change his or her alcohol or drug use, and should focus on the substance that the participant is most interested in reducing. If a participant begins the session with strong motivation and intention to stay completely abstinent, the therapist should reinforce these intentions and discuss further reasons and commitments to sustain these changes.

The secondary targets of the MI will be engaging in help-seeking behaviors related to alcohol and drug use and changing social networks. For example, therapists should listen for and direct conversations towards discussions on engaging in substance use treatment or self-help groups or towards participant language about wanting to reduce the number of heavy drinkers or heavy drug users in his or her social network. For this intervention, it is hypothesized that engaging in help-seeking behaviors and changing social networks after release from jail will indirectly lead to reductions in alcohol and drug use. Therefore, therapists should guide discussions towards help-seeking behaviors or changing social networks as they are applicable or pertinent to the participant and encouraging him or her to reduce his or her substance use.

Hierarchy of Targets for the MI Session



Clinical Approach

The MI will utilize a motivational interviewing approach (Miller & Rollnick, 2012). As described in other Motivational Interviewing/Motivational Enhancement Therapy interventions (Miller et al., 1999), the approach for the MI comes from a human-centered approach, which assumes that the participant has the ability and knowledge of how to change his or her behavior. For this type of intervention, the therapist will help to foster an encouraging environment for the participant to explore his or her ambivalence and enhance his or her motivation and commitment towards behavior change.

The spirit of motivational interviewing can be described by:

1. Partnership
2. Acceptance
    a. Absolute Worth
    b. Accurate Empathy
    c. Autonomy Support
    d. Affirmation
3. Compassion
4. Evocation

There are four processes that underlie motivational interviewing, including **Engaging** with the participant, **Focusing** on a particular target behavior, **Evoking** motivation from the participant to change his/her behaviors, and **Planning** with the client of how he/she wants and intends to change. Additionally, the specific techniques that characterize motivational interviewing are **Open-Ended Questions**, and incorporating **Affirmations**, **Reflective Listening**, and **Summaries** into the dialogue with participants; these approaches aim to evoke problem recognition from the participant and commitments to change his or her behaviors.

Open-Ended Questions

In working with individuals with alcohol use disorders and talking about sensitive information, there's a risk that repeatedly asking closed-ended question establish a question-and-answer pattern with the participant that could make him or her more passive and less forthcoming. Frequent use of closed-ended questions also could inhibit the participant to take charge in the session and could suppress autonomy over making behavior changes. Below are two examples of questions:

Close-ended questions:

- What types of drugs did you use before you went to jail?
- Do you want to continue drinking after release from jail?
- Have you ever been to treatment?
- Are you married?
- Couldn't spending time with Joe get in the way of your goals?

Open-ended questions:

- What are you goals after you are released?

- How did your past experiences with treatment go?
- How would spending time with Joe after release from jail affect your alcohol and drug use?
- What are some ideas you have about how you can reduce your alcohol or drug use?
- What could you see getting in the way of making these changes?

For the MI, close-ended questions should not be avoided, as they can be helpful for the therapist to gather information about the participant. However, it is purported in motivational interviewing the using close-ended questions too frequently can lead the participant to disengage from the session.

Affirmation of the Participant

A participant may have not had previous opportunities to explore his or her ambivalence or thoughts on reducing his or her substance use. It is important for the therapist to periodically offer support to the participant during these difficult discussions. Examples of affirmations could include:

> *The thought of quitting drinking can be really scary and the fact that you want to take the first step is impressive and brave.*
>
> *Being a good dad is really important to you and you are willing to do whatever it takes to be there for your kids.*
>
> *You've already been making a lot of positive changes while you have been in jail – you want to take every opportunity that you can.*

Reflective Listening

During a session, using reflections instead of asking a question can help to progress further the conversation without making the participant feel like he or she is being interviewed. Reflections may be simple where the therapist mirrors back what the participant said. Other reflections may be more complex where the therapist adds some inferred meaning to what the participant had said, almost as a way of checking out the therapist's hunch. The skilled therapist can help the participant further explore his/her own thoughts and feelings by using reflective listening skills. Examples of reflections may include:

> **Participant**: *I've tried quitting on my own before.*
> **Therapist**: *You have been worried about your alcohol and drug use for a while.*
> **Participant**: *Yeah, but I feel like this time will be different.*
> **Therapist**: *You are really motivated to keep these changes.*

Participant: *My girlfriend hates my drinking, but then she used to get mad at me when I would leave her with the kids to go to an AA meeting.*
Therapist: *You would like to figure out how to talk to your girlfriend about supporting you and your decision to stay sober.*
Participant: *Yeah, it's going to be tough for me to stay sober without her help.*

Participant: *I want to quit drinking, but all of my friends drink and it's what we've always done together.*
Therapist: *You're concerned that hanging out with your old friends will lead you to drink again and you really would like to stay abstinent.*
Participant: *I do want to stay sober. Maybe that means I should rethink my friends.*

Summarizing Key Points

Therapists should be listening for important pieces of information provided by the participant throughout the session. Periodically, therapists should synthesize the participant's key points for behavior change. Summarizing the participant's thoughts around changing their behaviors can offer him or her a new perspective that can elucidate additional discussion, motivation, and commitment to change. For example:

> *I want to check to make sure I am understanding things: This is the longest that you have been sober and you are determined not to go back to jail again. You've tried quitting on your own before by going to meetings, but don't really want to go to them after you are released. You are worried about going to treatment since you never have been before, and on the other hand you think that it could really help. How does that sound?*

Eliciting Change Talk

Previous research suggests that individuals may exhibit varying levels of motivation to change their alcohol or drug use, with some already committed to changing and others more ambivalent about behavior change. The motivational interviewing approach and the MI are structured to reinforce a participant already ready to change and help another to explore his or her ambivalence. By therapists providing a space with which to explore ambivalence and eliciting change talk, it is hoped that a participant will recognize the problems associated his or her substance use, related concerns and intentions to ameliorate these worries, and articulate positive feelings about executing these behavior changes. Using open-ended questions could help therapists to elicit change talk from the participant; questions such as:

Recognizing the problem

> *How has your alcohol or drug use played a role in you coming to jail?*
>
> *What are your concerns about hanging out with your old friends again?*

Expressions of concern

> *Why is your family worried about you using alcohol or drugs again?*

What could happen if you keep using?

Intentions to change

How could things look different if you stayed sober?

Why don't you want to come back to jail?

Expressions of optimism and confidence

What makes you feel good about staying sober after jail?

How do you know that this time will be different?

Therapists should use questions like these and reflections to help elicit the participant's awareness of how alcohol and drug use may be involved in negative consequences and encourage the participant to make changes to reduce his or her substance use. Statements related to changing his or her behavior can be categorized into six types of change talk (Miller & Rose, 2009):

Desire

I would really like to stay sober this time.

I want to try AA again.

Ability

It would be easy for me to stop hanging out with my drinking buddies.

I know that I can do what it takes to finish my probation [including staying sober] *and move on.*

Reason

My daughter hates my drinking.

If I keep drinking it's just going to send me back here.

Need

I should stay away from my ex-girlfriend, otherwise I'll keep drinking.

Unless I want to go to prison, I need to stay sober.

Commitment

I could try telling my girlfriend that I want to cut ties with Joe and Bob [to help me stay sober].

I will call Walsh Counseling as soon as I get out of here [to get Access to Recovery vouchers].

These six types have been referred to as the DARN-C categories of change talk and provide cues to the therapist of content that should be selectively reflected and reinforced. By reinforcing these change talk statements, it is purported that the participant will continue expressing these desires, abilities, reasons, needs, and commitments to change, which will lead to future behavior changes.

Acknowledging Change Talk

It will be important for therapists to recognize and acknowledge the participant's change talk both when they are explicit (e.g., "I really want to stay abstinent") and when they are more overt (e.g., "I would like to be there for my family and don't want to go back to jail"). For both instances, the therapist should acknowledge the participant's change talk using reflections:

It is important for you not to use alcohol and drugs after you are released.

You're worried that using alcohol and drugs again could put you at risk of being arrested and being away from your family again.

In both of the above cases, the therapist's reflections highlight a desire expressed by the participant.

Reinforcing the Participant's Hope and Confidence

It is likely that some participants will have tried to cut down or stop using alcohol and/or drugs in the past and may be worried about trying to change their use again in the future. Therefore, it is important for therapists to reinforce a participant when he or she expresses feelings of confidence or optimism about changing. Examples of what a therapist can say to reinforcement the participant's self-efficacy are:

You've already quit doing heroin, which shows you that you can be successful when you put your mind to something.

Staying sober is so important to you that you have no doubts that you can do this.

Recognizing and Responding to Discord

Previously, it has been thought that when a participant gets defensive that this is a sign of denial or a lack of motivation to change. In motivational interviewing, if a participant argues or interrupts the therapist this is an indication to the therapist that he or she is not connecting with the participant or is not meeting the participant where he or she is in the process of behavior change. In these instances, the therapist should recognize disturbances in the relationship with the participant, or *discord.* Discord is different from *sustain talk*, which is language from the participant against changing the targeted behavior. At times when there is discord in the therapeutic relationship, it may be helpful for the therapist to use a reflection to communicate that he or she wants to understand what the participant is experiencing. For example:

Participant: *I'm sick of being told what to do… The COs here, my girlfriend, my family, you.*
Therapist: *You are frustrated with everyone tell you what to do and there are a lot of people that care about you.*

Participant: *You don't know what it's like to be locked up, do you?*
Therapist: *You're worried that I won't be able to understand everything that you've been through.*

It could be easy for a therapist to react defensively or to answer the participant in the second example, but often times participants can ask questions that have no correct answer. Further, arguing with the participant about an answer to a question detracts from the targets of the session and can use up precious time in this short intervention. When therapists acknowledge and reflect what the participant is experiencing this can help to send the message that therapist is trying to understand the participant's perspective and where he or she is in the process.

Recognizing Readiness for Change

There is a range of how a participant will express readiness to change his or her substance use. It is necessary for therapists to recognize and acknowledge a participant's readiness to change his or her behavior. Examples of therapist can acknowledge readiness to change include:

Participant: *I just want to be a good mom.*
Therapist: *You're willing to do whatever it takes to be there for your kids.*

Participant: *What's the use? Once an alcoholic, always an alcoholic.*
Therapist: *You'd really like to quit drinking.*

Participant: *I have no idea where to start with getting into treatment.*
Therapist: *You would be interested in finding out more information about getting into treatment.*

Developing Discrepancy

Sometimes a participant may not connect his or her substance use with some of the negative events in his or her life (e.g., going to jail). Here, the therapist can be helpful in drawing the participant's awareness to his or her substance use and barriers to his or her goals. In motivational interviewing, this strategy of presenting the participant with how his or her substance use may interfere with his or her goals is called developing discrepancy, which is illustrated with these examples:

On one hand you said that you don't plan on changing your drinking once you are released. On the other hand, you mentioned that you have a history of driving after drinking regularly and that you are here because of a DWI, but that you don't want to go back to jail. What do you think about that?

I'm a bit confused… You said that hanging out with your friends [who also drink] makes it really hard for you to stay sober. You want to quit drinking and yet you are going to live with them again when you are released. How do you see those fitting together?

Developing discrepancy can help to elicit reasons and commitment to change, but it also may bring resistance from the participant. It can be difficult for a participant to acknowledge the discrepancy between his or her behaviors and goals, and may argue with the therapist about why he or she should not change. In these situations, therapists should approach the discussions with a genuine curiosity and allow the participant to talk through this struggle. Additionally, the therapist should selectively reinforce the participant's reasons for change only. Although exploring why a participant does not want to change may be helpful in getting his or her buy-in at the beginning of the session, by the middle or end of the session the therapist should be allowing reasons to stay the same to pass unacknowledged. Some research has found that utterances related to change often come with utterances related to staying the same (i.e., a counter-change talk sandwich). For example:

Participant: *I don't know if I can quit. I know that I'm killing myself, but I've never been able to be sober for more than a month other than when I'm in jail.*

Therapist: *You're scared about what alcohol and drugs are doing to your health and your life.*

As shown in this example, it is important to allow the participant's reasons to stay the same (i.e., being scared to quit) to pass and to reflect the participant's reasons to change. Other studies also have found that the use of reflections and reinforcing change talk to be particularly helpful.

INTERVENTIONIST TRAINING

The successful testing and implementation of the MI necessitates that the therapist be willing to conduct sessions in a spirit consistent with the motivational interviewing approach and to adhere to the procedures in this manual.

First, therapists should be trained in using motivational interviewing, which will include the review of Miller and Rollnick (2012). Second, therapists will be required to attend biweekly meetings for supervision with Dr. Theresa Moyers, an expert in training therapists and using motivational interviewing. Dr. Moyers will provide regular feedback to therapists by reviewing audio-recorded sessions and it is expected that therapists implement this feedback into future sessions. Additionally, this manual will be updated with relevant changes as appropriate.

MI Session Outline

A. Format: Individual
B. Session length: 50-60 minutes
C. Provider: Clinician, supervised by a trainer of motivational interviewing (e.g., Dr. Moyers)

Introduction (5 minutes)

- Thank participant and opening remarks

Thank you for participating today, we really appreciate your help with our project. First, I'd like to remind you that everything thing that you say here will be kept private from all MDC staff and anyone outside of the side. The only reason why I would have to break confidentiality is if you express intent to harm yourself or someone else. What questions do you have?

Participant's story (20 minutes)

- Review participant's post-release plans

Great. Today I'd like to talk with you about your alcohol and drug use and plans for when you are released from jail, and we can start wherever you would like.

- If participant asks, *What should I talk about?*

I'm curious about your thoughts and experiences with alcohol and drugs and plans for after you are released.

- Elicit change talk for cutting down or stopping alcohol and drug use, engaging in self-help behaviors, and changing social networks

Targeted querying (15 minutes)

- Using the handout *Summary of Assessment Information*: discuss pre-incarceration treatment attendance, substance use, and social networks to develop discrepancy between pre- and post-incarceration behaviors

- Use the following questions for targeted querying:

Why might you want to change your drinking/drug use?

What would happen if you did not change your drinking/drug use?

How does your pre-incarceration substance use fit with your goals after release from jail?

- If participant expresses readiness to change:

  What are some ways that could help you decrease/stop using alcohol and/or drugs?

  How could treatment be helpful after you are released?

  You mentioned that you used to use drugs with your friends – what does this mean for after jail?

Discuss plans to protect the participant's intentions to change (15 minutes)

- If a participant expresses interest in decreasing his or her substance use, discuss his or her optimism to implement these changes after release from jail

  What has helped you to decrease your alcohol/drug use in the past?

  Others have found self-help groups, such as Alcoholics Anonymous, to be helpful. What do you think?

  What could get in the way of going to meetings?

  You said that spending less time with Joe could be helpful – what would you do if he called?

  Who else could you spend time with instead of Joe?

- If participant does not want to make changes, discuss his or her concerns and explore future events/situations/and cues that will indicate a need to change his or her behaviors

  What would be a level of alcohol/drug use that you would not be comfortable with?

  What would be some red flags that would make you worried about your alcohol or drug use?

  What could you do in these situations?

  If you did want to change, what would that look like?

Summarize goals/plans and thank (5 minutes)

- Provide a summary of the session and, if relevant, future goals and plans

  Okay, I want to check in to make sure I've understood everything. You have been thinking a lot about your alcohol and drug use, and really want to stay out of jail

and be with your kids. You have got to some AA meetings in the past and want to go to them again, and you also are going to contact Walsh Counseling and get referral information for treatment. How does that fit with what we've talked about?

- Thank the participant, provide the treatment referral list, and administer the post-intervention motivation and confidence questionnaire and the post-intervention reaction questionnaire

  Thanks again for participating, we really appreciate. Here is a list of referral information if you want it, which includes some of the places we've talked about. You are almost done; we just have a few more questionnaires for you to fill out. When you complete this form (point to the post-intervention reaction questionnaire)*, we ask that you seal it in this envelope so that I do not see your answers.*

Educational Intervention (EI)

Session Targets

The primary target of the educational intervention (EI) will be to provide the participant with educational information about alcohol and drugs.

Clinical Approach

Contrary to the MI, this intervention will utilize a didactic approach. This approach will utilize mostly close-ended questions to verify the participant's understanding on the material, and will minimize the use of open-ended questions and reflections. If a participant begins to disclose information on his or her experiences with alcohol or drugs or other personal information, the therapist should acknowledge the participant's disclosure and quickly redirect the conversation back to the prescribed questions.

EI Session Outline

A. Format: Individual
B. Session length: 50-60 minutes
C. Provider: Clinician, supervised by a trainer

Introduction (5 minutes)

- Thank participant and opening remarks

Thank you for participating today, we really appreciate your help with our project. First, I'd like to remind you that everything thing that you say here will be kept private from all MDC staff and anyone outside of the side. The only reason why I would have to break confidentiality is if you express intent to harm yourself or someone else. Do you have any questions?

Watch first video (20 minutes)

- Load and ready the first video from *Addictions*: What is Addiction? (2:15 on the DVD)
- Give the participant the handout for the videos

Great. Today you're going to watch two videos on alcohol and drugs and you'll complete these questions as you watch the video, and then we'll talk about your answers. Does that make sense?

Answer and discuss prescribed set of questions related to first video (5-7 minutes)

- Questions on the handout will focus on the content of the video. Additional questions may asked by the therapist verbally may include:

Will you provide a summary of the information they covered in the video?

Is that information new to you?

Does that information seem accurate to you?

Do you have any questions about specific facts from the video?

- If a participant begins to talk about his or her own personal experiences, the therapist should quickly return to reviewing the prescribed questions about the video. For example:

Therapist: *Does that information seem accurate to you?*
Participant: *Not really. I don't think that I have ever had withdrawal symptoms for marijuana, so does that mean I'm not addicted?*
Therapist: *Right, good point. Was there any other information that didn't seem right?*

Watch second video (20 minutes)

- Load and ready the second video from *Addictions*: Understanding Relapse (24:00 on the DVD)
- Provide the participant with the second handout for this video

Thanks. Now we're going to watch the second video and you'll answer some more questions about it, and after that we'll talk about the answers. Okay?

Answer prescribed set of questions related to second video (5-7 minutes)

- Questions on the handout will focus on the content of the video. Additional questions may asked by the therapist verbally may include:

Will you provide a summary of the information they covered in the video?

Is that information new to you?

Does that information seem accurate to you?

Do you have any questions about specific facts from the video?

Summarize content of videos and thank (5 minutes)

- Review the content from the videos

There was a lot of information about what addiction is and how one can access treatment. Do you have any last questions for me?

- Thank the participant, provide the treatment referral list, and administer the post-intervention motivation and confidence questionnaire and the post-intervention reaction questionnaire

Thanks again for participating, we really appreciate it. Here is a list of referral information if you want it. You are almost done; we just have a few more questionnaires for you to fill out. When you complete this form (point to the post-intervention reaction questionnaire)*, we ask that you seal it in this envelope so that I do not see your answers.*

Study ID: _____ Date:_____

Video 1: What is Addiction? Total: _____/10

1. What is the term that describes an individual's inability to control the use of alcohol or drugs? (2:30)

   A. Motivation ***B. Addiction*** C. Drive D. Guilt

2. Drug addiction has the largest effect on the _____? (3:42)

   A. Arm B. Leg ***C. Brain*** D. Heart

3. Some people are genetically vulnerable to *Addiction*. (6:36)

   A. ***TRUE*** B. FALSE

4. _____ put you at higher risk for addiction. (6:43)

   A. Stress B. Abuse C. Access to drugs ***D. All of the above***

5. You are *more* likely to become addicted if you start drinking or taking drugs in what period of life? (7:17)

   A. Late adulthood (65+years) B. Adulthood ***C. Adolescence/Childhood***

6. Some people view drug addiction as a disease. (8:30)

   A. ***TRUE*** B. FALSE

7. The _____ contains a natural reward system. (11:28)

   A. Brain B. Arm C. Legs D. Heart

8. Often, what is a top priority of an individual who is addicted to alcohol or drugs?

   _____. (13:35)

   A. Getting the drug/alcohol

9. With a deficit in dopamine function comes an inability to feel _____ except through drug use. (15:28)

   A. Depression B. Anxiety ***C. Pleasure*** D. Boredom

10. Brain imaging has been helps us to understand how the _____ is affected by drugs. (17:00)

    A. Heart B. Arm ***C. Brain*** D. Head

Study ID: _____ Date:_____

Video 2: Understanding Relapse Total: _____/10

1. _____ is the return to drug use after a period of being drug free. (2:44)

   A. Sobriety B. Prevention ***C. Relapse*** D. Disneyland

2. Relapse IS a failure of treatment. (4:17)

   A. True ***B. FALSE***

3. In the brain there are two systems, what are these two systems (Circle two answers)? (6:45)

   A. ***Go System*** B. Slow System ***C. Stop System*** D. Fast System

4. People, places and things, often referred to as _____, affect alcohol and drug use. (8:52)

   A. Nouns ***B. Triggers*** C. Emotions D. None of the above

5. Drug addiction is a _____ issue? (9:43)

   A. Intelligence B. Moral C. Individual ***D. Biological***

6. _____ is a major factor that contributes to relapse. (9:57)

   A. Food ***B. Stress*** C. Sunny weather D. Music

7. What is a state of mind in which one has lost the ability to experience any form of pleasure? (11:33)

   A. Happiness B. Jealousy ***C. Anhedonia*** D. Sleepiness

8. Cognitive behavioral _____ helps patients recognize, avoid and cope with situations in which they are most likely to use drugs. (16:00)

   A. Therapy

9. _____ has/have shown that the brain has a remarkable ability to recover from addiction. (18:25)

   A. Science B. Word of mouth C. Movies D. The news

10. With continuing advances in medical and behavioral treatments, addiction will soon be commonly accepted as a manageable chronic _____. (18:34)

    A. Disease B. Infection C. Cough D. Headache

Substance Use Treatment Referrals List

Program	***Contact***	***Services Provided***
Albuquerque Health Services (formerly Metamorphosis)	112 Monroe Street NE Albuquerque, NM 87108 Ph: (505) 269-9917	Substance abuse treatment, detoxification, methadone maintenance.
Alcohol and Substance Abuse Program (ASAP)	2600 Yale SE Albuquerque, NM 87106 Ph: (505) 994-7999	Substance abuse treatment, ambulatory detoxification, methadone/buprenorphine treatment, services for women.
MATS Detoxification Program	5901 Zuni Rd SE Albuquerque, NM 87108 Ph: (505) 468-1555	Detoxification only, medically-supervised detoxification services.
New Mexico Solutions	707 Broadway NE, Suite 500 Albuquerque, NM 87102 Ph: (505) 268-0701	Outpatient individual, family, child, and adult; outpatient psychiatric assessment and treatment; adult & adolescents.
Pathways	707 Broadway NE, Suite 500 Albuquerque, NM 87102 Ph: (505) 338-3320	Sliding scale fee, substance abuse treatment, partial hospitalization/day treatment.
Turquoise Lodge (State of NM Department of Health)	5901 Zuni SE Albuquerque, NM 87108 Ph: (505) 841-8978	Medically managed and monitored inpatient chemical dependency detoxification, rehabilitation treatment.
Walsh Counseling	1113 Rhode Island St NE Albuquerque, NM 87110 Ph: (505) 266-0441	Distributes Access to Recover vouchers, which pay for substance use treatment.

Community and 12-Step Meetings

Program	***Contact***	***Services Provided***
Adult Children of Alcoholics	http://www.nmal-anon.org/Meetings_Albuquerque.htm	Meetings for adults who grew up in alcoholic homes.
Al-Anon	http://www.nmal-anon.org/Meetings_Albuquerque.htm. Ph: (505) 262-2177	Meetings for friends and families of people who drink.
Alcoholics Anonymous	http://www.albuquerqueaa.org/Ph: (505) 266-1900	Meetings for people who have a desire to stop drinking.
Cocaine Anonymous	Ph: (505) 344-9828	Meetings for people who have a desire to stop using cocaine and other substances.
Narcotics Anonymous	http://riograndena.org/ Ph: (886) 885-6562	Meetings where anyone who feels that they may have a problem with drugs is welcome.

Mental Health Treatment Referrals

Program	***Contact***	***Services Provided***
Agora Crisis Center	Ph: (505) 277-3013	24-hour crisis hotline
All Faiths Receiving Home	1709 Moon Street NE Albuquerque, NM 87112 Ph: (505) 271-0329	Mental health services for children and families. Oriented towards the prevention and treatment of child abuse.
NM Asian Family Center	Ph: (505) 717-2877	Services for Asian individual and families.
Saranam	1000 Eubank NE, Suite C Albuquerque, NM 87112 Ph: (505) 299-6154	Program for homeless families. Case management and housing. Affiliated with the United Methodist Church
UNM Department of Psychology Clinic	1820 Sigma Chi Road Albuquerque, NM 87106 Ph: (505) 277-5164	Low-Cost Treatment; Anxiety Disorders Specialty Clinic
UNM Hospital	2600 Marble NE Albuquerque, NM 87106 Ph: (505) 272-2800	Inpatient and outpatient services, services for women and children, behavioral health. (505) 272-2920 (Emergency Services)

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