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# Miami-Dade County Adult Drug Court: Trauma Study Report

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## Introduction

The purpose of this study is to assess outcomes for the Miami-Dade Adult Drug Court (ADC) clients who received trauma treatment through the ADC. The ADC, through a SAMHSA/BJA grant introduced a new trauma treatment curriculum, *Helping Men Recover*. The National Center for State Courts (NCSC), as the evaluator for this grant, designed and implemented a randomized experimental design to determine how outcomes of ADC clients receiving the new curriculum compare with ADC clients who received “business as usual” trauma treatment services.

This study aimed to answer two primary research questions: 1) whether the *HMR* groups and the business-as-usual groups differed significantly along key outcome measures, and 2) whether trauma screening tools were able to detect trauma needs for male felony defendants admitted to substance abuse recovery as part of an adult drug court program.

Effectively treating underlying trauma is a key goal for a population recovering from substance abuse disorders. For one, relapse tends to occur sooner for patients with co-occurring post-traumatic stress disorder (PTSD) and substance use disorders than patients with only a substance abuse disorder (Brown et al. 1996). Also, there is a significant relationship between adverse childhood experiences and drug use, suggesting that exposure to adverse childhood experiences can cause social, emotional, and cognitive impairment. This impairment can lead to the adoption of health-risk behaviors in adulthood that serve as coping mechanisms for stress and dysfunction. (Felitti et al. 1998). Miami-Dade County is an ideal location culturally to study trauma as some research has indicated that Latinos are more likely to experience PTSD than non-Latinos (Miles 2008). Furthermore, men are less likely to seek treatment to address their symptoms than women.

Two local treatment providers agreed to participate in the study – Better Way of Miami (BWOM) and Miami-Dade County Community Action and Human Services (DATP). The DATP is the largest provider for ADC clients, serving 37 percent of all ADC clients during the duration of the grant; BWOM served 14 percent of the ADC clients. As the ADC court staff and judge were in a position to influence client outcomes, the study was designed to blind these individuals to the trauma treatment assignments.

All ADC clients who were male and screened for intake after May 13, 2014 were candidates for this study. The NCSC randomly assigned each candidate to enter into a *HMR* group or business as usual at the selected participating substance abuse treatment provider. At the conclusion of the group, the group facilitators provided the NCSC with group-level data on the group’s experience and individual-level data on client engagement and attendance.

At the time of this study, the NCSC was concurrently evaluating the ADC's grant program enhancements and had access to additional individual-level data to measure outcomes for this study. Outcome measures included:

- ***ADC retention***: time in the program, successful graduation rates
- ***Social functioning***: measures of improved housing, health, relationships with family and friends, educational attainment, employment
- ***Sobriety***: results of drug and alcohol screens
- ***Recidivism***: in-program reoffending and post-program recidivism

Original study protocols dictated that ADC clients would be screened for past incidents of traumatic events and current trauma symptoms using two screening tools. However, without empirical evidence on the validity of the tools to adequately identify underlying trauma related to substance abuse and without established thresholds useful for triaging those defendants to receive trauma-informed substance abuse treatment, all clients, regardless of screened trauma levels, were included in the study.

# Literature Review

## History of Trauma Awareness

Early descriptions of trauma and stress-related disorders derive from the experience of warfare (Andreasen 2010). Initially conceived of as “shell shock” in World War I, it was later recognized in World War II that soldiers were experiencing a syndrome characterized by anxiety, reliving of traumatic experiences, and sensitivity to triggers. Theorists developed two main frameworks to explain trauma: the biological school and the psychological school. The former believed that “physical mechanisms” were crucial to stress-related disorders and that symptoms arose in response to chronic and severe stress. The latter school focused on the unconscious, repressed memories, and early childhood trauma.

The *Diagnostic and Statistical Manual of Mental Disorders, 3<sup>rd</sup> Edition* (DSM-III), published in 1980, officially defined posttraumatic stress disorder (PTSD). Three groups of PTSD symptoms were delineated: re-experiencing of a traumatic event, numbing of responsiveness, and cognitive or autonomic symptoms. PTSD requires that symptoms arise in response to a stressor, originally conceived of as an experience so abnormal to the human experience that anyone could develop PTSD as a result. Clinicians broadened the definition of such an event in practice, leading to a more general definition in subsequent versions of the DSM. The DSM-IV was published in 1994 and provides the basis of PTSD screening and treatment used in this study. Most recently, the DSM-5 was published in 2013.

## Defining PTSD and the Contexts in Which it Functions

PTSD in the DSM-IV is characterized as an anxiety disorder. A PTSD diagnosis under the DSM-IV requires that an individual be exposed to a traumatic event that involves the actual or threatened death or serious injury to the self or others. Additionally, the person’s response to the event must involve intense fear, helplessness, or horror. Further, the individual must experience a series of symptoms for at least one month. These symptoms include re-experiencing the traumatic event, avoidance of trauma-related stimuli and numbing, and hyperarousal. Finally, the symptoms must cause significant distress or functional impairment. It should be noted that the DSM-5 has changed the categorization of PTSD to a disorder related to traumatic and stressful events (Schnurr 2013). The new definition removed indirect exposure to nonviolent deaths from the list of relevant stressors, and it requires that a person experience at least one avoidance symptom (Kilpatrick 2013).

Following a traumatic event, an individual may experience hyperarousal, or the tendency for the nervous system to react to stressors rapidly, extremely, and for prolonged periods of time (Ford and Russo 2006). In response, the individual looks for signs of external danger and bodily distress. This may cause the individual to be preoccupied with distant or unlikely signs of threat or distress. To reduce these symptoms, the individual may avoid things, people, or places that are associated with distress. As a result, the person is unable to process and integrate memories related to trauma.

Previous studies examining trauma have focused on the effect of trauma on women. Many have found a lower prevalence of PTSD among men than women (Wade 2016; Ouimette 2006; Pratchett et al. 2010; Frissa 2016; Baker 2005; Norris 2001; Zlotnick 2001; Kessler et al. 1995; Najavits 1998), as women are more likely to report a trauma experience and to experience interpersonal trauma (Frissa 2016). Men are more likely to experience physical violence, public violence, threats with weapons, and violence from strangers, acquaintances, and friends (Baker 2005). By contrast, women are more likely to report sexual violence, childhood violence, intimate partner violence, and family violence.

The effect of culture (Hough 1996) and gender gaps in responses to trauma is particularly important. Latinos are more likely to experience PTSD than non-Latinos (Miles 2008). Norris (2001) examined the effects of cultural influence on reporting PTSD symptoms. In comparing reported PTSD symptoms after Hurricane Andrew struck Miami and after Hurricane Paulina hit Acapulco, the study found that the difference in reported PTSD symptoms between Mexican men and women was greater than the difference in reported PTSD symptoms between White or Black men and women. In Mexican culture, women are encouraged to be passive, compliant, and selfless while men are taught to be fearless and strong. These gender roles are more extreme in Mexico than in United States culture. Eleven percent of all immigrant Latinos in the U.S. report exposure to political violence, and seventy-six percent reported additional lifetime trauma (Fortuna 2008). Cubans were exposed to a greater proportion of violence than other Latinos and were more likely to report exposure. Additionally, immigrants who report exposure to political violence are more likely to be male. Non-Cuban Latinos are less likely to use mental health services; however, among all Latino immigrants, women are more likely to access mental health services than men. Latino men are more likely to be influenced by the stigma associated with seeking help for trauma, especially sexual trauma.

Trauma is often associated with substance abuse. PTSD and trauma-related experiences have been associated with higher rates of drug use (Chilcoat & Breslau 1998; Sadeh and McNiel 2015; McCauley 2012; Leeies 2010; Read 2004). The National Comorbidity Survey in the 1990s found that, among men and women with PTSD, a higher proportion of men reported co-occurring drug dependence (Kubiak 2004 citing Kessler et al. 1995). Multiple theories exist to explain the co-occurrence of substance use disorders (SUD) and PTSD. One such theory is the self-medication hypothesis, which posits that an individual with PTSD develops a SUD after using drugs or alcohol to relieve the symptoms of PTSD (Leeies 2010 referencing Khantzian 1999). Because a person with PTSD experiences hyperarousal, that person may attempt to mitigate anxiety through self-medication. Alternatively, a person with PTSD may use drugs to increase awareness of potential triggers or to reduce the distress associated with re-experiencing the trauma (Ford and Russo 2006). The use of drugs to alleviate PTSD symptoms becomes common, aggravating PTSD and exposing the individual to the risk of new trauma (Kubiak 2004). Another theory is the high-risk hypothesis, which suggests that an existing SUD enhances the risk of experiencing trauma and developing PTSD by creating dangerous opportunities and impairing a person's ability to process a traumatic memory (van Dam 2013). Most patients with co-occurring PTSD and SUD report that trauma occurs prior to



substance use (van Dam 2013), and recent research indicates that the co-occurrence of PTSD and SUD symptoms is more consistent with the self-medication model (Ouimette 2010). The comorbidity of and interaction between PTSD and SUD is significant because studies indicate that individuals with both issues are more likely to relapse or be admitted for SUD treatment (Kubiak 2004; McCarthy 2010). Comorbidity is also associated with more severe PTSD symptoms (McCarthy 2010).

Exacerbation of PTSD symptoms is a crucial factor in predicting relapse after substance abuse treatment for SUD patients with PTSD (Boden 2011). Relapse tends to occur sooner for patients with co-occurring PTSD and SUD than patients with only a SUD (Brown et al. 1996). Patients with more symptoms of PTSD are more likely to relapse, as are those who experience greater severity of symptoms and those who are isolated from social interaction. Additionally, patients with co-occurring PTSD and SUD who receive PTSD treatment within three months of being discharged from a SUD treatment program were more likely to be in remission five years later than those patients who did not receive PTSD treatment (Ouimette 2003).

## Assessing Trauma: Screening Tools

Many screening and assessment tools for trauma symptoms and PTSD (as defined in the DSM-IV) have been developed. Such tools can be divided into two categories: clinician-administered and self-reported. Clinician-administered tools are utilized by psychologists and clinicians and are necessary for the diagnosis of PTSD; however, they are costly and time consuming. As a result, self-reported assessments have been created as a screening tool for those with potential trauma symptoms. One of these tools is the Posttraumatic Diagnostic Scale (PTDS), which consists of questions about a stressor situation, the 17 DSM-IV symptoms on a four-point scale, the duration of symptoms, and impairment in various areas of life (Foa 1997). This assessment tool has high internal consistency and test-retest reliability, as well as high correlations with other measures. It therefore has been recommended by previous research as a useful tool for screening of PTSD. Additionally, the Life Events Checklist was developed to be administered prior to the Clinician-Administered PTSD Scale (CAPS), but stands alone as a screening tool (National Center for PTSD). It has demonstrated convergent validity with measures examining exposure to traumatic events, but does not require a specific event of severe distress. Other tools include the Beck Anxiety Inventory; the Primary Care PTSD Screen (PC-PTSD); Short Screening Scale for PTSD; SPAN; the Short Post-Traumatic Stress Disorder Rating Interview (SPRINT); and the Trauma Screening Questionnaire. More specifically, the Jellinek-PTSD (J-PTSD) was developed as a screening assessment tool for individuals with co-occurring PTSD and SUD. It is a modified version of the Primary Care Posttraumatic Stress Disorder questionnaire, a four-item questionnaire for veteran substance abuse disorders. The J-PTSD is designed to detect PTSD in civilians with a SUD.

In this study, the PTSD Checklist (PCL) and the Adverse Childhood Experiences (ACE) study were utilized. The PTSD Checklist has been extensively evaluated to determine its efficacy. It is a self-reporting tool for PTSD using DSM-IV criteria (National Center for PTSD). There are three versions: PCL-M (military), PCL-C (civilian), and PCL-S

(specific). While the PCL-C asks about symptoms related to general stressful experiences, the PCL-S requires an identified and specific traumatic event. Only five to ten minutes are required to administer the PCL, and reported scores range from 17 to 85. The cutoff score is not universal and changes based on the goal of the assessment and the prevalence of PTSD in the targeted population. Among a limited sample of college students, one study suggested that an overall cutoff score of 44 to 50 with mixed scoring criteria (where respondents answered that they were “moderately,” “quite a bit,” or “extremely” affected by the symptoms or conditions described individual questions) leads to a high level of diagnostic efficiency (0.96) (Ruggiero 2013). However, given the specific sample used in that study, it may not be generalizable to the broader population or, more specifically, to the ADC population. Additionally, it is generally recommended for civilians that a lower cutoff score leads to greater overall diagnostic efficiency (Blanchard 1996).

Multiple studies have found that the PCL is generally a sound screening tool (Blanchard 1996; Ruggiero 2003; Wilkins 2011; Conybeare 2012). Though the PCL is useful as a clinical screening test, its usefulness as a diagnostic tool depends on sample variation and bias, as well as the prevalence of PTSD in the population (McDonald 2010). There is high correlation of outcomes between the self-administered PCL and the clinician-administered CAPS, indicating its accuracy as a screening mechanism (Ruggiero 2003; Blanchard 1996). Further, the PCL demonstrates high internal consistency, test-retest reliability, and convergent validity (Ruggiero 2003; Wilkins 2011; Conybeare 2012). Though the PCL is easy to administer, generally sound, and widely comparable, it has some limitations. In the absence of a specific traumatic event in the case of the PCL-C, it may overestimate the prevalence of PTSD by misidentifying another disorder as PTSD (Wilkins 2011). Additionally, there are some concerns that the questionnaire’s reading level may alienate individuals with low literacy levels. Also, the interchangeability of the three versions has been questioned (McDonald 2010). Finally, because changes in the language of the instrument can affect outcomes (Wilkins 2011), translations of the PCL must be effective. Using a sample of Latinos in Los Angeles, Miles (2008) found that the Spanish-language translation of the PCL resulted in fairly equal outcomes as compared to the English language version, and the study concluded that the PCL can be used effectively among Spanish-language populations.

In contrast, the ACE questionnaire focuses specifically on childhood experiences of trauma. The aggregated score indicates exposure to childhood adversity (Cabrera 2007) using seven categories of abuse and household dysfunction (Felitti et al. 1998). These categories include psychological, physical, and contact sexual abuse, as well as exposure to substance use, mental illness, violent treatment of a mother, and criminal behavior. A study conducted by Kaiser Permanente, which surveyed almost 14,000 insurance-carrying adults in California, examined the relationship between exposure to these categories of childhood adversity and various adult health-risk behaviors and diseases (Felitti et al. 1998). The study found a significant relationship between adverse childhood experiences and drug use, suggesting that exposure to adverse childhood experiences can cause social, emotional, and cognitive impairment. This impairment can lead to the adoption of health-risk behaviors in adulthood that serve as coping mechanisms for stress

and dysfunction. Such health-risk behaviors increase the probability of disease, disability and social problems that can result in early death. Ultimately, adverse childhood events are common and have long-term effects on adult health-risk behaviors (Felitti et al. 1998). Two or more traumatic experiences are associated with an increased risk for PTSD, and ACE is a significant predictor of symptoms (Cabrera 2007). However, there are some limitations to ACE, including its use of retrospective information and self-reporting, which may lead to underreporting given that adults may not be able to recall childhood abuse. This underreporting is likely to be higher among males (Cabrera 2007).

## Trauma Treatment

Trauma treatment generally may be based on one or more types of therapies. Cognitive behavioral therapy (CBT) is a common and efficacious treatment premised on the concept that individuals with PTSD have dysfunctional cognitions that prevent them from processing a traumatic experience (Bisson 2007; Sijbrandij 2007; Butler 2006; Seidler et al. 2006). CBT attempts to modify these cognitions by asking patients to confront the traumatic experience by reliving the experience and describing it in detail – a tactic known as imaginal exposure – or confronting symptoms in vivo (i.e., in real life) by exposing oneself to situations that remind the individual of the traumatic event (van Dam et al. 2013). Prolonged exposure therapy is another form of treatment that is part of CBT and entails repeated imaginal exposure to a traumatic memory and repeated exposure in real life to safe situations the individual avoids (Hembree et al. 2003). Prolonged exposure therapy has been found to be effective at reducing PTSD symptoms in combat veterans and survivors of sexual abuse and other trauma (Foa et al. 1999 referencing Keane et al. 1989; Dancu et al. 1993; and Marks et al. 1998). Another therapy, cognitive processing therapy, holds that people with PTSD believe the world is entirely dangerous and they are completely incompetent (Rauch & Foa 2006). To overcome PTSD, these thoughts must be altered by activating the person's damaged fear structure and demonstrating with realistic information that these beliefs are incorrect. This happens naturally for most people when they interact with the world, but it does not happen naturally for people with PTSD because they avoid such interaction.

Two other trauma treatments are eye movement desensitization and reprocessing (EMDR) and stress inoculation therapy (Lee 2002). The former of these is a controversial therapy many studies have found to be effective (Seidler and Wagner 2006 referencing van Etten & Taylor 1998; Shepherd et al. 2000; Davidson & Parker 2001; Bradley et al. 2005; National Collaborating Center for Mental Health 2005). In EMDR, the patient mentally focuses on an image or memory from a traumatic experience and then follows the therapist's finger as he or she moves the finger in front of the patient's face (Seidler and Wagner 2006). Stress inoculation therapy entails teaching coping skills to manage trauma-related anxiety, including muscle relaxation, thought stopping, cognitive restructuring, self-dialogue, breathing techniques, and other tactics. The objective is for patients to use these skills when they experience PTSD symptoms (Foa et al. 1999).

Many treatment programs have been developed to treat co-occurring PTSD and SUD. Generally, there are two different approaches: trauma-focused treatment and trauma-avoidance treatment (van Dam et al. 2013). Trauma-focused treatments include trauma-

focused CBT and EMDR. These approaches identify and manage triggers to replace poor coping, reduce anxiety and avoidance, and correct dysfunctional thought processes (Ford and Russo 2006). By contrast, trauma-avoidance therapies are centered on the belief that patients with comorbid PTSD and SUD are too fragile to be exposed to trauma-focused therapy. Therefore, trauma-avoidance treatment focuses on coping mechanisms for symptoms (van Dam et al. 2013). Evidence suggests that trauma-focused interventions are more effective at reducing PTSD symptoms than trauma-avoidance treatments. One such comorbid treatment program is integrated cognitive-behavioral therapy (ICBT). ICBT was developed specifically for individuals with PTSD and SUD. It has three components: anxiety reduction techniques, patient education, and cognitive and behavioral coping skills development (McGovern 2011). The treatment's pilot study and two subsequent randomized controlled trials found mixed results, but generally ICBT was associated with reduced PTSD symptoms and drug use (McGovern 2009, 2011, 2015). Another treatment program is Concurrent Treatment of PTSD and Cocaine Dependence (CTPCD), which focuses on developing coping skills, cognitive restructuring, and relapse prevention strategies to reduce cocaine use (Back et al. 2011). The treatment utilizes CBT tactics to lessen the severity of PTSD symptoms. A 2001 uncontrolled study found significant improvements in PTSD symptoms and cocaine use (Brady et al. 2001). Additionally, in an uncontrolled study of Vietnam veterans with SUD and PTSD, Transcend – a treatment program that utilizes a group therapy model focusing on skills development and trauma reprocessing – saw an improvement in PTSD symptoms and reduced substance abuse six months and one year after treatment (Donovan 2001). Finally, Trauma Adaptive Recovery Group Education and Therapy (TARGET) utilizes manualized group therapy and one-on-one therapy to provide education, guidance in applying information and emotional processing skills, and development of an autobiographical narrative that incorporates the trauma and SUD (Ford 2006).

Yet another program, Trauma Recovery and Empowerment Model (TREM), emphasizes empowerment, cognitive restructuring, psychoeducation, and coping skills, and it is executed over nine months in 33 group sessions (Toussaint et al. 2007). A quasi-experiment found that TREM had an effect on reducing trauma symptoms but did not affect alcohol use or drug use. TREM has been adapted for men specifically, a program called M-TREM. M-TREM focuses on empowerment, trauma education, and skill building using cognitive restructuring techniques, psychoeducation, coping skills training, and meditation (Wolff 2015). The use of peer support is a key part of this program. In a randomized controlled trial of incarcerated men, M-TREM was found to be effective in reducing PTSD symptoms overall and the severity of symptoms. Men who participated in the program also showed significant improvement in mental health, self-esteem, and coping skills.

Seeking Safety (SS), which is one of the most extensively researched treatment programs for comorbid PTSD and SUD. Treatment occurs in gender-specific groups and the program deploys cognitive behavioral techniques and psychoeducation principles (Wolff 2015); it focuses on reducing symptoms of PTSD and SUD and constructing coping skills. Though there have been some non-congruent results, generally it appears that SS is effective in reducing the number and severity of PTSD symptoms (Morgan-Lopez 2014;

Wolff 2015; Hien 2009; Hien 2004; Boden 2011). Several studies also found reductions in substance abuse, including cocaine and alcohol (Morgan-Lopez 2014; Hien 2004; Boden 2011).

Gender-responsive treatment programs, which create an environment that reflects understanding of the lives and challenges faced by members of the target gender, are becoming more prevalent. One such program is Helping Women Recover, an evidenced-based addiction recovery curriculum that integrates trauma treatment. The framework guiding the curriculum is based on the relational-cultural theory and it incorporates addiction and trauma theories (Messina 2010). Originally developed in the context of women's psychology, the relational-cultural theory posits that identity and the sense of self arise from connections with others (Covington 2008). Disconnections emerge through racism, sexism, heterosexism, and classism. Addiction theory views addiction from a holistic perspective which recognizes that addiction is a disease with physical, emotional, psychological, and spiritual components (Covington 2002 & 2008). Trauma theory acknowledges that there is a strong connection between traumatic experiences, such as abuse, and the likelihood that a woman will abuse substances (Covington 2002). Given the extent and complexity of this connection, HWR acknowledges that treatment for SUDs must consider the potential past abuse of clients. It utilizes a three-stage model for trauma-recovery: safety, remembrance and mourning, and reconnection. HWR creates a gender-responsive environment through site selection, staff selection, program development, and program materials (Covington 2008). The program has four modules: self, relationship, sexuality, and spirituality. Studies assessing HWR have found that women with addictions and trauma experiences had a reduced probability of depression and lower rates of substance use (Saxena et al. 2014), as well as lower likelihood of criminal recidivism (Messina 2010).<sup>1</sup>

## Extant Study Curricula

The treatment program used in this study is Helping Men Recover (*HMR*), a gender-responsive program for men that draws from the same theoretical foundation as HWR. Relational-cultural theory as applied to men holds that relationships also inform male identity, and non-mutual relationships can generate negative emotions such as sadness and anger that can cause withdrawal, depression, insecurity, aggression and violence (Bergman 1999). Young boys are taught to be agents of disconnection, detaching from relationships with others. Thus, some men use drugs to avoid connection. It is also thought that men self-medicate to avoid the symptoms of trauma. Like HWR, *HMR* covers four modules the self, relationships, sexuality, and spirituality. These four modules are addressed in 18 sessions described below (Covington, Griffin & Dauer 2011).

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<sup>1</sup>Both Saxena et al. (2014) and Messina (2010) used data from a randomized pilot study conducted between 2006 and 2008 on gender-responsive treatment programs for women in prison. The study compared outcomes for women who received the Helping Women Recover or Beyond Trauma curricula to the outcomes of women who received the prison system's standard program. The sample consisted of 115 women participating in prison-based substance abuse treatment. Substance abuse was measured using the Addiction Severity Index a self-reporting measure of drug use during a 30-day period.

*Module A: Self*

This module contains the following: defining self, men in recovery, sense of self, men: inside and out, and men and feelings.

*Module B: Relationships*

This module contains covers sessions on: family of origin, barriers to relationships, fathers, mothers, creating healthy relationships and support systems, and effective communication with intimacy.

*Module C: Sexuality*

This module contains the following sessions: sexuality and addiction, sexual identity, barriers to sexual health, and healthy sexuality.

*Module D: Spirituality*

The final module covers: what is spirituality, real men, and creating a vision.

Trauma-informed treatment sessions consist of groups of eight to twelve participants using a strengths-based approach to help clients develop effective coping skills, build healthy relationships, and develop a strong, positive interpersonal support network. The program uses cognitive behavioral skills training, mindfulness meditation, experiential therapies, psych-education, and relational techniques. Until this study, Helping Men Recover (*HMR*), had not been empirically evaluated.

The business-as-usual (or control) treatment curriculum used in this study is Seeking Safety (*SS*). Studies assessing *SS* have usually been conducted in gender-specific samples. Because *SS* has been so extensively studied, it has become the business-as-usual protocol for treatment providers in the Miami-Dade County area.

## Methodology

To understand whether Helping Men Recover (*HMR*) improves outcomes for ADC clients as compared to Seeking Safety (*SS*), and whether select trauma screening tools were useful for triaging clients into trauma therapy, the NCSC designed a randomized control trial. Experimental manipulation through a randomized design is a rare opportunity, particularly in the criminal justice setting (Greiner & Matthews 2016). Such a design is not often executed in the field due to logistical and practical complications and ethical concerns about randomizing who receives potentially beneficial treatment services. This unique opportunity arose from an enhancement in services, made possible through grant funding, and through support from Judge Jeri Cohen, who embraces scientific endeavors to identify empirically-based best practices.

The study design involved randomized assignments through a two-group, blind assignment. The Adult Drug Court (ADC) team, including the judge, were blind to the experimental conditions (i.e., trauma outpatient treatment curriculum clients received). This design feature was employed to protect against potential influence (intentional or not) from those who may impact client outcomes (e.g., case managers, the judge, those conducting drug and alcohol testing).<sup>2</sup> As required for implementation, treatment staff and evaluators were aware of the experimental conditions.

As described by the curriculum developers, intended outcomes arising as a result of engagement with trauma-responsive treatment curriculum are to enable survivors to manage their trauma-related symptoms successfully so that they are able to access, retain, and benefit from addiction and mental health services. Therefore, measures of relapses (e.g., drug testing results), social functioning (e.g., housing, relationships, educational attainment, and employment status), recidivism (e.g., in-program and post-program), emotional and physical health, and retention rates (i.e., successful completion) were collected and compared across treatment groups. It is hypothesized that superior outcomes, in all areas as described above, will result for *HMR* participants. We also hypothesize that prior to engagement with a trauma-informed treatment intervention that participants' trauma screening scores would be lower than after treatment engagement.

## Timeline

In January of 2014, the developers of the curriculum, Dan Griffin and Rick Dauer, provided a two-day training on *HMR*. Attendees of the training included clinicians from the two participating treatment providers: Community Action and Human Services (DATP) and Better Way of Miami (BWOM). The NCSC tracked trauma scores and admission data on newly admitted ADC clients for a four-month period (January 16 through May 9, 2014). During this timeframe, the treatment providers implemented a pilot test of the *HMR* curriculum. These data were used to inform the study design.

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<sup>2</sup> Based on interviews and focus groups, the clients have, occasionally, revealed their study condition in open court.

In March of 2104, staff from the NCSC visited the treatment providers to discuss implementation concerns arising during the pilot test. In particular, the NCSC project team inquired about logistical concerns for implementation and practicing fidelity to the curriculum model. Based on the results of the pilot study and projections from the four months of data collection, the NCSC conducted a webinar in May of 2014 to further instruct the participating facilitators and clinical managers on the protocols for implementation of the full study.

The NCSC compiled a rolling list of potential trauma study participants with assistance from the ADC. The NCSC then randomly assigned each group to one of two conditions: *HMR* or the comparison group. The comparison group was a men's only *Seeking Safety* group that addresses trauma and substance abuse recovery. The comparison group was approximately the same size as the treatment group, and the dosage (i.e., treatment hours received) was comparable at two hours per session, twice a week for 9 weeks. Although rare, due to the low volume of ADC clients at any given time, the BWOM was allowed to supplement non-ADC clients<sup>3</sup> to reach the threshold for group size.

As previously mentioned, the treatment providers in this study were BWOM and DATP. BWOM is a non-profit health care facility. It offers a full array of psychiatric, medical, and treatment services, including outpatient substance abuse services. DATP is Miami-Dade County's largest department providing comprehensive countywide social and human services. It provides comprehensive outpatient substance abuse treatment to adult residents. Additionally, the DATP offers a sliding scale fee for ADC clients, which is often the least expensive option in the community. The DATP operates in several locations in the county: Miami-Dade College, Coconut Grove, and Florida South.<sup>4</sup>

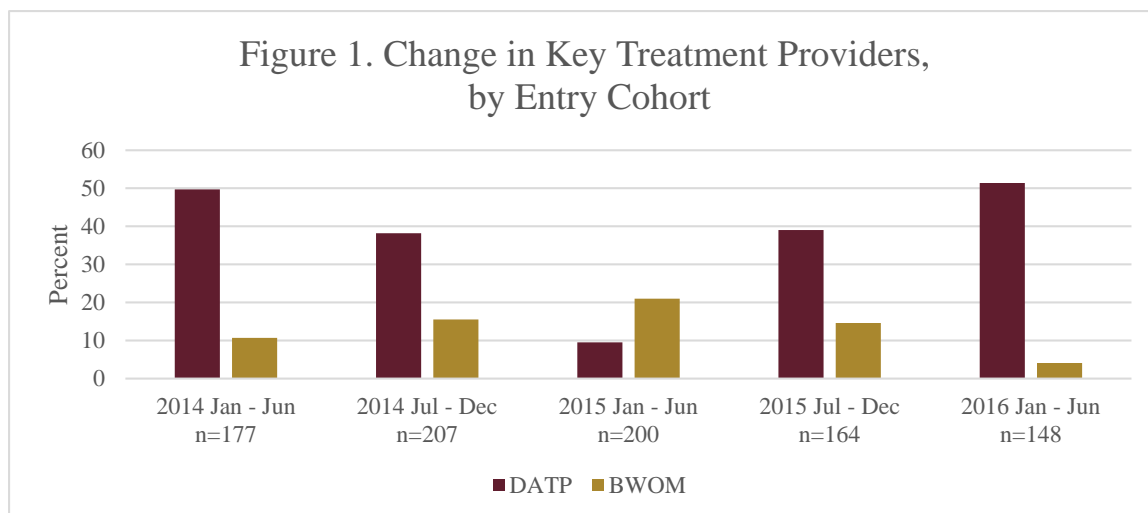
Both participating providers offered relatively low weekly treatment fees (\$15 or less/week) and both offered a sliding scale for indigent clients. The first group was held at BWOM July 16, 2014 and at DATP on August 6, 2014.

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<sup>3</sup> No data was gathered on clients outside of the ADC who participated in the groups. Non-ADC clients were not admitted into the court's program and therefore were not assessed for grant-based outcome data. The only data included in this study pertaining to non-ADC clients was group size, which included a total count of non-ADC clients and ADC clients.

<sup>4</sup> Allapattah originally agreed to participate, but prior to implementation, the location was closed. Coconut Grove replaced Allapattah in the study in October 2014. Florida South was added as a participating location in October of 2015.





The number of ADC clients that DATP and BWOM provided services to during the study period fluctuated. In the first year of implementation, January to December of 2014, the primary treatment providers serving the ADC clients were the DATP serving 46 percent of the clients and BWOM serving 13 percent of the clients. In December of 2014, the DATP discontinued accepting new referrals which led to a shift in the distribution of clients. During the four months of DATP closure, between January and April of 2015, BWOM served 17 percent (up from 13%). Between January and June of 2015, DATP served less than 10 percent and BWOM served over 20 percent. In the last six-month period of the study the rates returned to what they were in early 2014, albeit somewhat lower for BWOM (see Figure 1).

### Assignment Process

Clients were eligible for inclusion in the study if the client: (1) entered the Miami-Dade County Adult Drug Court between January 16, 2014 and May 9, 2016; (2) was male; and (3) was a client of participating treatment providers (i.e., DATP or BWOM). Mono-lingual Spanish speakers were included in Spanish-only groups, as feasible.<sup>5</sup>

Initial randomized assignments were made following assessment and screening by clinical intake specialists with the ADC. However, after tracking study participation rates, it became clear that the time lag (approximately 1-2 months) between initial contact with the treatment provider and intake screening for the ADC resulted in significant participant attrition. To overcome this delay, participants were identified at arraignment, prior to intake screening with the drug court. The impact of this change in protocol, was that clients entering after October 2015 may have received an intake assessment after NCSC randomly assigned the participant to a group. Therefore, NCSC determined random assignment following intake or arraignment.

DATP offered both concurrent groups at the largest location (Miami-Dade College) and consecutive groups at the smaller locations (Coconut Grove and Florida South). The

<sup>5</sup> Materials were translated to Spanish in June of 2014.

NCSC employed individual randomization (concurrent) and a block randomized assignment (consecutive), respectively. Specifically, the assignment process for the DATP Miami-Dade College location was through an individualized random assignment. Each client was randomly assigned to join either a *SS* or *HMR* group. DATP clients from smaller locations (Florida South or Coconut Grove) and BWOM clients were assigned through a randomized block design. The client volume at these provider locations dictated consecutive groups. In other words, once there were enough clients to hold a group, the group as a whole was randomly assigned to either the *SS* or *HMR* curriculum.

Due to the minimum requirements for group sizes at the various treatment locations and the block design, the randomized curricula was higher for *HMR* (57%) as compared to Seeking Safety (43%). A total of 132 (74%) completed a group and an additional 16 (8.9%) attended some of the sessions, but dropped out prior to the scheduled group end date. A class of 31 individuals (17.3%) did not join the groups to which they were randomly assigned. Attrition in study participation rates after assignment resulted due to conflicts with scheduled group sessions and work commitments, transfers to non-participating treatment providers, drop outs from the ADC (and treatment group), termination from the ADC, graduation from the ADC or promotion to a self-sufficiency phase in the drug court program that did not require attendance at treatment, or diversion to another court program (e.g., mental health diversion) following review of intake assessment results.

### Measures of Fidelity to the Curricula

Group facilitators provided information on how the groups were conducted and answered questions measuring fidelity to the model through an online survey questionnaire administered at the conclusion of each group and during annual face-to-face interviews with the NCSC evaluators. Fidelity questions included group size (6-15, with 12 ideal), session length (2 hours), frequency of sessions (twice weekly) for a total of 18 sessions, number of facilitators (2 co-facilitators) and the name of facilitators (to verify receipt of training). NCSC also gathered data on client attendance at each session, client engagement during sessions, and general information about the group, including location, treatment provider, start and end date, and facilitator comments about the group's engagement and experience.

**Data Sources:** The NCSC's internal review board (IRB) approved the protocols for this research. The data collection process was integrated into the screening and assessment requirements of the court as well as into the grant reporting requirements for all grantees of SAMHSA and BJA. Clinically trained intake specialists with the court administered several screening and assessment tools and performed an intake interview required by SAMHSA.

After a client was arraigned and opted to participate in the ADC,<sup>6</sup> he was referred for an intake assessment with the drug court. For those assigned to groups prior to intake assessments, no data aside from client name was retained until the intake process was complete. Referrals were made from the courtroom to the Intake Department. An intake specialist received the referral and contacted the participant to schedule his assessment as requested by the assessors (typically completed within 15 days of arraignment). The initial assessment was a one-time evaluation consisting of the following assessment tools: New ADC Client Intake Form, Texas Christian University Drug Screen-V (TCUDS-V), PCL-Civilian Trauma Screening (PCL-C), Adverse Childhood Events (ACE) Screening, Mental Health Screening Form (MHSF-III), and Risk and Needs Triage (RANT). The comprehensive assessment allowed the intake specialists to determine the ADC track into which the client should be placed, predominantly based on their risk and needs factors as scored by the RANT.

At the conclusion of the trauma treatment group sessions, the clinician group facilitators re-assessed the clients on two trauma screeners, the ACE and PCL-C. At the conclusion of the groups, the facilitators also solicited anonymous written feedback from the clients.<sup>7</sup> The feedback was a voluntary request and was submitted to the NCSC. The feedback form asked open-ended questions about whether attendance in the group changed social and family relationships, drug or alcohol use, and his own attitudes about himself (see Appendix A). The feedback form also included questions about the content that the materials covered in the groups and sought recommendations for any changes to the group sessions. The facilitators completed an online survey capturing individual attendance, engagement during group, and the post-group trauma screening scores. As previously discussed, the facilitators also provided data to enable the NCSC evaluators to measure how the curriculum was implemented, assessing fidelity to the model.

Additional ADC client data was available. This included intake, six-month follow-up, and exit interviews required by SAMHSA grants through the Government Performance and Results Act (GPRA) and data collected by the court to monitor client progress in the program (e.g., through its Drug Court Application tracking the results of drug tests). Annually, the NCSC evaluators conducted structured interviews with the clinicians and conducted focus groups with clients currently enrolled with the two treatment providers. Finally, the court secured criminal history records for all ADC clients from the Florida Department of Law Enforcement to analyze incidents of reoffending. The criminal history records were drawn on July 1, 2016.<sup>8</sup>

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<sup>6</sup> All clients completed a consent for the release of confidential information with the ADC, which covers the results of screening and assessment instruments, grant-required interview results, drug and alcohol testing results, attendance/lack of attendance at treatment sessions, and treatment prognosis.

<sup>7</sup> Spanish translation of the feedback forms was offered to all clients.

<sup>8</sup> For a complete list of data elements collected for the purposes of the grant, see the Appendix of the *Miami-Dade County Adult Drug Court: Final Assessment Report* prepared by NCSC for the Eleventh Judicial Circuit of Florida (September 30, 2016).

## Treatment Group-level data

A total of 20 groups were conducted for this study with 14 held at DATP locations and 6 held at BWOM; of those, the NCSC assigned 12 to *HMR* and 8 to *SS*. The group sizes ranged from 3 to 21 with a median group size of 7. Most (45%) of the groups were run by mixed gender facilitators,<sup>9</sup> while 30% were run by two female facilitators and 25% were co-run by male facilitators. One of the facilitators did not complete the training for *HMR*, but when this occurred, the group was co-facilitated with a senior clinician who underwent *HMR* training by the curriculum developers.

The group session spanned from a minimum of 9 weeks to 15 weeks for *HMR* (the median of which was 9 weeks) and from 10 to 21 weeks for *SS* (the median of which was 13 weeks). Most (83%) of the groups met twice a week and for two hours per session, the remaining 17% reported they “usually” met twice a week and “usually” conducted sessions that lasted two hours. Some groups had extended total durations as the groups did not meet every week due to scheduling conflicts or holiday scheduling changes. Facilitators also reported that some groups lasted longer than 2 hours to enable them to cover all the material, while others reported that the groups lasted 1.5 hours as the clients’ attention span would wane after the 1.5 hours. All groups reported that they covered all of the material in the workbooks.

## Participant-level Data

Approximately 600 ADC clients were initially screened as ineligible to participate because they failed to meet the first set of screening criteria: entered during the timeframe of the study, male, and sought treatment by a participating agency and location. Eligible participants were also screened out if they were enrolled in residential treatment or diverted into the court’s educational diversion program, the Drug Court Diversion Program. Clients were also initially screened for English language proficiency,<sup>10</sup> until the DATP offered to hold Spanish-speaking groups and the workbook materials were translated into Spanish. Although clients were initially screened out for multiple reasons, not seeking treatment at a participating location was the most common reason for disqualification.

Following the initial screening, approximately 270 participants were assigned to participate in a trauma curriculum. Attrition after random assignment was also possible, due to: cessation of treatment from a participating provider; transfers to a private treatment provider or residential facility; placed on self-sufficiency by the court subsequent to treatment initiation; transferred to the Jail Diversion Program to address mental health needs; transferred to another jurisdiction outside of Miami-Dade County; dismissal of charges by the state’s attorney; English language proficiency insufficient for

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<sup>9</sup> One group was run by three facilitators (two females and one male).

<sup>10</sup> Clients who entered the drug court prior to June 2014 and did not speak English at all or who rated their English proficiency as “not well” were excluded from the study. After June of 2014, all group materials and client feedback forms were translated into Spanish and Spanish-only groups were permitted. Only one group was held in Spanish.

participation in the available group; the clients' work or school schedule prevented the individual from participating in the group; or the client failed to attend the group assigned (e.g., absconded from the program or missed scheduled treatment group meetings).

Additional opportunities for attrition occurred due to a lack of adherence to the trauma study protocols, including: 9 participants who were placed in groups other than the one randomly assigned by NCSC and 17 participants who received both curricula (*SS* and *HMR*) while in the ADC. In the event that the group or individual data requested at the conclusion of the group was not captured and/or submitted to NCSC by the group facilitators, they were dropped from select analyses presented in this report.

Despite providing initial and ongoing study protocol implementation training for the clinicians, in examining the data, it became clear that the study protocols were not clearly followed and/or understood. For example, clinicians did not initially submit client feedback for those who had received the control curriculum, *SS*, but did so for the *HMR* groups. The data also revealed that some clients received *SS* after being assigned to and completing *HMR*. The clinicians readily and honestly reported these scenarios in the data and in interviews. Therefore, these effects were identifiable in the resulting data and dictated the analysis techniques NCSC applied in the next section.

## Results

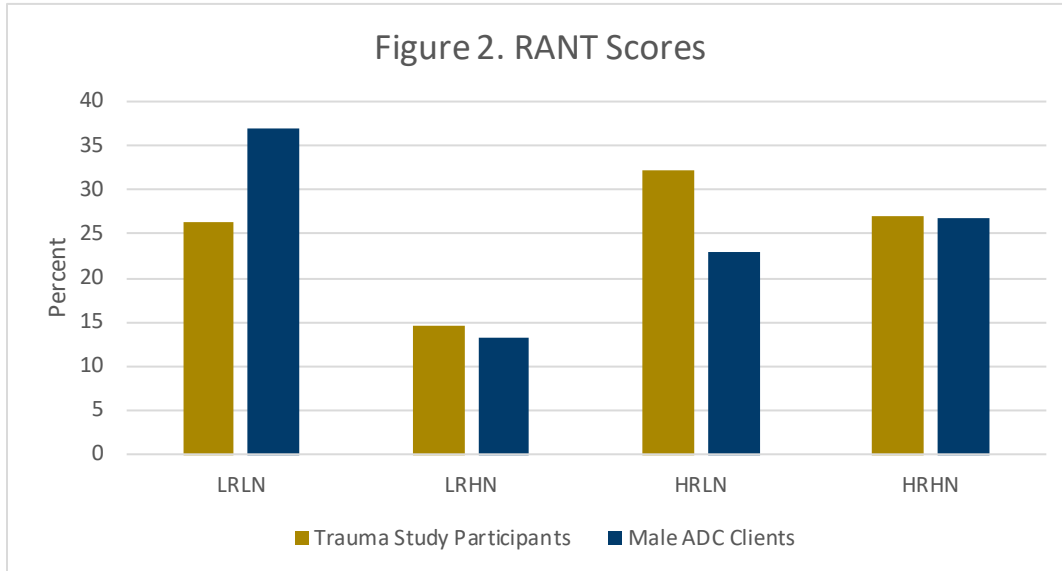
There were a total of 179 participating male ADC clients with available data. The average age was 29 (24 median) indicating it was a young population (75% were 32 years old or younger). English was the primary language for most (69.1%) clients, but 25.9% listed Spanish as a primary language, and 4.9% indicated multiple primary languages. A total of 90.6% of the clients reported that they spoke English well or very well. One treatment group was held in Spanish; all others were in held English, but participants had access to Spanish-translation materials, as needed.

The facilitators rated that over half (55%) of the clients had an overall engagement level of “high” and 31.5% were engaged at an “average” level. The facilitators indicated that the remaining 13.7% clients had a “low” overall engagement level. Of those with available data, a total of 91.3% of the clients missed two or fewer sessions.

## Screening and Assessment

This grant provided the ADC with the opportunity to investigate and consider the use of screening and assessment tools to better triage clients into the appropriate programming, both with regard to supervision levels and treatment planning. Enhancements of trauma-informed and gender-responsive treatment for the Miami-Dade County Adult Drug Court has underscored their priority of screening for and addressing the impact past trauma has had on an individual, particularly during recovery efforts for substance abuse. As found in the literature, there is a clear interdependence between traumatic events in one’s past and substance abuse (Kilpatrick, Acierno, Saunders, Resnick, Best & Schnurr 2000). However, some screening and assessment tools typically administered by drug courts -- such as those that identify criminogenic risk, treatment needs, or severity of addiction -- do not adequately incorporate items that screen for trauma.

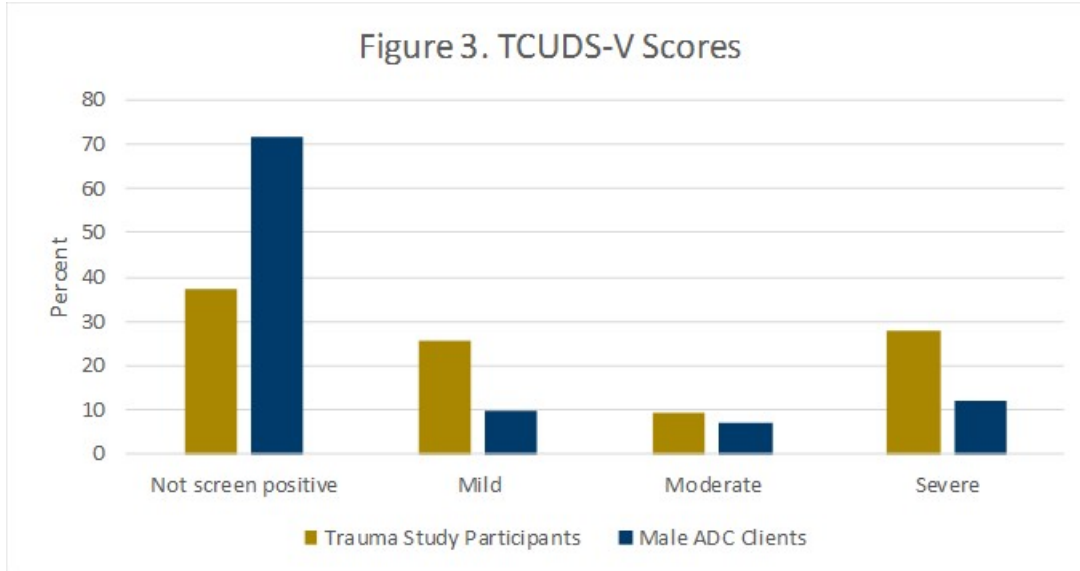
The following results describe the risk and need scores and the substance abuse disorder scores of trauma study participants and male ADC clients. Generalizability of the results of this study is based on how well the trauma study participants reflect the ADC male population in risk and needs and trauma indicators. Across the duration of the grant, the distribution of RANT scores among trauma study participants generally mimicked that of all male ADC clients (n=780), except for a higher proportion scoring high risk/low need (HRLN) and a lower proportion of low risk/low need (LRLN) appearing in the trauma study. Approximately one-third (32.2%) of the study participants scored high risk/low need and just over a quarter scored high risk/high need (26.9%) or low risk/low need (26.3%). The remaining 14.6% scored low risk/high need. Nearly one-third (32.4%) were case managed by the ADC.



The substance abuse disorders scores based on the TCUDS-V screening tool did not mimic the male ADC population (n=457). This is likely, in part, due to the low number of study participants (n=43) who were screened with this tool, the timing of TCUDS-V implementation, and changes made in the ADC target population, targeting more severe substance abusing clients in the later years of the grant.<sup>11</sup> The proportion of those who did not screen positive for a substance use disorder was smaller among the trauma study participants and the proportion who screened positive for a severe substance abuse disorder was higher among the study participants, as compared to all male ADC clients. A total of 37.3% of the study participants did not screen positive for substance abuse according to the TCUDS-V. Just over one-quarter (25.6%) screened as having a “mild” substance abuse disorder. Just over one-quarter (27.9%) screened as having a “severe” substance abuse disorder.

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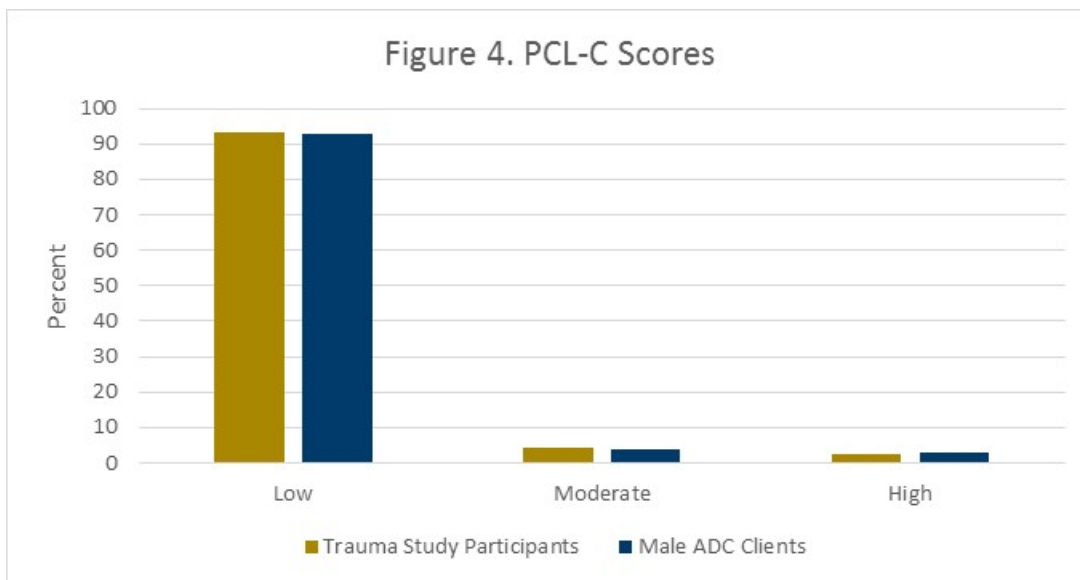
<sup>11</sup> Only 43 participants had reported TCUDS-V scores, as this tool was not implemented with the drug court until October of 2014.



As previously mentioned, the ADC employs additional screening tools for identifying trauma needs. Specifically, the intake specialists administer the Post-Traumatic Stress Disorder Check List, Civilian Version (PCL-C) and the Adverse Childhood Experience (ACE) screening tools. During the grant period for this study, the PCL-C was modified to a revised version, the PCL-5, to match the diagnostic criteria corresponding to the updates made to the DSM-V. However, to ensure comparability on the pre- and post-screen data employed in this study, the ADC, at the NCSC’s request, retained use of the PCL-C, rather than PCL-5, as a screener for trauma symptoms in the ADC clients.

Recall, PCL-C scores can range from a low of 17 to a high of 85. Overall, the scores were low; the average score for male ADC clients screened at intake on the PCL-C was 20 and the median (50% are higher and 50% are lower) was 17. Suggested cut-point scores for the PCL-C for a general population is between 30 and 35, but it can be higher (36-44) for veterans or medical clinics (VA National Center for PTSD 2014). For the purposes of this project, the PCL-C scores were categorized as follows: 17-32 was low, 33-43 was moderate, 44 and above was high (see Figure 4). Predominantly, the male ADC clients and those males participating in the trauma study screened “low” on the PCL-C.





Since the data are skewed towards the low end (i.e. a substantial number of participants received low scores), another way to present the distribution is to describe percentiles. For all male ADC clients, the 50<sup>th</sup> percentile or the median, indicates that over half of the incoming clients screened at 17 points (lowest score) on the PCL-C, indicating that the ADC clients answered that they had not experienced any symptoms of trauma in the month prior to the survey. It is not until near the 90<sup>th</sup> percentile that the ADC clients approached a moderate or high score. Stated another way, only 10% of ADC clients scored above the 30-point threshold screened positive for moderate or high trauma. For those who participated in the study, the median score was also 17 and the average was 19.5. The 90<sup>th</sup> percentile was 23.

As stated in the literature review, Hispanics are more likely to experience trauma, but Hispanic men in particular are less likely to report trauma and seek assistance to address it. Cultural awareness is paramount for the ADC, as Miami-Dade County has a significant proportion of Hispanics in its population. In this study, 71% of the men identified as Hispanic or Latino. We examined the results of both trauma screening tools to detect any differences between the male Hispanic and non-Hispanic study participants. At intake, PCL-C scores for Hispanic participants were significantly lower than non-Hispanic participants. The average PCL-C score for Hispanics was 18.5 compared to non-Hispanics at 22.6.<sup>12</sup> There were no differences in ACE scores at entry or exit or for PCL-C scores at exit.<sup>13</sup>

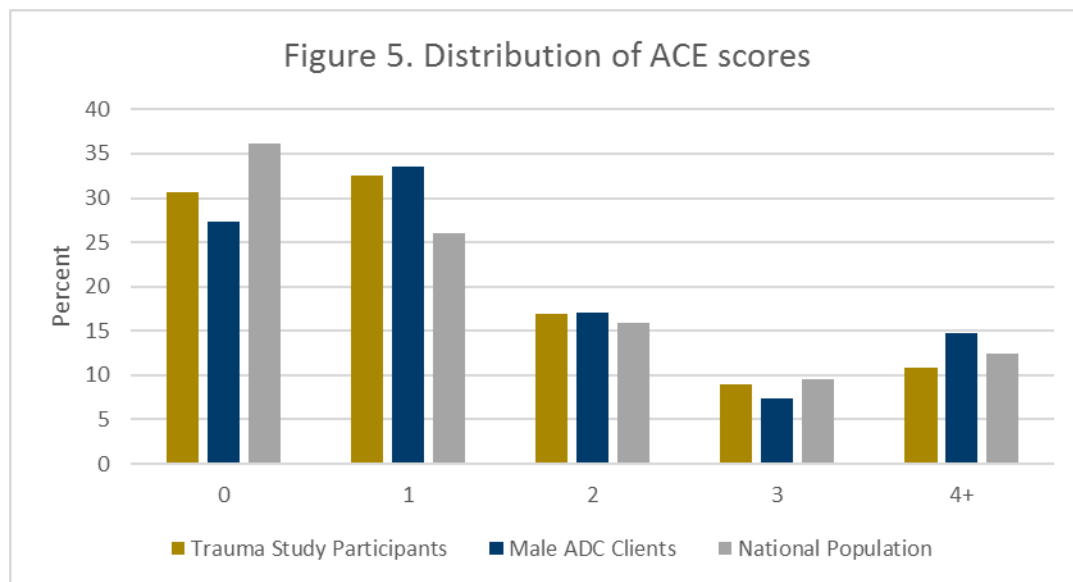
<sup>12</sup>  $t = -2.162$  (47.28 df),  $p = .036$ .

<sup>13</sup> PCL-C at exit was 26.3 for Hispanics and 26.5 for non-Hispanics,  $t = -.081$  (101),  $p = .935$ ; ACE at entry:  $t = -1.022$  (155 df),  $p = .308$ ; ACE at exit:  $t = -.257$  (100 df),  $p = .798$ .

A primary complaint by the ADC intake specialists was consistent with a limitation noted above—the PCL-C only references the clients’ symptoms in the past month; it fails to account for childhood trauma or past symptoms of post-traumatic stress disorder and relies on recent, self-reported symptoms. The ADC intake specialists voiced a preference for the ACE screener for this reason.

The Adverse Childhood Experience (ACE) scores can range between 0 and 10. The average ACE score for male ADC clients screened at intake was 1.7 and the median was 1 (n=477). The 90<sup>th</sup> percentile was 5, indicating that 10 percent of the male ADC clients scored 5 or higher on the ACE screener. Research on the ACE suggests that a score of 4 or higher results in a positive screen for past trauma (ACEs Too High News 2014). For the purposes of this report, scores above 4 were labeled “high.” The ADC clients (shown in blue) follow a very similar distribution to that of the trauma participants (shown in gold) and to the national population.

Comparing the male ADC population to national statistics, the respective scores also follow a similar pattern. A total of 14.7% of the ADC clients scored 4 or higher on the ACE, compared to 12.5% in the national population. Focusing on the trauma study participants, the distribution was similar: 30.7% scored 0, and another one-third (32.5%) scored 1. Slightly fewer (10.8%) trauma study participants scored 4 or higher as compared to the ADC population. The highest score for any trauma study participant was 8.



Comparing the larger population of male ADC clients’ PCL-C to their ACE scores, the intake specialists appear correct in their observation that the PCL-C does not detect trauma, particularly past trauma, as well as the ACE screener. Nearly 8% of those who scored low on the PCL-C scored high (4+) on the ACE (see Table 1). Overall, only 3.8% of ADC clients scored high on the PCL-C, compared to 14% on the ACE (not shown).

**Table 1. Percentage of Male ADC Clients' Trauma Scores**

<i>ACE score</i>	<i>PCL-C Categorized</i>		
	<i>Low</i>	<i>Moderate</i>	<i>High</i>
0	27.1%	0.9%	0.2%
1	34.3	0.7	0.2
2	17.4	0.7	0.5
3	6.3	0.2	0.5
4+	8.1	1.6	1.4
<b>Total</b>	<b>413</b>	<b>18</b>	<b>12</b>

*Note: n=443 as those male ADC clients with missing scores on PCL-C/ACE were dropped from analysis.*

#### **Comparison of Trauma Screening Results Before and After Treatment**

By comparing the two assignment groups, it is possible to verify the effect of randomization, or the creation of two groups with similar characteristics. As expected, the pre-assessment scores from the intake process did not significantly differ for trauma study participants assigned to the *HMR* as compared to the *SS* on the assessment scores for the RANT, PCL-C, or the ACE.<sup>14</sup> This indicates that participants who were randomly assigned to both curricula were similar on average for all relevant measures. Therefore, we can assume that any changes in these measures post treatment are the result of the treatment they received.

However, there were some differences between the pre- and post-scores. Recall, the participating treatment providers reassessed the trauma participants at the conclusion of their group sessions. Trauma participants' PCL-C scores averaged 19.5 at intake and 26.5 after completing their treatment group. The ACE scores also saw a slight increase from an average of 1.5 at intake to 1.6 after the conclusion of the group. Mirroring the attrition

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<sup>14</sup> RANT  $F=.013$ ,  $p=.910$ ; PCL-C  $F=.526$ ,  $p=.470$ ; and ACE  $F=.834$ ,  $p=.363$ .

in the overall treatment groups, some participants did not receive a post-treatment trauma assessment.<sup>15</sup> A total of 131 clients completed the trauma treatment sessions.

As hypothesized above, it was expected that between intake into the drug court and completion of the trauma treatment sessions the participants' scores would increase. Recall that the PCL-C asks the participant how bothered they have been by each problem or complaint in the *past month* (and are expected to change over time), while the ACE screen relies on participants' recall of traumatic *childhood events* (first 18 years of life) and are less likely to change over time. While some ACE questions are not expected to change (e.g., parents were divorced), other questions are more dynamic and could be influenced by receiving a trauma-informed treatment or as a result of a change in perspective about the experience (e.g., responses to the question about whether parents insulted you, put you down, or humiliated you). Finally, it is worth noting that it is possible that some participants may have been more willing to share personal information with their clinician after undergoing treatment sessions with them, as compared to during intake with the court.

Most commonly, the results for both randomized groups indicate that between the pre and post administration of the two scales, the PCL-C scores generally increased post-treatment and the ACE scores remained unchanged. A total of 8.5% of the PCL-C scores declined, 17.0% remained unchanged, and 74.5% increased after treatment. The PCL-C scores were therefore, more likely to increase after completing trauma treatment. Tracking changes in ACE scores uncovered that 21.3% decreased, 29.8% remained unchanged, and 23.4% increased. Most (65.5%) of the participants with a different before and after ACE score changed their response to only one question on the ACE.

Applying these results through a clinical perspective, court intake specialists or treatment providers must make recommendations as to what threshold should be applied to the screening and assessment scores to enable them to develop an appropriate and individualized treatment plan. A treatment plan that includes trauma-informed substance abuse treatment is thus based on an identified need. During the intake assessment by the court, only 6.7% (or 11 clients) would have had a PCL-C score above "low" (or above a score of 33). Using the reassessment conducted by the group facilitators after treatment concluded, 17.6% (or 19 clients) would have had a score above "low." While this is a fairly conservative (low) threshold, some clients may not have reached the clinically-applied threshold to receive trauma-related treatment services unless their score was "high." Employing a threshold of 44 (or "high"), only 2.4% (or 4 clients) would have screened "high" at intake with the court, compared to 8.3% (or 9 clients) who scored "high" following engagement with treatment.

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<sup>15</sup> The number of participants with PCL-C scores dropped from 164 at intake down to 108 (34% attrition) with follow-up PCL-C scores. Similarly, the number dropped from 166 with ACE scores down to 107 (36% attrition) with follow-up ACE scores. Of those who completed the group sessions, there was only a 13.5% attrition for the PCL-C reassessment and 16.5% attrition for the ACE reassessment.

The largest increase in scores after treatment was for HMR participants who were initially “not bothered at all” by any trauma symptoms. To explore the change in scores further, we theorize that the clients may not have been as comfortable or willing to reveal personal information in the initial intake assessment conducted by the court as compared to the post-treatment assessment conducted by the clinicians at the treatment provider agency. Supporting this hypothesis was the finding that the largest increase in scores between the pre and post time periods was for trauma study participants who answered “not at all” to all questions on the PCL-C. Of those 81 participants who scored 17 (answered “not at all” to all questions) at intake and had a re-assessment score, 65.4% (n=53) scored between 18 and 33 on the reassessment. An additional 13.5% scored either “moderate” or “high” on the reassessment following treatment. Interestingly, there was a statistically significant difference between those who received *HMR* as compared to *SS*.<sup>16</sup> This effect was not found for the ACE; no significant changes between pre and post-ACE assessment were noted between the randomized groups. The implications of this statistically significant finding of differing PCL-C scores for *HMR* study participants is explored further in the conclusions and recommendations section.

## Outcomes and Data Analysis Design

The use of intent to treat (ITT) methodology overcomes the practical realities of implementing a randomized experimental design in the field. Cross-over effects, compliance with randomization assignment, and partial completions, as realized in this study, are accounted for in the ITT model. The benefit of this approach is three-fold: it (1) enables estimation of the average effects under real life conditions; (2) enables retention of a larger set of data; and (3) incorporates partial outcome data for those who were observed for shorter durations than ideal (i.e., status of active clients or clients who had only recently exited the drug court).

The ITT methodology was first proposed by Fisher and his colleagues (Fisher et al. 1990) as a way to overcome complications of randomized control trials (RCT). In a controlled environment, such as a laboratory, every subject in a RCT would follow instructions and complete their allocated treatment as described in the protocol. Many investigators encounter this is not a reality in most field settings; most RCTs suffer from noncompliance and missing outcomes. Applying ITT analysis avoids overly optimistic estimates of the efficacy of an intervention as a result of omitting from an analysis those who are not in compliance with the study protocols, who have an adverse response to therapy, or drop out (Gupta 2011; Fisher et al. 1990).

One argument against using ITT analysis is that if the participant did not actually receive any treatment, but included as one who was assigned to that group, it indicates very little about the efficacy of the treatment (Gupta 2011). This is a valid argument and the following analyses estimate the effect of the treatment as assigned. It reflects the practical

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<sup>16</sup> This analysis included those who had a reassessment score higher than the initial assessment and who attended at least one group session.  $z = 2.060$  (46.3 df)  $p=.045$ . (90.6% for *HMR* vs. 72.7% for *SS*).

realities of drug court clients and the likelihood that they may drop out or attend only partial sessions of any given treatment curriculum.

Applied in this randomized study, the ITT principle benefits from maximizing the use of all observations. When paired with other analysis techniques, such as survival analysis, it will also incorporate partial data, such as for those who were terminated early from the drug court, or those who did not complete the treatment sessions. One limitation is the availability of sobriety data. Drug testing results were not available for those who were not active in both treatment and the drug court program. For those who left the program while not in compliance, we applied the worst case scenario assumption and treated the first day of termination from the program as a likely relapse in drug or alcohol use.

Throughout this section, the quantitative findings are supplemented with participant and facilitator feedback. Following completion of a group, both facilitators and participants provided qualitative feedback. Through surveys and annual interviews and focus groups, facilitators and participants commented generally on their experience with the randomized curriculum and perceived benefits.

Facilitators provided comments on 6 of the 8 *SS* groups and 10 of the 12 *HMR* groups. A total of 90 participants provided written post-group feedback, 50 completed *HMR* and 40 provided feedback for *SS* groups. Regardless of curricula, both participants and facilitators were overwhelmingly positive in their reactions. Themes of participant progress or change, engagement with the curriculum, improved sobriety, and improved relationships were present in all groups.

## Program Retention

As the trauma treatment groups occurred early in the client's tenure with the ADC program, just over one-third (34.3%) of the participants were still active in the program at the conclusion of the grant period.<sup>17</sup> Half (50.6%) of the participants successfully completed the ADC and 15.2% were terminated from the program. Of the 117 participants who completed the ADC program (successfully or not), the average time in program was 320 days and the 90<sup>th</sup> percentile was 413 days. There were no significant differences in the rate of program completion or total time in program (i.e., retention) for those who were assigned to *HMR* as compared to *SS*.<sup>18</sup>

The duration that the NCSC evaluators were able to track the participants after exiting the ADC drug court program was limited: an average of 8 months (269 days). In effect, the evaluators were only able to track arrests and convictions for less than 6 months after exiting for one-third of the participants and between 6 months and a year for another one-third of the participants; only 5 participants had been out of the program for at least 18 months.

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<sup>17</sup> The data collection phase ended July 1, 2016.

<sup>18</sup> Completion rate  $\chi^2 = 0.10$ ,  $p = .919$ , note, transfers were coded as "not complete;" Time in program  $t = 0.488$  (116) df,  $p = .626$ .

## Social Functioning

Examining how well participants are poised to succeed in the community has important implications for long-term recovery (Carey, Mackin & Finigan 2012; Shannon et al. 2015; Gallegher et al. 2015). Social functioning includes safe and stable housing, advances in educational or employment goals, pro-social and supportive relationships with friends and family, and physical and emotional health. The results rely upon participants' answers to questions asked during the drug court intake interview, and then again, upon exiting the program. For those who had not yet exited the ADC, the NCSC relied on answers supplied as part of a six-month follow-up interview. Those who were not in the ADC program for at least six months were not included in the following analyses.

**Housing:** Most of the trauma study participants were housed at entry. However, one participant who was homeless during the drug court intake entered a shelter by the time he exited the program and one participant who was initially in an institution secured housing at the time of exiting the ADC. Additionally, two participants were in stable housing at entry, but entered a shelter or institution at the time they exited the ADC.

**Employment and Education:** The proportion of trauma study participants who were unemployed and looking for work was not significantly different between the two randomized groups at entry.<sup>19</sup> Upon exit, the proportion of unemployed was not statistically different at the .05 level, but it was at the .10 level.<sup>20</sup> Though marginally significant only, the proportion was lower for participants randomized into the *HMR* groups.<sup>21</sup>

There were no differences in the proportion of participants assigned to *HMR* as compared to *SS* who had obtained a GED or high school diploma at entry. Similarly, there were no differences for the randomized groups in educational attainment at exit.<sup>22</sup> The proportion of ADC clients who had obtained this goal at entry was high (only 30.4% did not have a GED/HS diploma when entering the program).

Participants assigned to *HMR* provided feedback on the curriculum and suggested logistical improvements for the group, primarily dealing with their ability to manage work demands. The majority of feedback focused on scheduling and timing concerns or conflicts with groups. It is likely that as the ADC alters the population it serves and targets more high risk/high need clients, the conflicts with treatment groups and employment and education commitments will be reduced, particularly in the first phase of the ADC. Initially, the ADC should address participants' responsivity needs, or those that interfere with retention in treatment. In later phases, the drug court should address

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<sup>19</sup>  $z = .529$ , (160 df),  $p = .598$ .

<sup>20</sup>  $z = -1.695$ , (83.5 df),  $p = .094$ .

<sup>21</sup> *HMR* 5.4% compared to *SS* 14.8% unemployed and looking for work.

<sup>22</sup>  $z = .830$ , (165 df),  $p = .408$  at entry;  $z = .751$ , (126 df),  $p = .454$  at exit.

maintenance needs, or needs that undermine long-term treatment gains, such as vocational or educational assistance.

**Health:** Participants were asked how they would rate their overall health at entry and at the time of exit along a five-point scale (1=excellent and 5= poor). At entry, there were no differences between those who had been randomly assigned to *HMR* compared to those who were randomly assigned to *SS*.<sup>23</sup> However, at exit, participants assigned to *HMR* reported an overall better rating of their health and this difference was statistically different.<sup>24</sup> The results indicate that overall health improved more so for *HMR* participants than for *SS* participants.

During focus groups, participants randomized into the *HMR* groups reflected on the health gains they made.

*I feel healthier; I am finally on insulin.*

*My anxiety was through the roof. I was against legal drugs because of the side effects listed in the commercials. It was bad the first month. I was like [obsessive compulsive disorder], used to be paranoid and used to be against [taking] pills. I never gave myself a chance to stop to see I didn't need the drugs.*

*I can sleep better and have more energy when I wake up. I am not so cranky.*

Trauma study participants were asked to reflect on the past 30 days and self-reported their status on their psychological and emotional health. Specifically, as a result of alcohol or drug use, participants rated how often their lives have been stressful and whether drug use resulted in reduction or cessation of important activities or caused emotional problems. There were no statistically significant differences between the two randomized groups on these measures.

Participants were also asked, out of the last 30 days, the number of days they experienced serious depression, serious anxiety or tension, hallucinations, trouble understanding, concentrating, or remembering, trouble controlling violent behavior, or attempted suicide. They were also asked how many of the last 30 days they had been prescribed medication for psychological or emotional problems and how often they had been bothered by psychological or emotional problems. Again, there were no significant statistical differences between the two randomized trauma treatment groups at exit.

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<sup>23</sup> *HMR* average 1.96 and *SS* average 2.09 (1=excellent, 2=very good, 2=good, 4=fair, and 5=poor);  $t = -.775(150 \text{ df})$ ,  $p=.440$ .

<sup>24</sup> *HMR* average 1.53 and *SS* average 1.90 (1=excellent, 2=very good, 2=good, 4=fair, and 5=poor);  $t = -2.030(115 \text{ df})$ ,  $p=.045$ .



Participants and facilitators both wrote about specific tools and exercises that were valuable as participants learned healthy ways to deal with their stress and emotions. Activities that helped the men assigned to *HMR* increase self-control, think through consequences of behavior, and process emotions were among the most common responses.

*I think it was very helpful cause I learned things like doing breathing exercises when mad or stressed.*

*Grounding techniques help me to get over urges.*

*One of the highlights was ‘Creating the Collage’ in representing their sexuality.*

When sharing the other benefits of participating in *SS*, multiple participants mentioned improved physical health as well as improved focus and a positive attitude. These changes helped the participants find and secure employment, but also felt better about themselves overall and had an improved self-image along with more confidence.

*I am again the man I was before, a good man again.*

*I feel good inside.*

**Family and Friends:** Trauma participants were asked to reflect on their interactions with family members and friends. Specifically targeting the need to engage in pro-social activities and stabilizing life circumstances for those in recovery has been shown to improve long-term outcomes (Carey Mackin & Finigan 2012). Participants were interviewed at intake and asked to rate whether, in the past 30 days, they had any interaction with family and/or friends who were supportive of their recovery efforts. At entry, there were no differences: At exit, the proportion of participants who had interacted with supportive family and/or friends was statistically significant between the two randomized groups. The proportion of *SS* who indicated “yes” was 78% compared to 94% for those randomized to *HMR* at exit.<sup>25</sup>

During focus groups with *HMR* participants and through feedback forms following group participation, the men shared that not only were their relationships with other participants strengthened, but also their relationships with family members improved. Participants mentioned that bonds with their parents, partners, and children were strengthened during the program, supporting the quantitative data findings.

*I have a different perspective, [especially] when you lose life and family, but regain[ed] their respect now. And I regained my dog.*

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<sup>25</sup> $z = 2.397(75 \text{ df}), p = .019$ .

*Relationships are positive and better, not hiding things anymore. I am thinking more clearly.*

*I can talk to my mom now and my lady friends.*

*It gives you a chance to get your life, your family, the way you see your family. I went to the fair with my niece, before I just would have given her money to go with someone else.*

Similarly, SS participants discussed the impact drugs and alcohol had on their family and friends. The most common benefit of the program was participants' improved relationships. Participants shared not only that they were strengthening relationships with positive people, but also they mentioned distancing themselves from those who had a negative influence on their lives. Having completed the group, participants felt they could now become a positive influence and wanted to support others.

*I'm spending more time with my family and my daughter.*

*This group has helped me reconnect with my father and motivate him to not do drugs.*

*I now try to be a positive influence on everyone I can.*

## **Sobriety**

To analyze the impact of the Helping Men Recover (HMR) curriculum on sobriety and recidivism, we employed the Kaplan-Meier survival analysis. Survival analysis examines how long a unit (e.g., a participant) "survives" in one state (e.g., sober) before experiencing "failure," or a transition to another state (e.g., testing positive for substance use). In practice, it is not possible to observe the event of failure for each unit in a sample because some units may fail after the study has concluded, and still others may never fail. For these observations, called "censored" observations, the observed survival time ends when the study's follow-up period ends, which is earlier than the actual point of failure, if failure occurs. Because the observed survival times of the censored observations are shorter than their actual survival times, estimates of mean survival times would be biased, and comparison of mean survival times across groups might lead to erroneous conclusions. Survival models take censoring into account, eliminating the associated bias (Box-Steffensmeier & Jones, 2004, pp. 7-16).

The Kaplan-Meier survival analysis technique plots the survivor function, or the probability of survival up to a given point in time. Each unit with a censored survival time is only factored into the analysis up until the point at which observation ends, eliminating any bias associated with the censoring (Bland & Altman, 1998). Separate survivor functions are plotted for the treatment and control groups. The log-rank test is used to test for statistically significant differences between the two survivor functions (Bland & Altman, 2004).

The intent to treat (ITT) was applied to the survival analysis results in comparing sobriety for the two randomized groups. The theory is that the length of time a participant is sober is expected to increase with treatment that addresses their underlying issues due to past trauma. The survival analysis examined the number of days from when the participant first entered into a trauma group until his first positive drug test. For the purposes of this study, we defined positive drug tests broadly as any result other than a negative. A diluted, insufficient sample, or missed test were all considered positive. For participants who did not have a positive drug test, the time captured either the amount of time that lapsed until his exit date when testing was discontinued, or for those who were still active in the program, the time that had lapsed until data collection ended.

Of those trauma participants who completed the drug court (successfully or not), a total of 26 participants (22%) tested positive at least once after starting a trauma treatment group. On average, those participants had an average of 5.4 positive drug test results while in the program, driven in part, by a high number of positive test results for cannabinoids (maximum was 41 positives for this drug). Overall, the median was 3 positive tests.

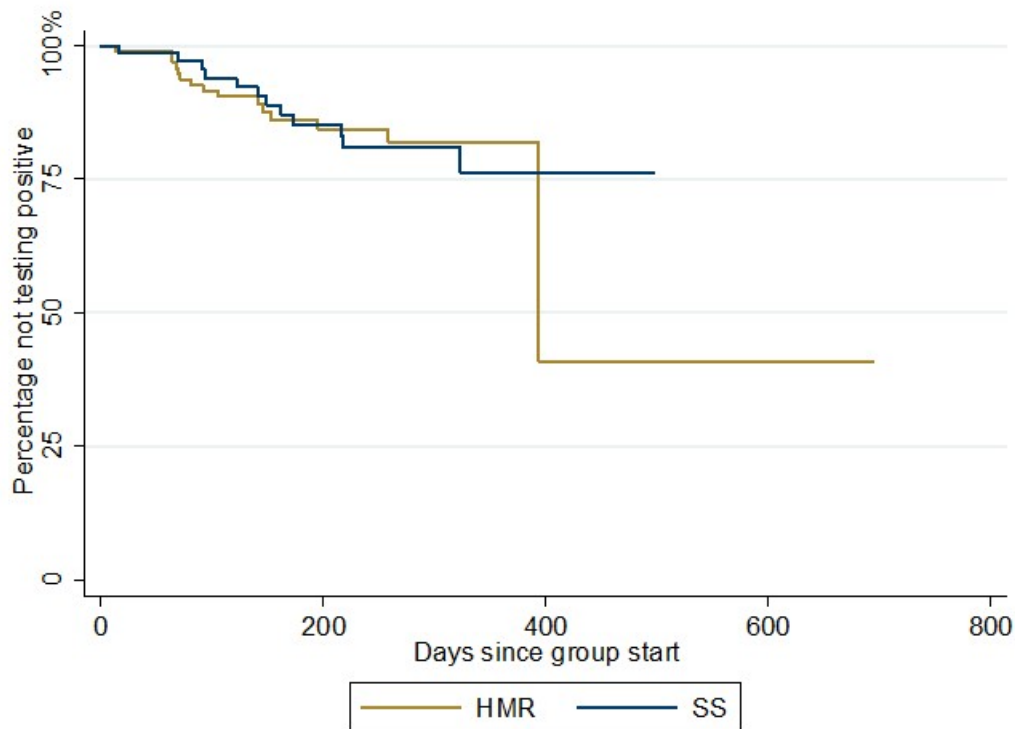
Relapses while participating in treatment are expected. However, most positive drug test results for trauma participants occurred early in the ADC program (46.8% had a positive test occur in first 90 days; 18.2% had a positive test occur between 90 and 180 days; and 15.6% had a positive drug test after 180 days in the program). Trauma participants were most likely (41.9%) to test positive for cannabinoids, followed by cocaine at 16.8%, opiates at 15.1%, benzodiazepines at 14.5%, and barbiturates at 10.1%. Participants' test results were positive for alcohol through an EtG test in 5.6% of the specimens.

Sobriety data were unavailable for four participants who were diverted from the drug court program prior to drug testing and/or exited prior to the first scheduled group session; these participants were excluded from the sobriety analysis. Of the remaining 175 participants, 24 (or 14%) tested positive. For three additional participants who absconded from the drug court program, a positive drug test was assumed on the date when the participant absconded—a worst-case-scenario assumption. The sobriety analysis covers a long duration across multiple participants (a total of 36,955 person-days). For individual participants, the period of observation ranged from 3 to 695 days, with an average of 211 days. Typically, participants were administered drug tests for the duration of the program, which, on average, lasted 11 months (or approximately 330 days).

The survival analysis provided no evidence that sobriety differed between the treatment (*HMR*) and control (*SS*) groups. The lines provide a similar declining pattern and the confidence intervals are overlapping, indicating no difference. Figure 6 shows the Kaplan-Meier survivor functions for participants randomized to the treatment and control groups. The lines in the figure (survivor functions) are quite similar through

approximately the 400-day mark, at which point very few participants remained under observation. There was no significant difference between the two randomized groups.<sup>26</sup>

**Figure 6. Sobriety Following First Scheduled Trauma Group Session, by Curriculum (n = 175; 27 failures)**



The survival analysis functions produce valuable information for practitioners. At the 100-day mark (or 100 days after the participants started attending group), there was an increase in the percentage of participants who relapsed (or a decrease in the vertical axis—the percentage not testing positive). The slope of this line increases after 100 days in treatment. This information can be used by the ADC team and clinicians to monitor the participant and near this point in time build up safeguards to support sobriety.

## Recidivism

### In-Program Recidivism

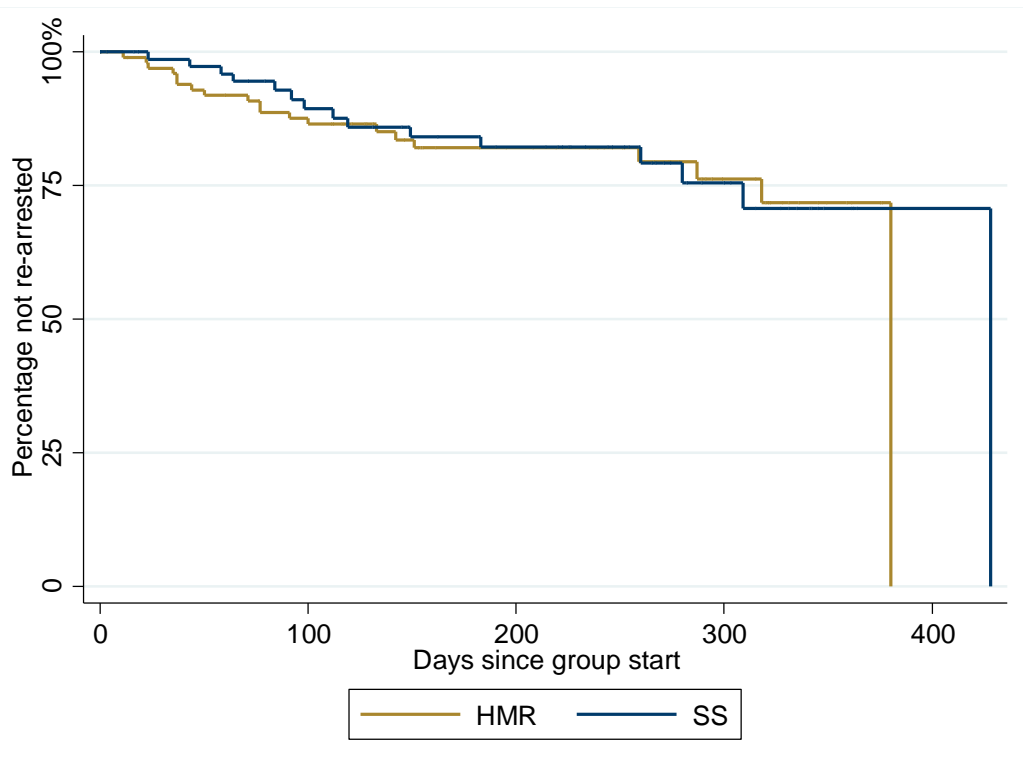
For purposes of the recidivism analysis, the recidivistic event—or “failure” in survival analysis terminology—is defined as re-arrest. The in-program recidivism analysis examined the incidence of re-arrest between the date of the participant’s first scheduled trauma group session and the drug court program exit date. Three participants were excluded from the analysis because they exited the drug court program prior to the first

<sup>26</sup> The log-rank test does not indicate a statistically significant difference between the two survivor functions. Log-rank test for equality of survivor functions:  $\chi^2 = 0.01$ , 1 df,  $p(\chi^2) = 0.9371$ .

scheduled group session. Approximately one-fifth (19.9% or 35) of the participants included in the analysis were re-arrested between the first trauma group session and drug court program exit. The in-program recidivism analysis included observations of individual days in the program ranging from 3 to 428 days, or 195 days on average (covering a total of 34,378 person-days).

There was no evidence that in-program recidivism differed between the treatment (*HMR*) and control (*SS*) groups. Figure 7 shows two lines (the Kaplan-Meier survivor functions) for participants randomized to the treatment and control groups. The lines appear virtually identical, and therefore indicate there is no significant difference between the groups.<sup>27</sup>

**Figure 7. In-Program Survival Without Re-Arrest, by Curriculum (n=176; 35 failures)**



### Post-Program Recidivism

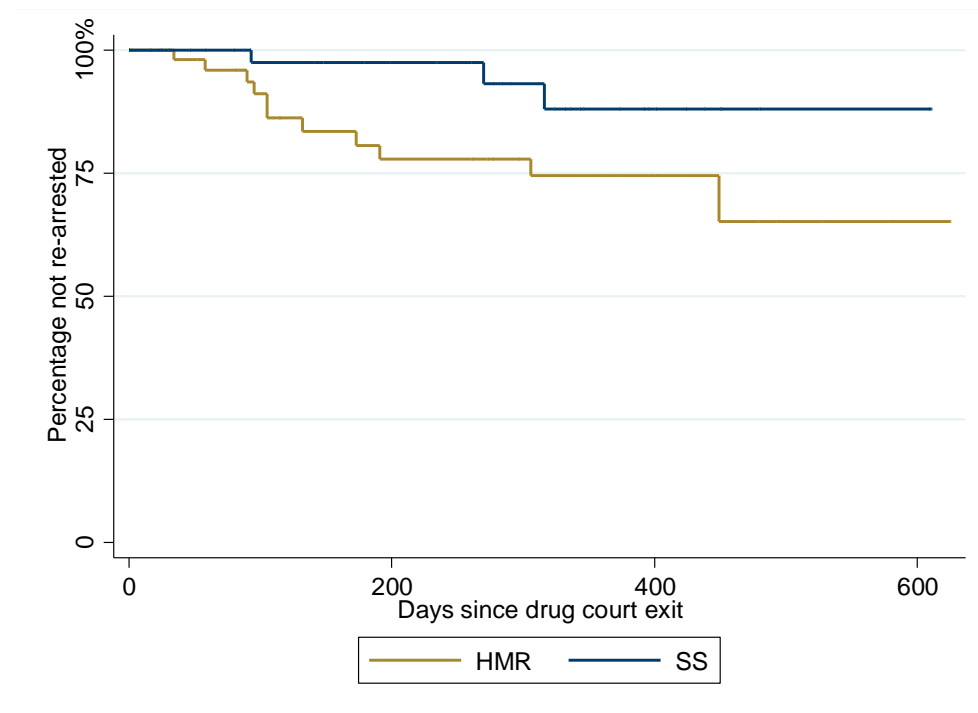
The post-program recidivism analysis examined the incidence of re-arrest after drug court program exit. Typically, the NCSC would employ a higher threshold definition for post-program recidivism as only arrests that result in a conviction. However, due to the very low rates of conviction during this short time of observation, we tracked the rates of re-

<sup>27</sup> The log-rank test does not indicate a statistically significant difference between the groups. Log-rank test for equality of survivor functions:  $\chi^2 = 0.10$ , 1 degree of freedom,  $p(\chi^2) = 0.7490$ .

arrests. The 112 participants who had exited the program by the end of the data collection period were followed through July 1, 2016. Six participants were excluded because their re-arrest dates and program exit dates were identical. Of the remaining 106 participants, 14 were re-arrested following drug court program exit. The post-program recidivism analysis covered individual periods of observation from 2 to 625 days, or an average of 241 days (a total of 25,567 person-days).

Figure 8 graphs post-program arrest among participants randomized to the treatment and control groups. The line (survivor function) and its confidence interval for the treatment group was lower than the line (or survivor function) for the control group, indicating that at a given point in time after drug court program exit, men assigned to the SS curriculum were more likely to have survived without re-arrest (or less likely to have been re-arrested) than men assigned to *HMR*. This was a significant difference.<sup>28</sup>

**Figure 8. Post-Program Survival Without Re-Arrest, by Curriculum (n=106; 14 failures)**



Both curricula appear to have a high rate of “survival” or low rates of recidivism over time. The survivor function for *SS* (shown by the blue line) remains relatively flat over time, indicating a longer time period until a re-arrest after exiting the program. In contrast, the survivor function for *HMR* (shown by the gold line) appears to drop in the first 180 days (or six months). Participants in both randomized groups reported that they

<sup>28</sup> The log-rank indicates that the difference between the survivor functions is statistically significant at the .05 level. Log-rank test for equality of survivor functions:  $\chi^2 = 4.11$ , 1 degree of freedom,  $p(\chi^2) = 0.0427$ .

developed the skills to be successful after integration into the community, participants assigned to SS mentioned feeling prepared to fight addiction and having the “tools” needed for recovery. Some SS participants mentioned specific tools, such as being able to “identify triggers” and the importance of a system of support. One SS participant mentioned that the “recidivism” lesson was especially relevant for him, as it was his second time in the program.

*I learned helpful grounding techniques and coping skills while here.*

*It is very good, it helps you focus and see...what are your triggers.*

HMR facilitators shared that although guarded at first, the men became highly engaged with the curriculum, and through participation in the group sessions, formed close relationships with the other participants. The theme of transformation and growth from the first to last session was mentioned by all of the HMR facilitators. Within the safe environment, the men opened up to share personal information and discussed past experiences. This authentic sharing allowed the men to gain each other’s trust and that trust strengthened the group dynamic. To further illustrate these concepts, see the following excerpts from HMR facilitators:

*At the onset of this group back in [x], the men were very guarded and reticent about sharing. The group transformed from that to a very close group of men that actually formed friendships outside of the group process.*

*[Participants] felt a sense of belonging as they saw similarities in their discussions as men in recovery.*

Participants assigned to HMR echoed these same themes. The men shared that the environment in the group was supportive and allowed them to address topics and feelings that men usually don’t talk about. They were able to share and “dig deep” into their personal lives and past decisions. Participants also shared that hearing different perspectives and experiences from the other group members provided valuable context as they processed their own history and worked on their recovery. Examples of participant feedback include:

*It's helped me out by talking to other people about certain topics that generally us men don't speak about to others.*

*It's powerful...makes you think and talk about things that we in the group would never talk about. This makes you dig deep, analyze yourself, and how you lived life.*

Overall, the HMR and SS curricula received similar feedback from participants and facilitators. Comments were largely positive and both facilitators and participants perceived similar benefits. However, some differences emerged. For one, the HMR

comments were more specific than the comments from those attending *SS* groups. *HMR* participants tended to focus more on improved family relationships stemming from a better understanding of how relationships and past experiences impacted their addiction; whereas *SS* clients tended to focus more on the positive outcomes of being able to achieve sobriety and the many benefits that come along with living a sober life. For additional detail on facilitator and participant feedback regarding the curricula, see Appendix B.



# Conclusions & Recommendations

This study set out to answer two key questions. First, were the outcomes for men undergoing trauma-informed substance abuse treatment as part of the Miami-Dade County Adult Drug Court better for those randomized to *HMR* as compared to *SS*? And second, were the trauma screening tools employed by the ADC able to identify treatment needs to address these male clients' past trauma?

## *1. Were outcomes better for those randomized to HMR as compared to SS?*

The finding indicated that there were no discernable differences in most of the four key outcomes (retention, social functioning, sobriety, and recidivism). Those who were randomly assigned to the *HMR* treatment groups were not more likely to graduate from the drug court program or be retained for longer durations in the drug court program.

Participants randomized to the *HMR* groups were more likely to report improvements in overall health and more likely to interact with family and friends who were supportive of their recovery efforts.

These two findings position the *HMR* participants at an advantage for long-term success when reintegrating back into society. As found in previous research, patients with more symptoms of PTSD are more likely to relapse as are those who are isolated from social interaction. Additionally, patients with co-occurring PTSD and SUD who receive PTSD treatment within three months of being discharged from a SUD treatment program were more likely to be in remission five years later than those patients who did not receive PTSD treatment (Ouimette 2003).

Long-term goals for all drug court clients are to extend the duration for which they are sober and to break the cycle of involvement in the criminal justice system as a result of their drug and alcohol use. Findings from these analyses indicated that participants randomized to *HMR* were no more or less likely to relapse and use drug or alcohol following engagement with treatment as compared to participants randomized to *SS*.

## KEY FINDINGS

*HMR* participants were more likely to report improvements in overall health and to interact with family and friends who were supportive of their recovery.

*HMR* participants were more likely to be rearrested after program exit as compared to the *SS* participants.

The likelihood of relapse increased 100 days after participants begin trauma treatment.

*HMR* participants without any trauma symptoms were more likely to have higher post-treatment PCL-C scores.

Treatment providers should serve the primary role of conducting trauma and mental health assessments to development an individualized and informed treatment plan.

The ADC should screen for eligibility and case triage with the TCUDS-V and the RANT.

Participants who were randomized to *HMR* were no more or less likely to reoffend while in the ADC program as compared to those randomized to *SS*. However, the *HMR* participants were more likely to be rearrested after program exit as compared to the *SS* participants. This final finding was unexpected. Yet, the conclusion is predicated on a small number of participants and the short amount of time that these participants have been under observation. Moreover, the *SS* curriculum has been shown to reduce substance abuse and has been well researched as an effective trauma-informed intervention.

The authors recommend that the ADC continue to follow the trauma participants for at least another year to monitor the more distal goals and long-term success of participants following court-supervised treatment. Ideally, the post-program recidivism should include re-arrests that result in convictions to eliminate fluctuations in law enforcement and prosecution decisions that occur when examining incidents of arrest. This could be accomplished through an annual request for criminal history records and by examining drug testing results for participant who were still active in the program at the conclusion of this study. Currently, measuring long-term sobriety post-program is unattainable.

What we gained from this analysis is a better understanding of the timing of “failures” or reoffending and relapses. While there was a low overall rate of post-program recidivism, participants in *HMR* reoffended in the first six months after exiting the ADC. The likelihood of relapse for all trauma study participants increased 100 days after the participant begins trauma-informed substance abuse treatment.

## ***2. Were the trauma screening tools employed by the ADC able to identify treatment needs to address male clients’ past trauma?***

The trauma screening results suggest that if the ADC or its treatment partners use the PCL-C as a screening tool for triaging male drug court clients into trauma treatment, clearly many clients will not screen positive for trauma early in the assessment process. The use of ACE scores would provide a more stable score between assessment and the conclusion of trauma-informed treatment.

However, the full answer to this question is nuanced. First it appears that there are differences between the two screening tools. The ACE, which measures traumatic events that occurred in the first 18 years of one’s life, resulted in much more stable scores for individuals over time. The PCL-C, by contrast, measured symptoms due to trauma that occurred in the most recent 30 days. By design, the PCL-C screening tool is expected to be more dynamic over time.

For this study, the *HMR* curriculum developers hypothesized that the men would not have the language to articulate experienced trauma until after exposure to a trauma-informed curriculum such as *HMR*. Therefore, the hypothesis was that the scores would increase in the post-assessment time period following the conclusion of treatment groups. Regardless of the curriculum, participants’ scores on the PCL-C did, in fact, increase as compared to the scores derived at the initial intake assessment. Specifically, this effect was strongest

for those who had the lowest PCL-C score, or who scored 17 on the scale. Moreover, the effect was statistically significant for those in the *HMR* groups as compared to the *SS* groups.

*HMR* participants who responded to all items on the PCL-C that they were “not at all” bothered by trauma symptoms were more likely to realize an increase in their post-assessment PCL-C score.

It is possible that the *HMR* curriculum, over *SS*, provides an opportunity for the men to become more aware of the symptoms of traumatic events. However, an alternative theory remains untested. That is, whether there are different conditions in the pre and post assessment process. The initial intake was markedly different than the post-assessment experience. During the initial intake, the defendant was in a courthouse and underwent a thorough screening and assessment with numerous instruments. The intake specialists, while they have clinical backgrounds, are by all appearances, court employees. Defendants may be more reticent to share personal experience with the court and/or may undergo fatigue during the assessment process as they are subjected to numerous assessment and screening tools in one sitting.

This intake experience is in contrast to the experience post-group where the participants were asked by the group facilitators who just spent 9 weeks with them in a therapeutic setting to self-report answers to the PCL-C and ACE. The only other information gathered after the conclusion of the group was a voluntary feedback form consisting of four questions. The potential for increased trust and a reduction in the likelihood of assessment fatigue may have played a role in the changes detected in scores.

This alternative theory could be tested, in part, by comparing intake assessments conducted at the treatment provider agency as compared to those conducted by the court. Unfortunately for this study, the two assessment scales used by the court were not the same as those used by the treatment providers. The two-group design should remove this possibility as it is less likely that the post-assessment experience was drastically different for the *HMR* participants as compared to the *SS* participants. The post-assessment scores increased for both experimental groups, but the effect for the *HMR* participants was more profound. Additionally, Hispanic participants had lower PCL-C scores as compared to non-Hispanic participants at entry, but this difference disappeared at exit. Clinicians and ADC intake staff should be aware of this effect and not rely upon screening scores alone to identify treatment needs.

Based on NCSC’s annual interviews with the drug court team, there was clear evidence of redundancy in screening and assessment activities. The NCSC recommends that the ADC establish intake screening protocols that will reduce the redundancy in obtaining critical case triage and treatment planning information. Streamlining this process would demonstrate an improvement in respect of clients’ time, and thereby should improve procedural fairness ratings. Clients would likely view the ADC as a better coordinated inter-agency program.

To successfully implement this recommendation, the ADC should set up improved sharing protocols, such as requiring assessment scores to be entered into the ADC's case management system, the FDCCMS.

The NCSC recommends that the treatment providers serve the primary role of conducting screening and assessments that pertain to development of an individualized and informed treatment plan (i.e., trauma and mental health screening).

The screening and assessment that should be done by the ADC should target results that inform decision-making for eligibility, case processing and triage, such as accomplished through the TCUDS-V and the RANT.

NCSC's final recommendation is that if the ADC continues to administer trauma-screening tools in-house, then the ADC consider using the ACE and discontinue the PCL-C. The more stable results found for this tool would better serve the court's needs.

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## Appendix A

# Feedback on Trauma-Informed Treatment

This is a voluntary request. It is also anonymous. Please do not put your name on this.

The National Center for State Courts (NCSC) is not affiliated with the court or the agency providing you with treatment. We are studying the treatment you just completed. To better understand this program, we invite you to share your feedback.

1. Would you tell a friend in a similar situation as you to attend this group? Why or why not?
2. Has attending this group changed your life in anyway? If yes, how? (e.g., social/family relationships, drug or alcohol use, attitudes about self)
3. Overall, what did you think about the content you covered in this group?
4. If you could change one thing about this group, what would it be?

If you have questions about this study, please call 800-616-6109 and ask to speak to Nicole Waters.

## Appendix B

### Client Feedback on Curricula

Additional feedback from the clients and facilitators targeted overall improvements in their lives and suggestions for how the curricula could be improved.

Participants assigned to *SS* groups complimented the group facilitators, but did not have many suggestions for recommended changes. The most common participant response was to change “nothing.” A few participants recommended adjusting the schedule for either a longer session, or making the schedule more flexible to accommodate other competing demands. Again, this appears to be a factor of the ADC serving low risk/low needs clients who are able to hold down jobs early in the treatment regimen.

As the *HMR* participants reflected on course work and their sobriety, they shared multiple improved aspects of their lives. A more positive view of themselves as well as a more optimistic outlook on life were the most common responses. *HMR* participants were grateful for the program and felt they had grown and “changed.”

*This program really helps in understanding yourself...I value myself more.*

*It was very helpful to me not just with my addiction, but with life.*

*Attending this group has changed me in opening up to a lot of stuff that I keep to myself including my drug addiction.*

Participants were generally complimentary of the *HMR* facilitators and appreciated the “real” approach that “didn’t sugar coat” the lessons and topics. The majority of participants shared they “wouldn’t change a thing.” With some participants expressing they would have liked more time in group, or having more people attend to get more perspectives, ultimately to be able to serve a larger population of men in recovery.

Facilitators for the *SS* groups focused on the participants’ improved recognition of need for support and tools to help as they worked toward recovery. They reported that participants were engaged throughout the sessions and became more aware and observant of their own behaviors and the influence of drugs and alcohol in their lives. A quote from a facilitator reflects these observations:

*I have been able to observe their awareness and understanding of the importance of taking care of self and being able to apply the necessary tools in their daily lives.*

Both *HMR* facilitators and participants assigned to *HMR* mentioned the importance of the group dynamic, and that participants “assisted” and “helped” each other throughout the process. Participants specifically mentioned the benefits of participating in the group with

others in a similar situation and the importance of learning from others. Reflections on the group dynamic are reflected in the following quotes:

*Clients appeared to "bond" and assist each other with praise and compassion*

*It helps having a support network...It's good to reflect and be with others who have the same goal.*