

## **An Analysis of Readmissions to a Mental Health Court**

### **Abstract**

Mental health courts have emerged as one option to address the needs of people with severe mental illness who enter the criminal justice system. Little is known about defendants having multiple referrals to mental health courts or the outcomes of the subsequent admissions. This study included a sample of 1,084 defendants referred to municipal mental health court. During the 13-year study period, 14.3% of defendants had a second admission, with an estimated probability of readmission of 17.4%. Key factors associated with readmission included being eligible to participate in the court but choosing not to do so, being rearrested during court supervision, and having a negative termination from supervision. Defendants who had a second admission during the study period had poorer outcomes than those with one admission. When defendants are referred for readmission to mental health courts, careful assessment is required to ensure that these courts are the best alternative for them.

### **Key words:**

mental health courts, readmission, recidivism, severe mental illness

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## **Revision and resubmission of SWR-0718-16:**

### **An analysis of readmissions to a mental health court**

The number of persons with a severe mental illness (SMI) in the United States under criminal justice supervision or incarcerated in jail and prison is estimated to be over 1 million (Skeem, Manchak, & Peterson, 2011). Having a SMI is a risk factor for reincarceration and has contributed to the large number of persons with SMI who are incarcerated. Baillargeon, Binswanger, Penn, Williams, and Murray (2009), in a study of Texas correctional facilities, found that inmates with and without a psychiatric disorder were equally likely to be incarcerated for non-violent crimes, 79.4% to 79.2%, respectively. However, inmates with mental illness were more likely to have more than one incarceration compared with persons without any psychiatric disorder, 50.7% and 38.7%, respectively. In that study, the odds of incarceration for persons with SMI increased as the number of incarcerations increased. For example, persons with schizophrenia were up to 80% more likely to experience two or more incarcerations, 110% more likely to experience three or more incarcerations, and 200% more likely to experience four or more incarcerations. The likelihood of re-incarceration is compounded when an individual has a co-occurring mental illness and substance abuse problem (Wilson, Draine, Barrenger, Hadley, & Evans, 2014). Consistent with these findings, Baillargeon, Binswanger, Penn, Williams, and Murray (2009) conclude that jails are the new psychiatric hospital. Jails have become a revolving door of people with SMI, just Stein and Test (1980) noted of psychiatric hospitals in the late 1970s and early 1980s.

Jails assumed the role of mental health provider because the community mental health system is not effectively serving the needs of persons with SMI (Geller, 2015). The mental

health system is comprised of disparate entities not working in concert trying to help persons with SMI achieve recovery. Likewise, Baillargeon, Hoge, and Penn (2010) conclude that high numbers of persons with SMI in the criminal justice system are the result of inadequate policies, leading to inadequate care prior to and during incarceration and upon release. They recommend providing an array of mental health services at different points in the criminal justice system can address the unique needs of persons with SMI entering the criminal justice system and end the cycle of jail readmissions.

An array of mental health services to persons with SMI in the criminal justice system was further articulated by Munetz and Griffin (2006) in their sequential intercept model and reiterated by DeMatteo, LaDuke, Locklair, and Heilbrun (2013). This model delineates a series of points from prior to entering the criminal justice system to exiting the criminal justice system and services and programs that can be provided to persons with SMI at each point. The starting point for treatment of SMI is evidence-based outreach and community-based services to prevent or slow the movement of individuals with severe mental illness into the criminal justice system. If they do come into contact with the criminal justice system, the first intercept point is with law enforcement and emergency services. An example of connecting with clients at this point is engagement of specially trained law enforcement officials, including police trained in Crisis Intervention Team (CIT) who may divert to treatment without making an arrest. The next intercept point occurs post-arrest and involves initial hearings and judicial decisions. An example of services at this level is post-arrest diversion to treatment, during which persons with SMI are given deferred prosecution instead of incarceration. The next intercept point is post-initial hearing court involvement, mental health courts and interventions in jails. The fourth intercept point is reentry from jails, prisons, and forensic psychiatric hospitals, which focuses on pre-

release treatment and planning. The fifth and final intercept point is community corrections and community supports. This study focuses on one important option along the sequential intercept continuum, mental health courts.

### **Mental Health Courts**

Mental health courts (MHCs) are problem-solving, treatment-oriented, courts that are premised on therapeutic jurisprudence and seek to divert individuals from jail/prison into community-based mental health treatment (Petrila, 2003). Individuals enter MHCs after they have been charged with county ordinance violations or state misdemeanors or, in some courts, felonies. Participation is voluntary but once in the court, compliance with mental health treatment and other conditions is mandated (Tyuse & Linhorst, 2005). Participants who comply with court-ordered treatment typically have charges dropped or lessened. Participants who do not comply have their cases sent back to the originating criminal court for disposition or receive either a conviction and a fine, probation, or a jail sentence depending on the severity of the charges (Redlich, Steadman, Monahan, Robbins, & Petrila, 2006). A 2012 study identified 337 mental health courts existing in the United States (Strong, Rantala, & Kyckelhahn, 2016).

In addition to helping participants access needed mental health treatment, MHCs are also tasked with ensuring public safety (Tyuse & Linhorst, 2005). Public safety is achieved, at least in theory, by addressing the mental health issues that may contribute to the criminal behavior, which reduces the likelihood of engaging in future criminal behavior. There is evidence that MHCs meet this public safety component. A meta-analysis of 18 published and unpublished studies of the effects of mental health courts on re-arrest of participants concluded that MHCs are moderately effective at reducing rearrests, with a mean effect size of -.54 (Sarteschi, Vaughn,

& Kim, 2011). Considering examples of specific studies, Herinckx, Swart, Ama, Dolezal, and King (2005) found that persons who participated and successfully completed a MHC had a significant reduction in rearrests, and participants terminated from the MHC had a higher likelihood of rearrest. Moore and Hiday (2006) posit that receiving the full dose of MHC court and accompanying treatment explains the decreased likelihood of rearrest. McNeil and Binder (2007) found that persons who chose to participate in MHCs had a significantly greater time to new arrests than those who did not participate. Factors other than participation and completion of MHC also explain rearrest. For example, arrests that occur during court supervision do not automatically lead to termination from MHC, although the odds of being terminated from MHC do increase with arrests (Linhorst, Kondrat, & Dirks-Linhorst, 2015). Linhorst et al. (2015) found that even among MHC completers, the odds of rearrest post-MHC increased if a participant was arrested during court supervision. One understudied aspect of MHCs is readmissions to the court.

### **Readmissions to Mental Health Courts**

Just as some persons with SMI will enter the criminal justice system multiple times, some former MHC participants will reenter MHCs. The potential exists, then, for mental health courts to be a revolving door of admissions, as are jails. Consequently, Sharples and Lewin (2003) encouraged research on MHC readmissions, as did Wolff and Pogorzelski (2005) in their guidelines for measuring MHC outcomes. Despite these recommendations early in the development of MHCs, only two studies to date include information about MHC readmissions. Ray (2014) studied recidivism of 449 participants of a misdemeanor and felony MHC. He included only the first admission to the MHC if participants had more than one admission to the

MHC, specifically excluding second more admissions from the study. Ray noted that over the six years of the study, 18% of participants were readmitted to MHC, of whom 60.5% had previously completed the MHC. Ray completed no further analysis of readmissions. Boccaccini, Christy, Poythress, and Kershaw (2005) completed a second study that included MHC readmissions. They followed two jail diversion programs for 18 months, one of which was a MHC and the other was community supervision. The MHC was a preadjudication court that heard ordinance violation and misdemeanor cases. They report that during the 18-months study period, 21% were readmitted to the MHC, including 16% readmitted to the MHC one time, and another 5% readmitted two or more times. They also explored the characteristics of readmitted and nonreadmitted MHC participants, but included only gender and race in their analysis. Male participants and African American participants were slightly more likely than other groups to be readmitted, although effects sizes were small.

### **Current Study**

This study adds to the mental health court readmissions literature and expands upon the work of Boccaccini et al. (2005) and Ray (2014) by addressing additional research questions and using more sophisticated statistical methods. To our knowledge, no studies have explored the role of second admissions to MHCs on outcomes, nor have they employed multivariate analyses. Just as was done in the two previous studies, we first identify the percentage of defendants who are readmitted back into a MHC and estimate their time to readmission. Second, we compare the readmission rates for those who participated in a MHC the first time with those who were eligible but chose not to participate. The purpose of including the group of nonparticipants was to understand how deciding not to participate when eligible may impact future decisions to

participate. Third, we compare readmission rates for those who successfully completed court supervision, those who successfully completed supervision but were placed on probation, and those who had a negative termination from supervision. Fourth, we identify demographic, clinical, crime, and program-related variables that are associated with readmission to MHC for all defendants who were eligible to participate, as well as a subgroup of defendants who were supervised by the MHC. Finally, we compare MHC program outcomes of defendants with only one admission to the MHC to those with a second admission.

Data for this study were derived from the administrative databases of St. Louis County Municipal Mental Health Court from the start of the program on October 1, 2001 until the end of its 13th year, September 30, 2014. The St. Louis Municipal Mental Health Court is part of St. Louis County, which is a suburban county that includes 91 incorporated municipalities, and which surrounds the city of St. Louis. This MHC is comprised of three courts that meet in a central location. Each court has a different judge, although the same case managers and county counselors (i.e., prosecuting attorneys) work with all three courts. The MHC hears only ordinance violations, not state misdemeanor or felony cases. To date, St. Louis County does not have a mental health court that serves persons with state misdemeanor or felony cases. Linhorst et al. (2010) includes additional descriptive information about the MHC.

## **Methods**

### **Participants**

This study includes a sample of 1,084 defendants referred to the MHC for the first time and who had their cases closed during the court's first 13 years of operation. This sample

includes 121 defendants who were referred to the MHC and were eligible to participate but chose not to do so after receiving more information about the program, and 963 defendants who were referred to the deemed eligible to participate, agreed to participate, and were supervised by the MHC. We included the 121 defendants who chose not to participate because they committed a crime, were referred to the MHC and deemed eligible to participate. Excluded from this study were defendants who were not eligible for the MHC, who did not show up for their first court hearings and had their cases transferred out of the MHC, who had their charges resolved by the MHC without a period of supervision, who were transferred out of the court for administrative reasons, or who had died after being referred to the MHC but prior to case closure.

Among the 1,084 defendants in the sample, the mean age at the time of admission to the court was 34.9 years ( $SD = 13.9$ ); and ranged from 16.3 to 88.6 years. Most defendants were male (62.1%); Caucasian (71.3%) or African American (26.6%); and never married (72.8%). Only 29.2% of defendants were employed full-time or part-time. Others were not seeking employment because they were students, retired, or had disability income (14.1%) and the remainder were unemployed (56.7%). Defendants tended to live with parents (40.5%) or independently (40.3%) and resided in St. Louis County (80.4%). Most defendants had either public or private health insurance (83.4%), and most were prescribed psychiatric medication at the time of case closure (87.7%). Primary psychiatric diagnoses included bipolar disorder (39%), depression (24.5%), and schizophrenia (22.5%). An additional 54.1% of defendants had a history of substance abuse. Crimes for which defendants were referred to the MHC included assault (45.2%), public order crimes (22.7%), stealing (9.9%), and other offenses (22.2%). For MHC defendants who were supervised by the court, 61% successfully completed supervision and had their charges dropped at termination, 6% successfully completed supervision and were required

to continue on county probation, and 21.9% had a negative termination from supervision and received convictions. About one-fourth of defendants (22.1%) were rearrested for new crimes while under MHC supervision, and 29.3% were rearrested on new criminal charges in the one-year period following discharge from the MHC. See table one for a descriptive information about the sample.

**Place table 1 about here**

## **Variables**

***Dependent variables.*** The study incorporated three primary dependent variables. The first was whether or not MHC defendants had a second admission to the MHC by the end of the study period. A second variable was the number of readmissions during the study period. The third variable was the time to the first readmission, measured as the number of months between the discharge date following the first admission to the date of the second admission. Each readmission was not considered a separate and unique event in the analyses. Data are provided for MHC defendants only for the first admission, with the exception of the three variables described above. Another set of dependent variables was program outcomes and included whether or not defendants chose to participate in the court, were arrested while under court supervision, were arrested within one year of MHC completion, or had a negative termination from MHC supervision. These outcome variables were also used as independent variables in some analyses.

***Independent variables.*** The study incorporated four sets of independent variables. Demographic variables included age in years at time of referral to the MHC, gender, race

(Caucasian or other), marital status (never married or married at least one), employment status, living arrangement, and county of residence. Employment status was measured at time of discharge from the MHC and included three categories: employed full-time or part-time, not employed, and not seeking employment because of retirement or being a high school or college student. Living arrangement was coded as independent (living alone, with a roommate, or spouse), with parents, with extended family members, or in other settings (group homes, residential treatment, homeless shelters, and foster care). Categories of county included St. Louis County; St. Louis City, an urban city that borders St. Louis County; and other counties of residence.

Second were clinical variables that included whether or not defendants had private or public health insurance (e.g., Medicare, Medicaid, coverage through the Veteran's Administration) and whether or not defendants were prescribed psychiatric medication at the time of MHC discharge. Clinical diagnoses were coded as bipolar disorder, schizophrenia, depression, and other disorders. Diagnoses in the other category included 11 disorders, the most frequent of which included anxiety disorders, attention deficit disorder, intellectual disabilities, and post-traumatic stress disorder. A variable was also created that included whether or not defendants had multiple diagnoses from among the four diagnosis categories. Diagnoses were determined by the written statement defendants provided from a mental health professional, which is required by the MHC to determine eligibility. Many mental health professionals did not include secondary diagnoses. Consequently, this study used the variable history of substance abuse, which was determined by defendant self-report of substance use or substance abuse treatment, or substance dependence or abuse diagnoses.

A third set of variables were crime variables that included four types. One was the criminal offense that led to referral to the MHC, which included four categories: assault, public order crimes (drug and alcohol offenses, peace disturbance, property damage, or trespassing), stealing, and the category “other.” Nine crimes comprised the other category, the most frequent of which included driving and traffic offenses, such as DWI or leaving the scene of an accident, harassment, interfering with a police officer, property maintenance violations, and filing false police reports. If defendants were charged with more than one crime, the most serious crime was used to code the type of crime. A second crime variable was whether or not defendants had multiple charges when referred to the MHC. The remaining two crime variables were whether or not defendants who were supervised by the MHC were arrested for a new crime during supervision, and whether or not defendants were arrested for a new crime within one year of discharge from the MHC. The later arrest crime was coded as a dichotomous variable as well as the severity of crime with categories including ordinance violations, state misdemeanors, and state felonies.

The final set of variables included program-related variables. First was the court of jurisdiction, which included the South Court, the North Court, and the West Court as previously identified. In addition, as stated above, four program outcome variables served as dependent variables in some analyses and independent variables in others.

## **Data Analysis**

We used descriptive statistics to present the number of readmissions and time to readmission. We also calculated the Kaplan-Meier estimation of the number of participants who had a second admission and the mean and median times to readmission. In addition, we

estimated the hazard function at various time points to provide a risk estimate of readmission at each time point (Cleves, Gutierrez, Gould, & Marchenko, 2010) and graphed these data. To estimate differences in readmission rates between groups (i.e., participants vs. nonparticipants and successful termination vs. successful termination with probation vs negative termination) we again used the Kaplan-Meier estimation and compared groups using the log-rank test for equality of survivor functions. We also used the Nelson-Aalen estimation of the cumulative hazard function (cumulative hazard function) and graphed the different hazard functions for each group. To identify factors associated with readmission, we estimated Cox regression models on two samples of MHC defendants. One sample was the full 1,084 defendants, including those who chose to participate and were supervised by the MHC and those who chose not to participate, while the second sample includes only those who chose to participate and were supervised by the MHC. We ran two equations because defendants who chose not to participate did not have the opportunity to have a positive or negative termination from the court or be arrested while under court supervision. We used Cox regression models because defendants were terminated from the MHC at different points in time; therefore, not every defendant had the same amount of time post-MHC. Defendants who did not experience readmission by the end of the reporting cycle were considered to be right censored, that is, they had not experienced the event by the end of data collection and may or may not experience the event at a later date. Cox regression is appropriate for time-dependent outcome variables, especially in cases of right censored date (Allison, 1984). Finally, we used bivariate analyses, specifically the chi-square test, to identify differences in program outcomes between defendants who had one admission and defendants with a second admission by the end of the study period.

### **Missing Data**

As with most social science data, the administrative datasets from which this study was derived contained a small amount of missing information. The average amount of missing data per variable was 3%. Twelve of 22 variables had no missing data. The percentage of missing data for the 10 variables overall was 6.5% and ranged from 0.1% to 11.2%. We first tested the hypothesis that data were missing completely at random using Little's Missing completely at random test, which suggested that that data were not missing at random,  $\chi^2(436) = 468, p < .01$ . Using methods suggested by Allison (2002), we tentatively determined that the data were missing at random (MAR). We used listwise deletion to address missing data. We selected listwise deletion because doing so would not adversely affect our statistical power. Furthermore, this method of dealing with missing data is robust for our primary analysis unless missing data depend on both the independent and dependent variables, which is not the case with our data (Allison, 2002). As a result of this decision, the sample size used to calculate both of the Cox regressions will be less than 1,084. The regression with the defendants who chose not to participate and those supervised by included 826 defendants, while the one with only those who were supervised by the court included 757 defendants.

## Results

One study aim is to identify the rate at which defendants are readmitted to the MHC and the time to readmission. Among the sample of 1,084 defendants, 14.3% ( $N = 155$ ) had a second admission to the court by the end of the 13-year study period. Most defendants who were readmitted had only one readmission during the study period (11.6%,  $N = 126$ ), while 2.1% ( $N =$

23) had three total admissions, 0.3% ( $N = 3$ ) had four total admissions, and 0.3% ( $N = 3$ ) had five total admissions during the study period. Using the Kaplan-Meier estimation to account for cases

that were right censored, the mean time to readmission was 63.1 months and a median of 59.1 months. Using the Nelson-Aalen estimate of the cumulative hazard function to predict probability of reentry, the estimated probability of readmission was 17.4%. Over time, the specific hazard rate of readmission varied. The highest likelihood of readmission occurs at about 10 months, with a 0.5% chance of re-admission. The risk of readmission fell below 0.1% at about 50 months and slowly declined thereafter. Before 50 months, there was a precipitous drop in the rate of readmission. Figure 1 shows the smooth hazard curve of the risk of readmission at each time point and depicts the variability hazard rates over time.

**Place Figure 1 about here**

The second study aim is to compare readmission rates and time to readmission for defendants who were eligible for the MHC but chose not to participate ( $N = 121$ ) and those who participated and were supervised by the MHC ( $N = 963$ ). The log-rank test for equality of survivor functions suggests that those individuals who participated and those who did not participate had different survivor functions ( $\chi^2 [1] = 6.75, p < .001$ ). Among those who participated, the mean time to readmission was 63.5 months and the median was 60.7 months, and the cumulative hazard function was 16.5%. The hazard rate for readmission started at just below 0.5% and continued to drop to about 0.1% at 50 months. In contrast, the mean time to readmission for those who did not participate was 59.9 months and the median was 44.8 months, and the cumulative hazard function was 24.9%. The hazard rate for readmission for persons started at about 0.9% at 10 months and rapidly dropped to 0.2% at 20 months. The rate fluctuated between 0.2% and 0.3% between 20 and 60 months. Figure 2 includes the smooth hazard curves between the two groups at each point in time.

**Place Figure 2 about here**

Next, we compare the readmission rates and time to readmission for those participants who successfully completed court supervision and had their criminal charges dropped at that time ( $N = 661$ ), participants who completed court supervision but were placed on probation ( $N = 65$ ), and participants who had a negative termination from supervision ( $N = 237$ ). The log-rank test for equality of survivor functions indicates that the groups do not have equivalent survivor functions ( $\chi^2 [1] = 63, p < .01$ ). Among participants who completed supervision and had criminal charges dropped, the mean time to readmission was 65.2 months, the median time was 60.7 months, and the cumulative hazard function was 12.4%. The risk of readmission stayed fairly constant for those participants who successfully completed supervision at slightly below 0.01%. Among participants who successfully completed MHC but were placed on probation, the mean time to readmission was 75.1 months, the median time was 86 months, and the cumulative hazard function was 10.4%. The risk of readmission slightly fluctuated over time, with the greatest risk being about 0.4% at 20 months and fell below the successful group with charges dropped at about 55 through 65 months. Participants with a negative termination from supervision had a mean time to readmission of 55.5 months, the median time was 52.4 months, and the cumulative hazard function was 39.9%. The risk for persons with a negative termination was above 1.5% at about 10 months and the risk precipitously declined to below the risk of persons with a positive termination between 35 months to 45 months. Figure 3 shows the hazard curves between the three groups at each point in time.

**Place Figure 3 about here**

We then identified demographic, clinical, crime, and program-related variables that were associated with readmission for all defendants admitted to the program, including those who chose not to participate ( $N = 1084$ ). The model fit the data well,  $\chi^2(29) = 62.67, p < .01$ . Five variables were associated with increased time to readmission. Not seeking employment was associated with a 66.1% chance of readmission to MHC compared to being employed. Having a history of substance abuse was associated with a 76.5% increase in the rate of readmission. Being arrested within one year of discharge from the MHC was associated with a 60.5% increase in readmission. Next, choosing not to participate in MHC was associated with a 293.4% increase in the rate of readmission. Conversely, living in St. Louis City was associated with a 52.2% decrease in the rate of readmission compared to persons living in St. Louis County. We also modeled the same variables with readmission for MHC supervision participants. Once again, the model fit the data well,  $\chi^2(32) = 68.91, p < .01$ . Two variables were associated with readmission. Having a negative termination from the court was associated with an increase in risk of readmission of 157.5%, while being arrested while under court supervision was associated with a 75% increase in the risk of readmission. Table 2 provides Cox regression coefficients and standard errors for each of the independent variables included in both models.

**Place Table 2 about here**

Finally, we compared the outcomes of defendants who are admitted to the MHC for a second time ( $N = 155$ ) and compared them to defendants who had only one admission during the 13-year study period ( $N = 929$ ). Defendants who had a second readmission were more likely than those with a single admission to choose not to participate in the MHC even though they were eligible to do so, 16.8% and 10.2%, respectively ( $\chi^2[1, N = 1084] = 5.74, p = .017$ ). In addition,

among those who were supervised by the MHC, defendants with a second admission were more likely to be arrested for a new crime during supervision, 39.4% and 19.8%, respectively ( $\chi^2[1, N = 883] = 20.6, p < .001$ ), and they were more likely to have a negative termination from supervision, 51.9% and 20.4%, respectively ( $\chi^2[1, N = 963] = 59.95, p < .001$ ). Among all defendants, those who had a second readmission were more likely than those with a single admission to be arrested within the first year after discharge from the MHC, 41.2% and 27.2%, respectively ( $\chi^2[1, N = 987] = 11.98, p = .001$ ). The severity of crimes for which defendants were arrested was similar for both groups. The new arrest following discharge from the MHC among defendants with one admission included 46.1% ordinance violations, 31.1% state misdemeanors, and 22.8% state felonies, while for the second admission group it included 50.8% ordinance violations, 32.8% state misdemeanors, and 16.4% state felonies.

## **Discussion**

Baillargeon et al. (2009) argued that jail has become a revolving door for persons with SMI. Our findings indicate that this MHC did not serve as a revolving door for most persons with SMI. During the 13-year study period, 14.3% of MHC clients had a second admission, with an overall probability of readmission into the MHC being 17.4%. Only a small proportion of defendants, 2.7% ( $N = 29$ ), had three or more admissions to MHCs.

The readmission rates of 14.3% and 17.4% identified in this study are smaller than Ray's (2014) finding of 18% readmissions during that six-year study, and Boccaccini et al. (2005)

finding of 21% readmission during the 18-month study period. In addition, the Kaplan-Meier estimation of mean and median times to readmission, 63.1 months and 59.1 months, respectively, were well beyond the timespan of Boccaccini et al.'s 18-month study period and were near the end of Ray's six-year study. The differences in readmission rates may reflect the diversity of MHCs. While essential elements have been identified to guide the development and implementation of MHCs (Thompson, Osher, & Tomasini-Joshi, 2007), challenges exist to fully implementing those elements (Linhorst et al., 2010), and substantial differences exist across them (Redlich et al., 2006).

Rates of readmission differed on a number of factors. Two important factors were whether or not defendants chose to participate in the MHC, and the final disposition of defendants who chose to participate and were supervised by the court. Defendants who chose not to participate had a higher estimated cumulative probability of readmission than those who participated, 24.9% and 16.5%, respectively. Consistent with this finding, other studies have found that nonparticipation in mental health courts was associated with higher rates of rearrest, especially compared to participants who successfully completed supervision (Dirks-Linhorst & Linhorst, 2012; Hiday & Ray, 2010). For individuals who did not participate, the rate of readmission may be higher because the court would have served as a source of entry into the mental health system. The court has the ability to mandate services that participants may not have previously used nor had access to (Tyuse & Linhorst, 2005). By not participating, potential participants may not be getting needed mental health and support services.

The second group at-risk for readmission was defendants who had a negative termination from MHC supervision. Defendants with a negative termination had an estimated cumulative

probability of readmission of 39.9%, compared to defendants who successfully completed supervision and either had charges dropped (12.4%) or who were placed on probation (10.4%). In addition to defendants choosing not to participate, studies have identified negative termination from supervision as being associated with higher rates of rearrest (Burns, Hiday, & Ray, 2013; Dirks-Linhorst & Linhorst, 2012; Ray, 2014). These same behaviors that led to negative termination seemingly increased risks for rearrest and later readmission to the MHC.

It is noteworthy that defendants who successfully completed MHC supervision but were placed on probation for additional monitoring after ending court supervision initially had higher rates of readmission than persons with a successful completion but later had a point when likelihood of readmission reached near 0%. This ongoing monitoring may have helped defendants continue to receive mental health and support services, which is consonant with the finding by Solomon, Draine, and Marcus (2002) that making service connections predicted lower recidivism among persons on parole.

This study also identified factors associated with readmission in two multivariate analyses. The first analysis included all defendants in the study, while the second analysis included only those defendants who were supervised by the MHC. The same variables were included in both analyses, except the first analysis did not include arrests during supervision and supervision status since not all defendants were supervised. The second analysis did not include the decision to participate since the model included only defendants who participated, but did include arrests during supervision and supervision status. Four factors common to both analyses were associated with readmission in the first analysis – employment status, county of residence, substance abuse history, and arrest post-discharge – but were not significant in the second

analysis. In the first analysis, choosing not to participate in the MHC was the strongest predictor of readmission, which was consistent with the previous estimation of the cumulative hazard function. In the second analysis, only two factors were associated with readmission: being arrested during supervision and having a negative termination from supervision. The finding of negative termination being a risk factor for readmission is again consistent with the previous estimation of the cumulative hazard function. Boccaccini et al. (2005) found that men and African Americans were more likely to be readmitted to MHCs, although gender and race being the only factors included in their analysis. The current study suggests that any associations between gender and race may be spurious after adding other variables in a multivariate analysis, which in this study included additional demographic variables, and clinical, crime, and program-related variables.

This study highlights the importance on both future arrests and readmissions to MHCs of defendants accepting admission into a MHC and of having a positive termination from court supervision. MHCs should provide a range of incentives to referred defendants to participate and clear information about the benefits and risks of not participating, while employing motivational interviewing techniques during initial meetings and throughout the supervision process (Dirks-Linhorst, Kondrat, Linhorst, & Morani, 2013). For those defendants who do choose to participate, MHCs can promote a positive termination from supervision by giving defendants second chances if they are arrested during supervision if the crime and circumstances surrounding the crime warrant it, addressing substance abuse during supervision as a treatment issue, addressing criminogenic risk factors, and, in general, modifying treatment and supervision requirements as defendants' circumstances change (Bonfine, Ritter, & Munetz, 2016; Dirks-Linhorst et al., 2013; Hiday, Ray, & Wales, 2014).

Finally, we explored the differences in outcomes for defendants with only one admission and those on their second admission. Defendants with a second readmission were more likely to choose not to participate in the MHC, to have a negative termination from supervision if they chose to participate, and to commit new crimes during and after supervision. Questions remain as to the utility of another readmission. When clients are readmitted, MHCs should carefully assess the circumstances that led to rearrest and readmission and adapt conditions for participation accordingly and possibly provide closer supervision. If readmitted defendants choose to participate but commit another offense during supervision, serious consideration should be given as to whether or not they indeed are able to benefit from the MHC.

### **Limitations**

This study has at least three limitations. First, we identified rearrests after being discharged by the MHC for only one year, plus we were unable to determine the jurisdiction in which MHC defendants were rearrested after completing the MHC. Therefore, it is possible defendants who were rearrested could have become involved in a MHC in that jurisdiction. In addition, we used administrative data for this study. Other variables that have been associated with MHC participant outcomes in past research, such as social support (Canada, 2013), were not available. Last, the MHC included in this study hears only ordinance violation cases. Our findings may not be relevant to misdemeanor and felony courts. There may be other characteristics of MHC, too, that could account for variation in rates of readmission.

### **Implications for Social Work**

Pettus-Davis (2012) argued that social work has neglected adults involved in the criminal justice system. Despite its limitations, this study has implications for social work policy, practice, and research. First, from a policy perspective, this study supports the sequential intercept model and its continuum of opportunities for intervening with people with SMI in the criminal justice system (DeMatteo, LaDuke, Locklair, & Heilbrun, 2013; Munetz & Griffin, 2006). While MHCs are a viable option for some defendants with SMI, MHC participants who are rearrested may benefit from another option along the continuum because of the poorer outcomes they are likely to experience with another MHC admission, as was found in this study. Consequently, social workers should be strong policy advocates for a range of intervention options to persons with SMI who enter the criminal justice system. Second, this study has implications social work practice for social workers employed by MHCs or who serve as case managers for mental health organizations. When people with SMI are referred for readmission to a MHC, careful assessment is required to determine if reentering the MHC is the most appropriate option for them or if other services along the sequential intercept continuum may be more appropriate. Some people, for example, may be better served by a more intensive program of supervision if available, or participants may benefit from jail-based programming and follow-up specialized services after release from custody, such as a forensic assertive community treatment program (Lamberti, Weisman, & Faden, 2004). Social workers serving on MHC interdisciplinary teams can also use the findings to help judges and other criminal justice professionals to understand the likelihood of success for admitting a client for a second admission and to develop interventions and support services to maximize the possibility of success. Finally, this study has implications for social work research. It highlights the importance of researchers including readmission as a variable in MHC outcome studies, as it likely will have an effect on the

successful completion of MHCs and rearrests after completing the MHC. At a minimum, researcher should include, as did Ray 2014), a statement regarding whether the study included only first admissions. In addition, more research is needed to identify the services that can assist defendants who are readmitted to MHCs to be successful.

Table 1: Characteristics of defendants who participated in MMHC (n = 1084)

Variable	% of X (SD)
<b>Age at entry</b>	
<b>Gender</b>	
Male	
Female	
<b>Race</b>	
Caucasian	
Other	
<b>Marital Status</b>	
Married once	
Single	
Missing	
<b>Employment</b>	
Employed	
Unemployed	
Not seeking	
Missing	
<b>Living arrangement</b>	
Independent	
Parents	
Extended family	
Other	
Missing	
<b>County of residence</b>	
St. Louis county	
St. Louis city	
Other	
Missing	
<b>Insurance</b>	
Yes	
No	
Missing	
<b>Medication case closure</b>	
Yes	
No	
Missing	
<b>Primary diagnosis</b>	
Bipolar	
Schizophrenia	
Depression	
Other Disorder	
Missing	
<b>Multiple Diagnoses</b>	
No	
Yes	
Missing	
<b>Substance abuse history</b>	
No	
Yes	
Missing	
<b>Initial MHC</b>	
South	
North	
West	
<b>Referral source</b>	
Municipal contract	
	34.91(13.92)
	62.10%
	37.92%

	71.31%
	28.70%
	26.94%
	71.96%
	1.11%
	27.21%
	52.95%
	13.19%
	6.64%
	37.36%
	37.55%
	11.62%
	6.27%
	7.20%
	80.07%
	11.99%
	7.56%
	.37%
	75.83%
	15.13%
	9.04%
	83.12%
	11.62%
	5.26%
	34.69%
	20.02%
	21.77%
	12.36%
	11.16%
	72.05%
	16.79%
	11.16%
	43.17%
	50.83%
	6.00%
	52.31%
	28.23%
	19.46%
	10.52%
County counselor/court transfer	44.56%
CIT	35.52%
Other referral source	9.41%
<b>Primary admitting crime</b>	
Assault	45.20%
Stealing	9.87%
Public order	22.69%
Other	22.23%
<b>Multiple crimes</b>	
No	69.00%

Yes	31.00%
<b>First disposition</b>	
Positive termination	60.98%
Positive termination on probation	6.00%
Negative termination	21.86%
Not participate	11.16%
<b>Arrests under supervision</b>	
Not arrested	63.47%
Arrested	17.99%
Not participate	18.54%
<b>Arrests within a year of admission</b>	
Not arrested	64.39%
Arrested	26.66%
Missing	8.95%

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**Table 2: Cox Regression of Predictors of Readmission to Mental Health Court**

Variable	Referred and admitted ( <i>n</i> = 826) <sup>1</sup> <b>b (SE)</b>	Admitted - Participated Only ( <i>n</i> = 757) <sup>1</sup> <b>b (SE)</b>
<b>Age at entry</b>	-.02 (.01)	-.02 (.01)
<b>Gender -Male</b>		
Female	.06 (.20)	.20 (.23)
<b>Race—Caucasian</b>		
Black	.21 (.26)	.14 (.31)
<b>Marital—Married once</b>		
Single	.19 (.27)	.15 (.31)
<b>Employment -employed</b>		
Unemployed	.19 (.16)	.27 (.18)
Not seeking	.52 (.23)*	.44 (.27)
<b>Living arraignment—independent</b>		
Parents	-.41 (.24)	-.33 (.27)
Extended family	.01 (.30)	-.25 (.35)
Other	-.16 (.41)	-.58 (.55)
<b>County of residence -- St. Louis county</b>		
St. Louis city	-.74 (.35)*	-.59 (.40)
Other	.31 (.38)	-.13 (.42)
<b>Insurance - yes</b>		
No	-.32 (.24)	-.31 (.28)
<b>Medication case closure - yes</b>		
No	.18 (.31)	-.22 (.36)
<b>Primary diagnosis - schizophrenia</b>		
Bipolar	-.07 (.10)	.09 (.12)
Depression	-.01 (.13)	-.04 (.15)
Other Disorder	-.08 (.16)	-.22 (.18)
<b>Multiple Diagnoses - no</b>		
Yes	-.26 (.28)	-.13 (.31)
<b>Substance abuse history - No</b>		
Yes	.56 (.21)*	.37 (.24)
<b>Initial MHC -- South</b>		
North	-.09 (.13)	.01 (.14)
West	-.19 (.27)	-.21 (.33)
<b>Referral source - Municipal Contract</b>		
County counselor/court transfer	.39 (.21)	.33 (.24)
CIT	.40 (.35)	.23 (.41)
Other referral source	.06 (.39)	.28 (.41)
<b>Primary admitting crime - Assault</b>		
Stealing	-.21 (.16)	-.22 (.18)
Public order	.15 (.18)	.12 (.20)
Other	.19 (.19)	.15 (.21)
<b>Multiple crimes - no</b>		
Yes	-.05 (.21)	-.01 (.22)
<b>Arrests under supervision -- not arrested</b>		

Arrested		.56 (.24)**
	26	
<b>Arrested within one year of program completion -- not arrested</b>		
Arrested	.47 (.21)*	.28 (.24)
<b>Chose not to participate - yes</b>		
no	1.37 (.33)**	
<b>First disposition - positive termination</b>		
Positive termination on probation		.07 (.44)
Negative termination		.95 (.27)**
	$\chi^2 = 62.67, df = 29, p < .01$	$\chi^2 = 68.01, df = 31, p < .01$

\* $p < .05$ , \*\* $p < .01$ , <sup>1</sup>Sample sizes differ because we employed listwise deletion to account for missing data.

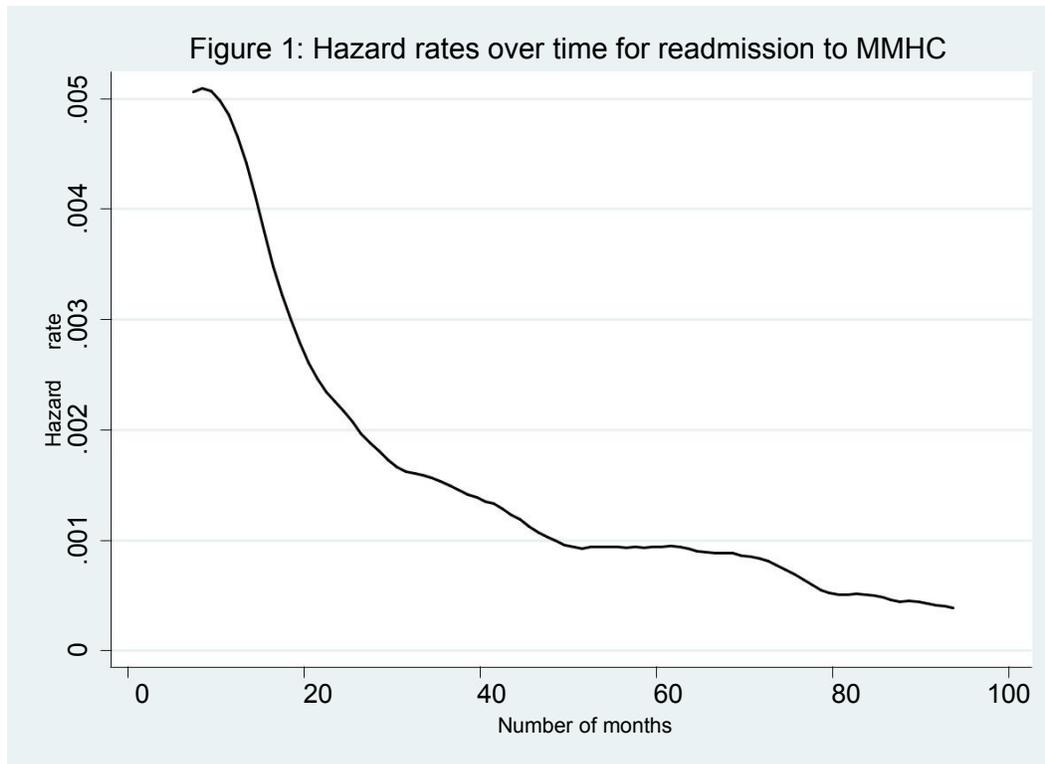




Figure 2: Hazard rates by participation

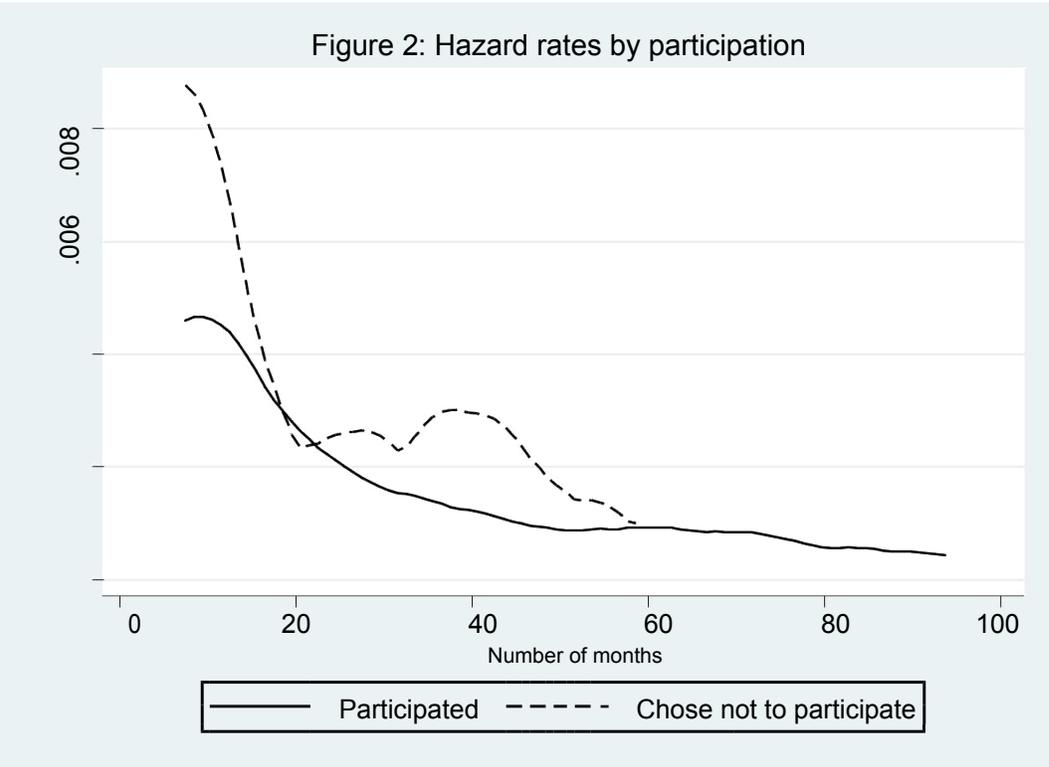
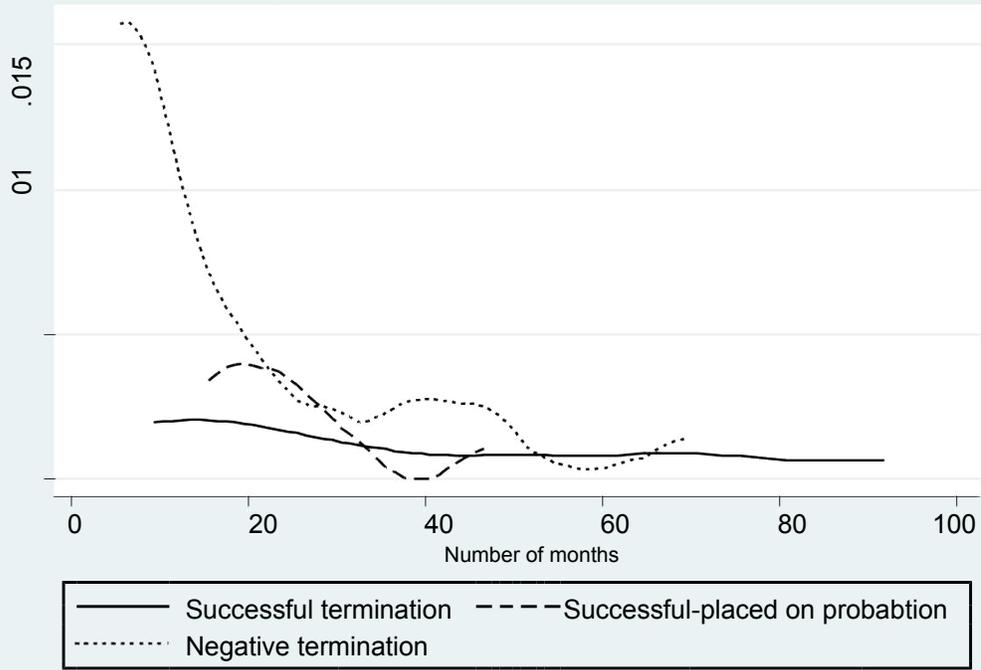


Figure 3: Hazard rates by MMHC outcome



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