

## **“People, Places, and Things:” Network Factors Matter in the Experiences of Mental Health Court Participants**

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*Mental health courts (MHC) are expanding nationally but the evidence base involves substantial gaps in research. Although positive outcomes are associated with MHC participation, it is unclear as to what factors contribute to outcomes. The current study addresses gaps in research by exploring the experiences of MHC participants and associations between network factors and treatment adherence from consumers participating in two MHCs (N = 80). A mixed-method design drawing from multiple data sources is utilized. Study results suggest network factors are significantly associated with treatment adherence and play an important role in recovery. Results have implications for social work practice and research.*

The United States ranks highest in the world in the number of individuals who reside in jail or prison. One out of every 100 adults in the United States is incarcerated, a nearly seven-fold increase since the 1970s (Holder, 2009). People with serious mental illnesses, however, are disproportionately coming into contact with the justice system in comparison to people without serious mental illnesses. Among incarcerated individuals, Steadman, Osher, Clark Robbins, Case, and Samuels (2009) estimate that 11% to 19% of males and 22% to 42% of females have serious mental illnesses including bipolar,

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schizophrenia spectrum, major depression, delusional, and psychotic disorders. Estimates of the prevalence of serious mental illnesses in jails and prisons are higher than what is expected based on community samples (Teplin, 1990; Teplin, Abram, & McClelland, 1996), which is approximately 3% of males and 6% of females in the United States (National Institute of Mental Health, 2008).

People with serious mental illnesses who come into contact with the legal system are at risk of negative impacts at multiple points in their interactions with the justice system. This includes interactions with the police, arrest, booking, trial, incarceration, and release from jail or prison. There are multiple risks specifically associated with the incarceration of people with serious mental illnesses. For example, people with mental illnesses spend between 5 and 15 months longer in custody in comparison to people without mental illnesses even when charged with comparable crimes (Ditton, 1999). People with serious mental illnesses are also at a higher risk of victimization while incarcerated. In comparison to people without serious mental illnesses, people with serious mental illnesses are nearly twice as likely to be involved in a fight with other inmates and twice as likely to be sexually assaulted by other inmates or staff (Blitz, Wolff, & Shi, 2008).

People with serious mental illnesses are also at risk of experiencing an exacerbation of symptoms due to stress surrounding arrest and incarceration and/or a lack of treatment or poor treatment while in custody (Bernstein & Seltzer, 2003). Ditton (1999) found that only six out of 10 inmates in need of mental health treatment receive it while in custody. Of the individuals receiving some form of treatment, Bernstein and Seltzer (2003) questioned the quality and effectiveness of the services provided through jails and prisons. Services provided are often minimal, with only medication administration and infrequent visits from medical professionals.

People with serious mental illnesses who come into contact with the criminal justice system are also at risk of frequently cycling in and out of the criminal justice system with low-level felony, misdemeanor, or disorderly conduct-related arrests and parole revocation for technical violations (Lamb & Weinberger, 2005; Lurigio, Rollins, & Fallon, 2004; Skeem & Eno Loudon, 2006). Individuals with mental illnesses who come into contact with the justice system are significantly more at risk of re-incarceration in comparison to people without mental illnesses. For example, individuals with bipolar disorder were 3.3 times more likely to have four or more previous incarcerations when compared to individuals without mental illnesses (Baillargeon, Binswanger, Penn, Williams, & Murray, 2009). However, as Skeem, Manchak, and Peterson (2010) noted, individuals with mental illnesses on probation are equally likely to be rearrested for a new crime as someone without a mental illness on probation, but individuals with mental illnesses are significantly more likely to violate their terms of probation resulting in a technical violation. Further, when incarcerated, people with serious mental illnesses

may also have their benefits (i.e., Medicaid, Medicare, Supplemental Security Income, Supplemental Nutrition Assistance Program benefits) suspended or terminated (Bazelon Center for Mental Health Law, 2006), which may create an elevated risk of re-incarceration upon re-entry to the community.

Mental health court (MHC) programs are one of many interventions being used to address issues regarding the overrepresentation of people with mental illnesses in prisons and to reduce the risk they face when involved in the criminal justice system (Epperson, Thompson, & Canada, 2013; Watson, Hanrahan, Luchins, & Lurigio, 2001). MHCs were created, in part, to divert people with serious mental illnesses from jail and prison to community-based treatment where social workers, caseworkers, and other mental health professionals provide intensive treatment. MHCs are expanding across the nation, but the evidence base is scant and involves substantial gaps in research. Relatively little is known about the ways in which consumers experience treatment in the context of MHC programs. Further, although quantitatively measured outcomes like reduced recidivism are documented, it is unclear what factors are associated with outcomes (Gurrera, 2005; Herinckx, Swart, Ama, Dolezal, & King, 2005; Sarteschi, 2009; Steadman, Redlich, Callahan, Clark Robbins, & Vesselinov, 2011; Trupin & Richards, 2003). One factor, social networks, has been associated with positive outcomes in studies involving individuals with mental illnesses who are on probation (see Skeem, Eno Loudon, Manchak, Vidal, & Haddad, 2008). Although the role of social networks has not been explored within the context of MHCs specifically, there is promise that social network factors may play an important role in an individual's experience with the criminal justice system and with outcomes.

The current analysis is part of a larger study that aimed to explore MHC participants' experiences within MHCs and to estimate associations between network factors and outcomes among people participating in two different MHCs to better understand the processes or factors involved in program success. A mixed-method design that draws from multiple data sources is used to address research questions and contextualize data. This article presents findings regarding the relationship between the social networks of MHC participants and one important outcome, treatment adherence. Poor treatment adherence is associated with poor recovery among people with serious mental illnesses (Velligan et al., 2009); thus, understanding the factors that are associated with treatment adherence within the MHC context is an important contribution to the literature and one that is currently lacking. Structured and semi-structured interviews are drawn upon to do the following: (a) describe the social networks of MHC participants; (b) quantitatively estimate the associations between network factors and treatment adherence; and (c) explore what factors impact mental health recovery and contribute to success within MHC programs from the perspective of MHC participants and key informants.

## BACKGROUND AND SIGNIFICANCE

In order to divert a portion of people with mental illnesses from spending time in prison and to reduce the high risk for criminal recidivism people with mental illnesses face, MHCs were developed (Epperson, Canada, & Lurigio, 2013). MHCs aim to move beyond the traditional court approach to criminal activity in that they connect people with mental health and substance abuse treatment and social services rather than sentencing people to spend time in prison (Watson et al., 2001). There is variation in the MHC model by judicial circuit in the target population, referral process, plea arrangements, supervision, availability and type of treatment, and the use of incentives (Council of State Governments Justice Center, 2008). MHCs are presumed to tailor their programs to meet the local needs of their communities while taking into consideration the availability of resources and funding sources (Erickson, Campbell, & Lamberti, 2006; Watson et al., 2001). However, there are five common components that distinguish MHCs from traditional courts. These components include (a) having a specialized docket for certain individuals with mental illnesses; (b) requiring voluntary diversion to the specialized docket; (c) diverting individuals from trial and possible incarceration to receiving monitored community-based treatment as a condition of program participation; (d) supervising participants with regular status hearings before a judge; and (e) using rewards and sanctions to encourage compliance with court mandates (Council of State Governments Justice Center, 2008; Steadman, Davidson, & Brown, 2001).

After 12 years of operation, researchers continue to piece together the impact that MHCs have on the judicial system, community, and participants. The most well-documented outcome for participants is the reduction of criminal recidivism (Christy, Poythress, Boothroyd, Petrila, & Mehra, 2005; Council of State Governments Justice Center, 2008; Gurrera, 2005; Herinckx et al., 2005; Sarteschi, 2009; Trupin & Richards, 2003). In a meta-analysis of outcome studies, MHC participation was associated with a reduction in criminal recidivism with an average effect size of  $-0.54$  (Sarteschi, Vaughn, & Kim, 2011). In a recent study, Steadman and colleagues (2011) found MHC participants are less likely to be arrested in the 18 months following MHC participation in comparison to a matched treatment-as-usual group of individuals. Hiday and Ray (2010) found MHC participants had a 48% rearrest rate in the 2 years following MHC participation, which was a significant reduction in comparison to the two years prior. Reduced criminal recidivism was especially prominent in graduates of the MHC. MHC graduates were 3.7 times less likely to be arrested than nongraduates of MHC (Herinckx et al., 2005). Graduates also reported significantly more days to a new arrest than nonparticipants (McNiel & Binder, 2007; Trupin & Richards, 2003).

Not only have MHCs been found to reduce recidivism, they also seem to reduce the severity of future criminal activity, at least during the year

following participation (Gurrera, 2005; Moore & Hiday, 2006). Using an experimental design, Cosden, Ellens, Schnell, Yamini-Diouf, & Wolfe (2003) concluded that a combination of MHC participation and assertive community treatment reduced the severity of participants' future criminal activity. Among MHC participants who are re-arrested, crimes are more likely nonviolent and/or related to parole violations (Cosden et al., 2003; Gurrera, 2005; McNeil & Binder, 2007). MHC participants report a decrease in violent acts during MHC. MHC participants also report fewer violent acts during the 8-month follow-up period in comparison to matched traditional court participants (Christy et al., 2005).

Preliminary research also offers promising findings regarding MHCs as a means for increasing access to mental health and substance use treatment and social services. In one investigation, MHC participants increased their use of services during their MHC participation. Specifically, participants used 61.6% more services in the 8-month follow-up period in comparison to the 8 months prior to MHC participation. Use of social services and treatment was also higher for MHC participants in comparison to traditional court participants with mental disorders (Boothroyd, Poythress, McGaha, & Petrila, 2003). Once in the MHC, participants used fewer crisis services and spent fewer days in psychiatric hospitals in comparison to their use of these services prior to MHC participation (Herinckx et al., 2005).

Although MHC effectiveness research is limited, there are promising findings within the current body of research. It remains unclear, though, how MHCs influence recovery from mental illness. Rigorous study in the MHC literature has yet to identify important factors associated with empirically documented outcomes. However, research involving social network factors offers promising findings and suggests that a variety of social network factors may play a role in promoting positive outcomes among people with serious mental illnesses in the criminal justice system. In recent research on mental health probation, Skeem and colleagues (2008) found individuals with more extensive social networks that include positive family relationships and both formal and informal sources of social control favored rule compliance, had better outcomes, perceived more positive relationships with clinicians (and to a lesser extent, probation officers), perceived less coercion, remained treatment adherent, and had fewer probation violations (Skeem et al., 2008). Individuals with smaller social networks and poor family relationships, on average, perceived more treatment coercion and had fewer positive outcomes (Skeem et al., 2008).

In addition to the size of social networks and behaviors of network members, network density, or the interconnectedness of network members, is also an important component of social networks. Higher density networks (i.e., networks that are highly interconnected) are thought to "facilitate the flow of goods and communication among members, exerting informal pressure toward normative consensus and facilitating the exchange of assistance

or support” (Uehara, 1990, p. 529). Lower density networks, on the other hand, do not exert as much social control and can be fragmented. Dense networks are thought to be especially helpful in facilitating social support (Briggs, 1998; Hirsch, 1979; Hurlbert, Haines, & Beggs, 2000) and tend to be more satisfying (Hirsch, 1979); however, among networks in which network members do not get along, density may induce stress (Burt, 1980).

Although the research on network density for people with mental illnesses is scant, the concept of density and the research we do have provides promising evidence that density is important to consider when researching the social environments of people with mental illnesses (Hammer, 1981; Pinto, 2006). For example, Goldberg, Rollins, and Lehman (2003) concluded that there is a curvilinear relationship between density and clinical functioning such that people with mental illnesses who have moderately dense networks exhibited fewer symptoms than people with both low and high density networks. Similarly, River (2006) also found a curvilinear relationship between density and mental illness recovery (i.e., managing and coping with mental illness, goal-directedness, and symptom reduction); moderately dense networks were associated with the highest perceptions of recovery in comparison to the perceptions of participants with low and high density networks. In a more dated study, Dozier, Harris, and Bergman (1987) reported that moderately dense networks are ideal for young adult consumers who are hospitalized frequently—low density networks were “scattered and potentially alienating” whereas high density networks primarily included helping professionals with few nonprofessionals available to discuss experiences and symptoms.

## SOCIAL NETWORKS IN THE CURRENT STUDY

Social networks, for purposes of this study, are conceptualized in terms of network characteristics (e.g., size and density) and the behaviors of network members (e.g., network members who use drugs, have a history of arrest, and/or who drink too much). An understanding of the social networks of MHC participants and the role that networks play in outcomes is absent in the current MHC literature. The work of Bernice Pescosolido, however, is helpful in beginning to understand the role of networks among this population, as her theoretical lens is a good fit for people with mental illnesses. At its core, social network theory states that social interactions impact attitudes, beliefs, and behaviors; social network theory postulates that one way to understand human behavior is through individuals’ social relationships (Pescosolido, 2001). Pescosolido (2001) suggested that “individuals shape their everyday life through consultation, suggestion, support, and nagging from others” (p. 468). The characteristics of one’s network, especially among individuals with mental illnesses, influence the kinds of experiences people have with treatment practitioners, in help-seeking, and in treatment adherence (Pescosolido & Boyer, 2010). Network

factors can increase use of treatment and social services as well as discourage formal service use (Pescosolido, 1991).

Network membership can aid in creating a sense of stability and control in one's life as a result of regular interactions and social feedback (Cohen & Syme, 1985). Individuals with mental illnesses and/or substance use disorders tend to have relatively small social networks (Buchanan, 1995; Meeks & Murrell, 1994; Pattison & Pattison, 1981; Skeem et al., 2008; Stanton-Tindall, Royse, & Leukfeld, 2007; Strauss & Falkin, 2001), arguably because of difficulties with social functioning (Brugha, Wing, Brewin, MacCarthy, & Lesage, 1993), stigmatization (Skeem et al., 2008), social withdrawal (Link, 1987), and/or living in impoverished and high crime neighborhoods (Brown & Scheid, 2010). In addition, social network theory suggests the density of one's network will be associated with dependent variables through the influence of members' interactions and communication with one another (Cohen & Syme, 1985; Pescosolido, Wright, & Sullivan, 1995) especially among formal networks (i.e., helping professionals). Although not empirically tested in their research, Pescosolido and Sullivan (1995) hypothesized that the more contact case managers have with their clients' community, the more positive of an impact the case manager will have on the client's clinical outcomes. In previous research, networks of people with mental illnesses with low density delayed taking action (i.e., calling a doctor) to assist a person when symptoms arose (Perrucci & Targ, 1982).

The influence of social network factors in treatment adherence among consumers is documented, although not extensively. Rook and Ituarte (1999) concluded that social networks can influence the treatment experience and treatment adherence of individuals. They report, "People who have strong social network ties are believed to experience efforts by others to prompt appropriate health practices and to deter risky behaviors. Close ties to others are believed, as well, to entail important role obligations and responsibilities that serve to discourage risk taking and to motivate stable functioning and self-care" (Rook & Ituarte, 1999, pp. 199–200). Wolff and Draine (2004) suggested that among people with mental illnesses who are involved in the criminal justice system, social networks may be an important bridge to the community when being released from prison; social networks may also negatively influence consumers as some family environments can enable and even promote criminal activity among members. Specifically, family values and expectations may support drug use, illegal activity, or antisocial behaviors and may deter treatment adherence (as cited in Wolff & Draine, 2004).

Based on both social network theory and existing research, network factors are expected to be associated with treatment adherence. Specifically, it is expected that network factors like network size, network density, and network members' behaviors will be significantly associated with treatment adherence. This hypothesis guided the quantitative component of the study;

however, as is customary in qualitative analyses, hypotheses did not guide the exploratory component of this study.

## METHODOLOGY

A concurrent triangulation mixed-method design was used to address research questions. In a concurrent triangulation mixed-method design, the study is constructed to explore phenomena (i.e., MHC participants' experiences in MHCs and the factors participants believe impact recovery) and test for relationships between factors (i.e., associations between network factors and treatment adherence). The quantitative and the qualitative analysis are conducted concurrently; data is triangulated during both collection and analysis (Creswell, Plano Clark, Gutmann, & Hanson, 2003). The results of the two approaches to analysis are used to test specific hypotheses and provide a context with rich detail to explore nascent phenomena. Results of the quantitative analysis are directly compared, contrasted, and integrated with the emerging themes in the qualitative analysis.

### Setting

Participants were recruited from two MHCs in a Midwestern state. MHC A is a large metropolitan center with five different MHC sites, each with a different judge but with the same casework team that follows participants throughout the program. Participants were recruited from three of the five sites including the first MHC in this jurisdiction that was established in 2004. MHC A accepts participants with felony charges only and is only postadjudication, meaning defendants are required to plead guilty in a traditional criminal court for admission to the MHC. Participants are required to attend regular status hearings before the judge up to once per week and participate in mental health (and substance use, if needed) treatment and related services. A staff meeting is held with the MHC team prior to status hearings. The judge, a court administrator, probation, casework services, and the prosecuting attorney (on occasion, defense attorneys) are present at staffing. The MHC team at each site uses sanctions and rewards to encourage treatment adherence and probation compliance.

MHC B covers a mixed rural/urban area with its MHC located in a single site in the small city. MHC B accepts participants with both misdemeanor and felony charges, and both pre- (i.e., individual does not plead guilty prior to MHC participation) and postconviction agreements. MHC B also requires participants to attend regular status hearings before the judge up to once per week and participate in treatment and services. Staff meetings with the MHC team occur prior to weekly status hearings and include the judge, court administrator, probation, caseworkers, defense attorney, and



community treatment providers. The MHC staff from MHC B also use rewards and sanctions to reinforce compliance. The MHCs in both jurisdictions include the essential components that distinguish MHCs from traditional courts (Council of State Governments Justice Center, 2008).

Although the two MHCs in this study are similar, there are a few key differences. MHC A serves more African American participants, whereas MHC B serves more White participants. MHC A had only one participant who did not have a co-occurring substance use disorder, whereas MHC B had 12 participants without co-occurring disorders. Participants from MHC B were also younger, on average, and had fewer reported arrests, on average, in the 2 years prior to MHC participation. Most participants from MHC B lived with family members in the community (55%), whereas most participants from MHC A lived in a treatment facility or a recovery home (90%). Implications for these differences are discussed in the section below on statistical analysis. A comprehensive discussion of court differences including test statistics is beyond the scope of this article but is published elsewhere (see Canada, 2012).

### Sources of Data

Four sources of data were used in this analysis. The quantitative component of the study included 80 structured, face-to-face interviews involving several measures and survey questions with MHC participants. For each of the 80 participants, treatment adherence was also collected each month for 6 months following the interview. To explore the consumer experience of MHC participation, semi-structured interviews with a subsample of 26 participants were collected from the pool of participants who completed structured interviews. The interviews included open-ended questions to gain an understanding of what it is like to participate in MHCs and the factors that participants perceived to be key in facilitating change and promoting their own recovery within the MHC setting (see Appendix A for interview protocol). Finally, semi-structured interviews were also conducted with staff and community treatment providers ( $n=8$ ) to gain an understanding of MHC policies, county resources, barriers to MHC effectiveness, perceptions regarding MHC success, and contextual information (see Appendix B for interview protocol).

### Eligibility Criteria and Sampling Strategy

To be eligible for the study, participants were required to be adults (18 years or older) who were not currently in custody and willing to participate in the study. Eligible participants also had to have participated in the MHC for at least 2 months but no more than 18 months at the time of the baseline interview. This cut-off was selected because MHC participants needed to be engaged in treatment and services long enough to have participated in

treatment and begun getting to know his/her treatment providers. Having time to build relationships with the MHC staff and treatment providers is essential to examine the MHC and treatment experiences. The MHCs under study reported that consumers are not always linked immediately with treatment and, at times, are required to wait in jail for open beds in treatment facilities. Two months appeared to be a conservative estimate for potential study participants to be linked and involved with treatment.

All MHC participants who met criteria for the study were invited to participate in the baseline interview. Ninety-one participants were invited to participate between the two courts. Eighty participants consented to study participation (40 from each of the two courts). The 11 eligible participants who did not participate in structured interviews did not participate for the following reasons: five individuals who contacted the researcher to participate did not return follow-up phone calls; five individuals who contacted the researcher did not have a working number upon follow-up; and one individual presented with paranoid delusions that interfered with the consent process.

From these 80 participants, 35 individuals were purposively sampled and invited via phone to participate in a second interview. Purposive sampling occurs when the researcher selects cases strategically to provide depth into the phenomenon under study (Kemper, Stringfield, & Teddlie, 2003). Because the researcher wanted to include a variety of perspectives in the semi-structured interviews, maximum variation purposive sampling was used, which means that cases were selected based on diverse variation in characteristics (see Creswell, 2013) including gender, criminal history, and substance use diagnosis as these factors have impacted recidivism in past studies (Bonta, Law, & Hanson, 1998; Hartwell, 2004). The researcher selected both male and female participants; participants with very few arrests to participants with histories of chronic recidivism; and participants with no substance use problems to participants with self-reported chronic substance abuse. Participants were also selected based on their ability to engage in a discussion regarding their MHC experience. This was assessed during their first interview through verbal engagement with the researcher. For example, engaged participants were identified as people who talked to the researcher before and after the structured interview or provided more than a one-word response throughout the interview. Of the 35 individuals sampled, 26 consented to participate. Among the individuals who did not consent to participation, two individuals verbally consented to the second interview but did not attend the interview, six individuals did not return the researcher's phone call, and one individual's phone number was no longer in service. Thirteen participants from each court consented to participate in the semi-structured interview.

In addition to data from MHC participants, eight interviews were conducted with key informants from the MHC and mental health providers in

the community (four from each court). For each court, two MHC staff and two treatment providers were interviewed. To protect the anonymity of key informants involved in this study, further detail regarding the sample is not being presented; because of the small size of the MHCs, additional detail would allow for study participants to be identified. Participants for this part of the study were sampled using an opportunistic purposive sampling method. An opportunistic purposive sampling strategy involves taking opportunities as they arise to interview study participants (Kemper et al., 2003). In the current study, the researcher met staff and community providers through observations of and research with the MHC programs. The researcher invited key informants who had the longest tenure working with the MHCs and who, through discussions with the researcher, demonstrated in-depth knowledge regarding the MHC to participate in an interview at a later date. All eight stakeholders approached to participate in interviews agreed to take part in the study. Interviews with key informants were used to supplement MHC participant interviews to account for the providers' perspective of the MHC initiative and county-level factors that may influence the MHC.

All participants chose the location for the interview. Participants who completed structured interviews received \$20, whereas participants who completed semi-structured interviews received \$25 in exchange for their time. All procedures were approved by the appropriate Institutional Review Board.

## Measurement

Anchored measures and structured questions were used to obtain background information regarding participants. Some of the background information was used as control variables during data analysis. All of the demographic information is self-reported. Demographic information collected includes age, gender, relationship status, years of education, country of birth, race, living arrangements, employment status, and income. In addition, information regarding medical history like mental illness diagnosis, substance use diagnosis, and psychiatric hospitalizations was reported. Legal history was also obtained including number of arrests, current charges, and length of MHC participation.

## INDEPENDENT VARIABLES

Study participants also completed a number of standardized measures. Symptom severity was assessed using the Anchored Brief Psychiatric Rating Scale (BPRS-A; Woerner, Mannuzza, & Kane, 1988), which is widely used to assess psychiatric symptom severity. It is an 18-item measure with symptom severity reported on a 7-point ordinal scale from 1 (*not reported*) to 7 (*very severe*). Each item includes a one- or two-sentence description of the symptom and each point on the scale includes a descriptive anchor. The

participants self-reported on somatic concerns, anxiety, guilt feelings, grandiosity, depressive mood, hostility, suspiciousness, hallucinations, and unusual thought content while the researcher assessed emotional withdrawal, conceptual disorganization, tension, mannerisms and posturing, motor retardation, uncooperativeness, blunted affect, and excitement throughout the interview.

Participants' attitudes regarding their medications were estimated using the Attitudes Toward Psychiatric Medication Scale (ATPMS; Streicker, Amdur, & Dincin, 1986). The ATPMS is a five-item ordinal scale measuring participants' perceptions of the effectiveness of their psychiatric medications. Participants rated their perceptions on a 4-point scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). The ATPMS includes questions assessing participant perspectives of effectiveness and side effects of psychiatric medication; the scale has good internal consistency among individuals with serious mental illnesses (Streicker et al., 1986).

## Dependent Variables

### TREATMENT ADHERENCE

Treatment adherence was assessed each month for the 6 months following initial interviews. A single question to estimate treatment adherence was created by the researcher: "Please estimate the percent of time the client followed treatment recommendations (*treatment recommendations includes taking medications, attending therapy sessions, showing up for scheduled appointments with caseworkers and other medical professionals*)." Participants' primary MHC caseworker answered the above question each month using a 4-point scale with anchors: 1 (*never*); 2 (*very little of the time*) which was anchored with "25% of the time or less;" 3 (*some of the time*), which was anchored with "25% to 75% of the time;" and 4 (*almost all the time*), which was anchored with "75% to 100% of the time." Treatment adherence, for purposes of analysis, was calculated by summing the monthly rating of adherence over six-months for a single dependent variable with a possible range of six to 24. The distribution of treatment adherence scores was examined for normality including an examination of skewness ( $-1.926$ ,  $SE = 0.276$ ), kurtosis ( $3.911$ ,  $SE = 0.545$ ), and graphic representations.

### SOCIAL NETWORK FACTORS

A number of measures were used to address social network factors including the size and density of participants' networks. To assess the size of informal networks (i.e., friends, family, and other non-helping professionals), an approach adapted from Skeem and colleagues (2008) was used. Participants listed up to five core people in their lives excluding treatment and court staff. Participants reported on frequency of contact indicating daily, weekly, monthly, or contact a few times a year. In addition, participants were asked

to indicate (yes/no) if each network member had been arrested, uses illegal drugs, and drinks too much, which was defined for participants as someone who they believe has a drinking problem.

Density was estimated using two different approaches. The first approach was adapted from Hirsch (1979). Network density was assessed using a matrix of network members outlining which members know one another and how often they have contact with each other. Participants estimated contact between each of their core network members (as identified through the strategy described above), the MHC caseworker, the MHC judge, and their primary treatment provider indicating daily, weekly, monthly, and contact a few times a year. Density is a ratio of the actual linkage of network members (i.e., the number of people who know one another) to the total possible linkages within the participants' network. The matrix and details regarding the calculation of density are located in Appendix C. In this study, three study participants named other MHC participants as part of their informal network. Network members who knew the MHC judge and caseworker because of their own personal connection with the MHC were not counted as a linkage in density calculations.

A second measure, the CONNECT, includes 13 scales to assess continuity of care through questions regarding experiences with mental health service use, transitioning care, and the degree to which providers work as a team (Ware, Tugenberg, & Dickey, 2003; Ware, Dickey, Tugenberg, & McHorney, 2003). For purposes of this study, two subscales of the CONNECT were used to measure network density through estimations of provider to provider interactions (e.g., between MHC staff and community treatment providers) and provider to family interactions (a total of nine questions). Example questions include "How often do your treatment provider and caseworker talk to each other about your care?," "My family knows my treatment provider;" and "My family knows my caseworker." Participants answered using a 5-point ordinal scale ranging from 1 (*never/not at all*) to 5 (*always/completely*). The measure was validated using qualitative (see Ware, Tugenberg, et al., 2003, for discussion) and quantitative methodology. Internal consistency for five scales met the 0.80 Cronbach alpha standard; the remaining eight scales reach 0.70 Cronbach alpha (Ware, Dickey, et al., 2003).

## Analysis

### QUANTITATIVE

Descriptive statistics including calculating the mean, standard deviation, and frequencies of demographic, clinical, legal, and social network variables were used to describe the study samples. Correlations were conducted to examine relationships between treatment adherence and independent variables including symptom severity, attitudes toward psychiatric medications, and social network factors. Independent *t*-tests were used to examine the relationship

between social network factors and race (dichotomized to compare white to minority participants), gender, relationship status (dichotomized to compare being single to being in a relationship), and substance use disorder (dichotomized to compare people with substance use disorders and those without). Finally, significant bivariate relationships and theory-based selection strategies were used to select parsimonious multiple regression models to estimate the association between social network factors and treatment adherence. Independent variables included in the final model were density, the CONNECT, network size, and networks involving members who use illegal drugs. Because of limited statistical power, moderately correlated independent variables were omitted from the final models. Specifically, networks with members who use illegal drugs and drink too much were highly correlated,  $r(78)=0.61$ ,  $p<0.01$ ; only one of these variables was included in the final model in order to preserve statistical power. Control variables were selected based on their theoretical significance, statistical significance in bivariate analyses ( $p<0.05$ ), and variable stability (both skewness and kurtosis). The MHC (MHC B as the reference), symptom severity at baseline, attitudes toward psychiatric medications, and substance use diagnosis (no diagnosis as the reference) were used as control variables in the final model.

Participants missing any of the independent variables in this study were excluded from analysis. Participants with missing data on treatment adherence were either estimated (treatment adherence averaged for missing months if participants were missing 4 or fewer months of data) or eliminated from the analysis (if participants were missing more than 4 months of data). All analyses were conducted using SPSS predictive software version 20.0.

## QUALITATIVE

The quantitative analysis did not drive the qualitative analysis. Rather, a thematic analysis was used to analyze the semi-structured interviews in order to explore MHC participants' experiences within MHCs and the factors influencing personal change and promoting recovery from the perspective of both MHC participants and key informants. Thematic analysis is an approach used to identify, analyze, organize, interpret, and present patterns or themes within data (Braun & Clarke, 2006). Themes are intended to capture "something important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set" (Braun & Clarke, 2006, p. 82). Thematic analysis is conducted in six phases, as outlined by Braun and Clarke (2006). The phases are essentially used as guidelines for the researcher. Analysis is not conducted in a linear fashion; rather, themes and the interpretation of these themes are generated recursively.

In the current study, the following outlines the analytic process by phase:  
(a) All interviews were conducted by one researcher who subsequently listened

to all audio recordings, proofed all transcripts (audio files were transcribed by a transcription service), and read through each transcript line by line prior to conducting any coding; (b) initial codes were generated by reading through the transcripts again, line by line, and broadly coding chunks of data that explained factors study participants thought influenced mental health recovery or MHC program success. After initial codes were developed, the researcher read through the data within each code and combined some codes that were too similar to one another; (c) a second round of analysis occurred by reading through the codes and often going back to the original transcript to re-read the context of the data; additional coding within a theme occurred for some themes to further define the phenomena; (d) themes were then systematically reviewed to ensure the data adequately supported the themes and to check for contradictions. Themes were further developed by thinking about the themes in relation to the broader literature and through discussions with other researchers; (e) themes were defined and named using the participants' own words as much as possible; and (f) finally, the themes were interpreted, compared with the quantitative findings, and written using direct quotes from the dataset to illustrate the theme.

The results presented in this article are only a small portion of the qualitative findings (see Canada, 2012, for the entire analysis); the results presented here illustrate one of the themes that emerged from the analysis. Although the semi-structured interviews included some questions regarding friends, family, and engagement in treatment, for example, the entire transcript was analyzed rather than just the responses to certain questions. The qualitative analysis was organized using Nvivo software version nine.

## RESULTS

### Sample Description

#### DEMOGRAPHICS

Table 1 presents the demographic characteristics of the study sample ( $N = 80$ ) and subsample of MHC participants. In the overall sample, over half of the study participants were male (55.0%) and African American (56.3%). The average age of participants was 39.6 ( $SD = 12.1$ ) years old. Nearly half of participants in the study reported to be in a relationship (48.8%). On average, study participants completed 11.3 ( $SD = 2.5$ ) years of education. Very few participants worked at the time of the baseline interview (5%); just over half of the participants received Supplemental Security Income or Social Security Disability Insurance. The average annual income among participants was \$5,369 ( $SD = \$5,302$ ); the vast majority of participants (88.6%) were living below the federal poverty line, which is \$11,490 annually for one individual (Illinois Legal Aid, 2013). At the time of the initial interview, participants were in the MHC program for an average of 7.6 months ( $SD = 5.2$ ).

**TABLE 1** Sociodemographic Characteristics of Participants

Characteristic	Overall ( <i>n</i> = 80)				Subsample ( <i>n</i> = 26)			
	% <sup>a</sup>	<i>n</i>	<i>M</i>	<i>SD</i>	% <sup>a</sup>	<i>n</i>	<i>M</i>	<i>SD</i>
Gender								
Female	45	36			50	13		
Race								
African American	56	45			50	13		
Bi-racial	5	4			4	1		
Caucasian	34	27			42	11		
Latino	4	3			4	1		
Native American	1	1			0	0		
Relationship status								
Single	46	37			42	11		
In a relationship, not married	40	32			46	12		
Married	9	7			4	1		
Divorced/Widowed	5	4			8	2		
Employment								
Part-time	4	3			4	1		
Full-time	1	1			4	1		
Receiving SSI or SSDI	51	41			54	14		
Age in years (range 19–65)			39.6	12.1			42.1	9.9
Education in years (range 3–16)			11.3	2.5			12.2	2.3
Annual Income (US\$0–\$22,080)			5369	5302			6614	6077
Months in MHC (range 2–18)			7.6	5.2			7.2	4.2

SSI=Supplemental Security Income; SSDI=Social Security Disability Insurance; MHC=Mental Health Clinic.

<sup>a</sup>Categories may not equal 100% due to rounding.

CLINICAL CHARACTERISTICS AND SERVICE USE

Table 2 outlines the clinical characteristics of the study participants overall and in the sub-sample. The majority of individuals in the current study reported a primary diagnosis of bipolar disorder (53.8%). Ninety percent of study participants reported a primary diagnosis that is considered to be a serious mental illness (i.e., bipolar disorder, major depression, schizophrenia, or schizoaffective disorder). The other 10% of participants reported a primary diagnosis of generalized anxiety disorder, specific phobias, and adult onset attention deficit-hyperactivity disorder. The majority of study participants also reported a co-occurring substance use disorder (83.8%). On average, study participants received 3.6 (*SD* = 0.98) mental health related services at the time of the baseline interview. The types of treatment that study participants reported include groups conducted with a healthcare professional (i.e., anger management, psychotherapy, integrated dual-diagnosis treatment, mental illness substance abuse treatment, dialectical behavioral therapy, empowerment, parenting, psychoeducation, healthy eating, relapse prevention, socialization, women’s issues), 12-step or self-help groups (i.e., narcotics anonymous, alcoholics anonymous), individual therapy, medication management, job



**TABLE 2** Clinical Characteristics of Participants

Characteristic		Overall sample ( <i>n</i> = 80)				Subsample ( <i>n</i> = 26)			
		%	<i>n</i>	<i>M</i>	<i>SD</i>	%	<i>n</i>	<i>M</i>	<i>SD</i>
Mental illness diagnosis	Bipolar	58.8	47			57.7	15		
	Depression	5.0	4			3.8	1		
	Major depression	2.5	2			3.8	1		
	Schizophrenia/schizoaffective	28.8	23			23.1	6		
	Other (ADHD; GAD; Agoraphobia)	5.0	4			11.5	3		
Substance use diagnosis		83.8	67			76.9	20		
Treatment adherence	Almost always follows treatment recommendations	67.5	54			73.1	19		
	Almost always keeps appointments	71.3	57			84.6	22		
	Almost always takes medications as prescribed	85.0	68			92.3	24		
Treatment satisfaction	Very or Somewhat satisfied	72.5	58			73.1	19		
	Very or Somewhat dissatisfied	20.0	16			19.2	5		
Has a primary care doctor <sup>a</sup>		63.7	51			77	20		
Number of services (baseline; range 1–6)				3.6	1.0			3.5	0.9
Psychiatric hospitalizations in last 2 years (range 0–15)				1.5	2.4			1.3	1.5
Months working with primary treatment provider <sup>b</sup> (range 1–144)				8.8	18.4			15.0	29.9
Number of professionals currently involved in care (range 2–11)				5.1	2.1			5.3	2.5

<sup>a</sup>Missing data: 1 case.

<sup>b</sup>Missing data: 1 case; 58.2% of participants were involved with treatment providers three months or less.

coaching, methadone maintenance, psychiatric nursing, payee services, case management, financial management, and GED preparatory programs. Participants recalled working with their primary treatment provider for 8.8 months ( $SD = 18.35$ ), on average, at the time of their baseline interview. Participants reported working with, on average, 5.1 ( $SD = 2.14$ ) different mental health professionals in an average week. Participants were hospitalized an average of 1.5 ( $SD = 2.40$ ) times in the 2 years prior to MHC participation.

The majority of participants were not experiencing severe psychiatric symptoms during the 7 days preceding the baseline interview. The average rating among participants was highest for anxiety, depression, and feelings of guilt. The majority of participants agreed or strongly agreed that medication is necessary, helps to manage stress, prevents psychiatric hospitalizations, controls symptoms, and improves self-esteem. Eighty-three percent of participants reported that it is their choice to take medication. Nearly all of the study participants (96.3%) believed that the benefits of taking their psychiatric

medications outweigh the disadvantages. For example, 20% of participants reported their medications make them feel weird and 37.5% found that their medications make them tired and sluggish whereas 80% reported their medications make them feel more relaxed, 86.3% reported they feel more normal and 83.8% found that their thoughts are clearer on medication.

LEGAL BACKGROUND

In the 2 years prior to MHC participation, participants were arrested, on average, 2.9 times ( $SD = 2.4$ ). Participants reported the charge that led to their participation in the MHC. Most participants were arrested for retail theft or burglary charges (43.8%), drug-related charges (21.3%), or battery and assault (17.4%). A small percentage of participants were charged with prostitution, criminal damage to property, trespassing, driving on a revoked license, forgery, probation violation, and resisting arrest. The majority of charges were considered felonies (86.3%). Some participants reported that their charge was considered violent (13.8%).

Social Networks

FRIENDS AND FAMILY

Table 3 lists the details of participants' informal social networks. On average, study participants reported 2.7 ( $SD = 1.22$ ) people in their informal networks. Participants identified their mothers and significant others most frequently; friends, cousins, fathers, siblings, in-laws, children, aunts, and uncles were also reported. Participants, on average, had 0.8 ( $SD = 0.84$ ) network members who have been arrested, 0.3 ( $SD = 0.56$ ) network members who drink too much alcohol (has a drinking problem from participants' perspective), and 0.3 ( $SD = 0.70$ ) network members who use illegal drugs.

Just over one third of study participants were pleased or delighted (38.8%;  $n = 79$ ) about the way their family acts toward one another, whereas

**TABLE 3** Social Network Factors ( $N = 80$ )

Factor	<i>M</i>	<i>SD</i>	% ( <i>n</i> )
Number of core network members (max 5)	2.7	1.22	
Network members' arrests	0.8	0.84	57.6 (46)
Network members who drink too much	0.3	0.56	26.3 (21)
Network members who use illegal drugs	0.3	0.70	21.4 (17)
Talk with family over the phone weekly			76.3 (61)
Spend time with family in person			45.0 (36)
Talk with friends over the phone weekly			61.3 (49)
Spend time with friends in person			40.1 (32)
Spend time with significant other weekly			55.0 (44)

*Note.* % (*n*) represents the number of participants who reported at least one network member for the respective variable.

21.3% felt mixed and 11.3% felt unhappy or terrible. The majority of participants were at least mostly satisfied with the people they see socially (65.1%), whereas 23.8% reported mixed feelings about their group of friends. As outlined in Table 3, over half of the participants spoke with family and/or friends over the phone each week. Less than half of the participants spent time, in person, with friends and family. However, 55% ( $n = 44$ ) of participants spent time with their significant other at least once a week.

There were no significant differences between being single and being in a relationship or males and females in network size or network members' behaviors. There were statistically significant differences in the number of network members who had been arrested—White participants ( $M = 0.52$ ,  $SD = 0.64$ ) had significantly fewer network members who had been previously arrested in comparison to African, Asian, Native, and/or Latino American or biracial participants ( $M = 0.96$ ,  $SD = 0.90$ ;  $t[78] = 2.28$ ,  $p < 0.05$ ). Further, participants with substance use disorders ( $M = 0.36$ ,  $SD = 0.75$ ) had significantly more friends and family members who use drugs in comparison to participants without substance use disorders ( $M = 0.08$ ,  $SD = 0.28$ ;  $t[52] = 2.35$ ,  $p < 0.05$ ).

#### NETWORK DENSITY

Overall, networks were moderately dense with an average density of 0.43 ( $SD = 0.16$ ) with one being a network where all network members know one another and zero being a network where none of the members know one another. The CONNECT was also used to assess network density and communication within networks. On average, participants scored 24.68 ( $SD = 6.89$ ) out of a possible 45 on the CONNECT, which indicates moderate interconnectedness between network members. There were no significant differences between being single and being in a relationship, males and females, or White and minority participants in network density. However, participants who reported substance use disorders had significantly less dense networks ( $M = 0.42$ ,  $SD = 0.16$ ), on average, in comparison to participants without substance use disorders ( $M = 0.51$ ,  $SD = 0.13$ ;  $t[78] = 2.01$ ,  $p < 0.05$ ).

#### Multiple Regression

There was partial support for the study hypothesis that network factors are significantly associated with treatment adherence. In bivariate analyses, networks involving members who use drugs were significantly and negatively correlated with treatment adherence in the follow-up such that as the number of network members who use drugs increased, treatment adherence in the follow-up decreased,  $r(76) = -0.35$ ,  $p < 0.01$ . Density was also significantly correlated with treatment adherence,  $r(76) = 0.33$ ,  $p < 0.01$ ; as density increased, treatment adherence in the follow-up increased. Network size and networks

**TABLE 4** Network Factors and the Association with Treatment Adherence

Factor	Treatment adherence ( <i>n</i> = 75)	
	<i>B</i> ±	<i>SE</i>
Density	6.71 (0.54, 12.89)*	3.09
CONNECT Scale	-0.04 (-0.16, 0.09)	0.06
Networks with members who use drugs	-1.33 (-2.45, -0.22)*	0.56
Network size	0.18 (-0.53, 0.89)	0.36
Symptom severity	-0.16 (-0.23, -0.08)**	0.04
Mental health court (Court B as reference)	-1.16 (-2.78, 0.47)	0.81
Substance use diagnosis (No diagnosis as reference)	0.94 (-1.24, 3.12)	1.08
Attitudes towards psychiatric medication	0.32 (0.03, 0.61)*	0.15
	<i>F</i> = 4.62 ( <i>p</i> = 0.00)	
	<i>R</i> <sup>2</sup> = 0.38	

\**p* < 0.05. \*\**p* < 0.01.

involving individuals with previous arrests and who drink too much alcohol were not significantly correlated with any of the dependent variables.

The significant associations between treatment adherence and network density and network members' behaviors that were identified in the bivariate analyses remained significant in the multiple regression analysis. The final regression model is outlined in Table 4.

Based on the regression analysis, treatment adherence was associated with an increase of approximately seven units for every one-unit increase in density when holding all other variables constant. This finding supported the hypothesized relationship that higher density networks are positively associated with subsequent treatment adherence. The CONNECT, also a measure of network density, however, was not significant in this model. The number of network members who use drugs was significantly associated with treatment adherence such that for every additional person who uses drugs in participants' networks, a decrease of 1.33 units in treatment adherence is expected; overall social network size was not associated with treatment adherence. Symptom severity at the time of the initial interview and attitudes towards psychiatric medications were significant predictors of treatment adherence as well.

### Qualitative Analysis

A number of salient themes emerged regarding factors that impact and influence recovery within MHCs from interviews with MHC participants and key informants. One of these salient themes is discussed in this section (see Canada & Gunn, 2013, for additional results). Data were coded as themes (referred to as *factors*) if study participants discussed the factor as being a driving force behind personal change or an integral component in his/her subjective recovery. One frequently mentioned factor which was identified as an integral piece in recovery and MHC program success involves participants'

social environments or people, places, and things. The influence of the social environment emerged in both MHC participant and key informant interviews.

Study participants made frequent reference to the importance of a common phrase used in Alcoholics Anonymous: “People, places, and things.” MHC participants understood “people, places, and things” to mean “People that you use with, places that you used at, and things like that you need to stay away from.” They consistently referenced the importance of taking inventory of the people in their life and their environment as these factors could trigger barriers to their recovery. People, places, and things were primarily a focus for those MHC participants with substance use disorders; however, participants who did not have problems with alcohol or drugs identified the role that people, places, and things played in problems that they have with retail theft and shopping, both of which were also described as “addictions.”

Many MHC participants talked about the importance of breaking away from old friend groups (i.e., certain members of their social networks) who influenced their substance use and criminal involvement in order to maintain sobriety, improve mental health, and stay out of trouble with the law. Many participants related relapses and new arrests to their social network: “I went around some old people.” Participants also found their social networks to be protective during recovery: “Staying in tune with positive people ... (being) around positive places and staying connected with my network when it comes to recovery.” For some people, though, having a “positive” social network meant having to rebuild by reconnecting with family or making new friends in order to move forward in their recovery. One MHC participant demonstrated the struggle that many individuals in recovery face when they are torn between distancing themselves from unhealthy network members and trying to build a new and healthier network:

It is because my thing is like I don't have any friends and the only people I know are people who use drugs. I don't know—like criminals and shit and I don't really have too many decent people in my life. Then when I quit using before I was really lonely. I was really, really lonely and to find regular, normal people I'm not one of them either. So I'm like somewhere in the middle. You know what I mean? Because I don't really fit in with the straight people and I don't want to be with the fucked up people. So you kind of—you meet people who are doing similar as you or have more clean time and they help you to stay clean and network with those people and that helps.

Key informants echoed the importance of MHC participants taking inventory of their networks and distancing themselves from unhealthy members. One MHC caseworker reported:

So this is all they know. So, when they come into our program, you know, this is what they—they would revert back sometimes ... to those

old friends, people, and places, which, a lot of the times, will end them into trouble ... We try to make sure that they have some kind of support system like a sponsor, try to link them up with activities they can do. If they don't have family around the holidays, instead of spending it with their peers who are still using, spend it at some place where they're doing something, where they're serving dinner, where they're having a sober party or something like that.

As the above quote illustrates, key informants believe identifying triggers in the social environment, connecting MHC participants to healthy people and places, and helping participants build new or alternative networks is a central focus for rehabilitation and ultimately recovery for the population MHCs serve.

In summary, people, places, and things were identified by MHC participants and key informants as being a key factor in both recovery and MHC program success. Social networks including the behaviors of the people within those networks can act as a support or deterrent to mental health recovery, as reported by study participants. Taken together with the findings from the quantitative analysis, the social networks of MHC participants, particularly the friends and family they spend time with, are important factors in their participation in the MHC and moving towards recovery. MHC participant experiences suggest that their social networks are critical in the success of, at a minimum, recovery like adhering to treatment recommendations and maintaining sobriety, but may also be important for legal outcomes like criminal recidivism. As many participants discussed, old friends can bring out old behaviors. Thus services that bridge networks, broaden support, and facilitate new ties for individuals with dual disorders are particularly important in recovery for MHC participants as discussed below.

## DISCUSSION

Network factors play a role in the treatment experience and in recovery for MHC participants. In support of this study's hypothesis, the density of MHC participants' networks was associated with treatment adherence such that higher density networks were associated with greater treatment adherence. The number of network members who use drugs was negatively associated with participants' treatment adherence. The importance of network members in recovery was supported in both the quantitative and qualitative analyses. MHC participants found that the people in their lives can be important factors in either promoting or hampering their recovery efforts. Both MHC participants and key informants argue that building healthy networks is not only a factor in MHC program success but also in recovery, more broadly. Counter to what was hypothesized, only one measure of density was significantly

associated with treatment adherence; however, this may be due to a limitation in measurement, which is further discussed below.

Participants in the current study reported a relatively small network of people whom they view as being their core group of friends and family. On average, participants identified 2.7 people in their core networks, which is comparable to Skeem and colleagues (2008) findings among people with serious mental illnesses on probation who reported an average of 2.9 core network members. Among core network members, just over half of participants reported at least one network member who had been arrested. The current estimate is higher than in previous studies, which found 41% of people with serious mental illnesses on probation had networks with members who had been arrested (Skeem et al. 2008). Just over one quarter of participants in the current study reported at least one network member drinks too much alcohol, which is lower in comparison to previous studies (29%); one fifth of participants in the current study had at least one network member who uses illegal drugs, which is considerably lower than previous studies (33%; Skeem et al., 2008). Participants in the current study had moderately dense networks. In a previous study, Dozier et al. (1987) estimated network density among consumers similar to the current study with an average density slightly higher than this study but still considered moderately dense.

Network factors were significantly associated with treatment adherence making peers a potential risk factor in recovery efforts within the context of MHCs. Skeem and colleagues (2008) made similar conclusions as their findings indicate core network members' behaviors impact treatment adherence and pose a risk factor for antisocial behaviors. MHC participants in this study identified that certain network members can pose a risk for both their recovery and MHC program success as indicated in the qualitative analysis; however, breaking away from friends or family members that pose a risk to consumers can be quite challenging. In fact, people are often reluctant to break off relationships (Baumeister & Leary, 1995). If consumers do distance themselves from high-risk friends and/or family members, there needs to be opportunities for consumers to create new connections, integrate into new environments, and use services and resources to assist through this network transition in order to rebuild their social networks to include healthy and stable relationships (Baumeister & Leary, 1995).

It is important to consider how consumers experience communication between providers and communication between providers and family members especially among consumers who are participating in court-involved programs. Counter to what was found in the current study, previous research suggests a curvilinear relationship between density and positive outcomes such that networks that are not dense at all or ones that are too dense may be problematic for people with mental illnesses (Dozier et al., 1987; Goldberg et al., 2003; River, 2006). Specifically, Dozier et al. argued that density is likely

problematic for consumers when there is no communication between providers or when there is so much communication between providers that consumers are unable to have a voice. Among people with mental illnesses in the criminal justice system, Solomon, Draine, and Marcus (2002) found that intensive monitoring and collaboration between providers and court staff actually increased the risk of technical violations and thus recidivism for consumers. Despite positive outcomes being associated with network density in this study the broader literature suggests that it is important to consider the varying role that density could play when there is too much or too little linkage among members.

The results of this study demonstrate that network factors are important to consider in research with MHC participants. Adherence to treatment and services can promote recovery for people with serious mental illnesses (Velligan et al., 2009), but very little is known about what factors impact adherence and program success for MHC participants. Understanding what factors may interfere with treatment is an important first step in this area of research. This study found that the number of network members who use drugs and less dense networks were associated with less treatment adherence in subsequent months. MHC participants and key informants described social network members and the social environment as key factors in recovery and keeping out of trouble with the law such that forging relationships with network members with similar recovery goals and prosocial behaviors is necessary. Previous research suggests that individuals reporting more satisfaction with their networks were more likely to report hope for recovery and goals oriented around recovery efforts (Corrigan & Phelan, 2004) making the social networks of MHC participants a particularly promising point for intervention.

## IMPLICATIONS

### Practice

MHC participants come into contact with multiple systems that have the potential to influence their treatment, involvement in the criminal justice system, and, ultimately, their lives. Practitioners working within the MHC need to account for multiple systems in treatment planning including individual-level needs, social networks, and social and economic factors (Erickson et al., 2006). The results of this analysis support the need for social workers and/or mental health workers affiliated with the MHC to take inventory of MHC participants' social networks and to help modify networks with multiple risk factors. Practitioners, specifically, can play a role in managing and promoting network factors' influence on individual level change. Specifically, MHC treatment providers should fully assess one's network in the beginning stages of treatment planning; providers need to explain the importance of



this assessment to consumers to promote an understanding of how an individual's social network can impact daily living, decision making, and ultimately recovery. Individualized treatment plans developed with a team of providers and the MHC participant should include intervention options at the network level for consumers with multiple risk factors (i.e., networks with multiple members who use drugs; few friends and family).

Social workers within MHC programs have an opportunity to assist their clients in rehabilitating their social environments including acting as a bridge to help MHC participants reach new networks, linking people to services that offer opportunities to meet peers with common goals, providing direct services that help clients explore their own social networks, and assessing for both strengths and risks with clients' existing network. Network level interventions for MHC participants may include family therapy, connecting individuals to Alcoholics or Narcotics Anonymous, adopting specific network interventions to use within MHC programs (see Soyez, De Leon, Broekaert, & Rosseel, 2006, for an example used in therapeutic communities), or encouraging engagement in peer-led activities.

Finally, MHC participants would also benefit from providers taking time to assess the impact and effectiveness of efforts to coordinate and communicate with other providers and MHC team members in order to promote positive impacts of network communication. Although dense networks in this study were associated with adherence to treatment, dense networks were not a predictor of positive outcomes in other studies (Dozier et al., 1987; Goldberg et al., 2003; River, 2006). It is important for providers to talk openly with their clients about their approaches for collaborating with other providers and/or family in order to better understand how their clients perceive internetwork communication. Communication among MHC team members and MHC participants' family members is commonplace. MHC team members and practitioners working within MHCs should be aware of the mixed findings regarding network density.

## Research

The results of this project have specific implications for MHC research and broader implications for research focused on the intersection of mental illness and the criminal justice system. This project aimed to estimate associations between network factors and treatment adherence and explore other factors that consumers viewed to be of importance in recovery. The next step in this area of research is to explore the directionality and potential causal links between treatment adherence and network factors like density and network members' behaviors to more fully understand the role of social network factors in promoting change.

The current study was one of the first studies to explore the factors associated with clinical outcomes and to explore consumer perspectives

regarding experiences within the MHC. This study's findings support the need to include measures of network factors in future studies on MHCs, especially in effectiveness studies and intervention research, as these factors are associated with one important outcome and may influence consumers' ability to comply with MHC program expectations more broadly. This study further supports the use of mixed-methods, particularly qualitative analysis, to better understand the unique components of recovery that can go unnoticed and unmeasured in research (Longhofer, Floersch, & Hoy, 2013).

Network factors and relationships may be especially important in promoting change among adults with co-occurring serious mental illnesses and substance use disorders in the justice system. Because network factors are important in recovery, it is important to develop a standardized measure that can be used across studies. Once these measures are validated, MHC researchers can begin to use a common measure that will help to address some of the challenges of generalizability that is often a concern within evaluations of individual MHCs around the country.

There are several key limitations to consider when interpreting this analysis. The relatively small sample size for the quantitative component of this study and the approach used for sampling for the semi-structured interviews are limitations. Purposive sampling is effective at recruiting individuals that are especially helpful at answering in-depth research questions, but the strategy could introduce bias to the sample because the researcher is choosing who is recruited. The generalizability of the results is also somewhat limited as MHC programs do vary from jurisdiction to jurisdiction. However, this study's focus on two different courts, the examination of contextual factors that have been inconsistently addressed in prior research, and recruitment of a majority of active MHC participants from the two programs under study strengthen the study's ability to make inferences beyond the two locations studied. This limitation can be addressed in future research by sampling from a number of MHCs around the country in order to increase the pool of possible participants and to improve the generalizability of results. Further, consumer perspectives were captured at one point in time in the current study. Because of the research design used, it is unclear what social networks looked like prior to MHC participation and how these networks have changed or could change as participants proceed through the program. This approach, however, is a good starting point for an underdeveloped area of research but it does not allow for any estimation of causal relationships between factors. Longitudinal data collection from a cohort of participants would help address this limitation in future research.

There are also limitations inherent in the approach used to measure treatment adherence and network density. Treatment adherence was estimated through a single item from one source (i.e., the MHC caseworker). Future studies would benefit from a standardized measure of treatment adherence and multiple perspectives on participants' treatment adherence

(e.g., from multiple MHC team members and/or from community providers). In addition, because of the length of the interview, study participants were only asked to identify up to five members of their informal networks and three members of their formal networks including the MHC case-worker, judge, and primary community treatment provider. This approach provides an idea of how dense one's network is but it does not allow for a full assessment of the extent of density especially in formal networks. Future research would benefit from an extensive analysis of network factors by focusing more on formal network members and their interactions with friends and family. This approach would allow for a more in-depth investigation of the role of the formal network and density in MHC participants' experiences.

## CONCLUSION

The current study explores consumers' experiences with MHC programs. The knowledge base regarding MHCs and consumer experiences is underdeveloped and lacks consumers' voices. The results of this study lend insight into consumers' experiences with the MHC and the associations between network factors and adhering to treatment. The findings from the quantitative analysis supported the study hypothesis that network factors like network density and network members' behaviors are associated with treatment adherence. The qualitative analysis identified and supported the importance of the social environment—people, places, and things—in recovery. Policy makers, practitioners, and researchers should consider the role of social networks in the MHC experience to promote effective strategies to improve the lives and outcomes of individuals with mental illnesses involved in the criminal justice system.

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## APPENDIX A

### Interview Protocol for MHC Participants' Semi-Structured Interviews

From what you understand, what is the function of the MHC?

*Possible Probes*

- What is it designed to do?

Can you tell me about the events that led up to your participation in the MHC?

*Possible Probes*

- How did you find out about the MHC? Did you request it?
- How did you come to participate in the MHC?
- How does this experience compare to previous encounters you have had with the court? (*if applicable*) With judges? Probation?
- Why do you think you have gotten in trouble with the law in the past?
  - Can you tell me, if at all, how the MHC addresses some of those reasons.

Can you describe your experience with the MHC so far?

*Possible Probes*

- What does it involve?
- What are you required to do?
- Is the MHC meeting your expectations?
- What are you required to do before your participation in the MHC is complete?
- How have you been treated by the MHC staff?
  - Can you give some examples?
- Can you tell me how you feel about the outcome of your case and probation?
- Can you talk about the opportunity, if any, you have had to share with the MHC staff information about you and your personal situation?
  - Can you give some examples?

Can you tell me about the treatment you receive?

*Possible Probes*

- What role have you played in treatment planning?
- What kind of treatment do you participate in at this time?
  - How do you feel about your treatment?



- Do you think it is working for you? In what way? What do you think makes it work for you?
- How closely do you follow your treatment recommendations?
- Who are your primary treatment providers? What are your relationships with them (him/her) like?
- Who all is involved in your treatment?
  - Who provides treatment to you (i.e., caseworker, social worker, psychiatrist)?
  - Does anyone assist you with keeping appointments, taking medications, and/or managing money (i.e., friend, family, caseworker)?
- How long did it take to get you into services? How does this compare to your previous experiences in obtaining services? (*if applicable*)
- Have you received mental health services in other counties? If so, how does that compare to [current county]?
- How does the treatment you received since MHC participation compare to previous treatment experiences? (*if applicable*)

Have you noticed any changes in yourself or your life since you started participating in the MHC?

*Possible Probes*

- If so, what changes? What do you think caused those changes?
- Can you tell me what you think your life will be like after you graduate from the MHC?

In your experience, do you think this MHC works?

*Possible Probes*

- Can you tell me what you mean?
- What about it works well? What about it doesn't work so well?
- Why do you think they work/don't work?
- Are there things you would change about the program?
- Should [county] continue to have a MHC?

Is there anything else that you think I should know about MHCs or your experience with the courts?

## APPENDIX B

### Interview Protocol for MHC Staff and Community Providers' Semi-Structured Interviews

Can you tell me about your experience with the MHC? What role do you play?

Do you play a role in the provision of treatment planning and/or treatment?

*Possible Probes*

- If so, what is your role in treatment planning?
- Can you tell me about the treatment planning process?
- What role, if any, do MHC participants play? Family members?
- How is treatment adherence determined within the MHC and are there differences between the MHC staff and community providers?

What was the MHC designed to do?

*Possible Probes*

- What does it mean for the MHC to "work?"
- How do MHCs compare to traditional courts?
- Is it actually doing what it was designed to do?

Do you think the MHC "works?"

*Possible Probes*

- How do you know if it is working for someone?
- What factors make it work?

What changes do you see, if any, among MHC participants from the time they enter through program completion?

*Possible Probes*

- What accounts for these changes?

I know that MHCs can differ by county. Can you tell me how state or county policies impact mental health courts, if at all?

*Probes*

- Does funding become problematic for MHCs?
- Do eligibility criteria for the MHCs impact outcomes?
- How does the MHC's approach to corrections fit with the more traditional approach to corrections?
- Does resource availability for community-based services impact MHCs?

What factors do you think impact the success or failure of a MHC?

Do you have any other information that you'd like to share with me about MHC involvement or treatment among MHC participants?

## APPENDIX C

## Network Density Measure and Calculation

Use the graph on the next page to mark the interrelatedness of the network. Indicate the network members that know one another and have interacted with one another. Mark with an "X" for the dyads that meet criteria. Also indicate the frequency of contact using the following codes (adapted from Hirsch, 1979):

D: Daily; W: Weekly; M: Monthly; Y: a few times per year

*(continued)*

	Network member 1:	Network member 2:	Network member 3:	Network member 4:	Network member 5:	MHC Caseworker:	MHC P.O.:	Treatment Provider:
Network member 1:	█							
Network member 2:	█	█						
Network member 3:	█	█	█					
Network member 4:	█	█	█	█				
Network member 5:	█	█	█	█	█			
MHC Caseworker	█	█	█	█	█	█		
MHC P.O.:	█	█	█	█	█	█	█	
Treatment Provider:	█	█	█	█	█	█	█	█

Density Calculation:  $Density = X / [(N(N - 1) / 2)]$ ; where X = the number of Xs (linkages) in the matrix and N = actual size of the social network.