

Racial and Ethnic Differences in Behavioral Health, Criminal Legal System Involvement, and Service Needs Among Mental Health Court Participants: Implications for Service Delivery

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Mental Health Courts (MHCs), an alternative to incarceration, aim to address behavioral health, social needs, and criminal recidivism and serve many adults with co-occurring mental health and substance use disorder (COD). Despite the growth in MHCs, little research has examined ethnic/racial differences in behavioral health and service needs of individuals with COD. This study used data from behavioral health and social assessments administered to 146 adults with COD entering a Massachusetts MHC. Multivariate linear and logistic regression controlling for key demographics tested differences between racial/ethnic groups on current and lifetime substance use, mental health symptoms, and history of criminal legal system involvement. Hispanic participants were more likely than non-Hispanic White participants to report current and lifetime serious mental illness and lifetime Emergency Department (ED) mental health treatment. Non-Hispanic White participants were more likely to report current and lifetime use of illicit substances, more recent outpatient and overall lifetime treatment attempts for substance use, and higher number of lifetime arrests compared to non-Hispanic Black participants. Lastly, non-Hispanic White participants also reported more recent outpatient and overall lifetime treatment attempts for substance use compared to Hispanic participants. Racial/ethnic differences in behavioral health and social needs of MHC enrollees with COD exist and should be considered in the planning and delivery of psychological and social services. Understanding the diverse population of new MHC enrollees is an important first step in identifying and addressing racial and ethnic disparities.

Impact Statement

Racial/ethnic differences in MHC enrollees with COD and their behavioral health and service needs exist and should be considered in psychological services provided within MHCs. Study findings may be used to aid in the development and delivery of culturally responsive psychological services that address preexisting differences in needs of MHC participants; and may serve to mitigate racial/ethnic disparities that have been identified within specialty courts.

Keywords: alternative to incarceration, mental health court, co-occurring disorders treatment, racial and ethnic disparities, criminal legal system-involved adults

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Co-Occurring Mental Health and Substance Use Disorder Among Adults in the Criminal Legal System

Individuals with co-occurring mental health and substance use disorders (COD) are overrepresented in the criminal legal system (Peters et al., 2015). Rates of mental health conditions are 4–6 times higher in jails and 3–4 times higher in prisons than in the general population (Bronson & Berzofsky, 2017; Prins et al., 2009; Steadman et al., 2009); rates of substance use disorder range from 58% in prison and 63% in jails, compared with 5% of adults in the general population (Bronson et al., 2020). Although COD prevalence estimates among adults in the criminal legal system are variable, studies suggest that compared to the general public, comorbidity is 6.7 times higher among adults in state prison, 8.7 times higher for adults in jail, and 2.8 times higher for adults on probation or parole (Blandford & Osher, 2013; Carlin & Tracy, 2018). Unfortunately, research on racial/ethnic differences among adults in the criminal legal system with CODs is sparse. In the general population, although minoritized groups have lower prevalence of lifetime COD (5.4% of Black adults, 5.8% of Latino adults, and 2.1% of Asian adults compared to 8.2% of White adults) they experience higher disparities in behavioral health care and social determinants of health which may place them at higher risk for criminal legal system involvement (Mericle et al., 2012; Rodriguez-Seijas et al., 2019).

Racial/Ethnic Disparities in the U.S. Criminal Legal System

Separate from CODs, African American and Latino adults are overrepresented in the criminal legal system. One in three Black men born in 2001 can expect to be incarcerated in his lifetime, compared to one in six Latino men and one in 17 White men (Sentencing Project, 2017), and one in 18 Black women born in 2001 will be incarcerated sometime in her life, compared to one in 45 Latina women and one in 111 White women (Sentencing Project, 2017). Yet, despite their overall overrepresentation, African American and Latino adults are less likely to be identified as having a mental health problem and less likely to receive access to mental health treatment within the criminal legal system (Bronson & Berzofsky, 2017; Kaba et al., 2015). Addressing the needs of adults in the criminal legal system with CODs, especially persons of color, is a pressing public health issue, with social, clinical, public safety, and economic implications (Al-Rousan et al., 2017).

Mental Health Courts

The Mental Health Courts (MHCs) divert people with a mental health disorder in the criminal legal system away from incarceration toward treatment and resources to support their mental health needs and recovery. The ultimate goal of MHCs is to reduce recidivism, increase connection to mental health treatment, and improve psychosocial functioning. These treatment courts usually include: (a) a court docket specifically for individuals with mental illness; (b) a team of criminal legal system and mental health providers to recommend and oversee a treatment and supervision plan; (c) linkage to recommended treatment; and (d) court monitoring with possible sanctions for noncompliance (Steadman et al., 2001).

In the last two decades, the number of MHCs in the United States has steadily grown from 4 to over 470 MHCs across the country (Otto, 2020). MHCs have demonstrated a moderate effect for reducing criminal recidivism, stigmatization, and increasing mental health service linkages (Honegger, 2015; Sarteschi et al., 2011). Evaluations of these courts have also identified that between 56% and 83% of MHC participants have co-occurring substance use disorders (Cosden et al., 2003; Ferguson et al., 2008; McNiel & Binder, 2007). Although MHCs demonstrate promising outcomes, individuals with COD within these treatment courts present with unique and challenging needs (Anestis & Carbonell, 2014; Goodale et al., 2013). Data show MHC participants with COD are at an elevated risk for criminal recidivism (Honegger & Honegger, 2019) and the presence of COD, specifically the severity of an individual's substance use disorder, predicts program completion (Cosden et al., 2005). In addition, individuals with COD in the MHC are more likely to have pronounced difficulties with employment, housing, family and social relationships, and treatment engagement and compliance (Peters & Hills, 1997).

Ethnic/Racial Disparities in MHC

Despite the proliferation of MHC, little is known about racial and ethnic disparities among the population served in these settings. The limited research, not specific to those with COD, suggest that racial and ethnic disparities may exist in referral to MHCs (Steadman et al., 2005); treatment engagement (Stare & Fernando, 2019); and outcomes (e.g., historically marginalized racial groups were significantly more likely to be terminated from the MHC; Dirks-Linhorst et al., 2013). To date, research has not examined ethnic and racial differences in the characteristics and needs of individuals with COD entering a MHC. To address this gap, this study will explore these two questions: (a) Do racial/ethnic differences in behavioral health, criminal legal system involvement, and service needs exist among adults with COD at MHC enrollment? (b) Do these differences in needs persist after accounting for select sociodemographic factors such as gender, age, and marital status, and social determinants of health, including educational attainment and employment? Given the broad assessment of racial/ethnic differences in behavioral health, criminal legal system involvement, and social needs that has not been done previously with MHC participants with a COD specifically, there were no *a priori* hypotheses, and the study was exploratory.

Method

Study Design

This study explored racial/ethnic differences in mental health, substance use, and criminal legal system involvement at MHC enrollment for 146 participants enrolling in an urban MHC. To be eligible for the MHC, defendants had to: (a) have a criminal charge (with the possibility of incarceration) in the district court in which the MHC was embedded; (b) have or agree to a guilty finding with an accompanying probation sentence for the criminal charge, or already be on probation with a probation violation notice; (c) have mental health disorder confirmed by the MHC clinical staff, or present with symptoms suggesting a mental health disorder, or a co-occurring mental health and substance use disorder; (d) be age 18 years or older; and (e) consent to MHC participation.

MHC participants with new criminal charges met with attorneys to evaluate whether participation in MHC made sense for their defense and their goals, and participants who had a violation of probation made similar evaluations before their legal disposition. Orders for participation from the MHC Judge at the time of case adjudication was the official beginning of MHC enrollment and services. Although ultimately court-ordered, participation in the MHC as an alternative to incarceration was voluntary for all defendants.

In addition to meeting the aforementioned MHC enrollment criteria, MHC participants in this study had to meet criteria for both a *DSM-IV-TR* axis I psychiatric disorder and exhibit current or past alcohol and/or substance use. The MHC court clinician, a licensed clinical social worker, utilized an unstructured clinical interview and chart review to inform diagnoses. MHC participants with acute medical or psychiatric conditions, such as: acute suicidality; active psychosis; severe cognitive impairment; developmental or intellectual disability; or acute alcohol or substance use treatment needs (e.g., needing withdrawal management or acute stabilization) were ineligible. Furthermore, because the MHC was a postadjudication intervention, individuals who were determined by the court to be incompetent to stand trial were excluded from participation.

Compliance With Ethical Standards

This study was reviewed by the University of Massachusetts Chan Medical School and the Massachusetts Department of Mental Health Institutional Review Boards (IRBs). Both IRBs deemed this study to be program evaluation rather than human subject research. In order to participate in the MHC, clients gave voluntary and informed consent to be involved in MHC services. Although this study involved secondary analyses of deidentified data, all authors have complied with APA ethical standards in the treatment of participants.

Instruments and Measures

Following MHC enrollment and referral to this study, clinical case managers completed a comprehensive intake assessment with participants. Self-reported intake data were collected via a variety of mental health, substance use, and psychosocial measures.

Mental Health

Regarding mental health, acute mental health symptoms were assessed via the *Behavior and Symptom Identification Scale-32* (*BASIS-32*; Eisen et al., 1994). The *BASIS-32* consists of 32 items which the respondent rates on a scale of 0 (*no difficulty*) to 4 (*extreme difficulty*); these statements are categorized into five subscales: Depression and Anxiety; Relation to Self and Others; Psychosis; Daily Living and Role Functioning; and Impulsive and Addictive Behavior (Eisen et al., 1994). The *Posttraumatic Stress Disorder Checklist–Civilian Version* (*PCL-C*; Weathers et al., 1991) was used to assess severity of trauma symptoms and to identify participants with posttraumatic stress disorder (PTSD) symptoms. The *PCL-C* contains 17 questions related to PTSD symptoms rated on a scale of 1 (*not at all*) to 5 (*extremely*; Weathers et al., 1991). The *PCL-C* scores were recoded as a

dichotomous variable based on the threshold criteria for likely meeting criteria for a PTSD diagnosis (score > 33; Weathers et al., 1991).

Additionally, the *Government Performance and Results Act Modernization Act of 2010* tool (*GPRA*; Government Performance and Results Act Modernization Act of 2010, 2011) was used to assess mental health symptom occurrence measured in the lifetime and in the last 6 months (effect coded for analysis), mental health treatment, and trauma (Government Performance and Results Act Modernization Act of 2010, 2011).

Substance Use

Lifetime and current substance use data were collected via the *Addiction Severity Index* (*ASI*; McLellan et al., 1992). Data include the frequency, quantity, and severity of alcohol and drug use. Substance use variables across lifetime and 6 months prior to enrollment were effect coded (1 = use, 0 = no use), while treatment history variables were analyzed using both continuous and dichotomous variables. The *GPRA* tool also assessed drug and alcohol use and treatment.

Sociodemographic Characteristics

The *GPRA* tool also collected data on the following sociodemographic characteristics: demographics; family and living conditions; education, employment, income; and social connectedness (Government Performance and Results Act Modernization Act of 2010, 2011).

Race/Ethnicity

Race (Black or African American, Asian, Native Hawaiian or other Pacific Islander, Alaska Native, White, and/or American Indian) and ethnicity (Hispanic or non-Hispanic) were obtained from the *GPRA* measure as two distinct variables that were then collapsed into a single nominal variable, with four mutually exclusive levels: non-Hispanic White, non-Hispanic Black, Hispanic of any race, and Other (Ulmer et al., 2009). The category of Other included multiracial (6%) and missing (8%). No participants indicated Asian, Native Hawaiian or other Pacific Islander, Alaska Native, and/or American Indian, thus these racial categories are not included in our analyses. Given the small sample size and missingness of the Other group, we focused our analyses on examining differences between non-Hispanic White, non-Hispanic Black, and Hispanic participants. Gender was grouped into two categories, male and female. Employment at baseline was categorized into three categories, employed (part- or full-time), unemployed, and disabled-not able to work. Participant's highest education obtained was categorized into three levels: less than high school; high school diploma or its equivalent; and some college education. Of note, no clients in our sample obtained a college degree or higher education, thus no further categories were necessary. Participant age was grouped into the following age brackets: 18–29; 30–39; and 40+. Marital status was effect coded (1 = previously or currently married, and 0 = never married). Language spoken other than English was effect coded (1 = yes, and 0 = no).

History of Criminal Legal System Involvement

Given prior research indicating an association between criminal legal system involvement patterns and likelihood and/or level of service need (Gicquelais et al., 2019; Wu et al., 2010), criminal legal system involvement history was included in the analyses. Criminal legal variables were assessed at baseline using *GPRA*. Participants were asked about their criminal legal system involvement within the past 6 months and in their lifetime. Lifetime number of arrests, nights spent in jail, number of convictions, and months spent incarcerated were recorded as continuous measures, and these responses were effect coded (1 = yes, and 0 = no) for previous 6 months prior to baseline. In addition, whether the participant was currently on probation or parole, or was awaiting charges were effect coded (1 = yes, and 0 = no).

Analyses

Multivariate logistic and linear regression models were computed to examine the relationship between race/ethnicity and substance use, mental health, and criminal legal system involvement at baseline. First, univariate analyses were computed for the overall study sample characteristics reported at baseline. Second, bivariate statistics were computed to examine differences by race/ethnicity. For categorical variables, chi-square tests of independence and Fisher's exact tests were used to examine differences between race/ethnic groups. Kruskal–Wallis tests were used to examine differences for nonparametric variables, and Welch's analysis of variance (ANOVA) were used when equality of variances could not be assumed due to Levene's test $p < .05$. Bivariate tabulations are included below in Table 1.

Variables that were significantly different by race/ethnicity, with a more liberal α level of 0.25 (Bursac et al., 2008), were selected for investigation in regression models. Regression models were computed across three core domains, mental health (lifetime serious mental illness, last 6 months serious mental illness, utilization of emergency room (ER) for mental health treatment in the past 6 months, utilization of mental health treatment in lifetime), substance use (lifetime crack/cocaine use, lifetime opioid use, opioid use in the last 6 months, receipt of outpatient substance use disorder (SUD) treatment in the last 6 months, treatment for substance use in lifetime, utilization of outpatient SUD treatment in the last 6 months), and history of criminal legal system involvement (number of lifetime arrests), each examining differences between racial/ethnic groups.

Regression models were adjusted for potential confounders, including gender; age; marital status; employment; and education. Covariates were selected a priori based on expert clinical knowledge hypothesized to be potential confounders related with race/ethnicity and factors of interest. In order to reduce error bias, any covariates with more than 25% missing data hypothesized to be different across racial/ethnic groups were excluded from analyses (Wilkinson, 1999). This included income in the month prior to enrollment, lifetime months homeless, and recidivism risk score at baseline.

Multicollinearity among the model covariates was assessed by calculating the variance inflation factor (VIF). VIF scores for all covariates were observed to be less than 2.5, which ruled out the potential for multicollinearity in our analysis. To improve model selection and assess prediction error the Akaike information criterion (AIC) was calculated. Covariates were dropped from analysis if the

AIC value rose by more than two points or remained unchanged upon the addition of the covariate into the original five predictor model. Statistical significance was set at $p < .05$ for all regression models. Logistic regression models are reported in Table 2, and linear regression models are reported in Table 3. Univariate and bivariate analyses were computed via IBM SPSS Statistics (Version 22.0), and regression models were computed in JMP Pro (Version 14.2.0).

Results

Descriptive Statistics

Univariate statistics and bivariate comparisons by race and ethnicity are included in Table 1. Overall, the study sample ($N = 146$) was 54.79% Hispanic, 16.44% non-Hispanic Black, and 28.77% non-Hispanic White, predominantly male (73.97%), and most clients were either unemployed (54.80%) or were disabled and unable to work (33.56%). Participants were 34.78 years old on average ($SD = 10.40$, range = 19–60). Roughly two-thirds of our sample had less than a high school education (65.96%), and 10.64% had obtained some college education, however no MHC participants had completed college. Roughly one quarter of clients were either previously or currently married at enrollment (23.97%). Significant differences were observed between levels of education and race/ethnic groups ($p < .05$). Participants reported having an average of 2.5 children, with significant differences observed between race and ethnic groups ($p < .05$). In addition, almost one-half of participants spoke another language other than English (47.22%), with significant differences observed between race/ethnic groups ($p < .001$). No other significant differences were observed between race/ethnic groups for study demographics.

Logistic and Linear Regression Models

Mental Health

Differences were observed between racial/ethnic groups on self-report of serious mental illness (SMI) symptoms in the lifetime. Hispanic participants were more likely to report SMI in their lifetime, compared to non-Hispanic White participants ($aOR = 3.27$, $p < .05$). This finding was consistent for self-report of SMI symptoms in the past 6 months; Hispanic participants were more likely to report SMI in the past 6 months than non-Hispanic White participants ($aOR = 3.88$, $p < .05$). Self-report of lifetime and past 6-month SMI symptoms were not significantly different between non-Hispanic White and non-Hispanic Black participants in either unadjusted or adjusted models.

Differences regarding receipt of emergency services for mental health treatment in the last 6 months were observed between racial and ethnic groups. Hispanic participants were more likely to report utilizing the Emergency Department (ED) for MH services in the last 6 months compared to non-Hispanic White participants ($aOR = 5.4$, $p < .05$). Similarly, Hispanic participants reported utilizing the ED for mental health services more frequently in their lifetime compared to non-Hispanic White participants ($\beta = 0.65$ ($SE = 0.33$), $p < .05$). No differences were observed between non-Hispanic White and non-Hispanic Black participants regarding lifetime ED utilization for mental health services. No differences were observed between groups regarding lifetime trauma events, suicidal attempts, depression, trouble understanding, trouble controlling violent

Table 1
Descriptive and Bivariate Analyses

Baseline variables	Overall	Hispanic	Non-Hispanic White	Non-Hispanic Black	Significance
<i>N</i> (%)	146	80 (54.79%)	42 (28.77%)	24 (16.44%)	
Gender (% male)	73.97%	76.30%	69.05%	75.00%	NS
Age (%)					NS
18–29 years	35.62%	37.50%	23.81%	50.00%	
30–39 years	32.88%	28.75%	30.95%	25.00%	
40+ years	31.50%	33.75%	45.24%	25.00%	
Employment at baseline (%)					NS
Unemployed	54.80%	55.00%	50.00%	62.50%	
Employed (full- or part-time)	11.64%	11.25%	14.29%	8.33%	
Disabled: Not able to work	33.56%	33.75%	35.71%	29.17%	
Speaks language other than English (% yes)	47.22%	80.77%	7.14%	8.33%	***
Education (%)					*
Less than high school	65.96%	77.22%	50.00%	54.17%	
High school diploma or Equivalent	23.40%	16.46%	28.95%	37.50%	
Some college	10.64%	6.32%	21.05%	8.33%	
Marital status: Currently or Previously married (%)	23.97%	28.75%	23.81%	8.33%	NS
Received food stamps in past 6MN (%)	64.14%	66.25%	60.98%	62.50%	NS
Homelessness					
Homeless in past 30 days (%)	10.42%	11.54%	11.91%	4.17%	NS
Substance use & treatment					
Used illegal drugs in lifetime (%)	96.50%	98.72%	92.86%	95.65%	NS
Used crack/Cocaine in lifetime (%)	58.74%	55.70%	78.05%	34.78%	**
Used opioids (Heroin + Rx) in lifetime (%)	53.42%	55.00%	73.81%	12.50%	***
Used alcohol in lifetime (%)	72.86%	71.43%	75.61%	72.73%	NS
Used marijuana in lifetime (%)	77.47%	79.49%	70.73%	82.61%	NS
Used hallucinogens in lifetime (%)	14.48%	15.00%	12.20%	16.67%	NS
Used illegal drugs in last 6 months (%)	75.89%	74.36%	80.49%	72.73%	NS
Used crack/Cocaine in last 6 months (%)	32.14%	29.49%	42.50%	22.73%	NS
Used opioids (Heroin + Rx) in last 6 months (%)	36.30%	38.75%	47.61%	8.33%	**
Used alcohol in last 6 months (%)	55.25%	51.90%	58.54%	60.87%	NS
Used marijuana in last 6 months (%)	45.78%	51.25%	33.33%	47.83%	NS
Used hallucinogens in last 6 months (%)	6.90%	7.50%	7.32%	4.17%	NS
Mean age first illegal drug use (<i>SD</i>)	14.67 (3.92)	14.85 (4.52)	14.49 (3.29)	14.38 (2.57)	NS
Mean times in life treated for drug use (<i>SD</i>)	3.0 (4.42)	2.45 (3.89)	5.18 (5.59)	1.09 (1.78)	***
Mean times in life treated for alcohol use (<i>SD</i>)	0.68 (2.50)	0.41 (1.12)	1.25 (4.30)	0.63 (1.47)	NS
Received substance use treatment in lifetime (%)	65.69%	61.84%	84.21%	47.83%	**
Mean times received inpatient SUD Tx in last 6 months (<i>SD</i>)	0.34 (1.40)	0.25 (1.16)	0.69 (2.05)	0.09 (0.42)	NS
Mean times received outpatient SUD Tx in last 6 months (<i>SD</i>)	0.84 (3.80)	0 (0)	2.19 (5.23)	1.17 (5.72)	
Received inpatient SUD Tx in last 6 months (%)	16.55%	13.92%	26.19%	8.33%	NS
Received outpatient SUD Tx in last 6 months (%)	17.81%	15.00%	30.95%	4.17%	*
Mean lifetime total overdoses (<i>SD</i>)	0.6 (1.35)	0.68 (1.44)	0.75 (1.50)	0.08 (0.28)	***
Mental health symptoms & treatment					
Experienced traumatic event in lifetime (%)	69.44%	75.64%	69.05%	50.00%	NS
Met criteria for PTSD (%)	48.35%	50.94%	55.56%	18.18%	NS
Mean times received ER mental health Tx in lifetime (<i>SD</i>)	1.50 (2.51)	1.79 (2.69)	1.03 (2.34)	1.43 (2.11)	NS
Mean times received inpatient mental health Tx in lifetime (<i>SD</i>)	2.66 (4.31)	3.15 (4.54)	2.24 (4.63)	1.65 (2.16)	*
Mean times received outpatient mental health Tx in lifetime (<i>SD</i>)	3.82 (5.36)	3.63 (5.15)	4.33 (6.13)	3.65 (5.0)	NS
Received mental health TX in lifetime (%)	89.76%	91.67%	86.11%	89.47%	NS
Received ER Tx for mental health in last 6 months (%)	14.00%	19.48%	4.76%	12.50%	NS
Received inpatient Tx for mental health in last 6 months (%)	16.55%	21.52%	11.91%	8.33%	NS
Received outpatient Tx for mental health in last 6 months (%)	42.47%	41.25%	45.24%	41.67%	NS

(table continues)

Table 1 (continued)

Baseline variables	Overall	Hispanic	Non-Hispanic White	Non-Hispanic Black	Significance
Experienced serious mental illness in lifetime (%)	58.87%	68.35%	42.50%	54.55%	*
Experienced anxiety in lifetime (%)	89.86%	92.20%	89.74%	81.82%	NS
Experienced depression in lifetime (%)	92.14%	96.20%	92.31%	77.27%	*
Experienced hallucinations in lifetime (%)	25.53%	33.80%	7.69%	27.27%	**
Experienced trouble understanding/Concentrating in lifetime (%)	68.84%	73.10%	71.05%	50.00%	NS
Experienced trouble controlling violent behavior in lifetime (%)	49.28%	59.50%	42.11%	23.81%	**
Experienced thoughts of suicide lifetime (%)	43.89%	50.00%	38.46%	31.82%	NS
Attempted suicide in lifetime (%)	36.88%	44.30%	32.50%	18.18%	NS
Taken psychotropic medications in lifetime (%)	82.35%	84.00%	80.00%	80.95%	NS
Experienced serious mental illness in last 6 months (%)	31.11%	39.24%	13.51%	31.58%	*
Experienced anxiety in last 6 months (%)	87.31%	89.19%	89.47%	77.27%	NS
Experienced depression in last 6 months (%)	86.36%	90.28%	94.60%	60.87%	**
Experienced hallucinations in last 6 months (%)	15.60%	22.50%	5.00%	9.52%	*
Experienced trouble understanding/Concentrating in last 6 months (%)	58.46%	62.86%	60.00%	40.00%	NS
Experienced trouble controlling violent behavior in last 6 months (%)	23.02%	32.90%	12.50%	8.70%	*
Experienced thoughts of suicide in last 6 months (%)	16.90%	21.52%	7.50%	17.39%	NS
Attempted suicide in last 6 months (%)	5.15%	3.85%	10.53%	0.00%	NS
Taken psychotropic medications in last 6 months (%)	54.75%	58.67%	51.22%	47.62%	NS
BASIS-32 mean scores (SD)					
Total	0.64 (0.45)	0.69 (0.44)	0.64 (0.40)	0.46 (0.50)	NS
Relationship subscale	0.74 (0.71)	0.83 (0.77)	0.65 (0.59)	0.58 (0.68)	NS
Depression/Anxiety subscale	1.21 (0.81)	1.31 (0.85)	1.25 (0.68)	0.77 (0.73)	*
Daily living subscale	0.82 (0.62)	0.89 (0.62)	0.78 (0.47)	0.64 (0.84)	NS
Impulsivity subscale	0.42 (0.52)	0.47 (0.54)	0.42 (0.54)	0.27 (0.34)	NS
Psychosis subscale	0.25 (0.47)	0.25 (0.48)	0.28 (0.50)	0.18 (0.36)	NS
Medical health					
Experiences chronic health problems (%)	41.26%	45.57%	39.02%	30.44%	NS
Criminal justice					
Mean times arrested in lifetime (SD)	10.77 (9.28)	10.13 (9.14)	13.81 (10.58)	6.75 (3.92)	**
Mean convictions lifetime (SD)	5.52 (6.98)	5.74 (8.45)	6.23 (5.74)	2.73 (3.04)	*
Mean months incarcerated in lifetime (SD)	52.85 (65.94)	59.28 (66.87)	39.85 (61.88)	55.14 (69.54)	NS
On probation ever in lifetime (%)	91.10%	90.00%	97.62%	83.33%	NS
On parole ever in lifetime (%)	25.69%	24.05%	29.27%	25.00%	NS
Arrested in last 6 months (%)	65.75%	62.50%	69.05%	70.83%	NS
Arrested for drug offenses in last 6 months (%)	35.64%	33.33%	46.67%	23.53%	NS
Spent nights in jail in last 6 months (%)	73.94%	71.80%	71.43%	86.36%	NS
Incarcerated in last 6 months (%)	73.94%	71.80%	71.43%	86.36%	NS
On parole or probation at baseline (%)	100.00%	100.00%	100.00%	100.00%	NS
Awaiting charges at baseline (%)	13.01%	16.25%	9.52%	8.33%	NS

Note. NS = not significant; SUD = substance use disorder; PTSD = posttraumatic stress disorder; ER = emergency room; BASIS-32 = Behavior and Symptom Identification Scale-32; TX = Treatment. RX stands for prescription opioids.

* $p < 0.05$ and $> .01$. ** $p < .01$ and $> .001$. *** $p < .001$.

behavior, utilization of inpatient mental health services, current experiences of hallucinations, and thoughts of suicide.

Substance Use

Lifetime use of illicit substances was significantly different between racial/ethnic groups. Hispanic ($OR = 0.35$, $p < .05$) and non-Hispanic Black ($OR = 0.15$, $p < .05$) participants were significantly less likely to use crack/cocaine in their lifetime than non-Hispanic White participants. However, these differences persisted only for non-Hispanic Black participants in the adjusted models compared to non-Hispanic

White participants ($aOR = 0.17$, $p < .05$). Similarly, lifetime opioid use was significantly different between race and ethnic groups. Non-Hispanic Black participants were less likely to report lifetime opioid use than non-Hispanic White participants ($aOR = 0.05$, $p < .001$). Hispanic participants had an increased odds of reporting lifetime opioid use in unadjusted models ($OR = 0.43$, $p < .05$), however they were no more or less likely than non-Hispanic White participants to use opioids in their lifetime when adjusting for covariates. Non-Hispanic Black participants also had a decreased odds of opioid use in the last 6 months than non-Hispanic White participants ($aOR = 0.06$, $p < .05$).

Table 2
Logistic Regression Analyses

Outcome	N	OR/aOR ^b	95% CI OR	p value
Experienced serious mental illness in lifetime				
Model 1: Non-Hispanic Black ^a	141	1.62	0.55, 4.63	NS
Model 1a: Non-Hispanic Black fully adjusted ^a	136	1.52 ^b	0.48, 4.83	NS
Model 2: Hispanic ^a	141	2.9	1.33, 6.50	<.05
Model 2a: Hispanic fully adjusted ^a	136	3.27 ^b	1.32, 8.06	<.05
Experienced serious mental illness in last 6 months				
Model 3: Non-Hispanic Black ^a	135	2.95	0.76, 11.40	NS
Model 3a: Non-Hispanic Black fully adjusted ^a	131	2.47 ^b	0.60, 10.21	NS
Model 4: Hispanic ^a	135	4.13	1.45, 11.75	<.05
Model 4a: Hispanic fully adjusted ^a	131	3.88 ^b	1.25, 12.05	<.05
Received ER mental health TX in last 6 months				
Model 5: Non-Hispanic Black ^a	143	2.86	0.44, 18.46	NS
Model 5a: Non-Hispanic Black fully adjusted ^a	138	2.4 ^b	0.35, 16.56	NS
Model 6: Hispanic ^a	143	4.84	1.05, 22.30	<.05
Model 6a: Hispanic fully adjusted ^a	138	5.4 ^b	1.07, 27.05	<.05
Used crack/Cocaine in lifetime				
Model 7: Non-Hispanic Black ^a	143	0.15	0.05, 0.47	<.05
Model 7a: Non-Hispanic Black fully adjusted ^a	138	0.17 ^b	0.05, 0.57	<.05
Model 8: Hispanic ^a	143	0.35	0.15, 0.84	<.05
Model 8a: Hispanic fully adjusted ^a	138	0.46 ^b	0.18, 1.18	NS
Used opioids in lifetime				
Model 9: Non-Hispanic Black ^a	146	0.05	0.01, 0.2	<.001
Model 9a: Non-Hispanic Black fully adjusted ^a	141	0.05 ^b	0.01, 0.24	<.001
Model 10: Hispanic ^a	146	0.43	0.19, 0.98	<.05
Model 10a: Hispanic fully adjusted ^a	141	0.25 ^b	0.23, 1.47	NS
Used opioids in last 6 months				
Model 11: Non-Hispanic Black ^a	146	0.1	0.02, 0.48	<.05
Model 11a: Non-Hispanic Black fully adjusted ^a	141	0.06 ^b	0.01, 0.36	<.05
Model 12: Hispanic ^a	146	0.7	0.32, 1.48	NS
Model 12a: Hispanic fully adjusted ^a	141	0.66 ^b	0.27, 1.60	NS
Received outpatient SUD Tx in last 6 months				
Model 13: Non-Hispanic Black ^a	146	0.1	0.01, 0.80	<.05
Model 13a: Non-Hispanic Black fully adjusted ^a	141	0.1 ^b	0.01, 0.87	<.05
Model 14: Hispanic ^a	146	0.39	0.16, 0.97	<.05
Model 14a: Hispanic fully adjusted ^a	141	0.38 ^b	0.14, 1.07	NS

Note. CI = confidence interval; OR = odds ratio; ER = Emergency room; TX = Treatment; SUD = substance use disorder.

^aReference = Non-Hispanic White. ^bAdjusted odds ratio with covariates (marital status, employment, education, age, and gender).

Differences were also observed for receipt of prior substance use disorder treatment (in the last 6 months and in lifetime) between racial/ethnic groups. Hispanic ($OR = 0.39$, $p < .05$) and non-Hispanic Black ($OR = 0.1$, $p < .05$) participants had a decreased

odds of reporting outpatient SUD treatment in the last 6 months. However, after statistical adjustment only non-Hispanic Black participants were less likely than non-Hispanic White participants to report treatment (aOR = 0.1, $p < .05$). Being a non-Hispanic

Table 3
Linear Regression Analyses

Column ethnicity/ race	Mean times in lifetime received ER mental health TX		Mean times in lifetime treated for drug use		Mean times received outpatient SUD Tx in last 6 months		Mean number of arrests in lifetime	
	M (SE)	Coefficient (SE)	M (SE)	Coefficient (SE)	M (SE)	Coefficient (SE)	M (SE)	Coefficient (SE)
Non-Hispanic Black	1.22 (0.65)	$\beta = -0.10$ (0.41)	1.35 (1.04)*	$\beta = -1.90$ (0.67)	1.49 (0.95)	$\beta = 0.05$ (0.60)	6.31 (2.65)*	$\beta = -2.83$ (1.67)
Hispanic	1.97 (0.45)*	$\beta = 0.65$ (0.33)	3.08 (0.71)*	$\beta = -0.17$ (0.51)	0.29 (0.67)*	$\beta = -1.15$ (0.47)	8.58 (1.69)	$\beta = -0.57$ (1.26)

Note. Reference = Non-Hispanic White; Covariates include marital status, employment, education, age, and gender.

* $p < 0.05$.

Black participant was not related to the amount of outpatient SUD treatment episodes in the last 6 months ($\beta = 0.05$ ($SE = 0.60$), $p > .05$). Rather, Hispanic participants had significantly less outpatient SUD treatment episodes than non-Hispanic White participants after adjusting for covariates ($\beta = -1.15$ ($SE = 0.47$), $p < .05$). Lastly, lifetime SUD treatment episodes differed between racial/ethnic groups. Hispanic ($\beta = -0.17$ ($SE = 0.51$), $p < .05$) and non-Hispanic Black ($\beta = -1.90$ ($SE = 0.67$), $p < .05$) participants reported significantly less lifetime SUD treatment episodes compared to non-Hispanic White participants.

No differences were observed between groups regarding lifetime illicit substance use, injection drug use, lifetime overdoses, current crack/cocaine use, marijuana use, or current utilization of inpatient SUD services.

History of Criminal Legal System Involvement

Non-Hispanic Black participants experienced significantly less arrests in their lifetime than non-Hispanic White participants ($\beta = -2.83$ ($SE = 1.67$), $p < .05$). There were no observed differences in the number of lifetime arrests between Hispanic and non-Hispanic White participants. In addition, there were no differences observed between non-Hispanic White and non-Hispanic Black, or non-Hispanic White and Hispanic participants regarding lifetime number of months incarcerated.

Discussion

This study expands the literature on racial/ethnic differences in MHC by examining needs and patterns in substance use, mental health, and criminal legal system involvement among MHC participants with a COD. With respect to our primary research questions, our study found significant racial/ethnic differences exist among adults with COD at MHC enrollment. These racial/ethnic differences persisted after controlling for select sociodemographic factors. There are several implications of our results for COD management approaches and service delivery in MHCs.

Mental Health

In regards to mental health needs, our study found that Hispanic participants were more likely to report more severe current and lifetime SMI when compared to non-Hispanic White participants. There is currently limited literature exploring SMI amongst Hispanic adults with COD in the criminal legal system, especially in MHCs (Al-Rousan et al., 2017). The little that is known about Hispanic adults with SMI comes from studies with non-CJ and non-COD specific populations. For example, factors such as language, acculturation, cultural mistrust, and influence of extended family networks and religious norms have been found to compound problems of SMI and impact treatment engagement in Hispanic adults with SMI (Corrigan et al., 2017). Incorporating these cultural considerations into MHC services can help to enhance the relevance of MHC services and potentially increase treatment engagement. Specially services that include bilingual providers, enhanced engagement of family members, intervention materials in Spanish, and ongoing cultural and structural competence training and supervision have been found to improve engagement of Hispanic adults with SMI in care (Cabassa et al., 2018).

Our study also found that Hispanic participants were more likely to report utilizing ED services for mental health in the last 6 months and in their lifetime compared to non-Hispanic White participants. Frequent ED utilization has been found to an indicator of unmet health and social needs, especially among patients with mental health conditions (Azar et al., 2020). To improve client-centered care and decrease inequities, MHCs should inquire about and document social determinants of health (e.g., housing, safety, employment) that may influence MHC participants' use of health care and link participants to culturally responsive services to address those needs; utilize peer specialists to provide culturally relevant health and health care psychoeducation and system navigation; acknowledge forms of discrimination as social determinants of health on individual behavior in discussions of health and health care utilization.

Substance Use

In terms of substance use, our findings indicate that Hispanic and non-Hispanic Black participants were less likely to report crack cocaine and opioid use when compared to their non-Hispanic White counterparts. This finding is consistent with opioid use prevalence rates found in the general population and criminal legal system studies and inconsistent with some studies finding higher prevalence of crack cocaine use among Black adults in the criminal legal system (Saloner et al., 2016; Substance Abuse & Mental Health Services Administration [SAMHSA], 2019). Our data suggest that non-Hispanic White MHC participants may benefit from more intensive substance use treatment services, including medications for opioid use disorder (MOUD) embedded into psychological services provided in the MHC. Despite finding less opioid use among non-Hispanic Black participants, these participants may also benefit from opioid overdose psychoeducation and prevention programming especially as opioid overdose deaths sharply rise among Black adults in the U.S. (Larochelle et al., 2021).

We also found that Hispanic and non-Hispanic Black participants were less likely to report a history of receiving SUD treatment compared to non-Hispanic White participants. This is consistent with the literature (Tsai & Gu, 2019). Interestingly this study also found that, separate from race, respondents with SUDs and an incarceration history were also more likely to have received a range of SUD treatments than their counterparts with no incarceration history. This is most likely due to SUD treatment being required as part of their criminal legal involvement. Therefore, treatment utilization disparities identified in this study may not be solely an access issue. It could indicate bias in SUD identification and/or referrals to SUD treatment, suggesting a need for more upstream approaches to identifying and referring African American and Hispanic adults in the criminal legal system to treatment.

As noted above, our study also found that even when Hispanic and non-Hispanic Black participants did access SUD treatment in their lifetime, they received less treatment than their non-Hispanic White counterparts. To enhance retention and engagement amongst this population, psychological services within MHC must match the culturally and linguistically appropriate services (CLAS) national standards including training on culturally appropriate practices on an ongoing basis, and providing materials, services and signage in the languages used by the population in the MHC. MHCs should also engage in efforts to examine racial/ethnic disparities in

treatment retention and engagement by monitoring disparities in retention and engagement in a similar way courts monitor other performance measures (e.g., graduation rates). Future research in this area can be enhanced by integrating qualitative interviews with providers, participants, and their families to better assess facilitators and barriers to care.

History of Criminal Legal System Involvement

Last, we found that non-Hispanic Black participants had significantly less arrests in their lifetime than non-Hispanic White participants. This is inconsistent with several national studies documenting disproportionate minority contact with the criminal legal system and higher arrest rates for non-Hispanic Black and Hispanic individuals. Further exploration into what might be contributing to non-Hispanic Black adults with mental health disorder or COD and with more prior criminal legal involvement being less represented in MHC is needed. Resources such as the National Association of Drug Court Professionals' Equity & Inclusion Toolkit, which provides drug courts with diverse strategies and tools to assess and address equivalent access, inclusiveness, engagement, and outcomes for underrepresented groups in the court, (National Association of Drug Court Professionals [NADCP], 2018) can be adapted and utilized to guide this critical examination.

Limitations

The present study is not without limitations. First, due to the small sample size, we were not able to examine intersecting experiences of marginalization spanning multiple identities such as sexual orientation, race/ethnicity, gender, etc. Therefore, it is likely that important subgroups within each category were not examined. Future research needs to fully examine the intersectionality of multiple domains of discrimination (race, gender, disability, immigrant status, etc.) and their combined effect on health and social disparities in this population. We were unable to examine important cultural factors such as acculturation to American beliefs/values surrounding mental illness, substance use, and criminal legal system involvement. Furthermore, while the data collection tool used in this study did assess participants' language, due to the high level of multicollinearity between ethnicity and language, we had to exclude language from our regression analyses.

The study was conducted in a single MHC located in an urban setting in Massachusetts, which may not necessarily be generalizable to other geographic regions. Our study also did not include a comparison group limiting the interpretation of study findings. As is routine in program evaluations (Government Performance and Results Act Modernization Act of 2010, 2011), retrospective self-report data (e.g., substance use, arrests) was used as opposed to official record data. Moreover, validated structured assessment to confirm mental health diagnosis (e.g., the Structured Clinical Interview for DSM Disorders) and assess recidivism risk would have helped identify a broader picture of participant needs. Last, participants entered the mental health court postadjudication after consulting with their attorneys and deciding that the alternative to incarceration treatment programming and community supervision was worthwhile; thus, the participants may have constituted a somewhat homogeneous sample. It is important to note that study data showed that almost three-quarters of participants were

motivated to join the program to avoid possible criminal punishment and there were no racial and ethnic differences in this motivation.

Conclusion

Despite study limitations, our data revealed robust racial/ethnic differences in substance use, mental health, and criminal legal involvement patterns and needs among mental health court participants. Our findings support embedding multicomponent integrated behavioral health services within MHCs to address social determinants of health (SDOH). This type of intervention will not only address the identified needs of all MHC enrollees with COD, but potentially reduce health disparities in this type of criminal legal setting. There is growing evidence suggesting that the high level of criminal legal involvement among those with COD is not simply due to the disorder, but a host of social determinants of health (SDOH) that also disproportionately impact African American and Hispanic people. The bidirectional nature between SDOH and behavioral health, where SDOHs significantly impact behavioral health for individuals with COD (Sugarman et al., 2020) and behavioral health problems significantly impact SDOHs (Corrigan et al., 2012; Hjorth et al., 2016; Ljungqvist et al., 2016), place MHC participants at increased risk and should be considered in treatment planning. Psychological services embedded within MHC should assess SDOHs at enrollment and throughout participation to effectively inform treatment and support planning alongside probation and court programming (Wolff et al., 2013). Although there have been successful efforts to embed psychological services and supports within MHCs (Pinals et al., 2019), more equity-informed research, intervention development, and systems-level change is needed to fully move beyond identifying disparities to tailoring and delivering psychological services in MHCs to advance equity for a population most vulnerable to health disparities.

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