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Associations of Patient Race and Ethnicity With Emergency Department Disposition for Mental Health Visits in the United States

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Abstract

Objective: To describe associations between patient race and ethnicity with emergency department disposition for mental health visits in the United States.

Methods: We identified 674,821 visits for mental health in the 2019 National Emergency Department Sample and classified them by *ICD-10* diagnostic group: schizophrenia-spectrum, bipolar, major depressive, anxiety, or other disorders. Racial and ethnic categories were White, Black, Hispanic, or other. Logistic regression models, adjusted for age, sex, insurance status, and medical comorbidities, were used to describe differences in odds of inpatient admission by race/ethnicity and diagnosis.

Results: After covariate adjustment, we did not find overall differences in the likelihood of admission between racial/ethnic groups. However, compared to White patients, admission rates were lower for visits by Black patients for bipolar disorder (OR = 0.71; 95% CI, 0.59–0.84) and major depressive disorder (OR = 0.70; 95% CI, 0.59–0.83) and lower for Hispanic patients (OR = 0.57; 95% CI, 0.47–0.68) for anxiety disorders. There were no significant racial/ethnic differences in admission rates for schizophrenia-spectrum disorders.

Conclusions: Overall admission rates were comparable for Black and White patients. After covariate adjustment, there were no differences across racial/ethnic groups, though some racial/ethnic differences persisted within diagnostic subsets of mood and anxiety disorders.

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Racial and ethnic disparities have been described throughout multiple facets of mental health care in the United States, though the nature of disparities differs by group and care setting.[1,2] Black patients are overrepresented in acute psychiatric settings and on inpatient units compared to White patients.[1,3–7] At the same time, rates of outpatient mental health utilization tend to be lower among Black and Hispanic populations.[3,8,9] Several hypotheses have been developed to explain these patterns in mental health care. Some have suggested that while Black and Hispanic populations report lower overall rates of mental illness than White populations, conditional on having a psychiatric diagnosis, Black and Hispanic patients are more likely to have severe illness.[2] Others have suggested that these differences are due largely to differential access to care.[1] Still others have suggested that, compared to White patients, non-White patients have a greater reluctance to seek mental health care.[10–12]

Perhaps most concerningly, racial/ethnic differences in mental health use may be generated by provider biases during evaluation.[13–18] Differences in rates of diagnosis by race/ethnicity in the United States have been described since at least the 1970s, particularly, higher rates of psychotic disorder diagnosis among Black compared to White Americans.[13,19,20] Because psychotic disorders may be associated with more coercive or restrictive forms of psychiatric care, this has led to concern that unjustified overdiagnosis of psychotic disorders among Black patients has contributed to elevated rates of inpatient treatment or involuntary psychiatric treatment among Black Americans.[5–7,21] At the same time, there is concern that culturally insensitive diagnostic practices may contribute to underdiagnosis of psychiatric illness among Hispanic or other minority patients.[22,23]

Emergency department (ED) records may provide insights into usual patterns of care. EDs are an important point of contact and the main route to inpatient admission for patients with severe psychiatric symptoms.[24–26] For racial/ethnic groups with relatively low use of outpatient services, evaluation and triage in the ED may be a particularly relevant pathway to mental health care access.[14] However, because diagnostic precision

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Clinical Points

- Racial and ethnic disparities in acute psychiatric settings and emergency departments have been described for many years in the United States; however, nationally representative data permitting the population-level study of racial/ethnic disparities in acute psychiatric practice settings have not been widely available until recently.
- Nationally, racial/ethnic differences in admission practices were greater for patients presenting to the emergency department with depression or anxiety than for those presenting with schizophrenia or bipolar mania.
- Racial/ethnic differences by diagnosis are persistent; however, care access, socioeconomic, legal, and structural factors leading to ED presentation may contribute significantly to disparities in acute psychiatric admission.

improves with structured approaches,[15] culturally tailored assessment,[27] and length of observation,[28] and ED assessments may be completed under time pressure, ED disposition decisions may also carry a higher risk of racial/ethnic diagnostic bias.

To explore these questions, we examined a large nationally representative sample of ED mental health discharges by diagnosis and patient race/ethnicity to explore whether there were racial/ethnic differences in rates of inpatient admission. If Black and Hispanic patients have less access to outpatient care, they may use the ED as a substitute for outpatient care, meaning that the average Black or Hispanic psychiatric ED patient may have lower average severity than the average White patient. Conversely, personal or historical experiences of racism may be associated with a greater reluctance to seek treatment among Black or Hispanic patients.[10–12] If the threshold to seek care is higher for Black or Hispanic patients, those who present to the ED may have more severe illness on average. We examined distributions of severity by race/ethnicity as measured both by diagnostically labeled severity and by rates of inpatient admission as a proxy for high risk. Because Black patients, and particularly Black male patients, have been historically overrepresented in inpatient psychiatry,[18,21] we examined the data for evidence of biases in admission rates among visits by Black patients in general, as well as more specifically Black male patients and Black male patients diagnosed with schizophrenia-spectrum disorders.[18]

METHODS

Data Sources

The 2019 National Emergency Department Sample (NEDS) is a stratified sample of discharges from US community hospitals, encompassing approximately 30 million ED visits, including patient race/ethnicity. Strata and sample weights are provided by NEDS to produce nationally representative estimates. NEDS data can be requested via https://hcup-us.ahrq.gov/databases.jsp. Adult population estimates for 2019 were produced by the US Census Bureau and obtained from the Annie E. Casey Foundation.[29]

Sample Assembly

We restricted the sample to ED visits for those aged 18–90 years, excluding older age groups for which psychiatric inpatient admission was less likely. We selected study visits for a mental disorder (per *ICD-10* criteria) in the first diagnostic field, excluding mental disorders due to physiologic conditions or substances (Supplementary Table 1).

Dependent and Independent Variables

The primary outcome of interest was ED disposition coded as hospital admission or discharge. Because not all hospitals have psychiatric units, psychiatric admission may require hospital transfer[30]; we considered transfers as admissions.

Race and ethnicity were the primary independent variables of interest and contained the non-overlapping classifications of non-Hispanic White (White), non-Hispanic Black (Black), Hispanic, or other (non-White, non-Black, non-Hispanic). Because NEDS racial/ethnic categories are collected by partner organizations, collection practices may vary substantially by organization; details regarding specific collection practices are limited.[31] Race/ethnicity data were missing for 11,997 visits (1.8% of the sample).

"Any insurance" was defined as including any of the payers (Medicare, Medicaid, or private insurance) as well as any other insurance, such as Workers' Compensation, the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS), the Civilian Health and Medical Program of the Department of Veterans Affairs (CHAMPVA), or Title V, as either a primary or secondary payer. The "any private insurance" indicator was defined by having either a primary or a secondary payer of private insurance.[32] Other independent variables included patient sex, 10-year age group, and medical comorbidities as defined by the Elixhauser Comorbidity Index (ECI).[33–35]

Analyses were subsetted by diagnosis in accordance with the 4 largest diagnostic categories of illness by visit number plus a residual category: schizophrenia-spectrum disorders, bipolar disorder, major depressive disorder (MDD), anxiety disorder, or other mental health disorders (Supplementary Table 1). The composition of visits for other mental health disorders was explored in descriptive analyses.

Analyses

All analyses were done in STATA 17.0. Survey weights were handled using the *svy* function in STATA.

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Table 1.

Demographic and Clinical Characteristics for Emergency Department Mental Health Visits by Primary Diagnosis, United States, 2019[a]

	Overall (674,821 Visits)		SCZ (154,814 Visits)		BPD (65,060 Visits)		MDD (154,699 Visits)		ANX (273,467 Visits)		Other dx (26,781 Visits)	
Variable	Value	95% CI	Value	95% CI	Value	95% CI	Value	95% CI	Value	95% CI	Value	95% CI
Admit	26.4	(24.0–28.8)	41.5	(37.1–45.9)	50.7	(47.2–54.2)	38.6	(35.7–41.6)	5.5	(4.7–6.3)	24.0	(20.7–27.4)
Age, mean, y	40.80	(40.55–41.0)	41.74	(41.29–42.2)	40.69	(40.36–41.0)	40.14	(39.80–40.5)	40.94	(40.72–41.2)	38.03	(37.48–38.6)
Female	51.0	(50.4–51.6)	37.8	(37.2–38.5)	52.0	(51.1–52.9)	50.1	(49.3–50.8)	59.4	(58.8–59.9)	43.9	(42.7–45.1)
White	59.6	(57.2–61.9)	46.5	(43.3–49.7)	66.3	(63.3–69.3)	67.1	(64.9–69.3)	60.7	(58.7–62.8)	61.1	(57.6–64.5)
Black	20.1	(18.3–21.9)	33.2	(30.1–36.2)	17.7	(15.4–20.0)	16.4	(14.7–18.1)	15.5	(14.2–16.8)	20.9	(18.8–23.1)
Hispanic	12.4	(11.1–13.7)	11.1	(9.5–12.8)	8.3	(7.1–9.5)	9.4	(8.3–10.5)	16.0	(14.4–17.6)	9.3	(7.8–10.9)
Other race/ethnicity	6.2	(5.3–7.0)	7.4	(6.0–8.7)	5.7	(4.7–6.7)	5.2	(4.5–5.9)	6.2	(5.4–6.9)	6.7	(5.1–8.3)
Insurance Status												
Any insurance	84.5	(83.6–85.5)	85.8	(84.4–87.3)	88.2	(87.1–89.4)	85.2	(83.9–86.5)	82.5	(81.7–83.4)	85.3	(83.3–87.2)
Any Medicare	23.6	(22.9–24.3)	32.9	(31.5–34.2)	27.7	(26.6–28.9)	19.7	(18.9–20.4)	19.5	(19.0–20.1)	25.0	(23.4–26.5)
Any Medicaid	42.6	(41.0–44.3)	53.2	(50.6–55.8)	46.1	(43.8–48.4)	40.4	(38.6–42.3)	36.3	(35.0–37.7)	51.5	(49.1–53.8)
Any private Insurance	26.4	(25.1–27.7)	13.0	(11.8–14.2)	24.6	(22.9–26.3)	30.9	(29.2–32.5)	32.4	(31.2–33.5)	20.0	(18.2–21.7)
Elixhauser sum	0.93	(0.90–0.97)	1.12	(1.05–1.19)	1.24	(1.19–1.30)	1.07	(1.03–1.11)	0.68	(0.66–0.70)	0.90	(0.85–0.95)

[a]National Emergency Department Sample, 2019; analysis limited to those aged 18–90 years. Results are based on weighted sampling. Data in the value columns are percentages unless otherwise noted. Elixhauser weighted sum does not include diagnoses of depression or psychosis.
Abbreviations: ANX = anxiety disorders, BPD = bipolar disorder, dx = diagnoses, MDD = major depressive disorder, SCZ = schizophrenia-spectrum diagnoses.

Descriptive studies. Descriptive variables including rates of inpatient admission and demographic and comorbidity data were summarized using NEDS sample weights and stratified by diagnostic category. The significance of racial/ethnic differences in admission rates within diagnostic subsets was compared using an *F* test.

Logistic regression. Because race/ethnicity is correlated with many other variables associated with admission risk such as socioeconomic status, insurance status, and medical comorbidity, logistic regression was used to model odds of admission as a function of race/ethnicity, having any insurance, private insurance status, patient sex, age group, and ECI comorbidities. Models included overall and analyses by diagnosis. Both unadjusted and covariate-adjusted models are shown. The reference categories for these regressions were male, White race/ethnicity, with no insurance, and no medical comorbidity. White race/ethnicity was chosen as a reference demographic category due to its being the largest population size; the authors do not intend to imply this group as normative. We also explored racial/ethnic differences in mania versus depression visits among bipolar disorder visits.

Subset Analyses.

Affective and psychotic symptom variation. Prior literature suggests that patient expressions and provider interpretations of affective and psychotic symptoms vary by race/ethnicity.[13,15,17,36,37] Further, for a variety of reasons including diagnostic factors,[15] historical and structural factors,[36] and service availability,[1] the distributions of symptom severity among patients may differ by race/ethnicity.[2] To explore these hypotheses, we leveraged diagnostic specifiers. Specifically, we explored affective symptom severity through depression specifiers of severe or with psychotic features, and schizoaffective disorder diagnosis among schizophrenia-spectrum disorders visits.

Admission rates for men with schizophrenia-spectrum illness. Informed by hypotheses of social control,[18,21] we also explored racial/ethnic differences among visits by male patients with schizophrenia-spectrum illness and specifically paranoid schizophrenia, a discontinued[38] but historically racialized diagnosis.[21]

Human Subjects Research

The New York State Psychiatric Institute Institutional Review Board deemed this analysis of deidentified data to be exempt from human subjects research review.

RESULTS

Demographic Characteristics

The study sample contained 674,821 mental health visits including those for schizophrenia-spectrum disorders (22.9%), bipolar disorder (9.6%), MDD (22.9%), anxiety disorders (40.5%), and other mental health disorders (4.0%) (Table 1). Of other diagnoses, the largest subcategories were unspecified mood disorders (33.7%), personality disorders (17.3%), conduct disorders (17.0%), and mental disorders not otherwise specified (13.9%). The sample was 59.6% White, 20.1% Black, 12.4% Hispanic, and 6.2% other. By race/ethnicity, this implies a rate of ED visits per 1,000 adult population of 18.5 (95% CI, 16.9–20.2) among Black patients, 10.6 (95% CI, 10.2–11.0) among White patients, 8.5 (95% CI, 7.6–9.4) among Hispanic patients, and 8.2 (95% CI, 7.1–9.3) among patients of other races/ethnicities.[29]

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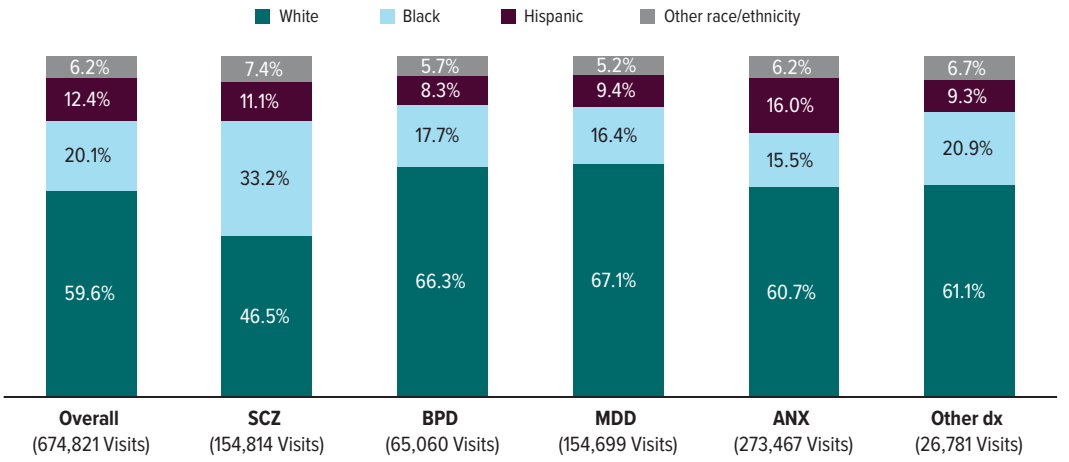
Figure 1.

Emergency Department Mental Health Visits by Primary Diagnosis Group and Race/Ethnicity, United States, 2019[a]



[a]National Emergency Department Sample, 2019; analysis limited to those aged 18–90 years. Results are based on weighted sampling. Percentages in diagnostic group graphs do not sum to 100 due to missing data values for race/ethnicity (1.8% of total sample).
Abbreviations: ANX = anxiety disorders, BPD = bipolar disorder, dx = diagnoses, MDD = major depressive disorder, SCZ = schizophrenia-spectrum diagnoses.

Visits aggregated by diagnoses differed in their racial/ethnic composition. Compared to their overall sample representation of 20.1%, Black patients constituted a higher percentage of schizophrenia-spectrum disorder visits (33.2%; 95% CI, 30.1–36.2) and a lower percentage of MDD visits (16.4%; 95% CI, 14.7–18.1) and anxiety disorder visits (15.5%; 95% CI, 14.2–16.8) (Figure 1). Compared to their overall representation of 12.4%, Hispanic patients constituted 11.1% (95% CI, 9.5–12.8) of schizophrenia-spectrum disorder visits, 9.4% (95% CI, 8.3–10.5) of MDD visits, and 16.0% (95% CI, 14.4–17.8) of anxiety disorder visits.

Unadjusted Admission Rates

Inpatient admission rates varied significantly by diagnosis (Table 1). Bipolar disorder was associated with the highest overall admission rate (50.7%; 95% CI, 47.2–54.2), followed by schizophrenia-spectrum disorders (41.5%; 95% CI, 37.1–45.9). Anxiety disorders were associated with the lowest overall admission rate (5.5%; 95% CI, 4.7–6.3).

The racial/ethnic composition of admitted patients was 61.9% White, 21.6% Black, 9.5% Hispanic, and 5.2% other (data not shown). For bipolar disorder visits, admission rates were 44.7% (95% CI, 39.5–49.9) for Black, 49.3% (95% CI, 43.5–55.2) for Hispanic, 53.1% (95% CI, 49.6–56.5) for White, and 45.6% (95% CI, 38.2–53.1) for other race/ethnicity patients (Figure 2). For MDD visits, admission rates were 33.3% (95% CI, 29.0–37.6) for Black patient visits, 34.9% (95% CI, 29.9–39.9) for Hispanic patient visits, 32.9% (95% CI, 28.2–37.6) for other race/ethnicity patient visits, and 40.9% (95% CI, 37.9–43.9) for White patient visits. Race/ethnicity was also a significant predictor of inpatient admission for visits for anxiety disorders and other mental health disorders. There were no significant differences in admission rates by race/ethnicity for visits for schizophrenia-spectrum disorders.

Adjusted Admission Rates

In an adjusted model for all visits, race/ethnicity was not significantly associated with inpatient admission (Table 2).

Among bipolar disorder visits (Table 3), Black patient visits had lower odds of admission than White patient visits (OR = 0.71; 95% CI, 0.59–0.84). These results primarily reflected differences in admission rates among those presenting with bipolar depression (OR = 0.75; 95% CI, 0.57–0.99) or unspecified episode type (OR = 0.60; 95% CI, 0.47–0.76) compared to mania. Inpatient admission for MDD visits also differed between White and Black patients even after adjustment for covariates, with Black patients having a lower odds of admission (OR = 0.70; 95% CI, 0.59–0.83). Compared to White patient visits, inpatient admission for anxiety disorder visits was also significantly lower for Hispanic patient visits (OR = 0.57; 95% CI, 0.47–0.68). Racial/ethnic differences in admission for other diagnosis were observed for all non-White groups. No racial/ethnic differences among admission rates for visits for schizophrenia-spectrum disorders were observed.

Subset Analyses

Affective and psychotic symptom variation. A higher proportion of White patient visits (36.9%; 95%

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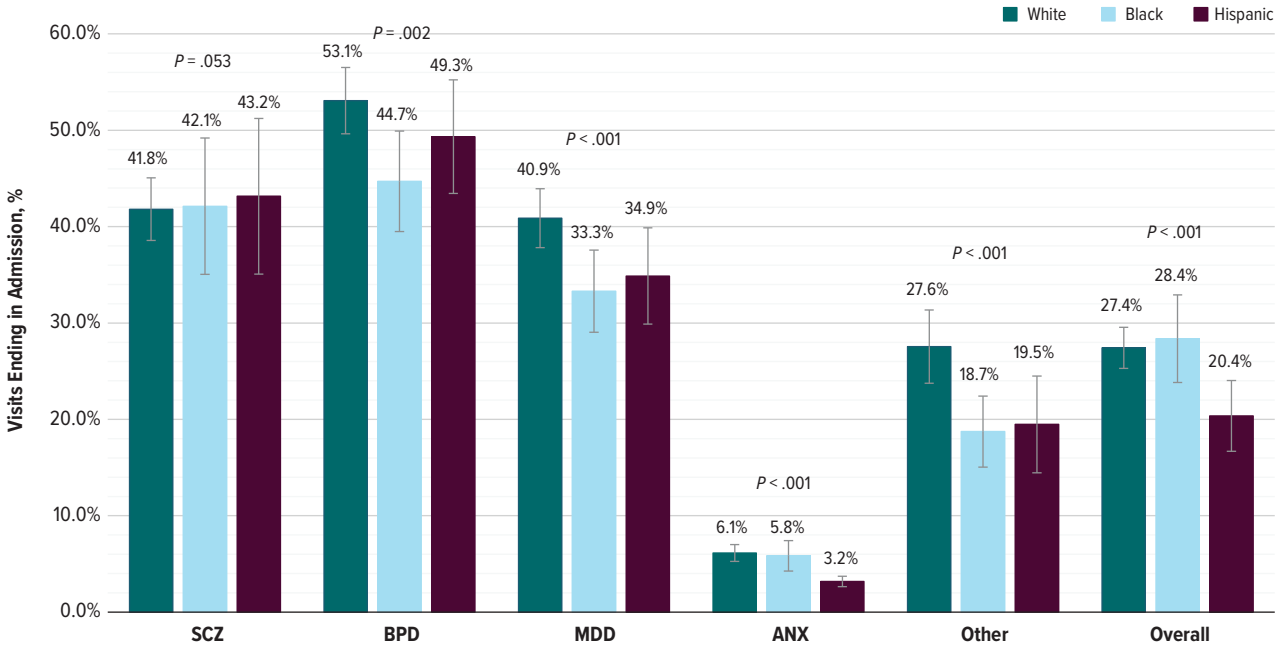
Figure 2.

Admission Rates for Mental Health Emergency Department Visits, by Diagnosis Group and Race/Ethnicity[a]



[a]National Emergency Department Sample, 2019; analysis limited to those aged 18–90 years. Total visits = 674,821. 95% CIs are indicated by error bars. Percentages are based on weighted sampling. Independent *F* tests for differences between rates of admission by racial/ethnic group within diagnostic category were inclusive of White, Black, Hispanic, and other race/ethnicity (not shown); omnibus *P* values are displayed above diagnostic category groups.
Abbreviations: ANX = anxiety disorders, BPD = bipolar disorder, MDD = major depressive disorder, SCZ = schizophrenia-spectrum diagnoses.

CI, 35.7–38.2) than Black (27.5%; 95% CI, 26.0–29.0) or Hispanic (24.1%; 95% CI, 22.6–25.7) patient visits were for mood disorders. Among MDD visits, a higher proportion of White (28.3%; 95% CI, 26.0–30.5) than Hispanic (25.6%; 95% CI, 22.1–29.1) or Black (22.9%; 95% CI, 20.5–25.3) patient visits were specified as severe. The proportion of schizoaffective disorder diagnosis among visits for schizophrenia-spectrum diagnosis did not differ significantly by race/ethnicity.

Schizophrenia-spectrum disorder visits accounted for a higher proportion of Black (37.2%; 95% CI, 34.7–39.7) than Hispanic (20.3%; 95% CI, 17.9–22.7) or White (17.6%; 95% CI, 16.8–18.4) patient visits. Among MDD visits, Hispanic patients had the highest proportion with psychotic features (9.0%; 95% CI, 6.9–11.0), followed by Black (7.9%; 95% CI, 6.9–8.9) and White (5.7%; 95% CI, 5.1–6.3) patients.

Admission rates for men with schizophrenia-spectrum illness. Among schizophrenia-spectrum disorder visits, Black patients had a higher proportion for paranoid schizophrenia visits (12.4%; 95% CI, 10.0–14.8) than Hispanic (9.3%; 95% CI, 7.7–10.9) or White (8.4%; 95% CI, 7.6–9.2) patients. Among men with schizophrenia-spectrum disorder visits, there were no significant racial/ethnic differences in rates of inpatient admission.

DISCUSSION

On a population basis, ED mental health visit rates differed substantially by race/ethnicity with Black individuals having the highest rate followed by White individuals and then Hispanic and other individuals. We found some unadjusted differences in admission rates by race/ethnicity, most notably for Hispanic patients; however, after controlling for insurance status, mental health diagnosis, sex, age, and medical comorbidities, we did not find differences in the likelihood of inpatient admission. Inpatient admission rates differed by race/ethnicity within diagnostic subsets: among anxiety disorder visits, Hispanic patients were admitted at lower rates than White patients, and among mood disorders, Black patients were admitted at lower rates than White patients. We did not find higher rates of admission for Black compared to White patients, including for men with schizophrenia-spectrum diagnoses.

The discrepancy between overall, diagnostic category, and subset findings illustrates several features of racial/ethnic disparities. The literature has described robust correlations between race/ethnicity and other predictors of inpatient admission such as insurance status[32,39] and medical comorbidity,[40] which influence the likelihood of

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Table 2.

Associations of Patient Insurance, Race/Ethnicity, Sex, and Discharge Diagnosis With Emergency Department Disposition Among Emergency Department Mental Health Visits[a]

	Unadjusted[b]		Covariate Adjusted[c]	
Variable	OR	95% CI	OR	95% CI
White (reference)	1		1	
Black	1.05	(0.87–1.27)	0.85	(0.70–1.02)
Hispanic	0.68*	(0.55–0.83)	0.85	(0.71–1.01)
Other race/ethnicity	0.76*	(0.64–0.90)	0.82	(0.66–1.01)
Any insurance			1.64*	(1.30–2.09)
Any private insurance			1.12*	(1.01–1.25)
Male (reference)			1	
Female			1.07*	(1.04–1.11)
Psychiatric Diagnosis				
SCZ (reference)			1	
BPD			1.27*	(1.14–1.41)
MDD			0.81*	(0.72–0.91)
ANX			0.09*	(0.07–0.11)
Other			0.42*	(0.35–0.49)

[a]Total visits = 674,811. Binary outcome variable is an indicator of admission/transfer. Reference category is male, White race/ethnicity, no insurance, schizophrenia-spectrum diagnosis. "Any private insurance" reflects both primary and secondary expected payers and is a nested category within "any insurance."
[b]Unadjusted models contain race/ethnicity categories and constant term alone.
[c]Adjusted model includes covariates shown as well as 10-year age group and indicator variables for Elixhauser comorbidities excluding depression and psychosis.
*Wald statistic is significant at the .01 level.
Abbreviations. ANX = anxiety disorders, BPD = bipolar affective disorder, MDD = major depressive disorder, OR = odds ratio, SCZ = schizophrenia-spectrum diagnoses.

admission. Insurance status is significantly correlated with inpatient admission, and we found that the tendency for Black or Hispanic patients to be uninsured relative to White patients contributed to lower overall likelihood of admission for Black and Hispanic patients. Greater medical comorbidity was associated with increased likelihood of admission. On average, Black patients had higher rates of medical comorbidity compared to White patients, who had higher rates than Hispanic patients. The tendency for Hispanic patients to have lower average medical comorbidity contributed to their lower likelihood of admission compared to White or Black patients.

In contrast to prior epidemiologic literature suggesting that, conditional on diagnosis, severity is higher among Black and Hispanic compared to White patients,[2] we found that (1) clinically diagnosed severity within MDD was lower among Black and Hispanic patients compared to White patients and (2) admission rates were lower for mood disorders among Black than White patients and lower for anxiety disorders among Hispanic than White patients, suggesting lower severity. These findings would be consistent with a hypothesis that even controlling for insurance status, Black and Hispanic patients have poorer access to outpatient services and may substitute with higher rates of ED use[6,7] over a hypothesis that lower outpatient service use rates are driven by a higher symptom severity threshold to seek mental health emergency care among Black and Hispanic patients.

Psychiatric diagnosis was strongly correlated with disposition, with anxiety disorders associated with the lowest odds of admission. We reproduce a previously reported finding that Black patients were overrepresented in schizophrenia-spectrum disorders.[13,19,20] By contrast, Hispanic patients had higher representation than other racial/ethnic groups among visits for anxiety disorders, a finding that contrasts with population prevalence studies that have described lower rates of anxiety disorders among Hispanic individuals in the US compared to non-Hispanic White individuals.[23]

There has been significant interest in explanations for racial/ethnic diagnostic differences. Prior work from the ED has suggested that providers may collect less or lower-quality information from Black than White patients, particularly about mood symptoms.[14] Others have suggested that some providers may inappropriately interpret reserve among Black patients due to normative wariness of health care settings as signs of psychosis[36] or use different processes to link symptoms to diagnosis in Black versus White patients.[13,15,17,36,37] Due to data limitations, we can comment on these hypotheses only to a limited extent. We found that differences between Black and White patients in admission rates for mood disorders were driven by visits for depressed mood over mania. We also found that rates of diagnosed psychosis were higher among Black and Hispanic patients, including those presenting with MDD. Previous literature has suggested that provider management choices for depression may differ by patient race/ethnicity.[41] Alternatively, diagnostic error and symptom severity may be correlated. For example, if the subset of Black patients with the most severe depression were more likely to be misdiagnosed with a schizophrenia-spectrum diagnosis,[17] this would leave a healthier group of patients among the population diagnosed with MDD without psychotic features for Black compared to White patients. However, without independent diagnostic assessments, we cannot test these hypotheses. Similarly, some evidence suggests that expression of some anxiety symptoms differs between Hispanic and non-Hispanic White individuals,[22] which may affect provider-assigned diagnoses. However, diagnostic studies of Hispanic patients have focused more on generating instruments to match clinical diagnoses than on measuring clinician bias.[42]

Despite the diagnostic composition of visits by Black versus White patients, rates of inpatient admission did not differ between these groups. Higher rates of Black inpatient admissions in our sample reflected higher ED visit per population rates among Black patients

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Table 3.

Associations of Patient Insurance, Race/Ethnicity, and Discharge Diagnosis With Emergency Department Disposition Among Emergency Department Mental Health Visits, Subset Analyses by Discharge Diagnosis Group[a]

Variable	OR	95% CI
SCZ (154,794 Visits)		
White	1.00	
Black	1.04	(0.82–1.33)
Hispanic	1.06	(0.83–1.36)
Other race	0.84	(0.64–1.11)
Any insurance	1.81*	(1.31–2.51)
Any private insurance	0.96	(0.82–1.12)
Male		
Female	1.04	(0.99–1.08)
MDD (154,681 Visits)		
White	1.00	
Black	0.70*	(0.59–0.83)
Hispanic	0.85	(0.70–1.02)
Other race	0.83	(0.68–1.03)
Any insurance	1.61*	(1.27–2.03)
Any private insurance	1.25*	(1.11–1.42)
Male	1.00	
Female	1.13*	(1.07–1.18)
Anxiety (273,440 Visits)		
White	1.00	
Black	0.92	(0.74–1.14)
Hispanic	0.57*	(0.47–0.68)
Other race	0.87	(0.73–1.04)
Any insurance	1.28	(0.99–1.65)
Any private insurance	1.04	(0.95–1.14)
Male	1.00	
Female	0.93*	(0.88–0.98)
Other dx (26,771 Visits)		
White	1.00	
Black	0.61*	(0.50–0.74)
Hispanic	0.67*	(0.49–0.91)
Other race	0.52*	(0.35–0.76)
Any insurance	1.37*	(1.03–1.84)
Any private insurance	1.07	(0.90–1.28)
Male	1.00	
Female	1.22*	(1.10–1.36)
BPD (65,056 Visits)		
White	1.00	
Black	0.71*	(0.59–0.84)
Hispanic	0.93	(0.76–1.13)
Other race	0.89	(0.67–1.18)
Any insurance	1.74*	(1.31–2.31)
Any private insurance	1.25*	(1.08–1.45)
Male		
Female	1.15*	(1.08–1.22)
BPD, mania (18,919 Visits)		
White	1.00	
Black	1.09	(0.91–1.31)
Hispanic	1.02	(0.78–1.34)
Other race	1.17	(0.87–1.56)
Any insurance	1.90*	(1.38–2.63)
Any private insurance	0.97	(0.83–1.14)
Male	1.00	
Female	1.09*	(1.00–1.19)
BPD, depression (11,233 Visits)		
White	1.00	
Black	0.75*	(0.57–0.99)
Hispanic	0.89	(0.65–1.22)
Other race	0.82	(0.54–1.24)
Any insurance	1.84*	(1.27–2.68)
Any private insurance	1.26*	(1.01–1.58)
Male	1.00	
Female	1.05	(0.94–1.17)
BPD, unspecified state (34,893 Visits)		
White	1.00	
Black	0.60*	(0.47–0.76)
Hispanic	0.85	(0.67–1.08)
Other race	0.76	(0.57–1.02)
Any insurance	1.59*	(1.16–2.18)
Any private insurance	1.31*	(1.10–1.56)
Male	1.00	
Female	1.19*	(1.10–1.30)

[a]Eight logistic regressions with outcome variable indicator of admission/transfer. The 3 models BPD, mania; BPD, depression; and BPD, unspecified are subset analyses of BPD. Reference category is male, White race/ethnicity, no insurance, schizophrenia-spectrum diagnosis. "Any private insurance" reflects both primary and secondary expected payers and is a nested category within "any insurance." All models include covariates shown as well as 10-year age group and indicator variables for Elixhauser comorbidities excluding depression and psychosis. Some values in this table differ from those in Table 1 due to low prevalence diagnoses within sampling strata.

*Wald statistic is significant at the .01 level.

Abbreviations. ANX = anxiety disorders, BPD = bipolar disorder, dx = diagnoses, MDD = major depressive disorder, OR = odds ratio, SCZ = schizophrenia-spectrum diagnoses.

over measurable biases toward inpatient admission for Black patients conditional on ED presentation. These findings highlight the relative importance of racial/ethnic differences in pathways to clinical presentation[43–45] and outpatient care access as well as broader socioeconomic, legal, historical, and structural factors[18] in generating existing disparities in psychiatric care and suggest these as avenues for future study.

This study has several limitations. First, we lacked information on history-taking practices, relevant symptoms, social supports, structured instruments for interview assessment, or other relevant clinical data available in prior studies that have explicitly focused on the nature of psychiatric diagnosis. Second, we are limited by the granularity of race/ethnicity data available in this record. We cannot report on collection practices

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for race/ethnicity variables. Further, race and ethnicity are imprecise social constructs.[46] Within broad ethnic categories, such as Hispanic, rates of psychological distress, experience, geography, and other factors vary considerably based on country of origin, foreign- versus US-born, and many other variables we are unable to examine here.[47,48] We are limited further by power in the examination of patients of non-White, non-Black, non-Hispanic race/ethnicity. Third, we cannot distinguish medical admissions from psychiatric inpatient admissions, nor can we determine whether admissions were voluntary or involuntary. Consequently, we consider our findings to be exploratory of differences between admitting practices by race/ethnicity stratified by diagnosis. Finally, our analyses were performed at the visit level, which overweights higher-acuity patients who may have presented repeatedly within a year relative to a person-level analysis.

CONCLUSIONS

The ED can play an important role in directing patients with mental health symptoms. Prior research has suggested that ED triage practices contribute to greater representation of Black than White patients in inpatient units.[14] In this nationally representative sample of ED visits for mental health conditions, we found no differences in the overall admission rates for Black versus White patients and lower rates for Hispanic versus White patients. After adjusting for covariates, we found no differences in overall admission rates across race/ethnicity, though findings from diagnostic subsets suggest systemic differences in the ways that patients of different race/ethnicity interact with mental health care systems. These findings from a nationally representative survey may help us to understand how to provide more equitable access to mental health services.

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Supplementary Material

Article Title: Associations of Patient Race and Ethnicity With Emergency Department Disposition for Mental Health Visits in the United States

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LIST OF SUPPLEMENTARY MATERIAL FOR THE ARTICLE

1. **Table 1** Included Diagnostic Codes by Diagnosis

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Supplement.

Supplementary Table 1. Included Diagnostic Codes by Diagnosis.

	ICD-10 Diagnostic Codes Included
Mental health visit	F2x.x; F3x.x; F4x.x; F6x.x; F9x.x
Schizophrenia-spectrum diagnoses	F2x.x
Schizoaffective disorder	F25.x
Paranoid schizophrenia	F20.0x
Bipolar disorder	F30.x; F31.x
Bipolar disorder, current episode manic or mixed	F30.x; F31.0x; F31.1x; F31.2x; F31.6x
Bipolar disorder, current episode depressed	F31.3x; F31.4x; F31.5x
Bipolar disorder, current episode unspecified	F30.x; F31.x excluding F30.x; F31.0x; F31.1x; F31.2x; F31.6x; F31.3x; F31.4x; F31.5x
Major depressive disorder	F32.x; F33.x; F34.1x
Major depressive disorder, severe	F32.2x; F33.2x; F32.3x; F33.3x
Major depressive disorder, with psychotic features	F32.3x; F33.3x
Anxiety disorder	F4x.x
Other mental health disorder	F2x.x; F3x.x; F4x.x; F6x.x; F9x.x excluding F2x.x; F30.x; F31.x; F32.x; F33.x; F34.1x; F4x.x

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