# Racial and Ethnic Disparities in the Diagnosis and Early Treatment of First-Episode Psychosis

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*Background*: Despite recognition that early intervention for first-episode psychosis (FEP) improves outcomes, Black youth with FEP continue to experience critical disparities in care. A historical lack of scientific focus on racial and ethnic factors in the study of psychosis and scant investigations among publicly insured (ie, Medicaid-enrolled) youth hinder our ability to understand and address factors that contribute to disparities in early FEP care. Strategies for improving FEP services for Black youth are reliant on more precise identification of *who* faces disparities and *when* during the early course of illness disparities are experienced. *Study Design*: A retrospective longitudinal analysis of Ohio Medicaid claims data was performed for 987 982 youth aged 15–24 years between 2010 and 2020 to examine: (1) the likelihood of FEP diagnosis, (2) the type of psychotic disorder diagnosis received, and (3) receipt of treatment following psychosis onset. *Study Results*: Non-Hispanic Black (NHB) youth, relative to non-Hispanic White (NHW) peers, were more likely to be diagnosed with a psychotic disorder and were further more likely to receive a diagnosis of schizophrenia relative to an affective psychotic disorder. In the first year following FEP diagnosis, NHB youth were also less likely to receive psychotherapy than NHW youth; this disparity was no longer present when examined at 2 years following FEP. *Conclusions*: In this study, Black youth experienced disparities in both the diagnosis and early treatment of FEP. Additional efforts are needed to understand and address these observed disparities and to promote equitable access to FEP care during the critical early illness phases.

## Introduction

Psychotic disorders are serious illnesses that typically manifest in the late adolescent or early adult years, leading to significant disability, burden, and cost.[1,2] Guided by accumulating evidence that early intervention for individuals with first-episode psychosis (FEP) leads to important clinical and functional benefits,[3] there has been notable expansion in the number of programs providing specialized FEP services (ie, Coordinated Specialty Care; CSC) in the United States.[4] Despite these efforts, opportunities to improve access[5] to and engagement[6] with services early in the course of psychosis remain—particularly with regard to individuals from historically minoritized (ie, ethnoracial minorities) who face specific diagnostic disparities and barriers to care.[7,8]

Ethnoracial disparities in behavioral healthcare in the United States are longstanding and well-documented.[9] Black Americans 3–4 times more likely to be diagnosed with schizophrenia relative to their White counterparts,[10] with even higher rates when diagnoses are made during psychiatric hospitalization.[11] Notably, these robust diagnostic disparities are not attenuated even when structured assessment interviews are used.[12] Following the initial diagnosis of a psychotic disorder, Black Americans are also less likely to engage with behavioral healthcare services and receive less intensive care relative to their non-Hispanic

White (NHW) counterparts.[6,13,14] Data drawn from studies of CSC programs have similarly demonstrated that, relative to White peers, Black individuals with FEP enter treatment with more severe psychiatric symptoms and later in the course of illness,[15] which contributes to deleterious downstream effects on treatment engagement and clinical outcomes.[16] Collectively, equitable care for Black youth in the early stages of psychosis has been an "unfulfilled promise" in the United States.[17]

Critically, there is a paucity of research that *directly* assesses the impact of ethnoracial factors in the psychosis literature—both historically and currently. Nearly 25 years ago, Lewine and Caudle[18] noted that the empirical study of schizophrenia was primarily "the study of White men," with racial identity either ignored or otherwise addressed as a "nuisance variable" to be covaried in statistical models. Despite significant progress with regard to recognizing and addressing the need for diversity in psychological science and clinical research,[19] in 2022, Nagendra and colleagues[20] still noted that of all US-based peer-reviewed research articles on psychosis published between 2014 and 2016, fewer than 10% directly analyzed ethnoracial identity as it pertained to the study aims. Similarly, there are few studies examining the impact of racial and ethnic factors on the course of early illness among youth and young adults who experience FEP in the United States; these studies are further restricted in focusing on FEP individuals with private insurance[13,21] or on individuals participating in CSC trials.[15,22,23] Thus, less is known about disparities in the diagnosis or treatment of FEP among publicly insured (ie, Medicaid) youth receiving routine behavioral healthcare services. As Medicaid is the largest public support of youth mental health services[24]—covering more than one-third of pediatric mental disorders expenditures[25]—and evidence suggests that the prevalence of mental illness and other risk factors for negative outcomes (eg, low socioeconomic status and chronic family stress) may be higher in Medicaid populations,[26] examination of disparities in the early course of psychotic illness among a cohort of Medicaid-enrolled youth is a meaningful and important gap in the existing literature.

In summary, longitudinal investigations of publicly insured youth with FEP are needed to comprehensively investigate how race may impact treatment during the early phase of illness. Thus, the goal of the present study was to investigate ethnoracial disparities at several timepoints of FEP onset and treatment (ie, (1) likelihood of receiving an initial diagnosis, (2) the type of diagnosis one receives, and (3) treatment following the initial diagnosis of psychosis) *within the same cohort of Medicaid-enrolled youth*. This approach allows a more specific investigation of the early course of FEP by investigating *which* individuals experience racial disparities in care, and *when* during the early illness course they experience them. Importantly, an approach that allows for a more precise understanding of how racial disparities at varying stages of FEP has potential to elucidate inequities that can inform tailored interventions promoting treatment initiation and engagement for specific individuals and at specific timepoints during illness course.

## Methods

### Study Design and Sample

We utilized a retrospective longitudinal cohort design to investigate disparities related to diagnosis and treatment of FEP in a cohort of all youth aged 15–24 years. All participants were enrolled in Ohio Medicaid for at least 365 continuous days between January 1, 2010 and December 31, 2020 ($n = 987\,982$). This age range is consistent with the years when psychosis is most likely to emerge (ie, late adolescence into emerging adulthood).[27] Youth with unknown gender ($n = 39$) and unknown county of residence ($n = 1175$) were excluded from the analysis. This study was approved by The Ohio State University Institutional Review Board. Study flow appears in figure 1.

### Measures

#### First-Episode Psychosis

As in previous research,[6,28] FEP was defined as having: (1) at least one inpatient claim with a psychosis diagnosis code (Supplementary table 1) or an outpatient claim with a psychosis diagnosis code followed by an inpatient or outpatient claim with a psychosis diagnosis code within 12 weeks and (2) no claim with a psychosis diagnosis code in the 180 days prior to the index claim. For those youth with FEP, we determined whether the psychosis occurred due to a schizophrenia spectrum disorder or an affective disorder. Diagnosis codes were obtained from Ohio Medicaid claims data.

#### Race and Ethnicity

We determined race and ethnicity from Ohio Medicaid enrollment data. Based on the structure of our data, we were unable to separate Hispanic ethnicity and race. We therefore defined race and ethnicity as: Hispanic (of any race), non-Hispanic Black (NHB), NHW, and non-Hispanic Other (NHO). The NHO category included non-Hispanic individuals of the following racial backgrounds: Asian American, Native American/Alaska Native, Native Hawaiian/other Pacific Islander, more than one race, and unknown race. These groups were combined into the NHO group due to small sample size of these constituent groups.

#### Healthcare Utilization Following FEP

We used Ohio Medicaid claims data to examine the following measures of healthcare utilization in the 365
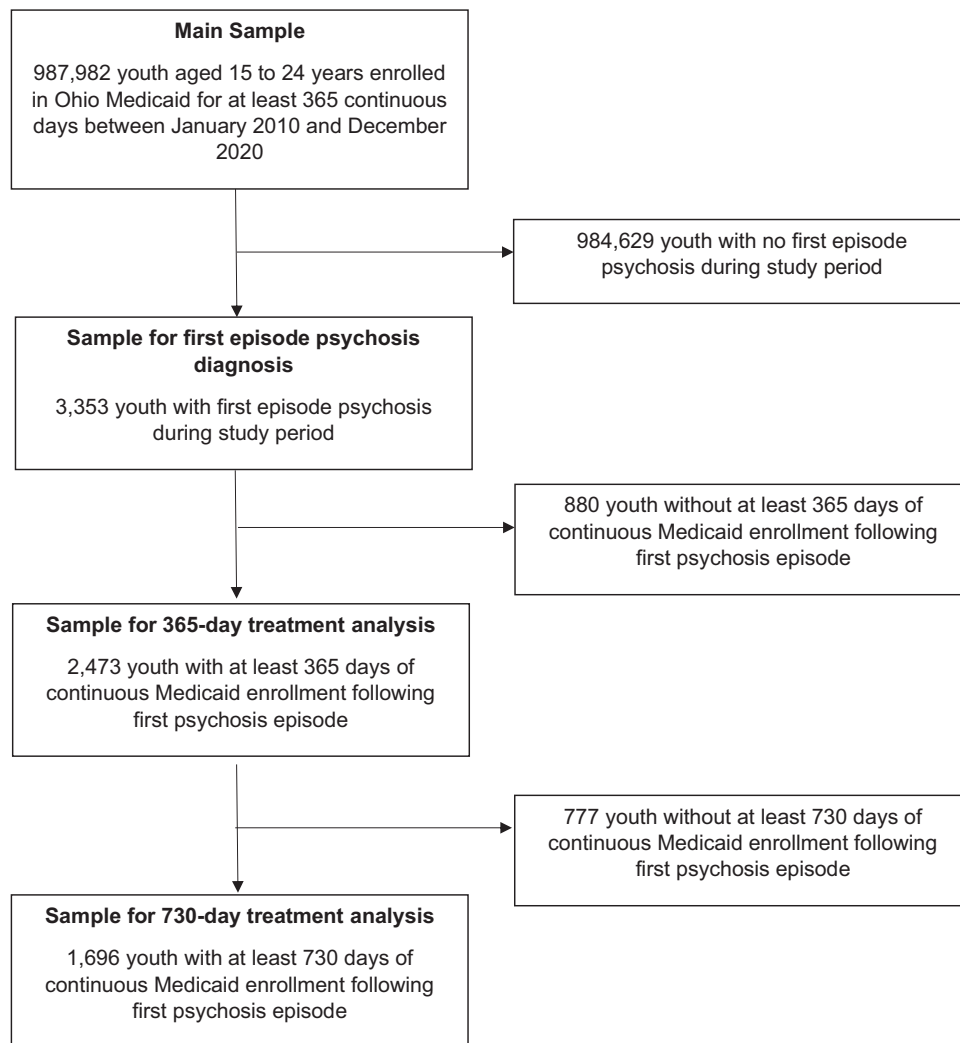
**Fig. 1.** Study sample flow diagram.

and 730 days following FEP: any psychotherapy visits, any medication management visits, any mental health-related emergency room (ER) visits, and any psychiatric hospitalization. Procedure codes were used to define psychotherapy and medication management visits (Supplementary table 2). A mental health-related ER visit was defined as a claim with a place of service code equal to 23 with a primary mental health diagnosis code. A psychiatric hospitalization was defined as a claim for an inpatient visit with a primary mental health diagnosis code. Consistent with previous research,[29] we excluded any healthcare utilization occurring on the index date of the FEP from healthcare utilization measured during the 365-day and 730-day follow-up periods.

*Covariates*

For all individuals included in the study, we determined the following demographic information using Medicaid enrollment data: sex, age at index Medicaid enrollment date, Medicaid eligibility reason on index enrollment date, and metropolitan status of county of residence. For those with FEP, we also determined age at FEP and Medicaid eligibility reason at FEP. Our selection of covariates is consistent with our previous Medicaid studies[6,28] and further guided by research demonstrating the influence of these factors on Medicaid service use and outcomes.[30,31]

*Statistical Analysis*

The distribution of demographic variables was characterized using descriptive statistics. Logistic regression was used to examine differences by demographic variable categories in the odds of any FEP, the odds of FEP with a schizophrenia spectrum versus affective psychotic disorder, and the odds of utilizing specific healthcare services in the 365 days or 730 days following the index date of the FEP. We presented odds ratios (ORs) and 95% confidence intervals (CI) from both univariable and multivariable models. As

**Table 1.** Characteristics of Study Sample of Medicaid-Enrolled Youth ($n$ = 987 982)

| Characteristic | $N$ (%) |
| --- | --- |
| Age at study inclusion | |
|   15–19 years | 770 552 (78.0) |
|   20–24 years | 217 430 (22.0) |
| Sex | |
|   Female | 556 946 (56.4) |
|   Male | 431 036 (43.6) |
| Race/ethnicity | |
|   Hispanic | 32 145 (3.3) |
|   Non-Hispanic Black | 260 868 (26.4) |
|   Non-Hispanic White | 564 253 (57.1) |
|   Other[a] | 130 716 (13.2) |
| Medicaid eligibility reason at study inclusion | |
|   Poverty | 901 336 (91.2) |
|   Disability | 61 234 (6.2) |
|   Foster care | 24 289 (2.5) |
|   Other[b] | 1123 (0.1) |
| County of residence | |
|   Metropolitan | 780 322 (79.0) |
|   Nonmetropolitan | 207 660 (21.0) |

[a]Other race/ethnicity included Asian Americans, Native Hawaiians, or other Pacific Islanders ($n$ = 10 925; 1.1%), Native Americans/Alaska Natives ($n$ = 1688; 0.2%), more than one race ($n$ = 13 538; 1.4%), and other/unknown ($n$ = 104 565; 10.6%).
[b]Other eligibility included incarceration and unknown Medicaid eligibility categories.

disparities in outcomes by race and ethnicity were of particular interest for this analysis, we discuss only race and ethnicity-related results in this manuscript. As the majority of the literature on ethnoracial disparities in psychosis has examined differences between White and Black individuals,[12,14,16,17] we utilized NHW as the reference group in this manuscript. As it is nonetheless important to understand differences between other ethnoracial groups, comparisons between all race and ethnicity groups and results related to other demographic variables are reported in the Supplementary materials. All analyses were performed in SAS Version 9.4 and R version 4.1.0.

## Results

### Sample Description

Table 1 summarizes demographic characteristics for our main study sample. The majority of youth were aged 15–19 years at the index date of Medicaid enrollment for the study (78.0%), NHW (57.1%), Medicaid-eligible due to poverty (91.2%), and resided in a metropolitan county (79.0%). The distribution of race and ethnicity among youth who were continuously enrolled in Medicaid for at least 365 days was similar to that of youth who did not have at least 365 days of continuous enrollment. Demographic characteristics for subsamples of youth used in certain analyses are included in Supplementary table 3.

### Diagnosis of FEP

Table 2 presents ORs and associated 95% CI for logistic regression models estimating odds of FEP during the first 365 days of eligible Medicaid enrollment during the study period. An OR greater than 1 denotes a positive association, while an OR less than 1 denotes a negative association. Overall, 3353 youth (0.3%) experienced FEP between 2010 and 2020. Compared to youth who were NHW ($n$ = 1778), the odds of FEP were higher among youth who were NHB ($n$ = 983; adjusted OR [aOR] = 1.11 [95% CI: 1.02–1.20]) or NHO ($n$ = 499; aOR = 1.19 [95% CI: 1.08–1.32]).

Table 3 presents ORs and associated 95% CI for logistic regression models estimating, among those experiencing FEP, odds of a schizophrenia spectrum disorder diagnosis compared to an affective disorder diagnosis with psychosis. The reference category for race and ethnicity is NHW. Among those with FEP, 57.6% were diagnosed with a schizophrenia spectrum disorder and 42.4% were diagnosed with an affective disorder. Compared to youth who were NHW ($n$ = 927), the odds of having a schizophrenia spectrum disorder diagnosis were higher among youth who were NHB ($n$ = 648; aOR = 1.81 [95% CI: 1.52–2.16]) or NHO ($n$ = 303; aOR = 1.50 [95% CI: 1.21–1.86]).

### Healthcare Utilization Following FEP

Table 4 presents aORs and associated 95% CI for logistic regression models estimating odds of receiving specific mental healthcare services in the 365 days following the index FEP date. Unadjusted ORs are presented in the Supplementary materials. Among youth who experienced FEP and had at least 365 days of continuous Medicaid enrollment following the FEP, 70.6% had at least one psychotherapy visit, 54.1% had at least one medication management visit, 30.3% had at least one mental health-related ER visit, and 36.2% had at least one psychiatric hospitalization. Compared to youth who were NHW ($n$ = 952), odds of any psychotherapy were lower among NHB youth ($n$ = 484; aOR = 0.78 [95% CI: 0.63–0.96]). Odds of any medication management visits were lower among Hispanic youth ($n$ = 48; aOR = 0.54 [95% CI: 0.32–0.89]) and NHO youth ($n$ = 263; aOR = 0.77 [95% CI: 0.61–0.97]). Relative to NHW youth ($n$ = 418), odds of any mental health-related ER visits were lower among Hispanic youth ($n$ = 14; aOR = 0.55 [95% CI: 0.29–0.99]), NHB youth ($n$ = 213; aOR = 0.76 [95% CI: 0.61–0.93]), and NHO youth ($n$ = 105; aOR = 0.77 [95% CI: 0.59–0.99]). There were no differences by race/ethnicity in odds of any psychiatric hospitalization.

Supplementary table 14 presents aORs and associated 95% CI for logistic regression models estimating odds of receiving specific mental healthcare services in the 730 days following the index FEP date unadjusted ORs are presented separately in the Supplemental materials.

**Table 2.** Associations Between Demographic Variables and FEP During First 365 Days of Eligible Medicaid Enrollment (*n* = 987 982)

| | No. with FEP Diagnosis (%) | Unadjusted OR (95% CI) | Adjusted OR (95% CI) |
|---|---|---|---|
| Total | 3353 (0.3) | | |
| Age at study inclusion | | | |
| 15–19 years | 2117 (0.3) | 1.00 (ref) | 1.00 (ref) |
| 20–24 years | 1236 (0.6) | 1.64 (1.52–1.76) | 1.66 (1.54–1.79) |
| Sex | | | |
| Female | 1693 (0.3) | 1.00 (ref) | 1.00 (ref) |
| Male | 1660 (0.4) | 1.27 (1.18–1.36) | 1.20 (1.12–1.29) |
| Race/ethnicity | | | |
| Non-Hispanic White | 1778 (0.3) | 1.00 (ref) | 1.00 (ref) |
| Hispanic | 93 (0.3) | 0.92 (0.74–1.12) | 0.95 (0.76–1.16) |
| Non-Hispanic Black | 983 (0.4) | 1.20 (1.11–1.29) | 1.11 (1.02–1.20) |
| Other[a] | 499 (0.4) | 1.21 (1.10–1.34) | 1.19 (1.08–1.32) |
| Medicaid eligibility reason at study inclusion | | | |
| Poverty | 2333 (0.3) | 1.00 (ref) | 1.00 (ref) |
| Disability | 733 (1.2) | 3.94 (3.61–4.29) | 3.56 (3.26–3.89) |
| Foster care | 255 (1.0) | 3.03 (2.61–3.49) | 3.28 (2.82–3.79) |
| Other[b] | 32 (2.8) | 5.58 (3.31–8.72) | 4.12 (2.44–6.46) |
| County of residence | | | |
| Metropolitan | 2781 (0.4) | 1.00 (ref) | 1.00 (ref) |
| Nonmetropolitan | 572 (0.3) | 0.77 (0.71–0.84) | 0.83 (0.75–0.91) |

[a]Other race/ethnicity included Asian Americans, Native Hawaiians, or other Pacific Islanders (*n* = 10 925; 1.1%), Native Americans/ Alaska Natives (*n* = 1688; 0.2%), more than one race (*n* = 13 538; 1.4%), and other/unknown (*n* = 104 565; 10.6%).
[b]Other eligibility included incarceration and unknown Medicaid eligibility categories.

**Table 3.** Associations Between Demographic Variables and Category of FEP During First 365 Days of Eligible Medicaid Enrollment (*n* = 3353)[a]

| | No. with Schizophrenia Spectrum Disorder Diagnosis (%) | Unadjusted OR (95% CI) | Adjusted OR (95% CI) |
|---|---|---|---|
| Total | 1932 (57.6) | | |
| Age at index diagnosis | | | |
| 15–19 years | 1091 (51.5) | 1.00 (ref) | 1.00 (ref) |
| 20–24 years | 841 (68.0) | 2.00 (1.73–2.32) | 1.67 (1.42–1.95) |
| Sex | | | |
| Female | 812 (48.0) | 1.00 (ref) | 1.00 (ref) |
| Male | 1120 (67.5) | 2.25 (1.96–2.59) | 2.10 (1.82–2.43) |
| Race/ethnicity | | | |
| Non-Hispanic White | 927 (52.1) | 1.00 (ref) | 1.00 (ref) |
| Hispanic | 54 (58.1) | 1.27 (0.84–1.95) | 1.18 (0.77–1.84) |
| Non-Hispanic Black | 648 (65.9) | 1.78 (1.51–2.09) | 1.81 (1.52–2.16) |
| Other[b] | 303 (60.7) | 1.42 (1.16–1.74) | 1.50 (1.21–1.86) |
| Medicaid eligibility reason at index diagnosis | | | |
| Poverty | 1263 (54.1) | 1.00 (ref) | 1.00 (ref) |
| Disability | 536 (73.1) | 2.31 (1.92–2.77) | 1.88 (1.55–2.27) |
| Foster care | 107 (42.0) | 0.61 (0.47–0.79) | 0.68 (0.52–0.89) |
| Other[c] | 26 (81.3) | 3.67 (1.61–9.89) | 2.38 (1.02–6.54) |
| County of residence | | | |
| Metropolitan | 1620 (58.3) | 1.00 (ref) | 1.00 (ref) |
| Nonmetropolitan | 312 (54.5) | 0.86 (0.72–1.03) | 1.05 (0.86–1.28) |

[a]Predicting odds of a schizophrenia spectrum disorder diagnosis compared to affective disorder with psychosis diagnosis.
[b]Other race/ethnicity included Asian Americans, Native Hawaiians, or other Pacific Islanders (*n* = 25; 0.7%), Native Americans/Alaska Natives (*n* = 11; 0.3%), more than one race (*n* = 79; 2.4%), and other/unknown (*n* = 384; 11.5%).
[c]Other eligibility in the original sample included incarceration and unknown Medicaid eligibility categories.

Among youth who experienced FEP and had at least 730 days of continuous Medicaid enrollment following the FEP, 89.4% had at least one psychotherapy visit, 77.8% had at least one medication management visit, 41.8% had at least one mental health-related ER visit, and 45.5% had at least one psychiatric hospitalization.

**Table 4.** Associations Between Demographic Variables and Mental Healthcare Utilization During First 365 Days Following FEP (n = 2473)

| A. Any Psychotherapy | | | |
|---|---|---|---|
| Variable | n (%)[a] | Unadjusted OR (95% CI) | Adjusted OR (95% CI) |
| Total | 1747 (70.6) | | |
| Age at index diagnosis | | | |
| 15–19 years | 1315 (75.2) | 1.00 (ref) | 1.00 (ref) |
| 20–24 years | 432 (57.8) | 0.43 (0.36–0.51) | 0.52 (0.43–0.63) |
| Sex | | | |
| Female | 943 (73.3) | 1.00 (ref) | 1.00 (ref) |
| Male | 804 (24.7) | 0.77 (0.65–0.91) | 0.93 (0.77–1.11) |
| Race/ethnicity | | | |
| Non-Hispanic White | 952 (54.4) | 1.00 (ref) | 1.00 (ref) |
| Hispanic | 48 (2.7) | 1.00 (0.58–1.81) | 1.14 (0.65–2.10) |
| Non-Hispanic Black | 484 (27.7) | 0.67 (0.55–0.81) | 0.78 (0.63–0.96) |
| Other[b] | 263 (15.1) | 0.81 (0.63–1.04) | 0.84 (0.65–1.10) |
| Medicaid eligibility reason | | | |
| Poverty | 1219 (69.7) | 1.00 (ref) | 1.00 (ref) |
| Disability | 337 (19.2) | 0.59 (0.48–0.72) | 0.78 (0.63–0.96) |
| Foster care | 177 (10.1) | 2.04 (1.41–3.05) | 1.67 (1.13–2.52) |
| Other[c] | 14 (0.8) | 0.53 (0.24–1.24) | 0.91 (0.39–2.19) |
| County of residence | | | |
| Metropolitan | 1425 (81.2) | 1.00 | 1.00 (ref) |
| Nonmetropolitan | 322 (18.4) | 1.43 (1.13–1.83) | 1.32 (1.02–1.73) |
| Index psychosis diagnosis category | | | |
| Schizophrenia | 895 (51.2) | 1.00 | 1.00 (ref) |
| Affective disorder | 852 (48.8) | 2.37 (1.97–2.86) | 1.98 (1.63–2.41) |

| B. Any Medication Management | | | |
|---|---|---|---|
| Variable | n (%)[a] | Unadjusted OR (95% CI) | Adjusted OR (95% CI) |
| Total | 1339 (54.1) | | |
| Age at index diagnosis | | | |
| 15–19 years | 925 (69.1) | 1.00 (ref) | 1.00 (ref) |
| 20–24 years | 414 (30.9) | 1.07 (0.90–1.27) | 1.10 (0.91–1.32) |
| Sex | | | |
| Female | 679 (50.7) | 1.00 (ref) | 1.00 (ref) |
| Male | 660 (49.3) | 1.12 (0.96–1.32) | 1.12 (0.95–1.31) |
| Race/ethnicity | | | |
| Non-Hispanic White | 724 (54.1) | 1.00 (ref) | 1.00 (ref) |
| Hispanic | 27 (2.0) | 0.55 (0.33–0.92) | 0.54 (0.32–0.89) |
| Non-Hispanic Black | 396 (30.0) | 0.90 (0.75–1.07) | 0.84 (0.69–1.02) |
| Other[b] | 192 (14.4) | 0.81 (0.64–1.01) | 0.77 (0.61–0.97) |
| Medicaid eligibility reason | | | |
| Poverty | 871 (65.0) | 1.00 (ref) | 1.00 (ref) |
| Disability | 327 (24.4) | 1.33 (1.10–1.62) | 1.31 (1.07–1.60) |
| Foster care | 128 (14.3) | 1.46 (1.09–1.96) | 1.53 (1.14–2.07) |
| Other[c] | 13 (1.0) | 1.10 (0.49–2.52) | 1.05 (0.46–2.42) |
| County of residence | | | |
| Metropolitan | 1121 (83.7) | 1.00 (ref) | 1.00 (ref) |
| Nonmetropolitan | 218 (16.3) | 0.89 (0.72–1.10) | 0.84 (0.67–1.05) |
| Index psychosis diagnosis category | | | |
| Schizophrenia | 757 (56.5) | 1.00 (ref) | 1.00 (ref) |
| Affective disorder | 582 (43.5) | 1.06 (0.90–1.24) | 1.10 (0.93–1.30) |

| C. Any Mental Health-Related ER Visits | | | |
|---|---|---|---|
| Variable | n (%)[a] | Unadjusted OR (95% CI) | Adjusted OR (95% CI) |
| Total | 750 (30.3) | | |
| Age at index diagnosis | | | |
| 15–19 years | 538 (71.2) | 1.00 (ref) | 1.00 (ref) |

**Table** 4. Continued

| C. Any Mental Health-Related ER Visits | | | |
|---|---|---|---|
| Variable | n (%)[a] | Unadjusted OR (95% CI) | Adjusted OR (95% CI) |
| 20–24 years | 212 (28.3) | 0.87 (0.72–1.05) | 0.80 (0.65–0.97) |
| Sex | | | |
| Female | 378 (50.4) | 1.00 (ref) | 1.00 (ref) |
| Male | 372 (49.6) | 1.10 (0.93–1.30) | 0.99 (0.83–1.19) |
| Race/ethnicity | | | |
| Non-Hispanic White | 418 (55.7) | 1.00 (ref) | 1.00 (ref) |
| Hispanic | 14 (1.9) | 0.57 (0.30–1.02) | 0.55 (0.29–0.99) |
| Non-Hispanic Black | 213 (28.4) | 0.84 (0.69–1.02) | 0.76 (0.61–0.93) |
| Other[b] | 105 (14.0) | 0.80 (0.62–1.03) | 0.77 (0.59–0.99) |
| Medicaid eligibility reason | | | |
| Poverty | 492 (65.6) | 1.00 (ref) | 1.00 (ref) |
| Disability | 189 (25.2) | 1.25 (1.01–1.53) | 1.22 (0.98–1.51) |
| Foster care | 64 (8.5) | 1.06 (0.77–1.44) | 1.09 (0.78–1.49) |
| Other[c] | 5 (0.6) | 0.64 (0.21–1.59) | 0.68 (0.22–1.72) |
| County of residence | | | |
| Metropolitan | 628 (83.7) | 1.00 (ref) | 1.00 (ref) |
| Nonmetropolitan | 122 (16.3) | 0.93 (0.73–1.16) | 0.86 (0.67–1.09) |
| Index psychosis diagnosis category | | | |
| Schizophrenia | 482 (34.1) | 1.00 (ref) | 1.00 (ref) |
| Affective disorder | 268 (25.3) | 0.65 (0.55–0.78) | 0.62 (0.52–0.75) |

| D. Any Psychiatric Hospitalization | | | |
|---|---|---|---|
| Variable | n (%)[a] | Unadjusted OR (95% CI) | Adjusted OR (95% CI) |
| Total | 896 (36.2) | | |
| Age at index diagnosis | | | |
| 15–19 years | 653 (72.9) | 1.00 (ref) | 1.00 (ref) |
| 20–24 years | 243 (27.1) | 0.79 (0.66–0.95) | 0.77 (0.63–0.93) |
| Sex | | | |
| Female | 473 (36.8) | 1.00 (ref) | 1.00 (ref) |
| Male | 423 (35.7) | 0.95 (0.81–1.12) | 0.88 (0.75–1.05) |
| Race/ethnicity | | | |
| Non-Hispanic White | 471 (52.6) | 1.00 (ref) | 1.00 (ref) |
| Hispanic | 21 (2.3) | 0.83 (0.48–1.39) | 0.83 (0.48–1.41) |
| Non-Hispanic Black | 275 (30.7) | 1.02 (0.85–1.24) | 0.95 (0.78–1.16) |
| Other[b] | 129 (14.4) | 0.90 (0.71–1.14) | 0.86 (0.67–1.09) |
| Medicaid eligibility reason | | | |
| Poverty | 590 (65.8) | 1.00 (ref) | 1.00 (ref) |
| Disability | 211 (23.5) | 1.13 (0.93–1.38) | 1.14 (0.93–1.41) |
| Foster care | 91 (10.2) | 1.42 (1.06–1.89) | 1.40 (1.04–1.88) |
| Other[c] | 4 (0.4) | 0.37 (0.11–0.98) | 0.41 (0.12–1.11) |
| County of residence | | | |
| Metropolitan | 749 (83.6) | 1.00 (ref) | 1.00 (ref) |
| Nonmetropolitan | 147 (16.4) | 0.93 (0.75–1.16) | 0.93 (0.74–1.17) |
| Index psychosis diagnosis category | | | |
| Schizophrenia | 557 (62.2) | 1.00 (ref) | 1.00 (ref) |
| Affective disorder | 339 (37.8) | 0.72 (0.61–0.85) | 0.67 (0.56–0.80) |

[a]The percentage in the total row reflects the proportion relative to the full sample (n = 2473). Subsequent row percentages are based on the Total as it appears in the top row of each table.
[b]Other race/ethnicity included Asian Americans, Native Hawaiians, or other Pacific Islanders (n = 21; 0.8%), Native Americans/Alaska Natives (n = 8; 0.3%), more than one race (n = 71; 2.9%), and other/unknown (n = 278; 11.2%).
[c]Other eligibility in the original sample included incarceration and unknown Medicaid eligibility categories.

There were no differences in odds of any psychotherapy between NHB and NHW youth. Compared to youth who were NHW (n = 711), odds of any medication management visits were higher among Hispanic youth (n = 40; vs NHW: aOR = 4.48 [95% CI: 1.34–27.87]) and lower among NHB youth (n = 379; vs NHW: aOR = 0.61 [95% CI: 0.46–0.80]). Odds of any mental health-related ER visits were lower among NHB youth (n = 193; aOR = 0.76 [95% CI: 0.60–0.96]) relative to NHW youth (n = 390). Relative to NHW youth (n = 426), odds of

any psychiatric hospitalization lower among NHB youth ($n = 211$; aOR = 0.76 [95% CI: 0.61–0.96]).

## Discussion

In this population-based study of Medicaid-enrolled adolescents and young adults, Black youth, relative to White youth, were more likely to receive any FEP diagnosis. Among individuals who received an FEP diagnosis, Black youth were further more likely to receive a schizophrenia spectrum diagnosis relative to an affective psychotic disorder diagnosis. In the first year following the initial FEP diagnosis, Black youth were less likely than White youth to receive any psychotherapy services. When receipt of any psychotherapy services was reassessed at 2 years following FEP diagnosis, no significant differences between Black and White youth were observed.

Broadly, our results are consistent with previous research demonstrating that Black youth are more likely to be diagnosed with schizophrenia[13] and less likely to engage with care during the early course of treatment following FEP.[6] At the same time, these results tie together previous observations by demonstrating that racial disparities impact youth *at multiple points during the first year after FEP*—including the likelihood of diagnosis, the type of diagnosis received, and receipt of psychotherapy services. Further, differences between Black and White youth in the receipt of psychotherapy were no longer evident at 2 years following FEP. These findings thus suggest that Black youth likely experience a delay in accessing psychosocial care. Though this study is the first to demonstrate this delay in receipt of psychotherapy specifically among Black youth following FEP, these findings comport with existing data that Black Americans with FEP enter treatment later relative to White peers.[15] As the initial months and years following the initial diagnosis of psychosis are a "critical period"[32] for intervention, efforts to understand and address the factors driving this observed disparity are imperative to minimize delays and promote equity in the provision of care for FEP.

Our results further raise important questions about the factors that underlie observed disparities in the diagnosis and early treatment of Black youth with FEP. Previous work has noted that clinicians may inappropriately perceive cultural differences in communication among Black people as symptoms of psychosis,[33] with further evidence that clinician perceptions of poor honesty among Black individuals contributes to disparities in the diagnosis of schizophrenia.[34] Populations experiencing chronic discrimination may also experience dissociative, trauma-related symptoms that are likely to be misperceived as psychosis.[35] At the same time, experiences of discrimination and racism-related stress or trauma may themselves be risk factors for the development of "true" psychosis among Black individuals.[36,37] Though not assessed in the present study, it is possible that our observed racial disparities in the diagnosis of psychosis and schizophrenia among Black youth may be influenced by implicit biases, misunderstandings, or cultural insensitivity among clinicians that fuels pathological interpretations of cultural differences in communication. It is also important to recognize that Black youth with FEP have unique pathways to care characterized by longer delay to treatment initiation and more severe symptoms,[38] which could also contribute to diagnostic impressions.

Medicaid has a vast footprint in the scope of delivery of mental healthcare services to youth and young adults in the United States.[24,25] Medicaid-enrolled individuals are also likely to face additional barriers and risk factors that contribute to negative outcomes (eg, low socioeconomic status and chronic family stress)[26]—and, in our study, over 90% of participants were Medicaid-eligible due to poverty. Critically, Oladunni and colleagues[16] have noted that Black individuals and families in the United States also face structural barriers to treatment for mental health, including financial stress, lack of insurance, absence of affordable services, and stigma. Thus, our pattern of results may reveal an intersectional effect whereby these Medicaid-related risk factors are disproportionately interfering and impactful for Black individuals who already experience social disadvantage and barriers that are further complicated by difficulties that can occur following onset of a major mental illness like psychosis.[16,37] Collectively, the lack of representation for Black Americans and Black youth voices in the FEP and CSC clinical research spaces[38] remains an important barrier to understanding and addressing the factors underlying disparities in the diagnosis and early treatment of psychosis in the United States.

Additional differences in FEP diagnosis and treatment were noted in this study. Youth in the non-Hispanic, other race/ethnicity (NHO) group, relative to White peers, were also both more likely to receive an FEP diagnosis and, among those with FEP, a schizophrenia spectrum diagnosis. Both NHO and Hispanic youth with FEP were less likely to receive medication management services in the year following illness onset relative to White youth. Finally, Hispanic youth were less likely to be diagnosed with FEP relative to non-Hispanic peers. Notably, these results comport with the "Hispanic Health Paradox"[39] whereby Hispanic individuals in the United States tend to have equity or advantage relative to NHW or NHB individuals in health-related outcomes—including a lower prevalence of mental illness.[40] Future research on ethnoracial disparities beyond NHB and White youth with FEP is needed to clarify and refine the findings in the present study.

### Strengths

Our use of a large, population-based sample of adolescents and young adults along the continuum of early psychosis

care (ie, from initial diagnosis and throughout the first 1–2 years of treatment) is a notable strength. Further, to the best of our awareness this is the first examination of racial disparities in early psychosis diagnosis among a large cohort of publicly insured adolescents and young adults in the United States.

*Limitations*

As data for the current study were drawn from a single state Medicaid population, our findings may not generalize to other states or non-Medicaid populations. Next, our limited age range (15–24) means that individuals with illness onset at 25 and older were not included. Though previous research suggests that claims data can be used to accurately identify individuals with psychosis,[41] diagnoses in the present study are based on clinical claims review and were not subject to expert validation, and codes may be used inconsistently across treatment sites and providers. Next, our use of claims data does not permit examination of other clinical factors that may influence diagnosis or early treatment (eg, psychiatric symptoms, recent substance intoxication or withdrawal, cognition, family support). In addition, though data suggest that minimizing the length of continuous Medicaid enrollment is associated with more accurate identification of individuals with FEP,[42] it is possible that individuals in the present study had previous treatment for psychosis prior to the past 180 days that is not captured in our analyses. Finally, as we were unable to examine race and Hispanic ethnicity as separate variables due to the nature of the Medicaid data and multiple different racial/multiracial/ethnic identities were collapsed into a single NHO group, inferences drawn from these findings are limited and should be considered cautiously. Future research on the subgroups that comprise NHO will be necessary to improve our understanding of ethnoracial disparities in FEP.

**Conclusions and Implications for Clinical Practice**

Medicaid-enrolled Black youth face disparities in the diagnosis and early treatment of psychotic disorders. In addition to being significantly more likely to be diagnosed with FEP, Black youth are furthermore likely to be diagnosed with schizophrenia spectrum disorders and less likely to receive psychotherapy in the first year following diagnosis. As this observed disparity in the receipt of psychotherapy is no longer present following two years of illness, Black youth enrolled in Medicaid appear to have a significantly longer delay with regard to accessing this crucial behavioral healthcare service.

In summary, our findings highlight that understanding and addressing disparities at multiple points in early psychosis care is needed—and that isolated interventions limited to one juncture in care (ie, only on diagnostic disparities or only on treatment access or engagement disparities) may be similarly limited in creating more equitable CSC services for Black youth. In keeping with growing recognition that effective efforts to improve access to and engagement with CSC for FEP individuals will be optimized with implementation of developmentally informed approaches,[5,43,44] a parallel expansion of research and service development aimed at understanding and addressing the disadvantage and culture-related needs of youth with psychosis is of paramount importance.[8] Specifically, calls for developmentally informed interventions must extend to consideration of racial identity formation and how this process intersects with the initial onset and early illness phase for youth with psychosis. Despite recognition that racial identity is a crucial component of the developmental processes that unfold during adolescence and early adulthood among youth of color,[7] how these elements may be effectively integrated into CSC remains relatively unexplored.

**Supplementary Material**

Supplementary data are available at *Schizophrenia Bulletin Open* online.

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