

# An Intersectional Approach to Ethnoracial Disparities in Pathways to Care Among Individuals With Psychosis in Coordinated Specialty Care

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**IMPORTANCE** Intersecting factors of social position including ethnoracial background may provide meaningful ways to understand disparities in pathways to care for people with a first episode of psychosis.

**OBJECTIVE** To examine differences in pathways to care by ethnoracial groups and by empirically derived clusters combining multiple factors of social and clinical context in an ethnoracially diverse multisite early-intervention service program for first-episode psychosis.

**DESIGN, SETTING, AND PARTICIPANTS** This cohort study used data collected on individuals with recent-onset psychosis (<2 years) by clinicians with standardized forms from October 2013 to January 2020 from a network of 21 coordinated specialty care (CSC) programs in New York State providing recovery-oriented, evidence-based psychosocial interventions and medications to young people experiencing early psychosis.

**EXPOSURES** Ethnoracial group and other factors of social position (eg, insurance status, living situation, English fluency, geographic region) intersecting with first-contact experiences (ie, type of first service, referral source, and symptoms at referral).

**MAIN OUTCOMES AND MEASURES** Outcome measures were time from onset to first contact, first contact to CSC, and onset to CSC.

**RESULTS** The total study sample consists of 1726 individuals aged 16 to 30 years and included 452 women (26%), 1263 men (73%), and 11 (<1%) with another gender enrolled in the network of CSC programs. The total sample consisted of 153 Asian (9%), 599 Black (35%), 454 Latinx (26%), and 417 White individuals (24%). White individuals had a significantly shorter time from onset to first contact (median [IQR], 17 [0-80] days) than Asian (median [IQR], 34 [7-94] days) and Black (median [IQR], 30 [1-108] days) individuals but had the longest period from first contact to CSC (median [IQR], 102.5 [45-258] days). Five distinct clusters of individuals emerged that cut across ethnoracial groups. The more disadvantaged clusters in terms of both social position and first-contact experiences had the longest time from onset to first contact, which were longer than for any single ethnoracial group.

**CONCLUSIONS AND RELEVANCE** In this cohort study of individuals with recent-onset psychosis, time-to-treatment outcomes differed by ethnoracial group and by empirically derived clusters combining multiple factors of social and clinical context. The examination of disparities in durations to treatment through an intersectional, ethnoracial lens may improve understanding of the inequities resulting from the various intersecting factors that may compound delays in treatment initiation.

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In recent years, early-intervention services providing multicomponent coordinated specialty care (CSC) for first-episode psychosis have been widely implemented across the US. The CSC model intervenes as early as possible to optimize recovery and minimize longer-term disability.<sup>1,2</sup> However, many individuals experience long and complex pathways into CSC with multiple contact points and services, hospitalization, and police involvement.<sup>3-5</sup>

Disparities in pathways to care, typically characterized by source of referral and type of first mental health contact, have been found between majority White individuals and underserved racialized and ethnic (hereafter, *ethnoracial*) groups. Studies from Europe and Canada have demonstrated that Black Caribbean and Black African individuals with psychosis experience more negative pathways to care, including high rates of compulsory admissions and police involvement compared with majority White groups.<sup>6-8</sup> Despite their different socio-historical background, several US studies suggest that Black individuals in the US have similar negative care pathways.<sup>9-13</sup> Yet, previous research examining duration of untreated psychosis across ethnoracial groups is inconsistent.<sup>14,15</sup> One reason may be varying definitions with lack of distinction between time from onset to first service contact and from first service contact to CSC. Furthermore, few studies included individuals from Asian and Latinx backgrounds.<sup>16</sup>

Previous research on ethnoracial correlates of care pathways has largely focused on differences between disadvantaged ethnoracial groups and non-Latinx White individuals. The use of White individuals as a reference group reflects the assumption that they constitute a standard from which other groups diverge. Instead, Whitfield and colleagues<sup>17</sup> explain ethnoracial differences not in the context of a standard group vs others, but within a cultural variant model, ie, with race and ethnicity as components in a broad constellation of interacting social factors that impact experiences and outcomes. This coincides with the concept of social location described in critical race theory, referring to the various intersections of a person's position within a social hierarchy.<sup>18</sup> By examining multiple sociodemographic characteristics (including ethnoracial background) that simultaneously interact with a person's first-contact experience, we can potentially identify more meaningful clusters of individuals shaped by multiple dimensions of disadvantage and/or privilege.<sup>19,20</sup>

In a large ethnoracially diverse sample of individuals with first-episode psychosis, this study aims to (1) examine differences in time-to-treatment variables (ie, onset to first contact, first contact to CSC, and onset to CSC) by ethnoracial group; (2) empirically cluster individuals based on multiple indicators of social position, including ethnoracial background, intersecting with their first-contact experience (referral source, first contact type, and symptoms at referral); and (3) compare the identified intersectional clusters on time-to-treatment outcomes.

## Methods

### Sample and Setting

This study used data from OnTrackNY, a network of CSC programs in New York State providing recovery-oriented,

### Key Points

**Question** Do time-to-treatment outcomes for people with first-episode psychosis differ by ethnoracial group and by empirically derived clusters combining multiple factors of social and clinical context?

**Findings** In this cohort study of individuals enrolled in coordinated specialty care (CSC), White individuals had a shorter time from onset to first service contact and a longer time from first contact to CSC compared with Asian and Black individuals. Clusters cut across ethnoracial groups and those characterized by more disadvantage had the longest time from onset to first contact.

**Meaning** Various factors intersecting with ethnoracial background exacerbate delays in entry to CSC.

evidence-based psychosocial interventions and medications to young people experiencing early psychosis. The OnTrackNY program and data are described in detail elsewhere.<sup>1,5</sup> In short, OnTrackNY provides CSC to individuals aged 16 to 30 years who have experienced nonaffective psychosis for 2 years or less, regardless of their ability to pay. Individuals with a diagnosed intellectual disability, autism spectrum disorder, serious or chronic medical illness, a primary diagnosis of substance-induced psychosis, mood disorder with psychotic features, or psychosis secondary to a general medical condition are not eligible for admission. Individuals were enrolled in the OnTrackNY program across 21 different sites from October 2013 to January 2020. We used Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) reporting guideline for cohort studies.

### Procedure and Study Design

Using standardized forms, baseline assessments on the person's sociodemographic characteristics, living situation, family involvement, and clinical information were collected within 14 days of admission based on reports by clients and families, as well as collateral information provided from referral sources and medical record review (for details on training and data collection, see the eMethods in the Supplement). Team clinicians assessed the time of onset of qualifying psychotic symptoms, which is critical for establishing eligibility for OnTrackNY and provides characteristics of the first-contact experience and time-to-treatment variables. Individual- and program-level data are submitted to the NYS Office of Mental Health to assess treatment fidelity and inform quality improvement. All identifiable information was removed from the research data set. Exemption of consent for the use of deidentified OnTrackNY data for research purposes was granted by the New York State Psychiatric Institute's institutional review board.

### Measures

#### Sociodemographic Characteristics

Ethnoracial background was determined by verbal self-report at some sites, written self-report at others, derived from

prior records, or based on clinician observation. Clients could decline to provide this information, in which case it was recorded as unknown. Ethnoracial categories were operationalized as Latinx and the following non-Latinx categories: Asian, Black, White, multiracial, and other/unknown. Other sociodemographic characteristics included age, gender, English-language fluency, sexual orientation, living situation at admission to OnTrackNY, health insurance status, homelessness in 90 days prior to admission, and urbanicity of program site.

#### First-Contact Variables

Characteristics of the first contact with services related to the onset of qualifying psychotic symptoms were obtained by the OnTrackNY team clinician at the time of enrollment. Most individuals had their first contact prior to enrollment into OnTrackNY and hence the information about that first contact, ie, referral source, type of service, and symptoms at referral, was based on retrospective report obtained by the OnTrackNY team clinician.

#### Time-to-Treatment Variables

The time from onset of psychotic symptoms to first service contact in days (onset to first contact) and the time from first service contact to OnTrackNY admission in days (first contact to CSC) were derived from the clinician interview at time of enrollment. We also quantified the total time between onset of psychotic symptoms and admission to OnTrackNY (onset to CSC; **Figure 1**).

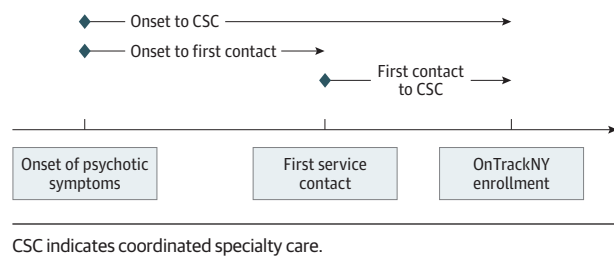
#### Clustering Variables: Selection and Conceptualization

We identified clusters of individuals based on multiple dimensions of their first-contact experience (ie, referral source, type of first contact, symptoms at referral) in combination with sociodemographic variables impacting an individual's social position (age, gender, ethnoracial group, language proficiency, sexual orientation, living situation, type of insurance, homelessness, and urbanicity of OnTrackNY site). The choice of these variables for determining clusters was based on consensus among the members of the racial equity data workgroup (eMethods in the [Supplement](#)) and practical availability in the OnTrackNY data set. Of note, we included the ethnoracial categories as one of several indicators of social position. Our rationale for including first-contact characteristics including symptoms at referral was that those elements of experience are intimately connected with other intersecting factors; combining these elements may be more explanatory than taking them one by one.

#### Statistical Analyses

Descriptive statistics for all social position and first-contact variables were summarized by ethnoracial groups and differences tested with  $\chi^2$  tests. Missing data were minimal for each variable and was analyzed as a separate category rather than deleting individuals. Latent class analysis (LCA) was used to empirically identify clusters of individuals based on the intersection of sociodemographic characteristics and first-contact variables. We compared models with varying num-

**Figure 1. Definitions of Time-to-Treatment Outcomes Used in this Study**



ber of clusters with standard information criterion and entropy.<sup>21</sup> Entropy values more than 0.700 indicate good cluster separation.<sup>22</sup> Each LCA model was fit using maximum likelihood in the 'poLCA' package in R version 4.0.3 (R Foundation). Unordered categorical indicators were modeled with a multinomial logit link. Posterior probabilities classified individuals for subsequent analysis according to their most likely class membership. Differences between clusters on the social position and first-contact variables were tabulated for interpretation. In post hoc analyses, we examined the association between clusters and regional socioeconomic indicators of program site using census tract-level variables (eMethods in the [Supplement](#)). We tested for differences in outcomes, ie, time-to-treatment variables, by ethnoracial categories and by the LCA clusters using nonparametric Kruskal-Wallis test owing to right skew.

## Results

The total study sample consists of 1726 individuals. Social characteristics and first-contact variables by ethnoracial group are depicted in [Table 1](#) and [Table 2](#), respectively.

#### Duration to Treatment by Ethnoracial Group

White individuals had the shortest onset to first contact period (median [IQR], 17.0 [0-80] days), which was significantly shorter than for Asian and Black individuals (median [IQR], 34 [7-94] and 30 [1-108] days, respectively; [Table 3](#)). However, White individuals also had the longest first contact to CSC pathway (median [IQR], 102.5 [45-258] days), compared with Asian, Black, and Latinx individuals (median [IQR], 57 [29-125], 76 [34-203], and 62 [29-161] days, respectively). Hence, the duration of the total pathway from onset to CSC was not significantly different between Asian, Black, or White individuals. Latinx individuals had a shorter onset to CSC pathway (median [IQR], 145.5 [73-296] days) than White individuals (median [IQR], 175.0 [82-371] days).

#### Clusters of Individuals Based on Intersection of First-Contact Experience and Social Position

LCA suggested 5 clusters of individuals fit the data well (entropy = 0.728 > 0.70) (eTable 1 in the [Supplement](#)). The distributions of all characteristics by the 5 cluster solution are presented in eTables 2 and 3 and eFigures 1 and 2 in the [Supplement](#). [Figure 2](#) visualizes the association between the 5 clus-

Table 1. Descriptive Summaries of Sociodemographic Characteristics by Ethnoracial Group

Demographic	No. (%)							P value <sup>a</sup>
	Total sample (N = 1726)	Asian (n = 153)	Black (n = 604)	Latinx (n = 454)	White (n = 420)	Multiracial (n = 33)	Unknown ethnoracial group (n = 62)	
Age, y								
<18	245 (14.2)	20 (13.1)	83 (13.7)	71 (15.6)	51 (12.1)	8 (24.2)	12 (19.4)	.08
18-20	582 (33.7)	45 (29.4)	213 (35.3)	162 (35.7)	128 (30.5)	13 (39.4)	21 (33.9)	
21-25	705 (40.8)	60 (39.2)	248 (41.1)	176 (38.8)	191 (45.5)	9 (27.3)	21 (33.9)	
26-30	188 (10.9)	27 (17.6)	60 (9.9)	44 (9.7)	46 (11.0)	<5 (9.1)	8 (12.9)	
>30	6 (0.3)	<5 (0.7)	<5 (0.0)	<5 (0.2)	<5 (1.0)	<5 (0.0)	<5 (0.0)	
Gender								
Women	452 (26.2)	51 (33.3)	168 (27.8)	115 (25.3)	89 (21.2)	10 (30.3)	19 (30.6)	.006
Men	1263 (73.2)	102 (66.7)	434 (71.9)	338 (74.4)	323 (76.9)	23 (69.7)	43 (69.4)	
Other <sup>b</sup>	11 (0.6)	<5 (0.0)	<5 (0.3)	<5 (0.2)	8 (1.9)	<5 (0.0)	<5 (0.0)	
English language fluency								
No	31 (1.8)	6 (3.9)	6 (1.0)	14 (3.1)	<5 (0.5)	<5 (0.0)	<5 (4.8)	.002
Yes	1695 (98.2)	147 (96.1)	598 (99.0)	440 (96.9)	418 (99.5)	33 (100)	59 (95.2)	
Sexual orientation								
Heterosexual	1389 (80.5)	128 (83.7)	486 (80.5)	379 (83.5)	324 (77.1)	28 (84.8)	44 (71.0)	.006
Gay or lesbian	46 (2.7)	<5 (1.3)	21 (3.5)	10 (2.2)	11 (2.6)	<5 (6.1)	<5 (0.0)	
Bisexual	53 (3.1)	<5 (0.0)	13 (2.2)	18 (4.0)	20 (4.8)	<5 (0.0)	<5 (3.2)	
Other/unknown <sup>c</sup>	238 (13.8)	23 (15.0)	84 (13.9)	47 (10.4)	65 (15.5)	<5 (9.1)	16 (25.8)	
Living situation at admission								
Parents	1416 (82.0)	124 (81.0)	476 (78.8)	393 (86.6)	349 (83.1)	24 (72.7)	50 (80.6)	.02
Other family (not parents)	147 (8.5)	9 (5.9)	63 (10.4)	33 (7.3)	30 (7.1)	6 (18.2)	6 (9.7)	
Alone	75 (4.3)	<5 (2.0)	33 (5.5)	15 (3.3)	19 (4.5)	<5 (6.1)	<5 (4.8)	
Other <sup>d</sup> /missing	87 (5.0)	17 (11.1)	31 (5.1)	13 (2.9)	22 (5.2)	<5 (3.0)	<5 (4.8)	
Health insurance status								
Uninsured	94 (5.4)	13 (8.5)	40 (6.6)	24 (5.3)	12 (2.9)	<5 (0.0)	5 (8.1)	<.001
Public	853 (49.4)	70 (45.8)	334 (55.3)	281 (61.9)	122 (29.0)	11 (33.3)	35 (56.5)	
Private	682 (39.5)	59 (38.6)	194 (32.1)	125 (27.5)	265 (63.1)	20 (60.6)	19 (30.6)	
Other <sup>e</sup> /unknown	97 (5.6)	11 (7.2)	36 (6.0)	24 (5.3)	21 (5.0)	<5 (6.1)	<5 (4.8)	
Homelessness (90 d prior to admission)								
No	1636 (94.8)	151 (98.7)	559 (92.5)	432 (95.2)	405 (96.4)	30 (90.9)	59 (95.2)	.01
Yes	90 (5.2)	<5 (1.3)	45 (7.5)	22 (4.8)	15 (3.6)	<5 (9.1)	<5 (4.8)	
Urbanicity of program site								
Metropolitan <sup>f</sup>	1057 (61.2)	127 (83.0)	402 (66.6)	353 (77.8)	138 (32.9)	12 (36.4)	25 (40.3)	<.001
Nonmetropolitan <sup>g</sup>	669 (38.8)	26 (17.0)	202 (33.4)	101 (22.2)	282 (67.1)	21 (63.6)	37 (59.7)	

<sup>a</sup> P values correspond with  $\chi^2$  tests of association between ethnoracial category and each sociodemographic characteristic. The degrees of freedom of each  $\chi^2$  equals the product of 5 (for ethnoracial categories) and the number of categories of each respective variable minus 1.

<sup>b</sup> The other category includes transgender male, transgender female, nonbinary, and other write-ins.

<sup>c</sup> The other category includes other write-ins.

<sup>d</sup> The other category includes unrelated roommates and foster care.

<sup>e</sup> The other category includes other health insurance (eg, catastrophic, Veterans Affairs, TRICARE, and student insurance).

<sup>f</sup> Includes the 4 New York City boroughs (Bronx, Brooklyn, Manhattan, Queens), with a population density ranging between 20 000 to 70 000 people per square mile within a county.

<sup>g</sup> Includes Staten Island, Buffalo, and Rochester and all other New York State counties with <10 000 people per square mile.

ters and the ethnoracial groups. Below we provide descriptive summaries of each cluster.

**Cluster 1: Ethnoracial Minoritized Group, Hospitalized, Positive Symptom Cluster**

Cluster 1 was the largest cluster (597 [34.6%]) and contained 69 Asian individuals (12%), 307 Black individuals (51%), 199

Latinx individuals (33%), and 1 White individual (0.2%). They were predominately treated at a metropolitan site (455 [76%]). This cluster had the highest proportion of family member referrals (465 [78%]) and psychiatric hospitalization as their first contact (453 [75.9%]). Individuals in this largest cluster were defined by their predominant symptoms at referral (high probability of hallucinations, delusions, and paranoia but no de-

**Table 2. Descriptive Summaries of First Contact With Services by Ethnoracial Group**

First-contact variable	No. (%)							P value <sup>a</sup>
	Total sample (N = 1726)	Asian (n = 153)	Black (n = 604)	Latinx (n = 454)	White (n = 420)	Multiracial (n = 33)	Unknown ethnoracial group (n = 62)	
<b>Referral source</b>								
Family member	1146 (66.4)	95 (62.1)	382 (63.2)	321 (70.7)	283 (67.4)	25 (75.8)	40 (64.5)	.10
Self	176 (10.2)	21 (13.7)	58 (9.6)	44 (9.7)	49 (11.7)	<5 (6.1)	<5 (3.2)	.20
Emergency services	109 (6.3)	12 (7.8)	43 (7.1)	29 (6.4)	20 (4.8)	<5 (0.0)	5 (8.1)	.36
Mental health care professional	93 (5.4)	6 (3.9)	26 (4.3)	21 (4.6)	26 (6.2)	<5 (12.1)	10 (16.1)	.001
School personnel	83 (4.8)	8 (5.2)	39 (6.5)	18 (4.0)	15 (3.6)	<5 (3.0)	<5 (3.2)	.28
Other	39 (2.3)	5 (3.3)	22 (3.6)	6 (1.3)	<5 (1.0)	<5 (0.0)	<5 (3.2)	.04
Significant other or friend	37 (2.1)	5 (3.3)	10 (1.7)	10 (2.2)	10 (2.4)	<5 (3.0)	<5 (1.6)	.86
Unknown/missing	15 (0.9)	<5 (0.0)	9 (1.5)	<5 (0.2)	5 (1.2)	<5 (0.0)	<5 (0.0)	.18
Medical professional	14 (0.8)	<5 (0.0)	6 (1.0)	<5 (0.7)	5 (1.2)	<5 (0.0)	<5 (0.0)	.68
Criminal justice system	14 (0.8)	<5 (0.7)	9 (1.5)	<5 (0.2)	<5 (0.7)	<5 (0.0)	<5 (0.0)	.278
<b>Type of contact</b>								
Psychiatric hospitalization	939 (54.4)	78 (51.0)	343 (56.8)	253 (55.7)	218 (51.9)	13 (39.4)	34 (54.8)	.27
Emergency department, no hospitalization	333 (19.3)	30 (19.6)	127 (21.0)	95 (20.9)	64 (15.2)	6 (18.2)	11 (17.7)	.26
Outpatient mental health treatment	251 (14.5)	15 (9.8)	55 (9.1)	72 (15.9)	91 (21.7)	11 (33.3)	7 (11.3)	<.001
Other	44 (2.5)	7 (4.6)	20 (3.3)	<5 (0.9)	11 (2.6)	<5 (0.0)	<5 (3.2)	.08
Primary care	39 (2.3)	5 (3.3)	12 (2.0)	14 (3.1)	5 (1.2)	<5 (0.0)	<5 (4.8)	.21
School specialist	36 (2.1)	8 (5.2)	15 (2.5)	<5 (0.9)	8 (1.9)	<5 (3.0)	<5 (0.0)	.03
OnTrackNY	32 (1.9)	<5 (1.3)	10 (1.7)	<5 (0.7)	12 (2.9)	<5 (6.1)	<5 (4.8)	.03
Law enforcement	23 (1.3)	<5 (2.0)	12 (2.0)	<5 (0.7)	5 (1.2)	<5 (0.0)	<5 (0.0)	.38
Team-based treatment	13 (0.8)	<5 (0.7)	<5 (0.5)	5 (1.1)	<5 (0.5)	<5 (0.0)	<5 (3.2)	.22
Unknown/missing	13 (0.8)	<5 (1.3)	6 (1.0)	<5 (0.2)	8 (2.0)	<5 (0.0)	<5 (0.0)	.500
Clergy/healer	<5 (0.2)	<5 (1.3)	<5 (0.2)	<5 (0.0)	<5 (0.0)	<5 (0.0)	<5 (0.0)	NA
<b>Symptoms at referral<sup>b</sup></b>								
Hallucinations	893 (51.7)	87 (56.9)	326 (54.0)	240 (52.9)	192 (45.7)	15 (45.5)	33 (53.2)	.08
Delusional beliefs	1095 (63.4)	100 (65.4)	376 (62.3)	276 (60.8)	287 (68.3)	19 (57.6)	37 (59.7)	.21
Paranoia	1080 (62.6)	104 (68.0)	371 (61.4)	280 (61.7)	270 (64.3)	18 (54.5)	37 (59.7)	.54
Depression	399 (23.1)	42 (27.5)	91 (15.1)	128 (28.2)	118 (28.1)	7 (21.2)	13 (21.0)	<.001
Social withdrawal	605 (35.1)	65 (42.5)	199 (32.9)	154 (33.9)	153 (36.4)	11 (33.3)	23 (37.1)	.34
Suicidal ideation/behavior	235 (13.6)	19 (12.4)	59 (9.8)	75 (16.5)	76 (18.1)	<5 (9.1)	<5 (4.8)	<.001
Violent behavior	150 (8.7)	7 (4.6)	68 (11.3)	37 (8.1)	28 (6.7)	<5 (9.1)	7 (11.3)	.048

Abbreviation: NA, not applicable.

<sup>a</sup> Omnibus  $\chi^2$  tests were significant for each multiple categorical measure ( $P < .05$ ); therefore,  $P$  values are provided for group comparisons for each

separate category of referral source and type of first contact (ie, family member vs nonfamily member, self vs nonself, etc).

<sup>b</sup> Clinicians could select multiple symptoms.

pression, the lowest suicidality and the highest violent behavior of any cluster).

**Cluster 2: Predominantly White, Nonmetropolitan, More Economically Advantaged Cluster**

Cluster 2 (421 [24.4%]) had by far the highest proportion of White individuals (326 [77%]). It was the only cluster much more likely to be treated at a nonmetropolitan (338 [80%]) than metropolitan site. Of all clusters, they had the highest percentage of private insurance coverage (280 [67%]) and the lowest proportion of public insurance (120 [29%]). Although 254 (60%) had a psychiatric hospitalization as first contact, this cluster had the highest proportion of clients who had their first

contact be directly with an OnTrackNY program (18 [4.3%]) without any other service in between. They had a mix of all symptoms at referral with no 1 symptom predominating.

**Cluster 3: Youngest, Emergency Department Without Hospitalization Cluster**

Demographically, cluster 3 (377 [21.8%]) was the youngest cluster (222 individuals [59%] were younger than 21 years), with 110 women (29%), predominantly treated at a metropolitan site (272 [72%]), the most ethnoracially diverse and with the highest percentage of sexual minorities (32 [8.5%]). Compared to other clusters, this cluster was most likely to be referred by school personnel (33 [8.8%]), had the highest levels of initial



Table 3. Time-to-Treatment Outcomes by Ethnoracial Group and by Latent Class Analysis Cluster

Factor	No. <sup>a</sup>	Time from onset to first contact, d <sup>a</sup>		Time from first contact to CSC, d <sup>a</sup>		Time from onset to CSC, d	
		Median (IQR)	Pairwise tests <sup>b</sup>	Median (IQR)	Pairwise tests <sup>b</sup>	Median (IQR)	Pairwise tests <sup>b</sup>
Overall sample	1718	28.0 (0.0-94.0)	NA	75.0 (33.0-201.0)	NA	159.0 (80.0-330.0)	NA
Ethnoracial groups							
Asian	153	34.0 (7.0-94.0)	a	57.0 (29.0-125.0)	a	128.0 (69.0-313.0)	ab
Black	599	30.0 (1.0-108.0)	a	76.0 (34.0-203.0)	a	164.0 (87.0-339.0)	ab
Latinx	454	30.0 (3.0-89.0)	ab	62.0 (29.0-161.0)	a	145.5 (73.0-296.0)	a
White	417	17.0 (0.0-80.0)	b	102.5 (45.0-258.0)	b	175.0 (82.0-371.0)	b
Multiracial	33	32.0 (4.5-92.5)	ab	71.0 (44.5-235.0)	ab	207.0 (110.0-357.0)	ab
Other/unknown/missing	62	28.5 (0.0-150.0)	ab	89.5 (44.0-200.0)	ab	202.0 (95.0-290.0)	ab
P value for group <sup>b</sup>	NA	.007		<.001		.009	
Latent class analysis cluster							
1	596	30.0 (4.0-90.0)	a	60.0 (30.0-159.0)	a	140.0 (75.0-287.5)	a
2	421	17.0 (0.0-79.0)	bc	94.5 (39.0-235.0)	b	182.0 (81.0-365.0)	ab
3	370	25.0 (0.0-83.0)	abc	98.0 (44.0-203.0)	b	168.5 (83.0-320.0)	ab
4	205	44.0 (8.0-132.5)	a	56.0 (27.0-144.5)	a	165.0 (90.0-320.0)	ab
5	126	36.0 (7.0-151.0)	a	75.0 (37.0-226.0)	ab	201.0 (94.0-407.0)	b
P value for group <sup>b</sup>	NA	<.001		<.001		.006	

Abbreviations: CSC, coordinated specialty care; NA, not applicable.

<sup>a</sup> No. indicates estimates of days from onset to CSC. No. for onset to first contact and first contact to CSC pathways are 2.3% smaller owing to missing date of first service contact. No systematic differences found in those missing date of first service contact.

<sup>b</sup> Omnibus test ( $df = 4$ ) of overall any difference in each outcome by group. Post hoc pairwise comparisons use Wilcoxon Dwass, Steel, Critchlow-Fligner multiple comparison correction tests. Categories that share a letter are not statistically different at  $P < .05$ ; categories that do not share a letter are significantly different at  $P < .05$ .

treatment in the emergency department without inpatient hospitalization (185 [49%]), and the highest levels of outpatient or primary care service as first contact type (105 [28%]). No specific type of symptoms at referral stood out.

#### Cluster 4: Predominantly Asian and Latinx, Depression and Psychotic Symptom Cluster

Individuals in cluster 4 (205 [11.9%]) were defined largely by the highest percentage of Asian individuals (37 [18%]), Latinx individuals (100 [49%]), and non-English speakers (9 [4.4%]), as well as by their psychiatric symptoms at referral. This cluster had the highest percentage treated at a metropolitan site (166 [81%]) and the highest level of referral to services by a mental health care professional. Most notably, all had depression symptoms (205 [100%]), and this cluster had the highest percentage of suicidality (87 [42%]), hallucinations (161 [79%]), and paranoia (176 [86%]).

#### Cluster 5: Predominantly Black, Structurally Disadvantaged Cluster

Individuals in cluster 5, the smallest cluster (126 [7.3%]), differed from those in other clusters in several ways. Demographically, they were the oldest group, with the highest proportions of Black individuals (80 [63%]). At enrollment, 62 (49%) were homeless and 52 (40%) lived alone. They had the highest proportion of public insurance and were the least likely to be referred by relatives. Of all the clusters, they had the highest percentage of people who had their first service experience with law enforcement (14 [11%]), the highest likelihood of referral from emergency services (32 [25%]), and the highest proportion of criminal justice system referral (5 [4%]). They

had relatively low rates of depression at referral and relatively high rates of violent behavior.

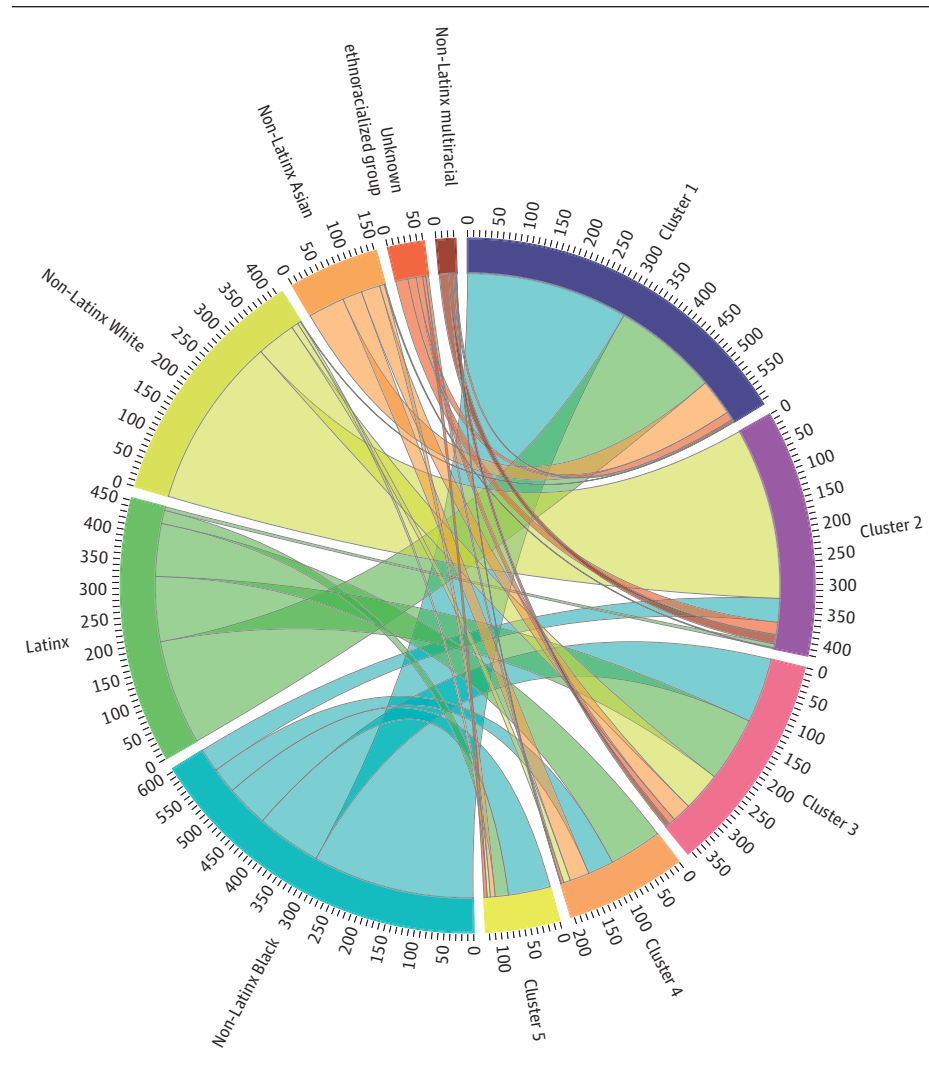
#### Duration to Treatment Outcomes by Clusters of Individuals Based on Intersection of First Contact Experience and Social Position

Clusters 2 and 3, possibly the most advantaged groups, had the shortest onset to first contact pathway (median, 17 and 25 days, respectively), while clusters 4 and 5, which were characterized by more disadvantage, had the longest (median, 36 and 44 days, respectively) (Table 3). Of note, the time from onset to first contact for clusters 4 and 5 were longer than for any single ethnoracial group (17-34 days). Regarding the first contact to CSC pathway, an opposite pattern emerged with longer pathways for more advantaged clusters 2 and 3 vs relatively short pathways for clusters 1 and 4, which consisted predominantly of ethnographically minoritized individuals. The total onset to CSC pathway differed significantly between cluster 1 (median, 140 days) and cluster 5 (median, 201 days). Results of the post hoc analyses indicated an inconsistent association between individual parameters of disadvantage (eg, ethnoracial background, insurance status) and regional socioeconomic status indicators of program site (eResults and eTable 4 in the Supplement).

## Discussion

We examined pathways to care among young people enrolled in OnTrackNY, the largest and most diverse CSC program in the

**Figure 2. Distribution of Ethnoracial Groups by Latent Class Analysis Clusters Based on Intersection of First-Contact Experience and Social Position**



US, using 2 different analytical approaches: one based solely on a priori ethnoracial groups and the other on empirically derived clusters based on multiple factors of social position and clinical first-contact features. Comparing the findings on the association between time to treatment by ethnoracial group and by clusters revealed that the White group mainly diverged from other groups. The cluster analyses yielded more information on various parameters that appear to be intertwined with ethnoracial background in impacting time-to-treatment outcomes, including urbanicity of program site, clinical presentation, and social connectedness. Moreover, the differences between clusters in the onset to first contact pathway were more substantial than those between ethnoracial groups, emphasizing that ethnoracial background is 1 element in a larger set of interconnected social and clinical indicators dynamically impacting the period between illness onset and enrollment into CSC.

In this study, Asian, Black, Latinx, and multiracial individuals in the US had a relatively long onset to first contact and

a relatively short first contact to CSC pathway compared with White individuals. A similar pattern (ie, longer onset to first contact and shorter first contact to CSC) emerged for the cluster with the largest proportion of Asians and Latinx individuals compared with the most advantaged, predominantly White, privately insured cluster. A possible explanation is that marginalized groups have shorter and perhaps more challenging first contact to CSC pathways that include police contact and emergency services, whereas White patients may be more likely to receive outpatient mental health care and ultimately get referred to CSC. However, it is also possible that the relatively short care pathway to OnTrackNY of disadvantaged individuals is due to lack of involvement of other mental health services or to the accessibility of and engagement strategies practiced by CSC services, which are designed to limit barriers to services.

The comparison of these findings with previous research is challenged by differences in sociodemographic context and health care systems as well as by heterogeneity in the defini-

tion of time-to-treatment variables. Various studies from the UK, Canada, and the US found shorter durations of untreated psychosis among mainly Black racialized minority groups,<sup>23,24</sup> while other studies reported no differences.<sup>7,14,25,26</sup> The opposite pattern of time-to-treatment variables among ethnoracial groups in our study suggests that a single time-to-treatment measure such as duration of untreated psychosis may conceal ethnoracial differences in treatment delays at different stages of the care pathway. To add further complexity, mechanisms underlying time to treatment may differ across contexts and ethnoracial groups. A short period from onset to first contact may both indicate a negative pathway to care (lower tolerance of deviant behavior) and a positive pathway (quick access to specialized mental health care).

### Limitations

Our study has several limitations. The primary purpose of OnTrackNY data collection is to provide high-quality clinical care, not to conduct research; hence, we do not have reliability or validity assessments. Relatedly, retrospective reports depend on clients' and family's recollection regarding dates and types of mental health service contacts prior to OnTrackNY. Data were collected over a time frame of 7 years, and many clinicians were involved in data collection. Clinician bias may lead to misclassification of clinical features such as symptoms at referral.<sup>27</sup> If certain experiences of ethnoracialized groups are wrongly interpreted as psychotic symptoms, this may have a ripple effect on the reliability of other first-contact and time-to-treatment variables. Limited measures of individual socioeconomic status were available (eg, no measure of parental social class), although insurance status, homelessness, living arrangements, and socioeconomic indicators of program site were included as rough proxies. Moreover, our study findings are to a great extent bounded to the specific context of the US regarding its health care system and sociocultural history of ethnoracial groups. Finally, other likely important factors such as stigma and misattribution of symptoms were not available.<sup>28</sup>

### Conclusions

In this cohort study of individuals with recent-onset psychosis, time-to-treatment outcomes differed by ethnoracial group and by empirically derived clusters combining multiple factors of social and clinical context. These findings underscore greater depth of understanding that may be gained through intersectional approaches. We demonstrated that onset to first contact and first contact to CSC pathways differed across ethnoracial group and intersectional clusters, supporting the position that future studies should include multiple time-to-treatment factors. A recent meta-analysis indicated that a 3-week treatment delay was associated with more than 20% more severe symptoms at follow-up,<sup>29</sup> emphasizing the clinical impact of these outcomes. We build on previous work by showing that ethnoracial disparities in care pathways do not only apply to Black individuals, but extend to Asian and Latinx individuals in the US.

In the future, service users' subjective evaluation should be included to understand how certain pathway encounters impact longer-term outcomes such as engagement and therapeutic alliance. This would also help elucidate potential racial bias in clinician assessments and provide insight in the ways in which the same type of encounter may differentially impact ethnoracial groups (ie, positive vs negative experiences of police contact). Youth-coproduced engagement metrics might, for example, reveal negative impacts on trust and/or uptake of CSC services that might otherwise go undetected. Moreover, increasing the availability of school-based mental health services may reduce the observed disparities by lowering some structural barriers to care (eg, transportation). Further work is warranted on the exposures, including structural mental health and social service system factors, that may underpin differential pathways, including careful investigation of the school-to-prison pipeline among Black and Latinx youth, and ethnoracial differences in early response to behaviors and mental health crises.

### ARTICLE INFORMATION

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