Barrier to Entry into Collaborative Care for Depression: Understanding Disparities in Depression Screening and Referral

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Background

The Collaborative Care Model (CoCM) for depression within primary care has been shown to improve mental health treatment access and outcomes for patients, including racial and ethnic minority populations[1,2]. In order to sustain this evidence-based intervention with equitable delivery, it is necessary to have an understanding of factors that may pose barriers to engagement[3]. The purpose of this study was to assess sociodemographic differences, including race, ethnicity, gender, age, and insurance status, in depression screening and CoCM referral rates within an implementation research trial.

Methods

The Collaborative Behavioral Health Program (CBHP) is a CoCM program implemented using a randomized roll-out trial across 11 primary care clinics in an academic-based health system[4]. After two years of follow-up in each clinic (10/29/2018 to 1/28/2023), there were 117,949 unique primary care patients meeting eligibility criteria. Demographic variables of race, ethnicity, gender, age, and insurance status as well as Patient Health Questionnaire (PHQ-2; PHQ-9) depression scores, and CBHP referral codes were recorded and collected from the Electronic health record (EHR). We assessed the proportion of primary care patients who were screened for depression (PHQ-2, PHQ-9), eligible for referral, and had a referral placed for CBHP. Proportion of patients with each demographic variable was also assessed. Logistic regression models were then used to assess if sociodemographic factors of race, ethnicity, age, gender, and insurance status had predictive value for screening, eligibility, or referral into CBHP.

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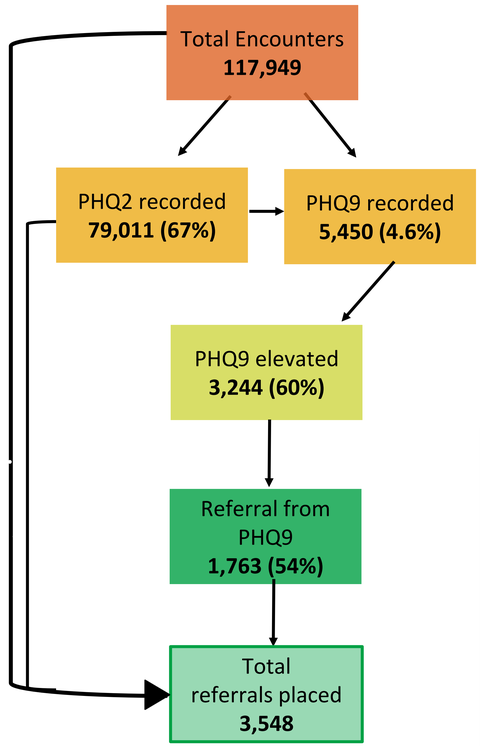
Results



Significant Predictors of being SCREENED

Variable	Coeff.	95% CI	p-value
Asian	0.30	[0.08,0.52]	<0.01
Not Hispanic/Latino	0.07	[0.02,0.12]	<0.01
Ethnicity not spec.	0.11	[0.05,0.17]	<0.01
Age >65	-0.28	[-0.32,-0.25]	<0.01
Private insurance	0.25	[0.19,0.30]	<0.01

Significant Predictors of being ELIGIBLE

Variable	Coeff.	95% CI	p-value
Not Hispanic/Latino	-0.48	[-0.80,-0.16]	<0.01
Ethnicity not spec.	-1.00	[-1.46,-0.57]	<0.01
Male	-0.276	[-0.47,-0.09]	<0.01
Private insurance	-0.98	[-1.41,-0.55]	<0.01

Significant Predictors of being REFERRED

Variable	Coeff.	95% CI	p-value
Asian	-1.00	[-1.45,-0.76]	<0.01
Black/African American	-0.62	[-0.95,-0.29]	<0.01
White	-0.73	[-1.05,-0.41]	<0.01
Other/Race not spec.	-0.45	[-0.77,-0.12]	<0.01
Not Hispanic/Latino	-0.42	[-0.51,-0.33]	<0.01
Ethnicity not specified	-0.90	[-1.03,-0.77]	<0.01
Male	-0.30	[-0.36,-0.25]	<0.01
Age > 65	-0.96	[-1.04,-0.87]	<0.01
Private insurance	-0.96	[-1.05,-0.87]	<0.01

Demographic Variables (n = 117,949)	
Race	n (%)
American Indian/Alaska Native	362 (0.3%)
Asian	6,682 (5.7%)
Native Hawaiian/Pacific Islander	15,466 (13.1%)
White	77,219 (65.5%)
Other/Race not specified	17,888 (15.2%)
Ethnicity	n (%)
Hispanic or Latino	9,278 (7.9%)
Not Hispanic or Latino	97,720 (83.0%)
Not Specified	10,693 (9.1%)

Gender	n (%)
Female	69,944 (59.3%)
Male	48,001 (40.7%)
Age	n (%)
< 65 years	92,410 (78.35%)
> 65 years	25,539 (21.7%)
Insurance	n (%)
Private Insurance	106,571 (93.3%)
Medicare	22,892 (20.0%)
Medicaid	4,883 (4.3%)
Self-pay	39 (0.03%)

Discussion

The screening to referral process during the first two years of CBHP implementation revealed a few interesting trends, including differences in predictive value between sociodemographic variables. First, patients with private insurance and patients whose ethnicity was "not Hispanic or Latino" were more likely to be screened yet less likely to be eligible or referred. For the variable of race, "Asian" was more likely to be screen, but all races (except "Native American/Pacific Islander") were less likely to be referred. Also, "Age >65" was less likely to be screened or referred. The predictive value discrepancies between these sociodemographic variables may reflect biases within the healthcare setting. Our results suggest that systemic challenges may be associated with specific sociodemographic variables that hinder access to collaborative care services.

There are several factors which may have limited our results. A portion of the study occurred during the COVID-19 pandemic; During this time, there were many changes to healthcare delivery including conversion to tele-health visits. This may have affected screening to referral rates or preferentially influenced this process for patients with specific demographic characteristics. Additionally, poor documentation, errors in data reporting, and internal disagreement about data interpretation limit our analysis.

The collaborative care model can be used to increase access to mental health services from within a primary care setting. While further research is needed to better understand the cause of these variables as barriers, characterizing them in the screening and referral process can help inform the need for strategies to optimize equity and sustainability in collaborative care programs.

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