

Association of Pregnancy Status and Community Race Composition with Likelihood of Acceptance for Treatment of Opioid Use Disorder



Dominique Bulgin, Ph.D., R.N.¹; Stephen W. Patrick, M.D., M.P.H., M.S.²; Tamarra McElroy, M.P.H.²; Elizabeth McNeer, M.S.²; William D. Dupont, Ph.D.²; Matthew M. Davis, M.D.³; and Velma McBride Murry, Ph.D.²

¹The University of Tennessee, Knoxville College of Nursing; ²Vanderbilt University Medical Center; ³Northwestern University Feinberg School of Medicine

INTRODUCTION

1. Rates of opioid use disorder (OUD) among pregnant women have increased dramatically over the last two decades.¹ Medications for OUD (MOUD) are highly effective in preventing adverse outcomes for mothers and infants; however, most do not receive them.²
2. Using data from a NIDA-funded (R01DA045729) randomized simulated-patient (“secret-shopper”) field experiment of outpatient buprenorphine-waivered providers and opioid treatment programs, we aimed to determine if secret-shoppers were less likely to receive an appointment if their race/ethnicity was not the majority race/ethnicity of the clinic where they sought treatment and if outcomes varied by pregnancy status and clinic type.

METHODS

1. Primary data were collected among 10 states (Florida, Kentucky, Massachusetts, Michigan, Missouri, North Carolina, Tennessee, Virginia, Washington, and West Virginia) in 2019.
2. 9 women were hired as callers, representing White, Hispanic, and Black vocal characteristics across the age range 25-30 years.
3. Individual-level variables included caller assigned race/ethnicity (Black, Hispanic, White), pregnancy status (Pregnant, Non-pregnant), and insurance type (Private, Public). Community-level variables included Gini income inequality index, area deprivation index, rurality, number of religious institutions per 10,000 population, number of employed per 1,000 population, and rate of infant foster care per 100,000 infants, and community race distribution (derived from the 2019 American Community Survey).
4. Descriptive statistics and significance testing examined:
 - Caller characteristics and call outcome by race/ethnicity and clinic type
 - Clinic community characteristics and call outcome by community race distribution (≥50% White vs >50% non-White) and clinic type.
5. A logistic regression model was fit to assess likelihood of obtaining an appointment by race/ethnicity and pregnancy status, for predominantly non-White versus predominantly White community distribution after accounting for potential confounders established a priori.

CONCLUSION

- We found that calling for an appointment in predominately White communities or being pregnant were associated with a lower likelihood of being accepted for treatment.
- Despite buprenorphine-waivered providers being more likely to be in predominately White, well-resourced communities, likelihood of obtaining an appointment increased if an opioid treatment program was called for treatment and as non-White community density increased.
- This is an access pattern that is not typically observed in the United States.³ Plausible explanations for these observed patterns include: 1) racial disparities in access to buprenorphine and methadone that are linked to historic structural racism in the distribution of treatment options for OUD,⁴ and 2) potential patient preference for buprenorphine as a less stigmatized treatment compared to methadone.⁵

POLICY IMPLICATIONS

- Policymakers may achieve greater benefits for patients seeking OUD care if they consider health equity when crafting policies to reduce disparities in access to care, including creating pathways to increase the number of providers with combined obstetrics and addiction expertise and making buprenorphine treatment accessible among public-sector providers and opioid treatment programs.



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REFERENCES

1. NIH NIDA. Overdose Death Rates. National Institute on Drug Abuse. <https://nida.nih.gov/drug-topics/trends-statistics/overdose-death-rates>. Published January 20, 2022. Accessed May 2, 2022.
2. Hollander MAG, Chang CCH, Dowlathy AB, Hulsey E, Donohue JM. Racial inequity in medication treatment for opioid use disorder: Exploring potential facilitators and barriers to use. *Drug and Alcohol Dependence*. 2021;227:108927. doi:10.1016/j.drugalcdep.2021.108927
3. Goedel WC, Shapiro A, Cerdas M, Tsai JW, Hadland SE, Marshall BDL. Association of Racial/Ethnic Segregation With Treatment Capacity for Opioid Use Disorder in Counties in the United States. *JAMA Network Open*. 2020;3(4):e203711. doi:10.1001/jamanetworkopen.2020.3711
4. Andraka-Christou B. Addressing Racial And Ethnic Disparities In The Use Of Medications For Opioid Use Disorder. *Health Affairs*. 2021;40(6):920-927. doi:10.1377/hlthaff.2020.02261
5. Mitchell SG, Kelly SM, Gryczynski J, et al. African American patients seeking treatment in the public sector: characteristics of buprenorphine vs. methadone patients. *Drug Alcohol Depend*. 2012;122(1-2):55-60. doi:10.1016/j.drugalcdep.2011.09.009

RESULTS

- Descriptive Statistics**
- Of 3,547 calls, 23% were to clinics in >50% non-White communities.
 - There were no differences in obtaining an appointment by caller’s race/ethnicity.
 - There were more buprenorphine-waivered providers in ≥50% White communities than >50% non-White communities (89% vs. 77%, p<0.001), and fewer opioid treatment programs in ≥50% White communities (11% vs 23%; p<0.001).
 - Communities >50% non-White had higher area deprivation index scores, indicating greater neighborhood disadvantage (p<0.001).
- Multivariable Regression Analysis**
- We found that a 10% increase in non-White community distribution was associated with a 6% increase in predicted odds of obtaining an appointment [adjusted odds ratio (aOR)=1.06; 95% confidence interval (CI) 1.02, 1.10].
 - The likelihood of obtaining an appointment increased if calling an opioid treatment program (aOR=4.94; 95% CI 3.52, 6.92) and if the simulated patient was non-pregnant (aOR=1.79; 95% CI 1.53, 2.09).

Table 1. Model Association of Likelihood of Appointment by Race/Ethnicity and Pregnancy Status

	OR	95% CI	p-Value
Clinic type			
Buprenorphine Provider*	1.00		
Opioid Treatment Program	4.94	3.52-6.92	<0.001
Pregnancy Status			
Pregnant*	1.00		
Non-pregnant	1.79	1.53-2.09	<0.001
Insurance Type			
Public*	1.00		
Private	1.26	1.07-1.48	0.004
Assigned Race			
White*	1.00		
Black	1.15	0.97-1.35	0.109
Hispanic	1.11	0.85-1.45	0.464
10% Increase of Non-White in the Community	1.06	1.02-1.10	0.002
Gini Index of Income Inequality	0.98	0.30-3.21	0.977
Area Deprivation Index	1.00	1.00-1.00	0.852
Rurality			
Rural*	1.00		
Urban	0.86	0.66-1.11	0.250
Increase of 1 Religious Institution per 10,000 Population	1.03	1.00-1.06	0.089
Increase of 1 Employed Person per 1,000 Population	1.00	1.00-1.00	0.408
Increase of 1 Infant in Foster Care per 100,000 Infants	1.00	1.00-1.00	0.437