

**Unpacking Linkages Between Substance Use Disorder Treatment  
Access, Duration and Completion to  
Better Understand Racial and Ethnic Disparities in Care**

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## **Abstract (2,500 character limit)**

### **Background**

While an estimated 20.4 million individuals in the U.S. have a substance use disorder (SUD), just over 4 million or 1.5% receive treatment in any given year, and of this attenuated treatment cohort, about 41% of patients actually complete treatment. Studies of the relationship between race/ethnicity and treatment typically report lower odds of minority-group completion relative to whites, with non-white groups taking longer to complete treatment. One explanation is that treatment duration and completion among racial/ethnic populations are a function of economic disadvantage, accessibility and ancillary social service needs. While treatment studies have examined these factors as sources of racial/ethnic disparities, no comprehensive model has explicitly analyzed the effects of racial/ethnic disparities across the central stages in the treatment process, from access to duration and completion. The aim of this study is to model SUD treatment completion rates as a function of race- and ethnicity- related treatment access (source of payment covering SUD treatment) as well as treatment duration. We build and test a non-normal structural equation model linking race/ethnicity to source of payment (i.e., private, public, none) which is expected to determine treatment duration (i.e., length of stay) and whether or not patients successfully complete SUD treatment. The advantage of structural models is that they estimate parameters simultaneously rather than piecemeal. Moreover, in this system of equations, the size of direct and indirect effects of the parameters can be estimated.

### **Methods**

To understand how SUD treatment duration functions as a consequence of sources of treatment payment and as a precursor to treatment completion among non-majority racial and ethnic populations, we examine data from the NSDUH (2002-2014), a nationally representative sample comprising the US population's behavioral health information. NSDUH data serve as a preeminent source of yearly US incidence and prevalence estimates of behavioral health, including measures of major depression, anxiety, schizophrenia, substance use disorders and treatment for those disorders. The NSDUH surveys assess substance use disorders based on the diagnostic guidelines for substance dependence and substance abuse found in the Diagnostic and Statistical Manual of Mental Disorders. The sample consisted of NSDUH respondents with a past year diagnosis of a substance use disorder, who also reported having received treatment in the past 12 months, and whose file contained information on race/ethnicity, sources of treatment payment, treatment duration and completion (n=3,803).

## **Results**

Overall, the system of relationships between payment source->treatment duration->SUD treatment was supported with these data. Black populations have fewer treatment resources and, therefore, a more limited length of stay, resulting in a diminished likelihood of completion. However, this linkage needs to be examined varying the conditions of treatment payment. Although longer duration is a function of private treatment payment and Whites are more likely than Latinx or Black populations to benefit, minority populations' treatment payment sources are not clearly differentiated in these models. That is, Latinx are most likely to have no treatment insurance and Whites to have private insurance. All three populations, however, have access to some public sources of treatment payment (e.g., Medicaid and Medicare). To examine the relationship more closely, we analyzed models conditioned by source of payment (Tables 3 and 4). In these moderated models we found that, consistent with the first set of models, duration of treatment fosters completion, and, Whites and Latinx demonstrate a greater likelihood of treatment completion than Blacks