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Employment after beginning treatment for substance use disorders: The impact of race/ethnicity and client community of residence

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ABSTRACT

Employment is an important substance use treatment outcome, frequently used to assess individual progress during and after treatment. This study examined whether racial/ethnic disparities exist in employment after beginning treatment. It also examined the extent to which characteristics of clients' communities account for such disparities. Analyses are based on data that linked individual treatment information from Washington State's Behavioral Health Administration with employment data from the state's Employment Security Department. Analyses subsequently incorporated community-level data from the U.S. Census Bureau. The sample includes 10,636 adult clients (Whites, 68%; American Indians, 13%, Latinos, 10%; and Blacks, 8%) who had a new outpatient treatment admission to state-funded specialty treatment. Heckman models were used to test whether racial/ethnic disparities existed in the likelihood of post-admission employment, as well as employment duration and wages earned. Results indicated that there were no racial/ethnic disparities in the likelihood of employment in the year following treatment admission. However, compared to White clients, American Indian and Black clients had significantly shorter lengths of employment and Black clients had significantly lower wages. With few exceptions, residential community characteristics were associated with being employed after initiating treatment, but not with maintaining employment or with wages. After accounting for community-level variables, disparities in length of employment and earned wages persisted. These findings highlight the importance of considering the race/ethnicity of a client when examining post-treatment employment alongside community characteristics, and suggest that the effect of race/ethnicity and community characteristics on post-treatment employment may differ based on the stage of the employment process.

1. Introduction

Employment is an important outcome of substance use treatment and frequently is used to assess individual progress during and after treatment (Institute of Medicine, 1990). Employment is also one of the domains of the National Outcomes Measures used for national performance monitoring (Substance Abuse and Mental Health Services Administration, 2015). Individuals with problematic substance use are more likely to be unemployed (Terza, 2002). Additionally, lost productivity is one of the major drivers of the societal costs associated with excessive alcohol use (Bouchery, Harwood, Sacks, Simon, & Brewer, 2011) and illicit substance use (National Drug Intelligence Center, 2011). To date, it is unknown whether post-treatment employment outcomes are similar across racial/ethnic groups. Nevertheless, assessing whether disparities exist is an important step in ensuring equity in treatment. The detection of disparities can lead to the development and implementation of interventions that address the specific needs of groups who experience difficulty in their attempts to obtain and maintain employment. Ultimately, detection also may contribute to the elimination of these disparities. Furthermore, research increasingly demonstrates that place plays a role in health care services disparities (White, Haas, & Williams, 2012), although this relationship has not been explored with substance use services. This study examined whether racial/ethnic disparities exist in post-treatment employment and the extent to which characteristics of clients' communities account for such disparities.

Data from facilities that receive state funding reveal that, nationally, only about a quarter of clients entering substance use treatment services were employed at treatment admission (Substance Abuse and Mental Health Services Administration, 2017b). Thus, vocational

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training and employment assistance often are included as part of comprehensive treatment, particularly among programs providing publicly-funded services (Cao, Marsh, Shin, & Andrews, 2011; Evans, Hser, & Huang, 2010; Magura, Staines, Blankertz, & Madison, 2004; Webster, Staton-Tindall, Dickson, Wilson, & Leukefeld, 2014). Therefore, employment measures often are used as an additional treatment outcome for clients, in addition to reduction in substance use.

Research has shown that clients who experience substance use disorders have better employment-related outcomes when they participate in treatment for lengthier durations, or when they complete treatment, altogether (Arria & TOPPS-II Interstate Cooperative Study Group, 2003; Dunigan et al., 2014; Kim, Leierer, Atherton, Toriello, & Sligar, 2015; Luchansky, Brown, Longhi, Stark, & Krupski, 2000; Sung & Chu, 2011). However, because in the general population Blacks, American Indians, and Latinos experience higher unemployment rates and lower wages than Whites, it is possible that racial/ethnic disparities in employment outcomes exist (Bureau of Labor Statistics, 2016; U.S. Census Bureau, 2016). Thus, while in or after treatment, some groups may face different barriers when attempting to locate employment, regardless of treatment effectiveness. Research in this area is limited, but one study found that, although the likelihood of employment did not differ by race/ethnicity, post-treatment employment earnings were significantly higher for Whites compared to non-Whites in one of three states examined (Arria & TOPPS-II Interstate Cooperative Study Group, 2003). Despite the study's significance, all clients who were not White were grouped together into one category, which means that the heterogeneity within the "non-White" group may have masked various disparities between Whites and some specific racial/ethnic minority groups.

In general medical care, there is growing recognition that where patients or clients live can have a strong influence on health care quality (White et al., 2012). For example, areas that experience higher residential segregation and greater economic disadvantage have more difficulty attracting physicians to practice in these areas (Auchincloss, Van Nostrand, & Ronsaville, 2001). Residential segregation may affect segregation at the facility level, which also is associated with racial/ethnic disparities. For instance, hospitals that treat a higher proportion of Black patients for acute myocardial infarction (AMI) had an 18% higher mortality rate that those that treat fewer Black patients (Skinner, Chandra, Staiger, Lee, & McClellan, 2005); and there is a high correlation between residential and nursing home segregation, both of which are associated with disparities in nursing home care (Smith, Feng, Fennell, Zinn, & Mor, 2007).

Characteristics of the community in which clients reside also can have important implications on substance use treatment outcomes, including employment. Consequences related to alcohol consumption, including employment consequences, have been observed to be greater for individuals residing in disadvantaged areas compared to affluent neighborhoods (Jones-Webb & Karriker-Jaffe, 2013; Karriker-Jaffe, Liu, & Kaplan, 2016; Karriker-Jaffe et al., 2012). For example, there was a strong positive association between neighborhood disadvantage and individuals having negative drinking consequences, and a strong negative association between neighborhood affluence and negative drinking consequences (Jones-Webb & Karriker-Jaffe, 2013; Karriker-Jaffe, Liu, & Kaplan, 2016). Residential location also may impact employment opportunities. Community economic factors, such as concentrated poverty, can hinder access to jobs in general, and limit access to higher paying jobs or to more stable employment. Additionally, some aspects of the community where individuals reside may influence substance use relapse, which in turn could impact employment. Residents of communities with low resources or high poverty rates are at an increased risk of substance use and substance use disorders (Karriker-Jaffe, 2011, 2013; Karriker-Jaffe, Liu, & Johnson, 2016; Latkin, Curry, Hua, & Davey, 2007; Molina, Alegria, & Chen, 2012). This may potentially be due to higher stress, more marketing and availability of substances, and neighborhood cultural norms regarding the use of substances (Chartier et al., 2014). Additionally, the racial/ethnic composition of communities, such as minority population percentages, have been associated with substance use disorders. For example, with regard to alcohol consumption, in neighborhoods that include a higher proportion of African Americans, residents report more severe consequences (Jones-Webb & Karriker-Jaffe, 2013).

Little research has been conducted that examines the effects of community characteristics on employment-related treatment outcomes among individuals with a substance use disorder. However, a recent study found that, compared to those living in more affluent communities, individuals who possess a history of injection drug use, and who also reside in neighborhoods characterized by concentrated disadvantage, were significantly less likely to secure stable employment. (Richardson, Wood, & Kerr, 2013). Given the existing continuing racial residential segregation in the U.S. (Lichter, Parisi, & Taquino, 2015), it is likely that community-level concentrated disadvantage may produce racial/ethnic disparities in employment among clients in treatment.

Using data from Washington State's publicly-funded treatment system, the purpose of this study was to assess whether racial/ethnic disparities in post-treatment employment outcomes exist, and to examine the extent to which the characteristics of clients' residential communities account for these disparities. We define racial/ethnic disparities in employment in a similar way as Healthy People 2020 defines health disparities: disparities are not just differences between groups, but are differences that adversely affect groups of people who have systematically experienced greater obstacles based on their racial or ethnic group; and are differences that are considered unjust and historically linked to discrimination or exclusion (U.S. Department of Health and Human Services, 2017).

Data from Washington State were chosen to answer this question primarily because Washington has extensive experience linking its state-funded treatment data to state employment agency data, and these data have previously been used to examine several research questions related to employment-related outcomes among SUD treatment participants (Dunigan et al., 2014; Luchansky et al., 2000; Wickizer, Campbell, Krupski, & Stark, 2000). Washington also has a well-established treatment data collection system, which has demonstrated high standards for data completeness and accuracy. The system also provides the opportunity to convert client addresses to census tracts, which allows for the examination of community characteristics, as well. To the best of our knowledge, this study will be the first to include community factors in a study of racial/ethnic disparities in substance use treatment outcomes.

2. Materials and methods

2.1. Data sources

Analyses were based on linked client treatment and employment data from Washington State, which were then merged with community-level data from the U.S. Census Bureau. Data on client characteristics and treatment services (dates and types of SUD services received) were obtained from Washington State's Behavioral Health Administration (BHA). At the time of this study, BHA maintained the Treatment Activity Report Generation Tool (TARGET) a comprehensive data collection system that captures information on individuals receiving publicly-funded substance use treatment reported by SUD treatment providers (now replaced with an even more comprehensive system that also includes mental health services). This tool is used by both state administrators and researchers, due to its high standards of accuracy and integrity (Campbell, 2009; Luchansky, Krupski, & Stark, 2007). Employment data were obtained from Washington State's Employment Security Department (ESD), which records formal employment and employee wages as reported by employers. Data were linked using an integrated probabilistic and deterministic matching algorithm with the Link King software (Camelot Consulting, 2017; Campbell, 2009). Matching was