



Short communication

Factors associated with substance use treatment completion in residential facilities



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ABSTRACT

Purpose: Individuals in residential treatment often face many challenges, which can include limited education, unstable housing, difficulty participating in the workforce, and severe substance use problems. We analyzed factors associated with substance use treatment completion. We focused on factors that can be influenced by health care system changes resulting from the Affordable Care Act (ACA).

Data and methods: We used the 2010 Treatment Episode Data Set – Discharges (TEDS-D), which is made available by the Substance Abuse and Mental Health Services Administration (SAMHSA). We analyzed factors associated with substance use treatment completion using logistic regression.

Results: Individuals in residential treatment were often unemployed or not in the labor force, had prior substance use treatment episodes, used more than one substance, and were uninsured. Factors associated with treatment completion included older age, greater education, employment, criminal justice referral, not being homeless, and private insurance.

Conclusion: The expansion in private insurance coverage as a result of the ACA may result in more treatment completion in residential settings. Changes to the Medicaid program resulting from the ACA, including coverage of substance use treatment as an essential health benefit and greater support for housing, education, and employment, may also contribute to more residential discharges ending in treatment completion.

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1. Introduction

Residential treatment has been characterized as a last resort option for individuals with challenging substance use (SU) problems (Staiger et al., 2014). Remaining in SU treatment for the clinically recommended amount of time is associated with fewer readmissions, less criminal involvement, and better employment outcomes (Evans et al., 2009; Garnick et al., 2009; Arndt et al., 2013). In addition to the vast majority of individuals with SU problems not receiving any treatment (Ali et al., 2015), approximately one-third of SU treatment episodes nationally end in drop out or are pre-maturely terminated by the facility (SAMHSA, 2012). Mandell et al. (2008) report an even higher dropout rate, 40 percent, at residential centers during the first five weeks of treatment.

A 2009 report released by the Substance Abuse and Mental Health Services Administration (SAMHSA, 2009) identified

individual demographic and socioeconomic characteristics, including race (non-Hispanic White), gender (female), age (over 40 years), education (more than 12 years), and employment status, as factors associated with a higher likelihood of completing SU treatment. The literature on treatment completion has also identified the use of heroin, cocaine, or methamphetamine (as opposed to alcohol) as the primary substance of abuse (i.e., the first substance reported for an admission by the treatment facility), severity of drug intake, prevalence of mental illness, and homelessness as factors that may lower the odds of completing treatment (Guerrero et al., 2013). Referral methods, in particular criminal justice referral, have been shown to be positively associated with treatment completion (Arndt et al., 2013). The association of organizational factors with treatment completion has been explored in the literature (Woodward et al., 2006, 2008). Also, an emerging literature has examined racial and ethnic disparities in treatment completion (Bluthenthal et al., 2007; Arndt et al., 2013; Guerrero et al., 2013; Saloner and Lê Cook, 2013). Individuals entering residential settings for SU treatment often have characteristics that are associated with not completing treatment (Staiger et al., 2014). However, a comprehensive examination of factors that are associated with treatment

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completion in residential settings using large discharge data has not been undertaken.

The purpose of the current study is to undertake a comprehensive analysis of the factors associated with substance use treatment completion from residential facilities using a large, geographically diverse dataset of discharges. This study contributes to the literature by examining not only discharge-level factors (e.g., prior history of substance abuse treatment, primary substance of abuse, employment status) that may be correlated with treatment completion, but also by focusing on the role of health insurance and the impact that changes to the behavioral health treatment system following the implementation of the Affordable Care Act (ACA) could have on treatment completion for a population with challenging SU problems. This is especially important given the shifts in insurance coverage that will occur under the ACA, with an expected increase in access to and utilization of substance abuse services (Ali et al., 2014; Buck, 2011).

2. Data and methods

We used the 2010 Treatment Episode Data Set – Discharge (TEDS-D), which is maintained by SAMHSA, for this analysis. The TEDS-D is a national dataset of annual discharges from substance use treatment facilities (SAMHSA, 2014). Treatment programs receiving any public funds (from State and/or Federal sources) are requested to provide discharge-level data on publicly and privately funded clients for the dataset. The TEDS-D captures a significant share of all discharges from treatment facilities across the United States, especially those that reflect public spending.

Health insurance status was one of our main independent variables of interest; therefore, we confined our analyses to the 31 states and jurisdictions that reported health insurance status for 75% or more of their discharges.¹ We analyzed 104,999 treatment episodes by adult patients (i.e., individuals 18 years old and older).

We used a binary dependent variable indicating whether the patient completed treatment. We regarded patient transfer to another facility and treatment completion as the completion of treatment at a particular facility. We categorized episodes with the “reason for discharge” classification of (1) left against medical advice or (2) whose treatment was terminated by the facility as not having completed treatment. There are a number of reasons why a facility might terminate an individual’s treatment, which may include the person acting violently or refusing to adhere to the facility’s rules (SAMHSA, 2009). We excluded 5468 episodes where the disposition was incarceration, death, unknown, other, or missing from the analysis (SAMHSA, 2012).

The independent variables we used have been shown in the literature to be associated with treatment completion and included demographic characteristics, such as age, gender, race and marital status. We included indicators for patient education, employment status, whether the patient had previous substance use treatment episodes, and whether the patient was referred for treatment by the criminal justice system. Our model included binary variables for primary substance of abuse (i.e., cocaine, marijuana, opiates, stimulants, or other drugs) with alcohol being the reference category. We also included a variable for whether the

patient used two or more substances. We also included binary variables for the patient’s living arrangements. Patient insurance was captured by mutually exclusive binary variable for private, Medicaid, and Medicare. The TEDS-D does not distinguish among Medicare, Tricare, Civilian Health and Medical Program of the Uniformed Services (CHAMPUS), and other related programs. Uninsured was the reference category in the analysis. We also included state fixed effects in our analysis to account for unobserved state-level heterogeneity that might be correlated with treatment completion.

We distinguished between short- (i.e., 30 days or fewer) and long-term (i.e., more than 30 days) treatment in the model by including a binary indicator for long-term treatment (SAMHSA, 2014). We also included a binary variable for medication-assisted opioid therapy. We conducted all of the analyses using logistic regression in Stata 13.

3. Results

Table 1 provides descriptive statistics for the discharges we analyzed. The vast majority of discharges were by individuals who were either unemployed or not in the labor force (88%). Many of the individuals had prior substance use treatment episodes (68%) and a significant portion was referred for treatment by the criminal justice system (31%). Alcohol was the most common primary substance of abuse (35%), followed by opiates (28%). Approximately two thirds of those receiving treatment (67%) had more than one substance on the record. Slightly more than half of discharges were by people who lived independently (56%). Most of the encounters were by people who were uninsured (67%); Medicaid was the most common insurance type (19%). Less than 10% of the episodes had private health coverage. Slightly more than one third of discharges came from long-term treatment (35%). Medication-assisted opioid therapy was infrequently used (2.0%). Treatment was completed in 71% of encounters.

We report odds ratios from a multivariate logistic regression model for factors associated with treatment completion in Table 2. The coefficients on the age variables indicate the odds of treatment completion increase with age. Blacks and Native Americans had lower odds of completing treatment than Whites, whereas Asian/Pacific Islanders had higher odds of completing treatment. Being married was associated with lower odds of completing treatment.

Compared to not completing high school, high school graduation, having some college education, and having a college degree were associated with higher odds of completing treatment, with odds ratios increasing slightly for each successive level of educational attainment. Being employed (either full or part-time) was also associated with higher odds of treatment completion compared to being unemployed.

Criminal justice referral was associated with higher odds of completing treatment. Prior substance use treatment and the presence of two or more substances on the record were associated with lower odds of treatment completion. Also, compared to alcohol, all other primary substances of abuse were associated with lower odds of treatment completion.

Compared to homelessness, dependent living and independent living were associated with higher odds of completing treatment. Medicaid coverage was statistically indistinguishable from being uninsured. Medicare was associated with lower odds of completing treatment. Private insurance, however, was associated with higher odds of completing treatment.

Medication-assisted opioid therapy was associated with higher odds of completing treatment; care in a long-term residential setting was associated with lower odds of completing treatment.

¹ The 31 states were Alabama, Alaska, Arkansas, Colorado, Delaware, Hawaii, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, North Dakota, Oklahoma, Oregon, Puerto Rico, South Carolina, South Dakota, Tennessee, Texas, Utah, and Wyoming. The 75% threshold is commonly used by SAMHSA statisticians when analyzing TEDS and other SAMHSA databases. See, for example, Appendix Table 3 in SAMHSA (2014).

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