Background
Patients with substance use disorder (SUD) represent a diverse group of individuals with unique histories, demographics, substance use patterns, and treatment-related behaviors. As a result, several levels of treatment programs exist, including inpatient, residential, partial hospitalization (PHP), intensive outpatient (IOP), and outpatient. Program level is based on current clinical needs,1,2 and best practice is to successfully complete a program and transition to the next in a step-down manner. In contrast, patients who discharge against medical advice,3 have lower lengths of stay, or fail to transition are thought to have worse outcomes. However, actual patient behaviors and their outcomes within and across substance use treatment programs are not well understood.

Objective
To describe the outcomes and transition rates of patients across substance use treatment programs.

Methods
Medical records were used to collect data from SUD treatment programs at a midwestern psychiatric hospital between 1/1/17-12/31/19. Data included treatment history, reason for discharge, admissions, latency to program transitions, and location. Basic descriptive and comparative statistics were conducted.

Results
Programs differed in rates of discharge against medical advice (AMA) (Table 1). PHP had the highest rate of discharge AMA, whereas residential treatment had the lowest. Whereas lower acuity treatment programs (residential, PHP, IOP) had decreased inpatient readmissions following program discharge, inpatients had higher inpatient admission rates in the 6 months post-discharge compared to before admission. Consistent with this, programs had unique transition patterns (Figure 1), where inpatients were most likely to readmit as inpatients, residential patients were most likely to step down to PHP, PHP patients typically stepped down to IOP, and IOP discharges transitioned across several programs. However, a large subset of patients did not successfully transition to any program. Factors correlated with decreased transitions within 28 days included younger age, race, insurance, specific mental health and substance use disorders, smoking status, and discharge status (Table 2).

Conclusions
Treatment-related behaviors and outcomes of patients were unique across programs, potentially reflecting differences in treatment intensities and patient acuities. Results highlight opportunities for reducing readmissions and increasing successful transitions.

Table 1. Program-related patient behaviors including duration of stay, completion of treatment, and inpatient relapse. AMA = against medical advice.

Table 2. Odds ratio estimates for transitions within 28 days post-discharge to step-down substance use treatment programs. Analyses used a multinomial logistic regression. Bolded items were statistically significant. Shading indicates items within similar categories.

References

Figure 1. Patient transitions across programs. Graphs indicated whether, where, and when patients transitioned after discharging from inpatient (A), residential (B), PHP (C), or IOP (D).