Substance Use Treatment Analysis

Key Determinants of Treatment Outcomes

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Agenda

- Business Case
- Assumptions
- Analysis
- Findings & Recommendations
- Questions & Next Steps

Business Case

- **Stakeholder:** Substance use treatment organization
- **Situation:** Tailor care model to focus on the most critical factors for treatment completion
- **Objective:** Identify the top 3 contributing factors impacting treatment completion

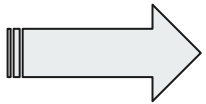
Assumptions and Considerations

		# of Treatment Episodes
Data Source	Substance Abuse and Mental Health Services Administration (SAMHSA) ● Treatment Episode Data - Discharges	
Years of Analysis	● 2019	1,722,503
Other inclusion/ exclusion criteria		
Type of Service	● Long-term outpatient therapy	1,114,021
Outcome Exclusions	● Members transferred to another facility ● Members incarcerated during treatment	764,674
Age	● > = 18 years	736,562

Analysis - *Basic Logistic Regression*

Input Variables

28 Features	
Demographic/ Social	*Age, gender, living situation, employment, education, arrests*
Behavioral Health	*Coexisting behavioral health cond*
Treatment History & Substance Type	*Prior treatment hx, LOS, substance type, frequency of use*
Operational	*Admission wait period*

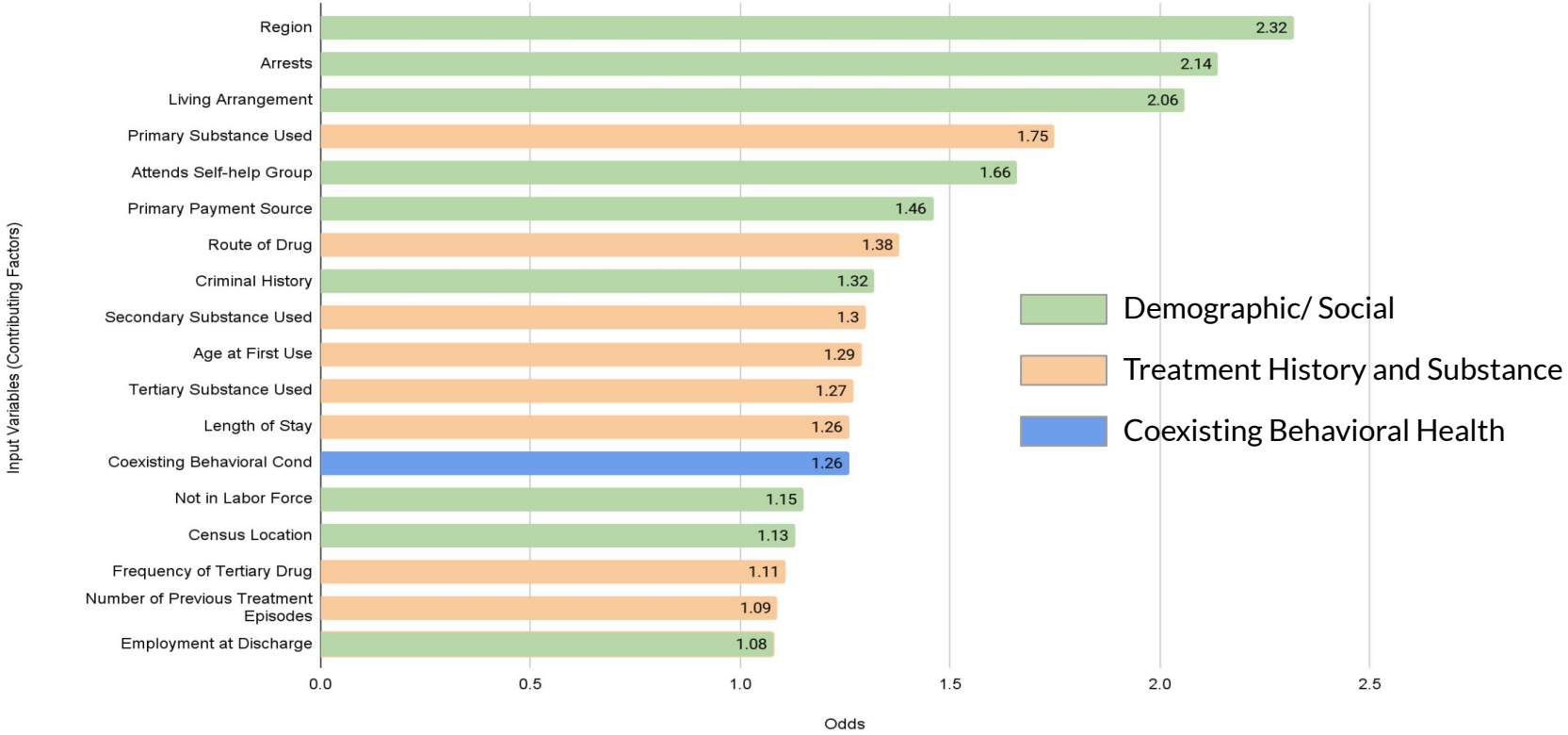


Target Variable

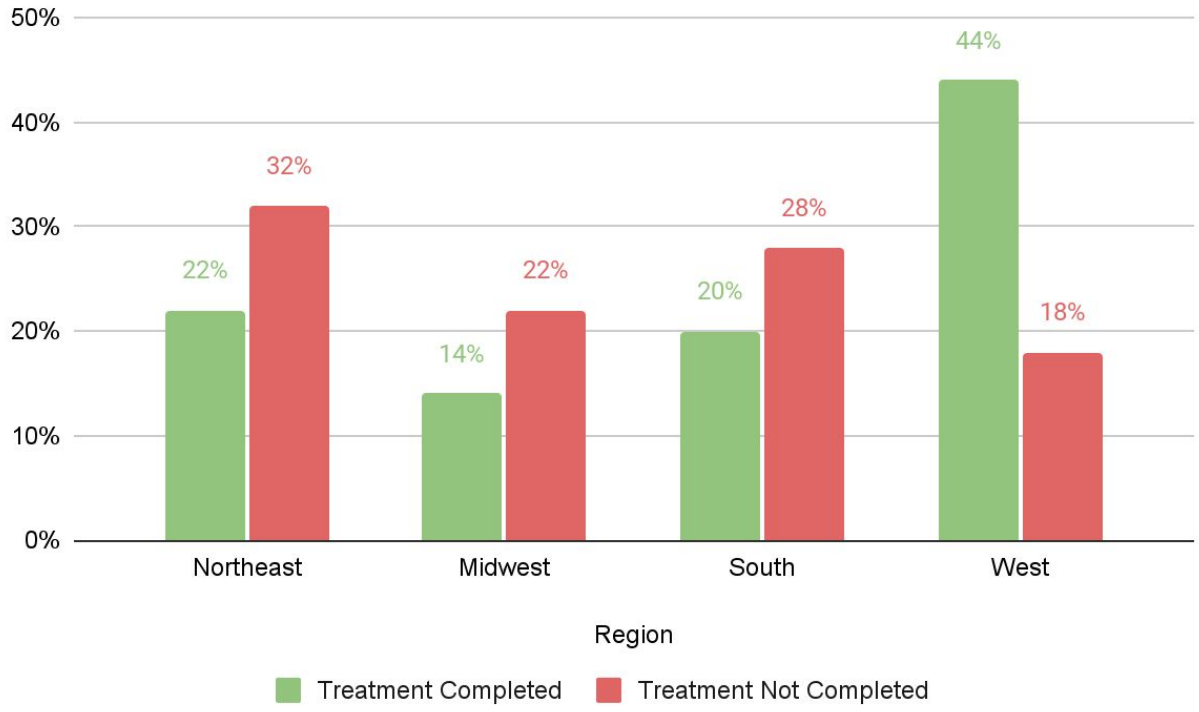
Treatment Completion	
Yes	51%
No	49%

Model Output - Predictive Score			
Training	76%	**Test**	76%

Analysis - *Factors Impacting Odds of Completing Treatment*

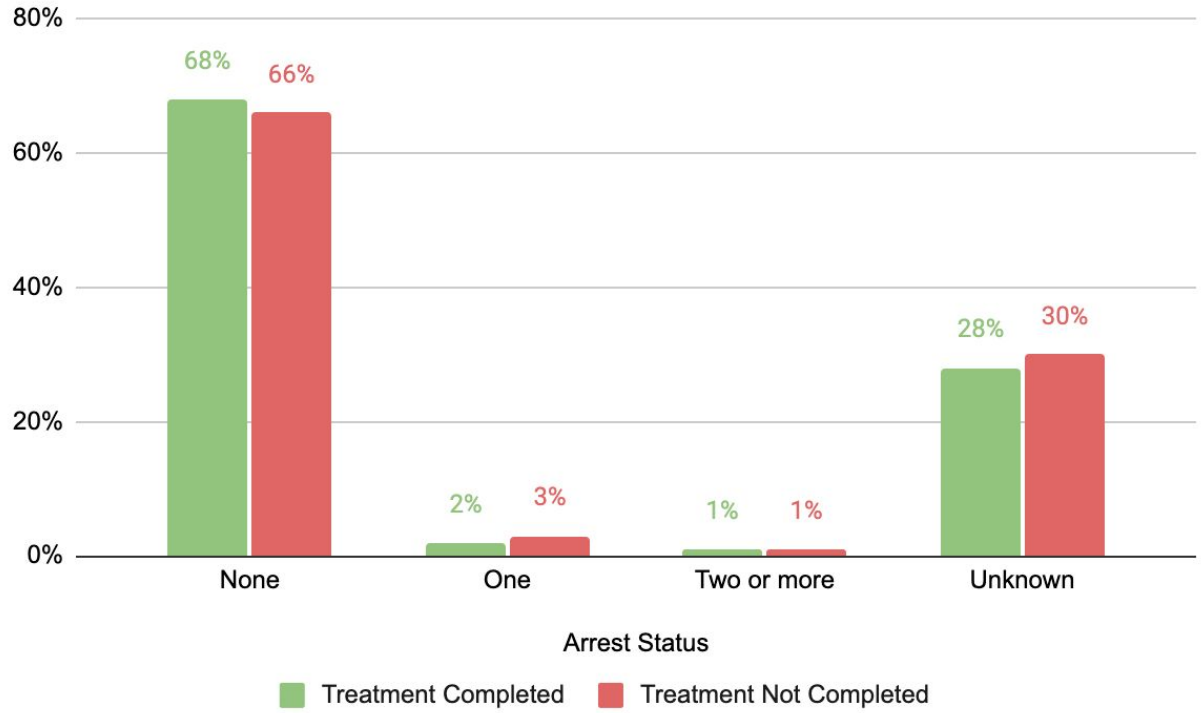


Analysis - *Breakdown of Outcome by Region*



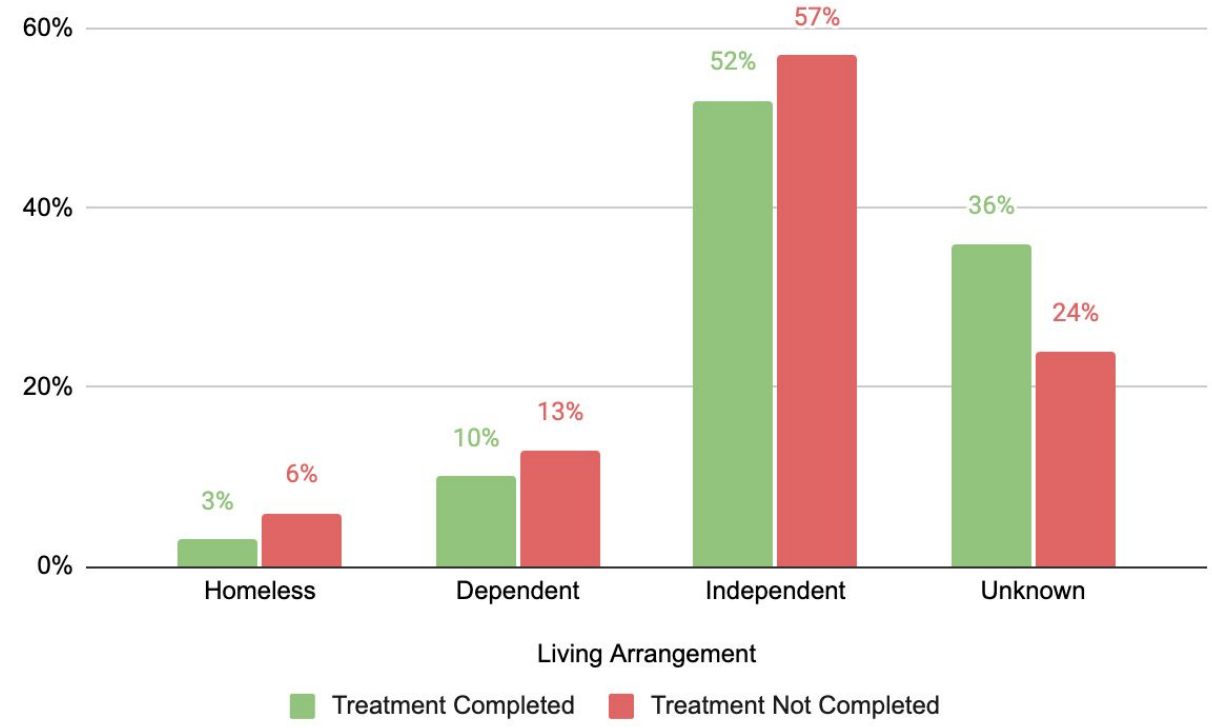
What is the west coast team doing differently?

Analysis - *Breakdown of Outcome by Arrests*



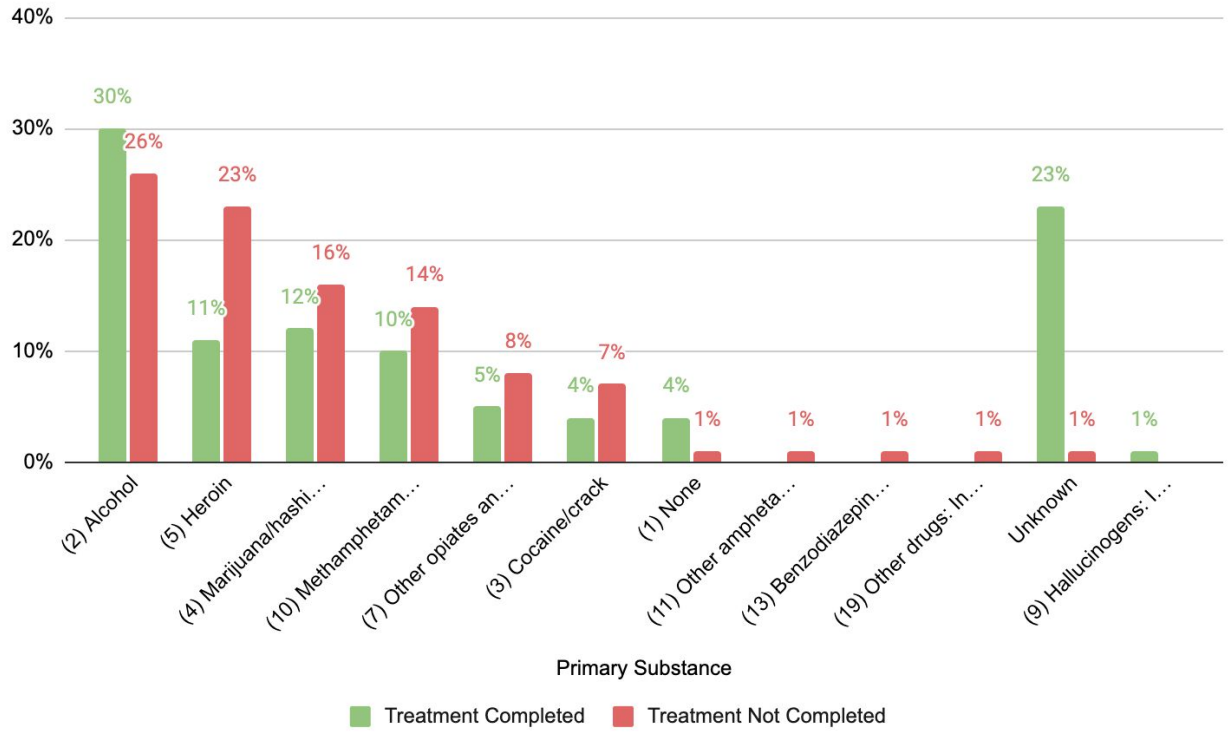
Members with no arrests complete treatment at a slightly higher rate

Analysis - *Breakdown of Outcome by Living Arrangement*



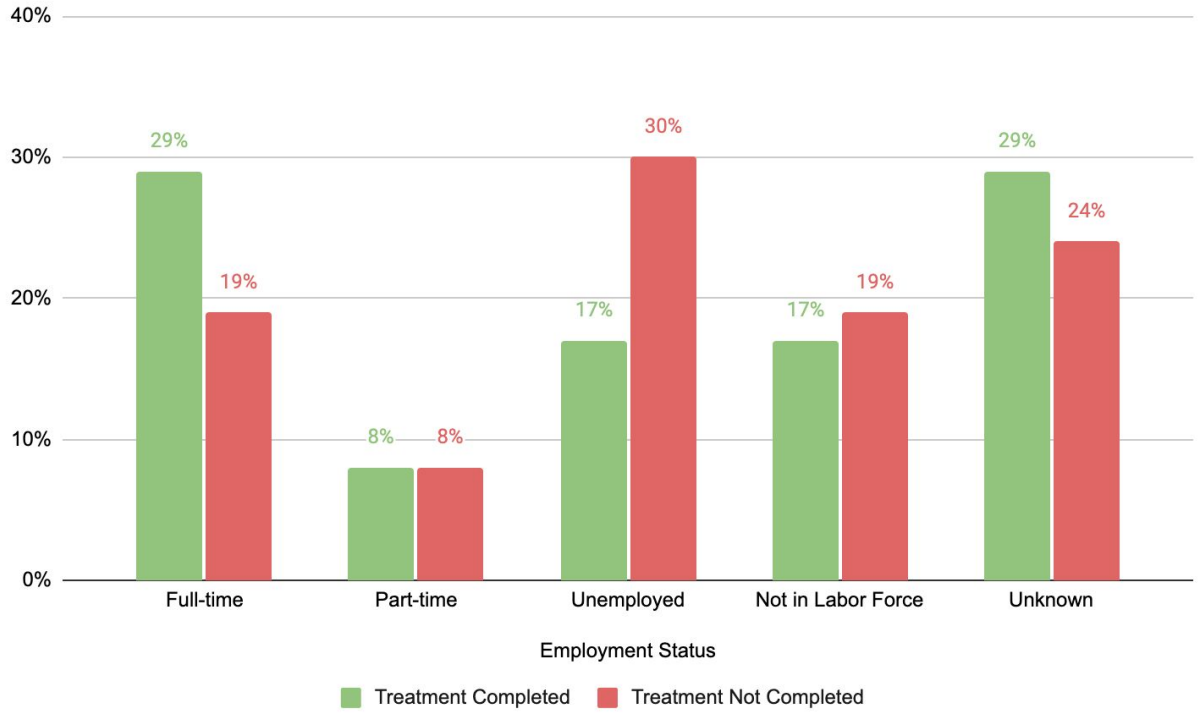
Homeless and those members living in dependent housing are less likely to complete treatment

Analysis - *Breakdown of Outcome by Primary Substance*



Heroin, methamphetamine, or other opiate have higher rate of NOT completing treatment

Analysis - *Breakdown of Outcome by Primary Substance*



Employment has a significant impact on program completion

Findings and Recommendations

Top 3 Areas of Focus

	Area of Focus	Next Steps
1	**West Coast Treatment Protocols**	Identify best practices and population differences for West Coast
2	**Heroin/Opiate Treatment Plans**	Research heroin treatment plans, and key obstacles to completion
3	**Employment Programs**	Analyze employment status by region

Determine feasibility of removing "unknown" values from dataset

Questions

Thank you!

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