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Introduction

Background

- Marijuana (MJ) use (for both medical and recreational purposes) is increasing among patients following medical marijuana legalization.
- The relationship between MJ use and mental health disorders, including substance use disorders (SUDs) is mixed (Pacula et al., 2015).
- Despite the potential of medical MJ to assist with these health conditions, MJ use is also associated with increased participation in substance use treatment and risk for the development of psychosis and mood-related disorders (Swartz, 2010; Casadio et al., 2014; Radhakrishman et al., 2014).
- It is unclear if the passage of medical marijuana laws (MML) is associated with changes in substance use or mental health diagnoses or treatment related health costs

Purpose

- To examine the association between state MML and substance use and other mental health disorder diagnoses and associated health care costs

Method

Procedures

- Using MarketScan Health Claims data, we examined treatment costs associated with 8 different mental health and substance use disorder diagnoses in 2012 and 2018 including:

Mental Health Diagnoses	Substance Use Diagnoses
Post-Traumatic Stress (PTSD) Related disorders	Opioid Use Disorder (OUD)
Anxiety Disorders (AD),	Cannabis Use Disorder (CUD)
Depressive Disorders (DD),	Alcohol Use Disorder (AUD)
Psychosis Related Disorders (PD)	
Sleep Related Disorders (SD)	

- Data were aggregated at the state level

Data Analysis Plan

1) Descriptive statistic analyses: Percent value of patients with each disorder & average annual healthcare costs across the 8 diagnoses by states with and without MML passed by 2012.

- Average healthcare cost was calculated by the yearly total costs averaged across patients who were treated for a specific disorder

2) Initial Independent T-Tests: Examine rates of diagnoses and healthcare costs by states with and without MML

Results

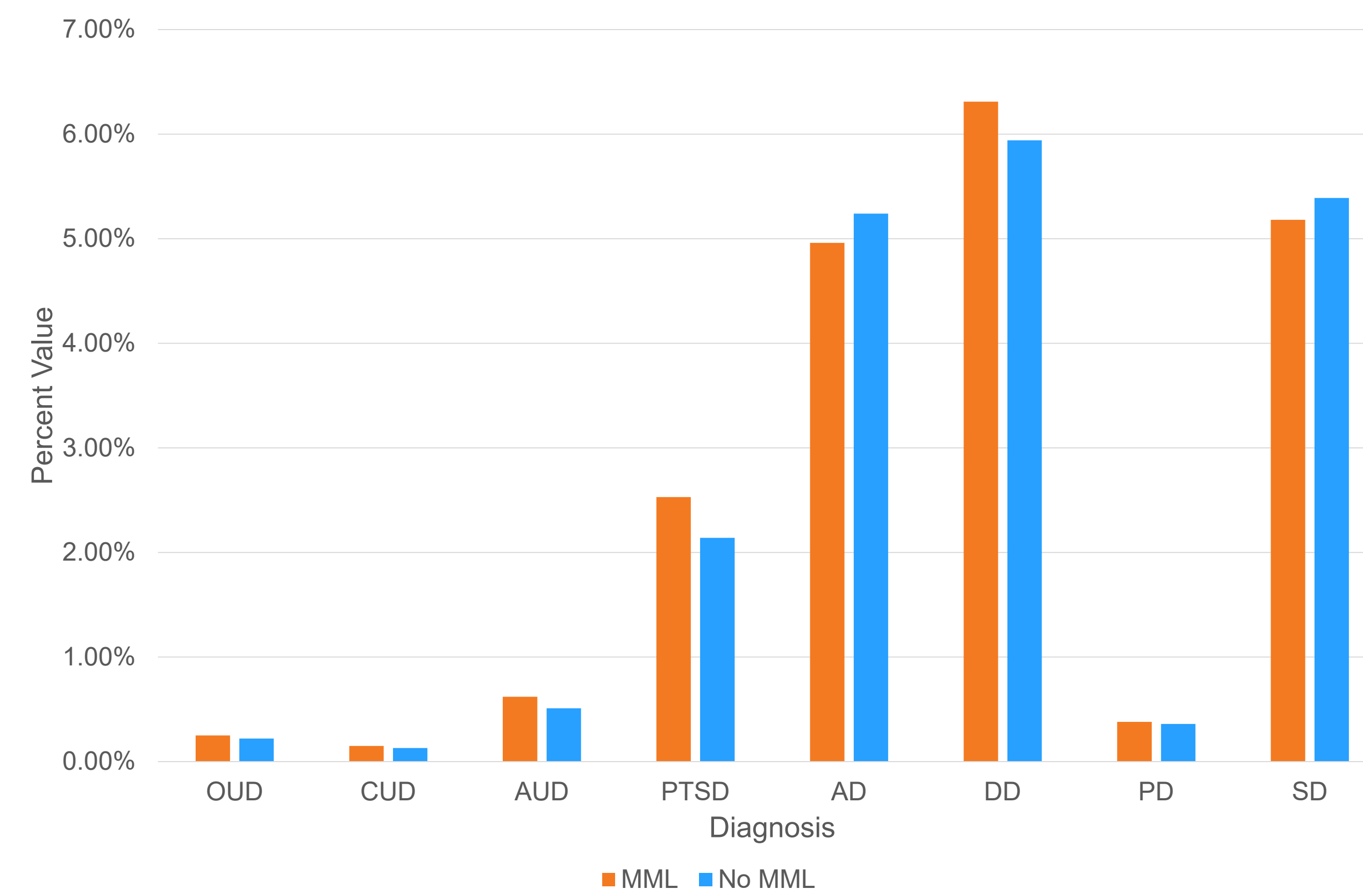


Figure 1. Percent Value of Substance Use and Mental Health Diagnosis in States with and without Medical Marijuana Laws in 2012

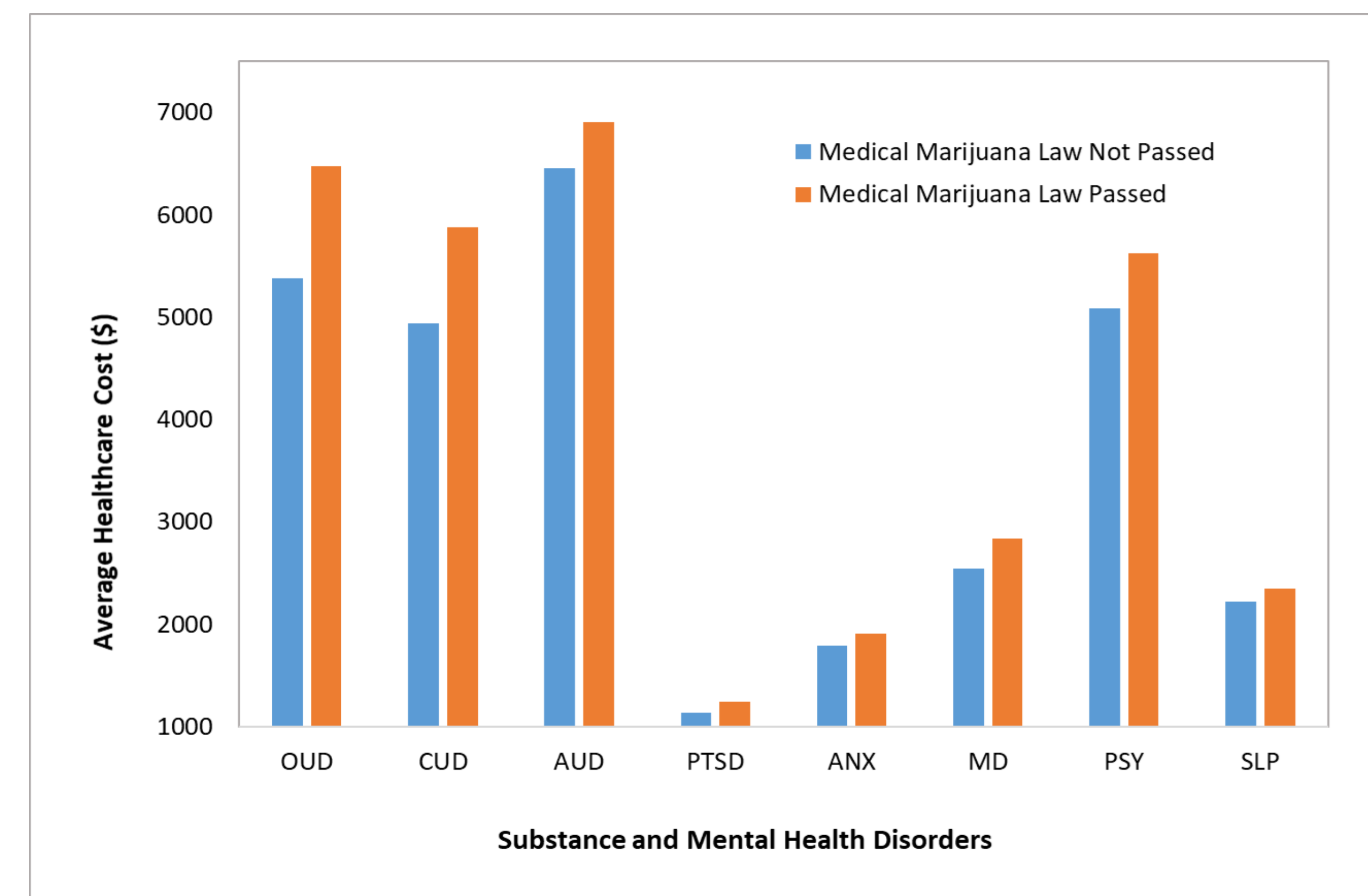


Figure 2 Average Total Healthcare Cost in 2012 per Individual Patient with Substance Use and Mental Health Disorders by States with and without Medical Marijuana Law

Results Summary

- In 2012, 19 states had passed MML
- Overall, the proportion of patients who have each disorder is relatively low (See Figure 1)
- Preliminary independent T-tests indicated that in 2012, states that passed MML have higher rates of OUD, CUD, AUD, PTSD, DD, and PD ($ps < .001$) than those that did not yet pass MML.
- Similarly, healthcare costs were significantly higher across all disorders examined in states with MML compared to those without MML (all $ps < .001$; See Figure 2)
- Similar patterns of results were observed for the data collected in 2018, by which 34 states passed medical marijuana laws

Discussion

- **Preliminary findings** suggest that states with MML have had higher proportions of individuals with disorders related to opioid, cannabis, and alcohol use; and trauma, depression, and psychosis.
- Healthcare costs were significantly higher across the disorders examined in states with MML compared to those without MML.
- Similar patterns of results were observed for the data collected in 2018.
- More research is needed to examine trends across states and over time to get a better understanding of the influence of MML on the prevalence and costs of these disorders
- Additional analysis using advanced statistical and analytical techniques will be conducted to examine:
 - Within-state changes in costs across the 5-year timespan before and after the MML passage.
 - Changes in the prevalence of these different diagnoses over time and in states with and without MML.
- Findings will provide policy-related information about the influence of MML on health care utilization for substance use and mental health diagnoses.

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