Effects of Cannabis Legalization on the Prenatal Use Rates of Cannabis, Tobacco, and Alcohol
United States Cannabis Policy

- Schedule 1 drug due to “abuse potential, safety concerns, and lack of evidence to support pharmaceutical efficacy” ¹

- Changes in 1996 & 2012

- Three different types of legalization statuses ³
  - Recreational
  - Medical
  - No broad legalization

- Legalization may impact cannabis use and use of other substance use

¹ SCHEDULES OF CONTROLLED SUBSTANCES, 21 U.S.C & 821; ² STATE MARIJUANA LAWS, 2018; ³ BLUMENAUER & POLIS, 2013
Prenatal Substance Use

- Cannabis is the most commonly used illicit drug in the United States (6-10%)
- Tobacco use rates vary - average ~10%
- Alcohol is the most common substance used during pregnancy - 12% and rising
- All appear to have an impact on fetal and maternal health
  - Low infant birth weight
  - Cognitive delay

Substance Use During Pregnancy in the U.S.

1 Carliner et al., 2017; 2 Wen et al., 2015; 3 Schuermeyer et al., 2014; 4 CDC, 2017
Problem Statement

Given the changing cannabis policy landscape, further studies need to address how cannabis legalization impacts the use of cannabis, alcohol, and tobacco during pregnancy, as well as factors associated with cannabis use.
Overview of study

Dataset

- Pregnancy Risk Assessment Monitoring System (PRAMS)
- A population-based surveillance system through CDC
- Used to better understand mother and infant health outcomes

Design

- Natural Experiment
- Retrospective cross-sectional study
- Secondary datasets
- Difference-in-differences analysis, logistic regression, and descriptive statistics
- Outcome variables included substance use behaviors during preconception, prenatal, and postpartum (paper 2)
Overview
- To compare the prevalence rates of alcohol and tobacco use among pregnant women and the association of these rates with cannabis legalization status

Results
- 1% increase in prenatal alcohol use in recreational states (OR: 1.51)
- Cigarette use decreasing overall but a lower rate in both recreationally legal and medically legal states
- Translates to thousands of potentially exposed pregnancies
Overview

- Examine the prevalence of cannabis use across the prenatal period
- Determine prevalence of co-occurring use of tobacco
- Identify factors associated with use during the three time periods

Results

Total of 36,319 women

- 13.6% reported use at anytime
- 11% before pregnancy
- 6.6% during pregnancy
- 8% after pregnancy
Significant Findings

**Preconception Use**
- Increased odds of residence in a medical legal and recreational legal states
- Several other characteristics associated with use: age, marital status, tobacco use, inadequate prenatal care

**Prenatal Use**
- Residence in recreational states associated with higher odds of cannabis use
- Similar characteristics associated with preconception use

**Postpartum Use**
- Recreational states again associated with higher use
- Also associated with tobacco use and inadequate prenatal care
What does this all mean?

First study to look at effects of recreational cannabis legalization on use of other substances in the pregnant population

Both medical and recreational cannabis legalization are associated with the use of alcohol and tobacco by pregnant women

Shift of attention from public health officials and providers away from other substance use

The recreational legalization of a schedule 1 drug could change perception about using other substances
What does this all mean?

- Difference in recreational compared to medical states due to changes in perception of harm or increase access and promotion through dispensaries

- Providers may vary in the information they give based on state legalization status

- Characteristics associated with use similar to other literature

- Tobacco use including e-cigarettes should be standard moving forward
Implications

Public Health

Clinical Practice

Policy
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I would like to answer any questions you may have. Please feel free to ask any questions you might have.