

Initiative 502 and Cannabis-Related Public Health and Safety Outcomes: Third Required Report

WASHINGTON STATE INSTITUTE FOR PUBLIC POLICY

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WSIPP Board

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WSIPP'S INITIATIVE 502 (I-502) ASSIGNMENT

RCW 69.50.550

WSIPP shall conduct cost-benefit evaluations for the implementation of [this act]...The evaluations shall include, but *not necessarily be limited to*:

- Public health and health care,
- Public safety,
- Substance use,
- Criminal justice,
- Economic impacts, and
- Administrative costs and revenues

abbreviated assignment language

I-502 EVALUATION (2023)

1. A 10-Year Review of Non-Medical Cannabis Policy, Revenues, and Expenditures

(Published June 2023)

- Relevant policy
- Past-decade revenues and expenditures

2. Initiative 502 and Cannabis-Related Public Health and Safety Outcomes: Third Required Report

(Published September 2023)

- How cannabis legalization/retail relates to:
 - Cannabis possession conviction rates
 - Reported substance use
 - Substance use disorder diagnoses
 - Fatal traffic crashes

DATA SOURCES

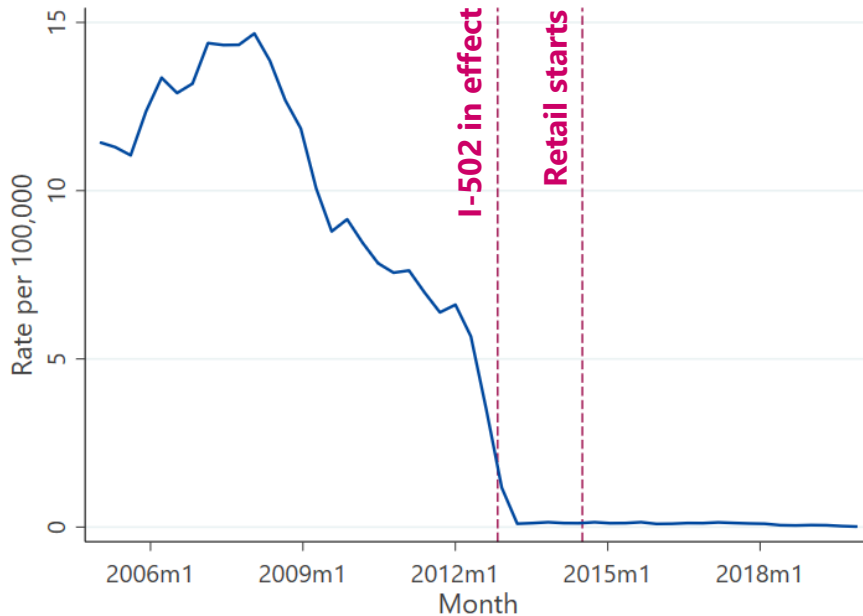
- Cannabis possession conviction rates
 - WSIPP's Criminal History Database
- Reported substance use (national data)
 - National Survey on Drug Use and Health
 - Provided by the Substance Abuse and Mental Health Services Administration
- Reported cannabis use (WA State data)
 - Behavioral Risk Factor Surveillance System
 - Provided by the Department of Health
- Substance use disorder diagnoses
 - Medicaid claims records
 - Provided by the Department of Social and Health Services, Research and Data Analysis Division
- Fatal traffic crashes
 - Coded Fatal Crash data files (include blood test results from state's toxicology lab)
 - Provided by the Washington State Traffic Safety Commission

CANNABIS POSSESSION CONVICTIONS

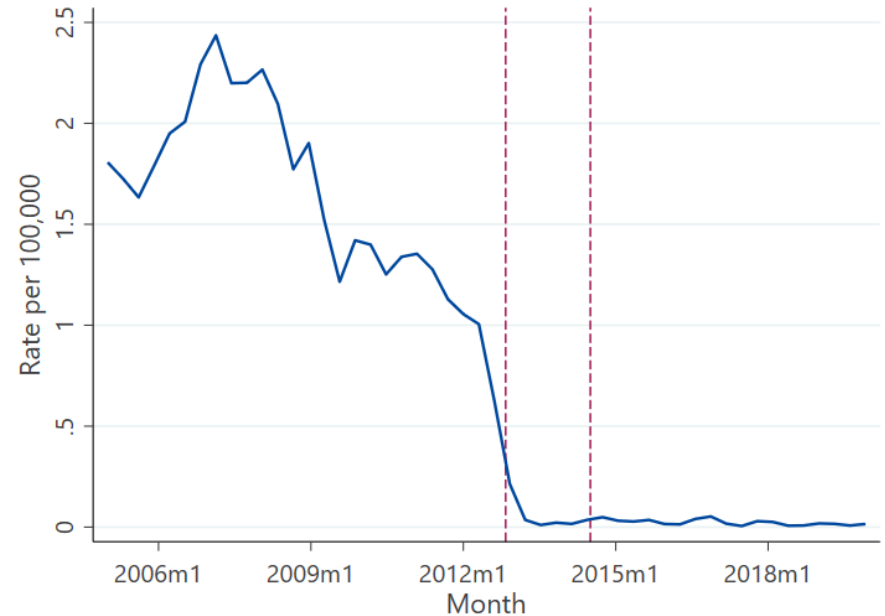
- Described how trends in cannabis possession misdemeanor conviction rates (per 100,000 population) evolved after legalization
 - Examined rates across three age groups: 12-17, 18-20, 21+
- Data
 - WSIPP's Criminal History Database (CHD)
 - Convicted cannabis possession misdemeanor cases for individuals ages 12 to 85 between 2005 and 2019
 - Over the study period, 3,300,000 criminal cases occurred
 - About 1,800,000 cases are convicted and 3.6% of those are cannabis possession misdemeanor convictions

Population Rate (per 100,000) of Cannabis Possession Misdemeanor Convictions—Ages 21 and Older

Male Population



Female Population

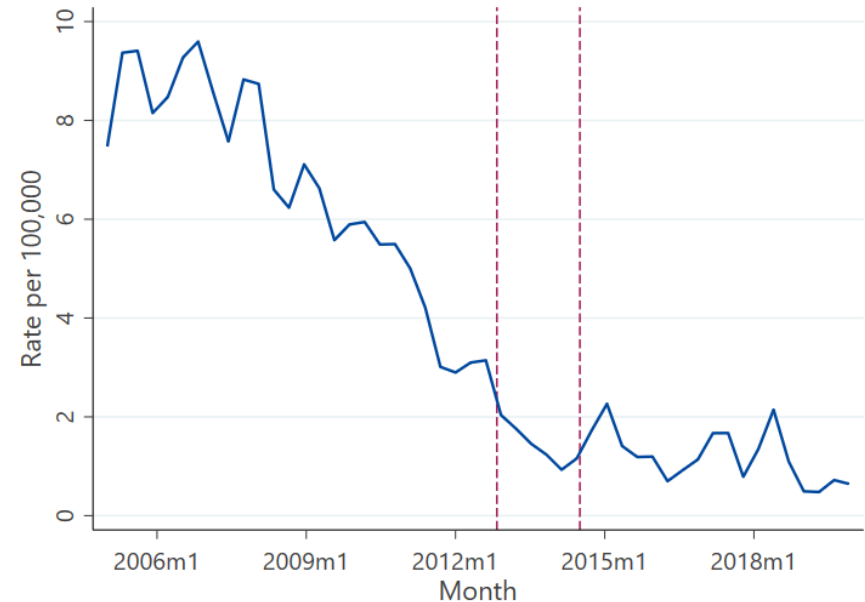


Population Rate (per 100,000) of Cannabis Possession Misdemeanor Convictions—Ages 18-20

Male Population

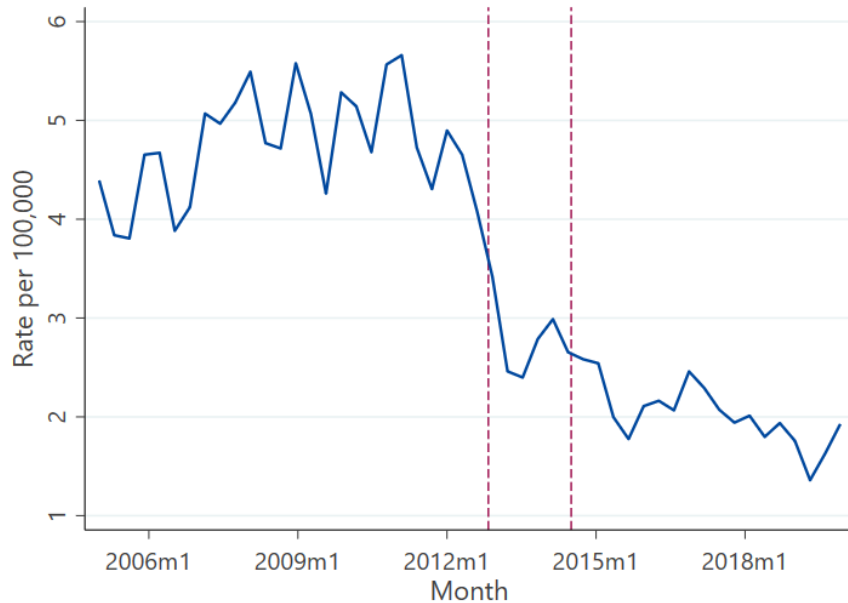


Female Population

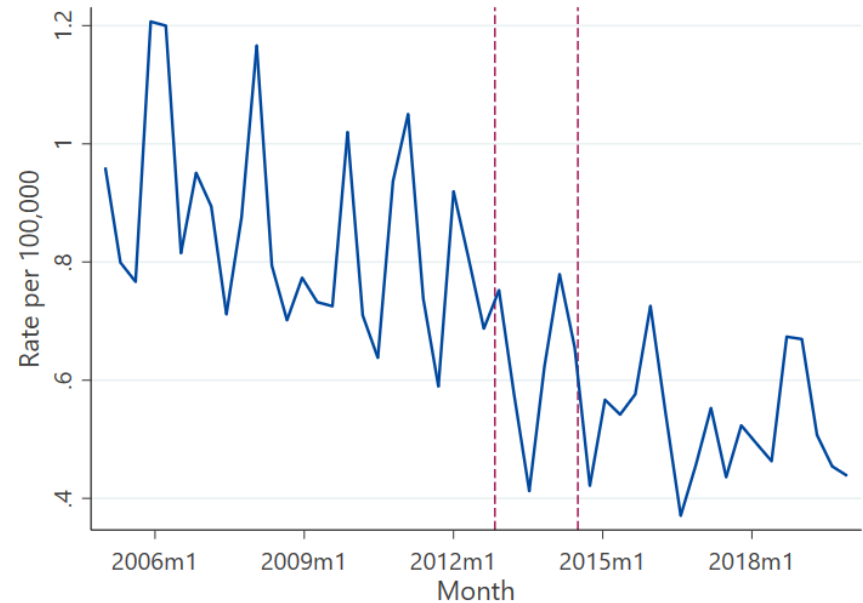


Population Rate (per 100,000) of Cannabis Possession Misdemeanor Convictions—Ages 12-17

Male Population



Female Population



REPORTED SUBSTANCE USE: NATIONAL COMPARISON

- Examined how reported cannabis use and other substance use changed after I-502 (12/12) and commercial sales (07/14)
- Data
 - National Survey of Drug Use and Health (NSDUH)
 - Compare Washington to similar states that did not legalize NMC.
 - Separately examine ages 12-20 and 21+
 - Outcomes include reported use of:
 - Cannabis
 - Alcohol
 - Cigarettes
 - Other drugs

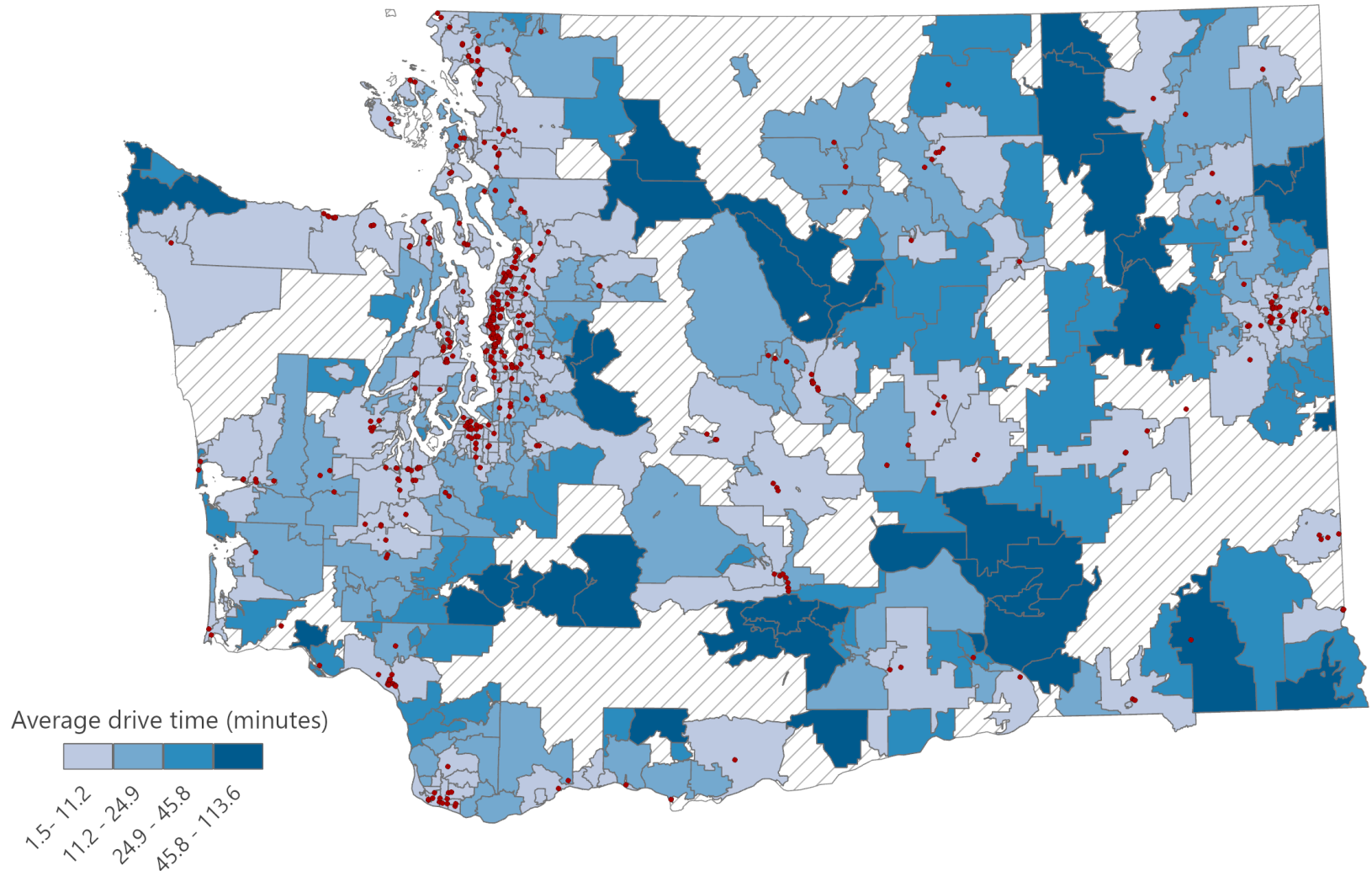
FINDINGS

- No evidence that reported cannabis use changed in WA after the passage of I-502 *or* the advent of retail (compared to similar states)
- No evidence that reported alcohol, cigarette, or other substance use changed in WA after the passage of I-502 *or* the advent of retail (compared to similar states)

NON-MEDICAL CANNABIS RETAIL ACCESS

- Retail market rolled out over several years, with varying accessibility across regions
 - Difficult to detect the impact of NMC retail using a comparison at a single point in time
 - The impact of NMC retail on cannabis use and subsequent outcomes may differ depending on retail accessibility
- Access measured as the average drive time (in minutes) to the nearest retailer for the average resident in a geographical unit (i.e., ZIP code, census tract, etc.)

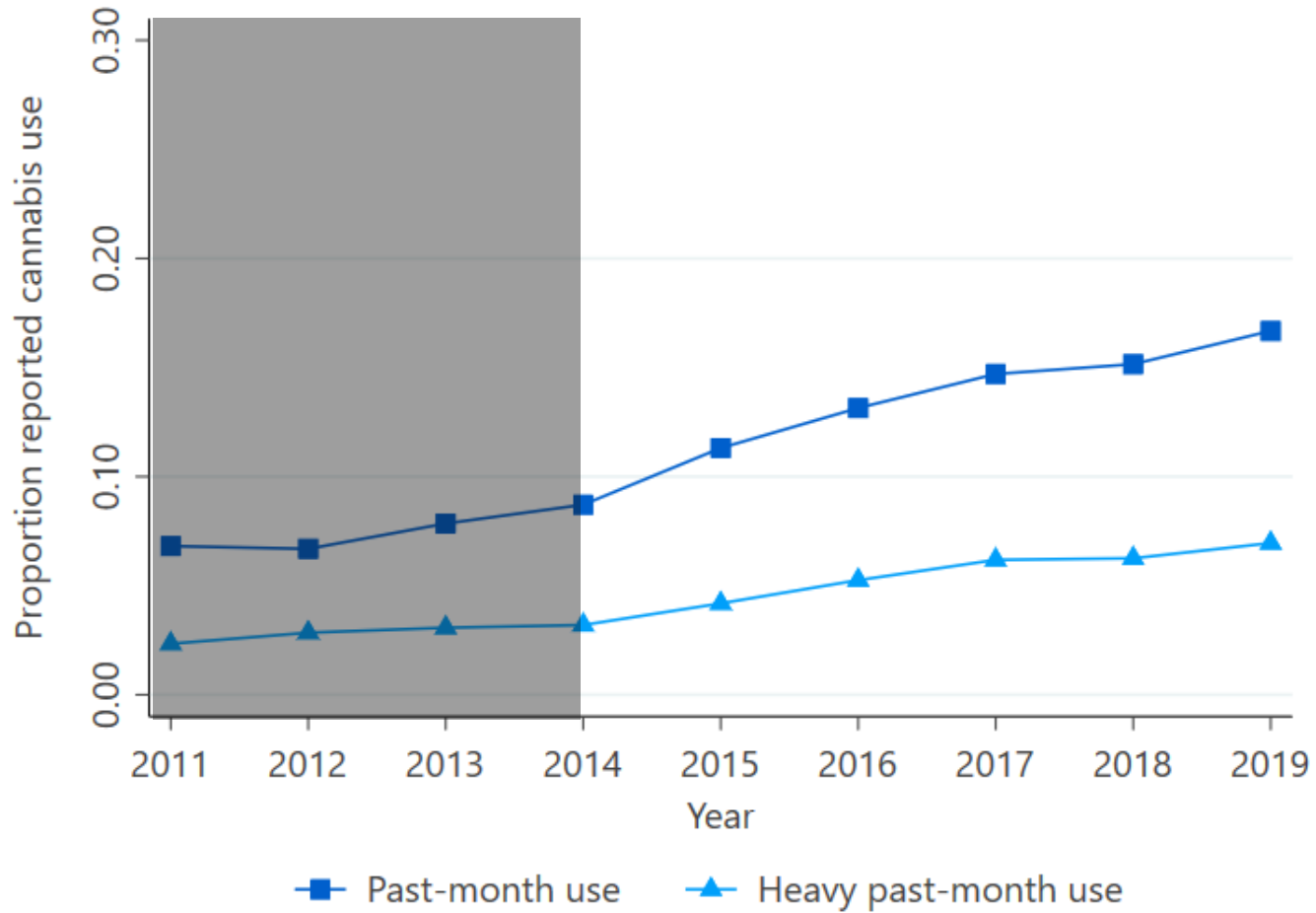
Average Drive Time to Nearest Retailer in Minutes, ZIP codes 2019



REPORTED CANNABIS USE: CANNABIS RETAIL ACCESS

- Estimated the relationship between drive time to the nearest NMC retailer and adult reported cannabis use
- Data
 - Washington State Behavioral Risk and Surveillance System (BRFSS)
 - Study period 2014-2019
 - Outcomes include past-month and heavy past-month (i.e., at least 20 days) cannabis use
 - Over the study period 11% of adults (ages 21+) report past-month cannabis use, and 4% report heavy past-month cannabis use

Proportion Reporting Past-Month Cannabis Use



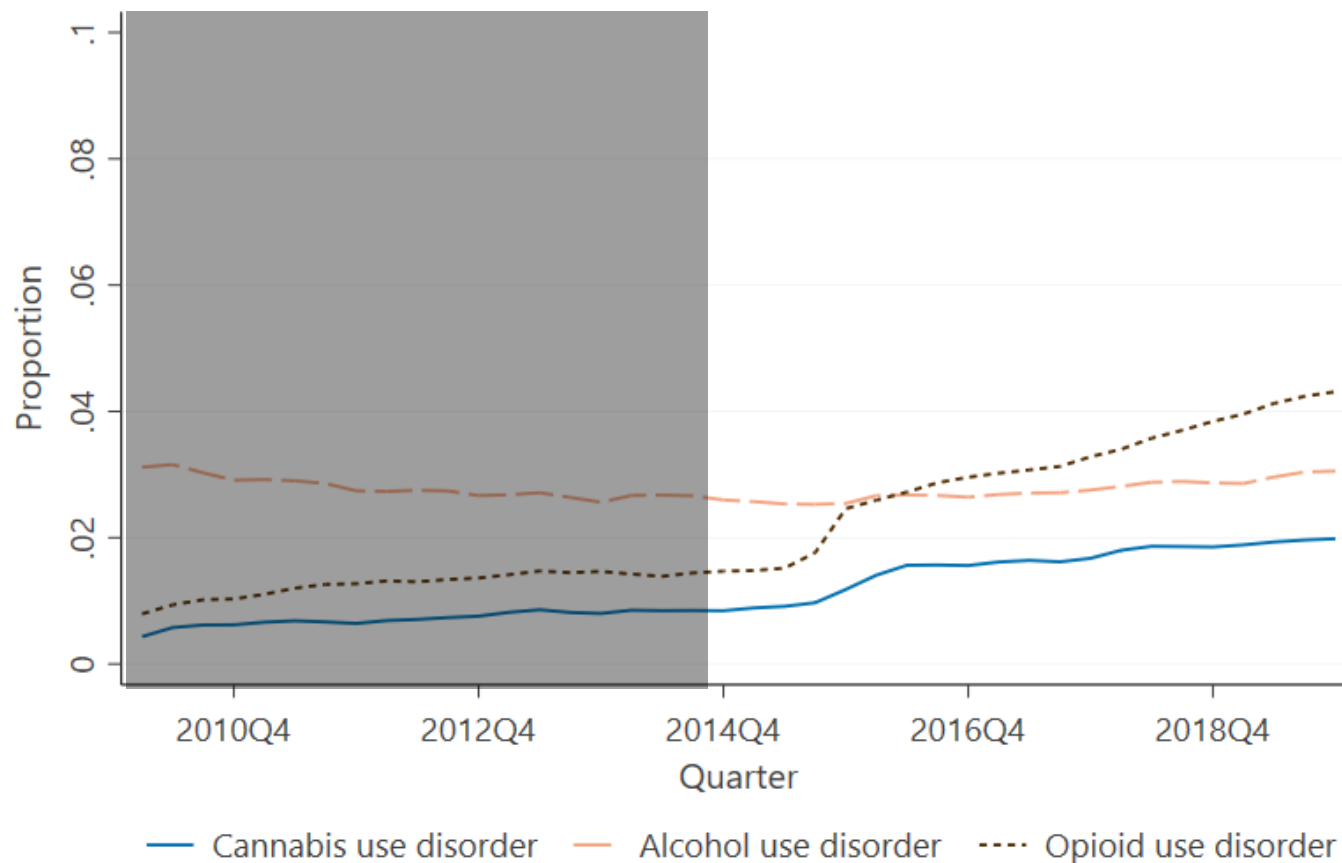
FINDINGS

- A shorter drive time to a licensed retailer relates to a higher probability of reported cannabis use
 - E.g., a 50% reduction in drive time increases the probability of reporting past-month use by 6.0%
 - E.g., a 50% reduction in drive time increases the probability of reporting heavy past-month use by 8.6%

SUBSTANCE USE DISORDER: CANNABIS RETAIL ACCESS

- Examined if changes in local access to licensed NMC retailers over time predict changes in the probability of receiving a substance use disorder diagnosis (annually)
- Data
 - Medicaid claims data
 - Outcomes include:
 - Cannabis use disorder (CUD), alcohol use disorder (AUD), or opioid use disorder (OUD) diagnosis
 - Co-occurring CUD and AUD, or CUD and OUD
 - Diagnoses can arise from several healthcare uses, including an office visit or an emergency department visit

Proportion of Medicaid Enrollees with Substance Use Disorder Diagnosis, Ages 21 and Older—Quarterly Averages between 2010-2019



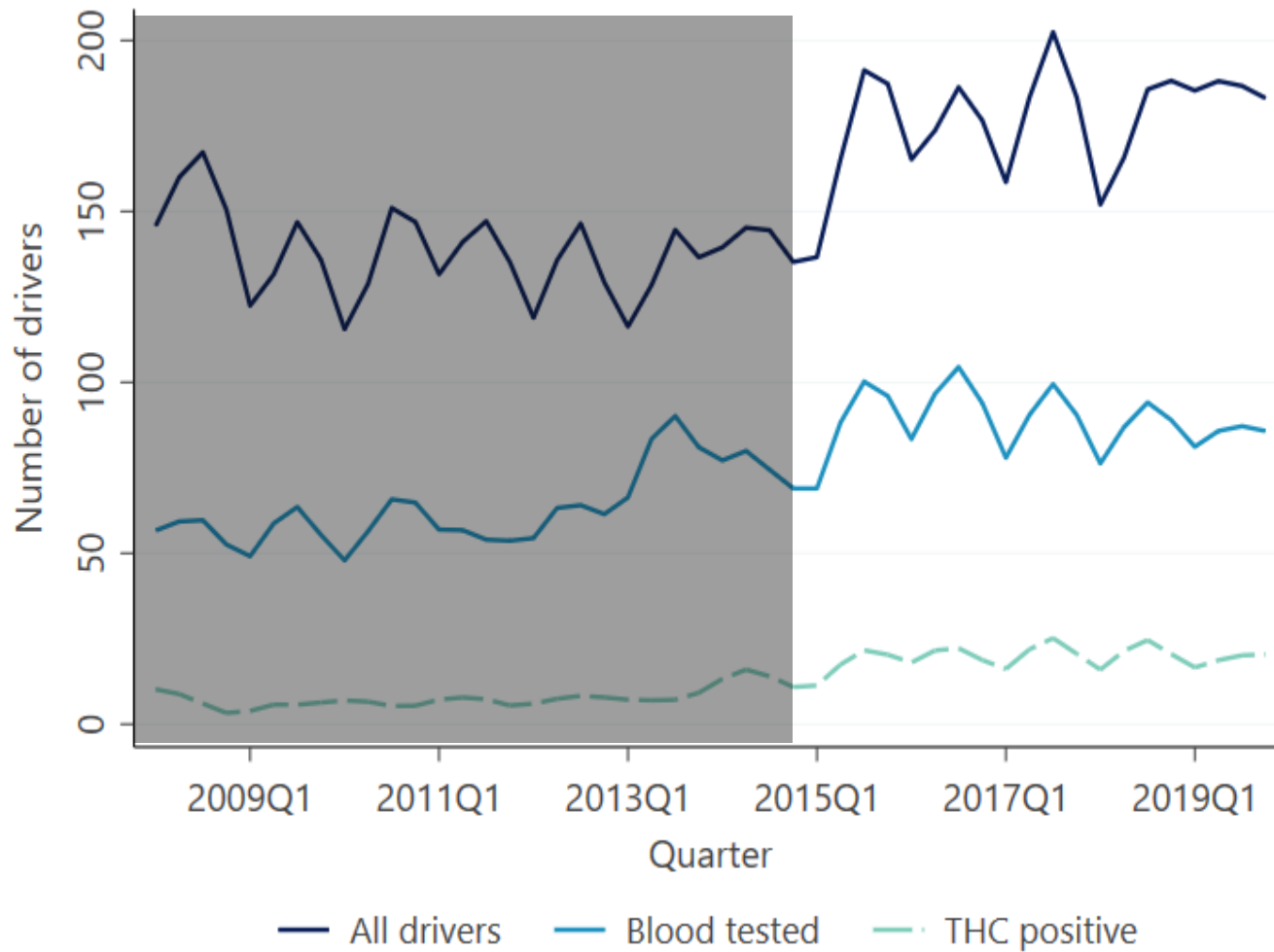
FINDINGS

- A shorter drive time to a licensed retailer relates to a higher probability of CUD, AUD, and OUD diagnoses among legal-aged adults.
 - E.g., a 50% reduction in drive time relates to a 2.3% higher likelihood of an annual CUD diagnosis
- A shorter drive time to a licensed retailer relates to a higher probability of co-occurring diagnoses
- More nearby retailers (within 5-10 minutes) predicts a higher probability of CUD
- A shorter drive time to a licensed retailer relates to a higher probability of annual CUD diagnoses among adolescent age 12-17 but *not* young adults ages 18-20
 - E.g., a 50% reduction in drive time relates to a 4.7% higher likelihood of an annual CUD diagnosis

FATAL TRAFFIC CRASHES: CANNABIS RETAIL ACCESS

- Examined if changes in local access to licensed NMC retailers over time predict changes in the prevalence of annual traffic fatalities
- Data
 - Washington Coded Fatal Crash (CFC) data files
 - Outcomes include:
 - Number of drivers involved in a fatal traffic collision
 - Among drivers who are tested:
 - » The number with a THC-positive blood test
 - » The number of drivers with BAC over 0.08 (alone or in combination with THC)

Quarterly Number of Drivers Involved in Fatal Traffic Accidents, 2008-2019



FINDINGS

- A shorter drive time to a licensed retailer relates to a modest increase in the number of drivers involved in a fatal traffic crash
 - E.g., a 50% reduction in the average drive time to the nearest retailer predicts about 46 more drivers involved in a fatal crash annually
- A shorter drive time to a licensed retailer relates to an increase in the prevalence of drivers who test THC-positive
- A shorter drive time to a licensed retailer did not predict changes in the number of drivers with a BAC of at least 0.08, or the number of drivers that test positive for the presence of THC in combination with alcohol

KEY TAKEAWAYS

- I-502 had immediate criminal justice impacts
- No evidence that legalization itself changed reported cannabis use, but access to licensed cannabis retailers predicts higher use
 - Access to retailers subsequently associates with higher substance use disorder diagnoses and more fatal traffic collisions
- More information is needed to measure outcomes and understand the price, potency, and types of cannabis product used

FUTURE WORK

- Focus on reported adolescent cannabis use and academic outcomes
- Explore more healthcare outcomes such as relevant psychiatric disorder diagnoses
- Describe the evolution of industry levels of employment and wages

THANK YOU!

Questions?

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