POLICY BRIEF *By Sarah Wires*

CANNABIS USE & IMPAIRED DRIVING

Changes to cannabis laws increase rates of driving under influence of cannabis & fatal car crashes

Public Health Concern

IMPACT ON DRIVING

Driving under the influence of cannabis (DUIC) should be a **priority public health concern**. Research shows DUIC impairs drivers' performance and increases risk of crash (Rameks, 2018). The following areas are impairment by cannabis use (CU):

- Coordination & motor skills
- Psychomotor Speed
- Visual Processing
- Executive Function
- Multi-Tasking
- Lane Tracking
- Working Memory

DUIC affects coordination, reaction time, attention, judgment and impairs cognition necessary for safe driving (eg. **resulting in slower reaction times**). Motor skills decrease which increase the risk of fatal car crashes. CU impairs accurately assessing surroundings and reacting to changes in traffic conditions. This leads to misjudgments in changing lanes, making turns, or maintaining a safe following distance. **Reduced inhibitions** result in aggressive driving, excessive speeding, taking unnecessary risks on the road. An inability to concentrate on the road, leads to missed traffic signals, failure to notice pedestrians, cyclists and unawareness of potential hazards. Impaired motor coordination **makes it difficult to control a vehicle safely.** Difficulty maintaining a steady speed, staying within a lane, or performing basic driving maneuvers occurs. All of which result in **increased number of accidents and collisions.**

Crash Risk **2x** ↑ **2x increase in crash's** (Gross, 2019)

Cannabis Users are more likely to be involved in crashes compared to non-users. And associated with an increased involvement in a car crashes that showed drivers tested positive for cannabis. The number of drivers testing positive for CU and alcohol use (AU) also increased. DUIC and ETG are more dangerous than drivers who consume cannabis alone or ETG alone (Hartman & Huestis, 2013) (NIDA, 2019b).

MEASURING IMPAIRMENT

The current methods to measure driver impairment are:
- Field Sobriety Tests (roadside)
- Urine Analysis *(station)*
- Saliva/oral fluid tests *(roadside)*
- Blood Tests *(station)*
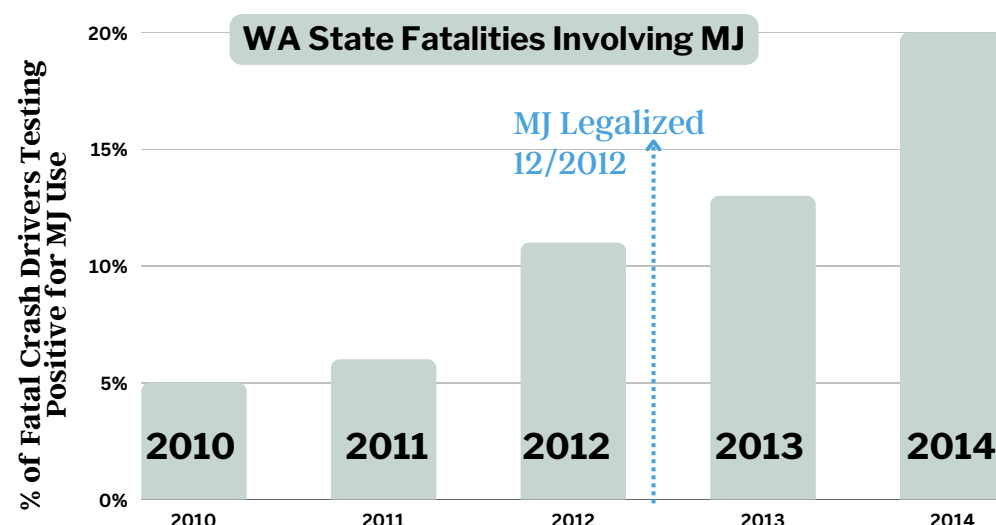- Drug recognition experts (DRE) *(expensive)*

CONTRIBUTING FACTORS

As rates of DUIC increase with decriminalization and commercialization, so should options for measuring driver impairment. The effects of multiple substances have a synergistic effect on impairment, crash risk, deaths. Measuring impairment is **dependent on police recognizing the signs of DUIC.** There must be probable cause for an arrest to occur, before an UA or blood test can be collected. **Regulation and monitoring** is complicated without a way to measure DUIC impairment roadside. Use of DRE and saliva testing is expensive and not used in VA. Methods for measuring impairment aren't as straightforward as alcohol testing. THC levels and levels of impairment aren't correlated. Visible behavioral or cognitive effects vary by individual. And can be subtle and context dependent. This makes it difficult to measure objectively. Especially if police do not know what to look out for. Tolerance and frequency of use also vary how impaired a person will present. Cognitive, field sobriety tests, can assess impairment more directly, but are subjective and influenced by multiple factors. And no standardized limits for THC impairment exist. (Adlin, 2023)

Legalization & Availibility

The state of VA should learn from the impact of other states' changes to cannabis laws. Rates of traffic **fatalities** in Colorado (CO) has risen to **1 in 4 deaths that involve MJ** (CO DOJ, 2020) since legalization in 2014. Traffic fatalities with drivers testing positive increased from **55 deaths in 2013** to **115 deaths in 2018**. In **2018, 18.2% of all traffic fatalities in CO involved a driver who tested positive for MJ.** (Graph R). Reports by AAA found after legalization in Washington state the number of drivers in fatal crashes who tested positive for MJ **doubled** (graph below). The legalization of recreational MJ **in Colorado, Oregon, and Washington coincided with an increase in collision claims** (Highway Loss Data Institute, 2018).

WA State Fatalities Involving MJ

MJ Legalized 12/2012

(% of Fatal Crash Drivers Testing Positive for MJ Use; years 2010, 2011, 2012, 2013, 2014)

AAA Foundation for Traffic Safety, 2016
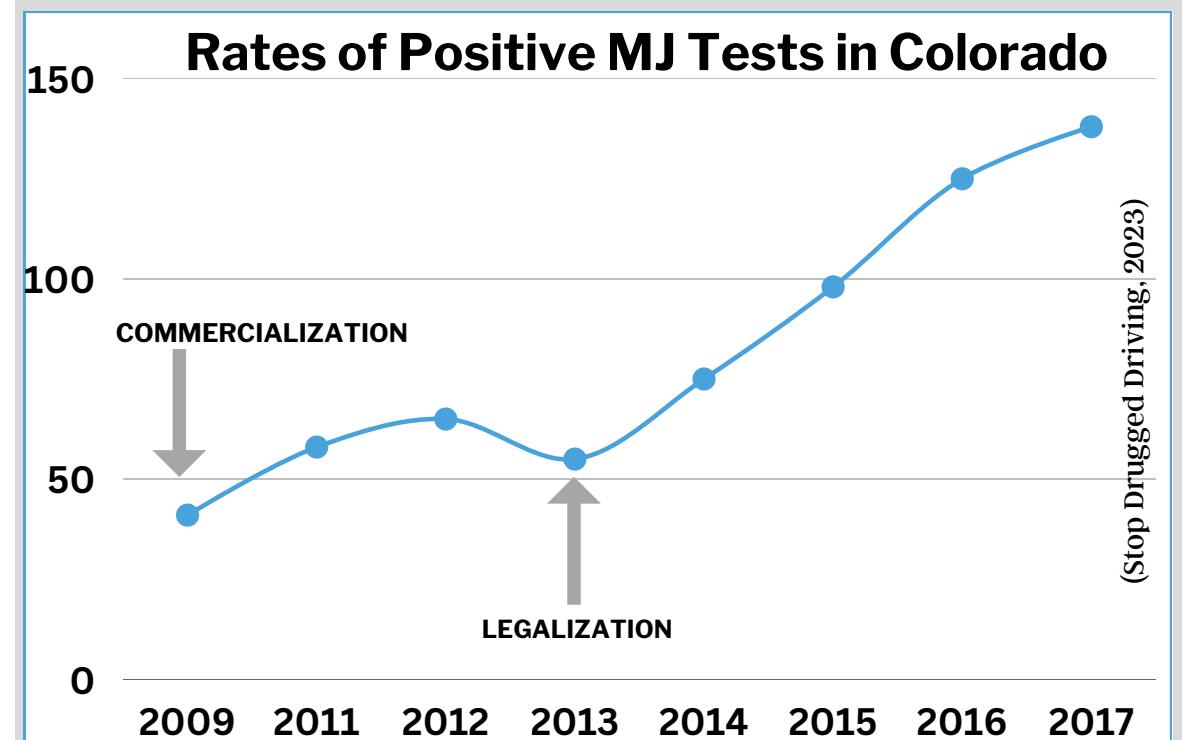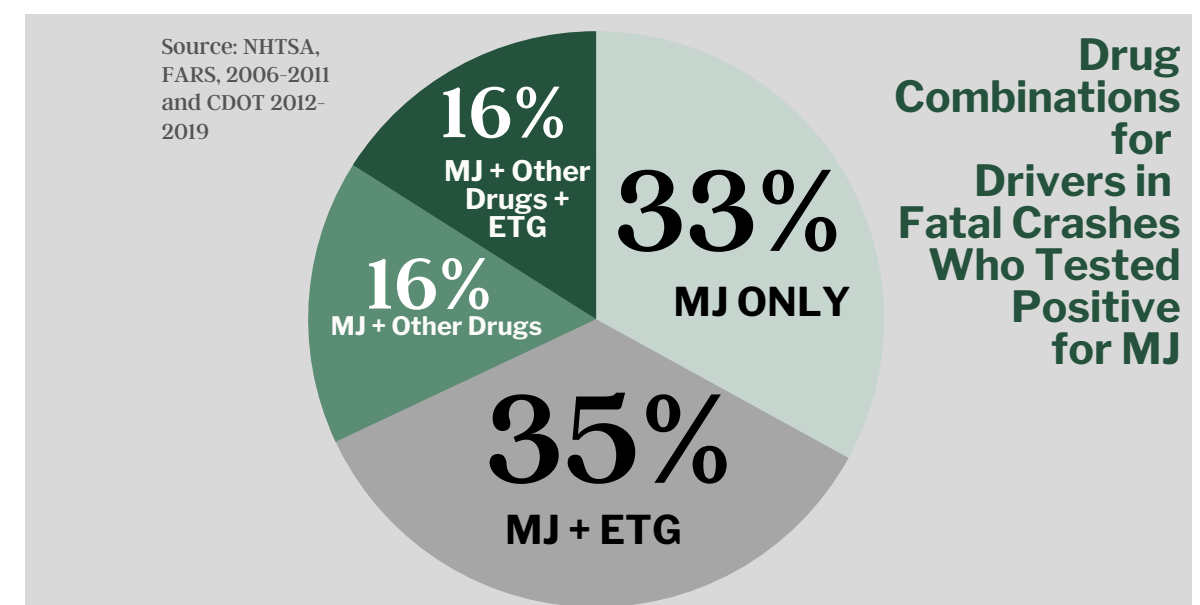
THE PROBLEM

States with cannabis legalization have an increase in driving under influence of cannabis (DUIC) and crashes **(fatal and non-fatal)** (SAM, 2023). We **should learn** from their experience. By educating and improve our monitoring driver impairment. Standard **field sobriety tests aren't sufficient enough.** VA has no quick or reliable device for testing DUIC roadside. And "have failed to create laws setting legalized impairment limit" (SAM, 2023).

> ❝
> **If marijuana were legalized nationwide, the U.S. would suffer an additional 6,800 excess fatal crashes every year.**
> **(Kamer et al., 2020)**
> ❞

Source: NHTSA, FARS, 2006-2011 and CDOT 2012-2019

Drug Combinations for Drivers in Fatal Crashes Who Tested Positive for MJ

- 16% MJ + Other Drugs + ETG
- 16% MJ + Other Drugs
- 33% MJ ONLY
- 35% MJ + ETG

Rates of Positive MJ Tests in Colorado

COMMERCIALIZATION

LEGALIZATION

(Stop Drugged Driving, 2023)

(y-axis: 0, 50, 100, 150; x-axis: 2009, 2011, 2012, 2013, 2014, 2015, 2016, 2017)

Drivers with serious injury/fatal crashes tested positive for MJ (NHSTA 2023) **56%**

PM

48%

In less than 10 years, number of + MJ tests for **nighttime** drivers

1 in 5 **Under influence of cannabis**
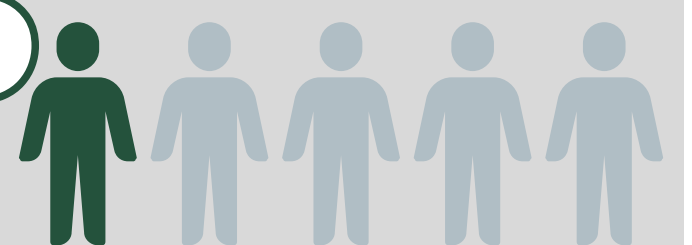
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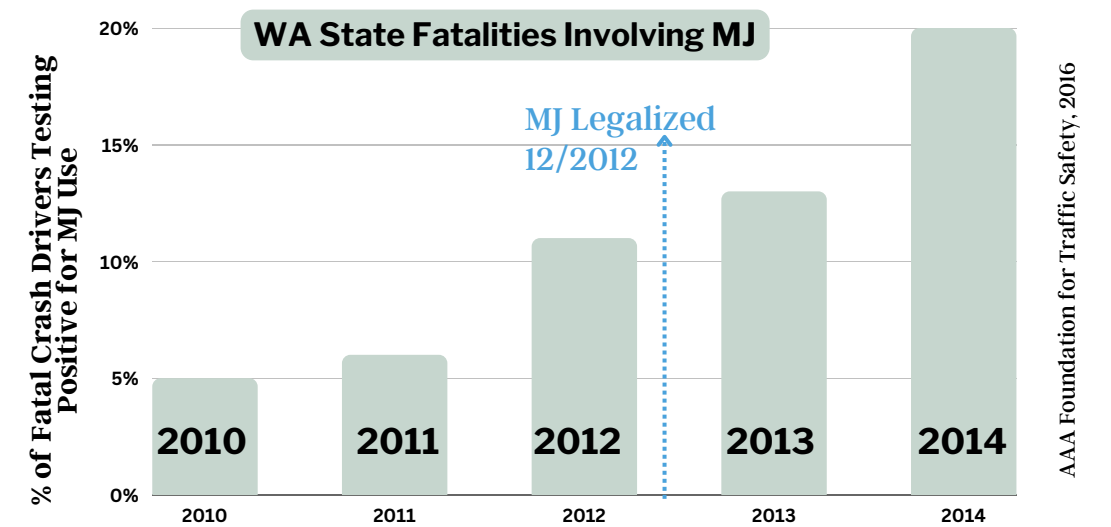> "
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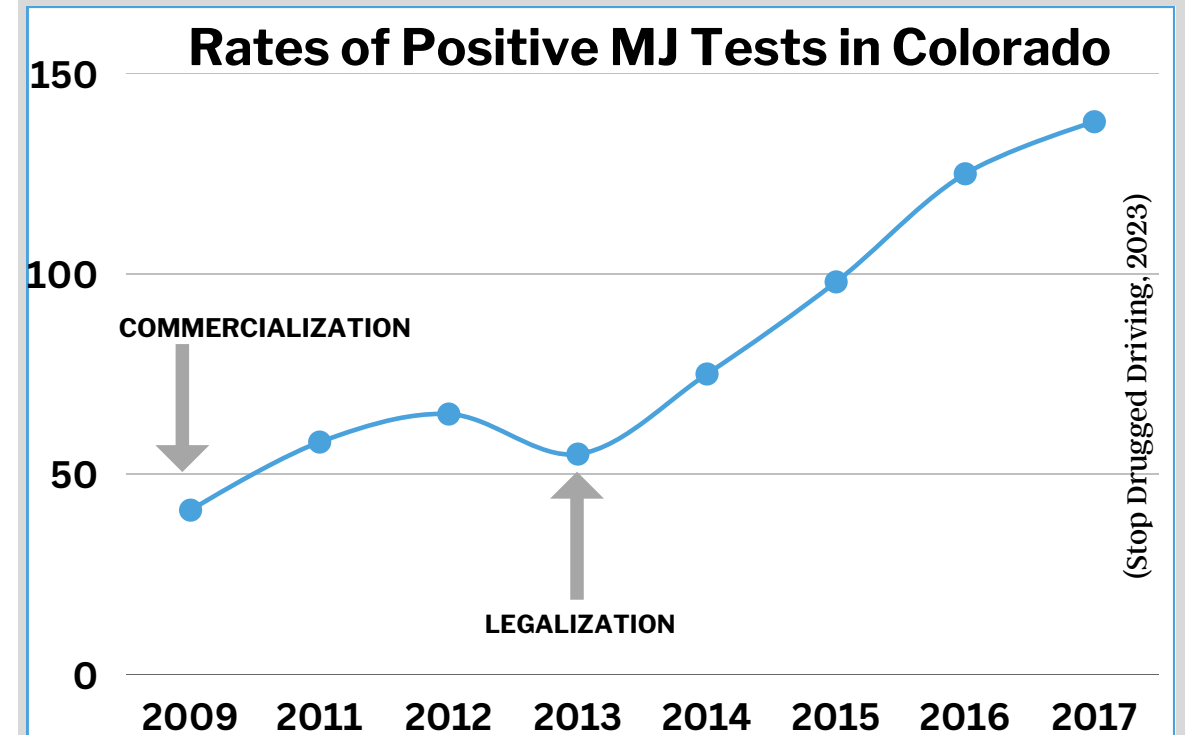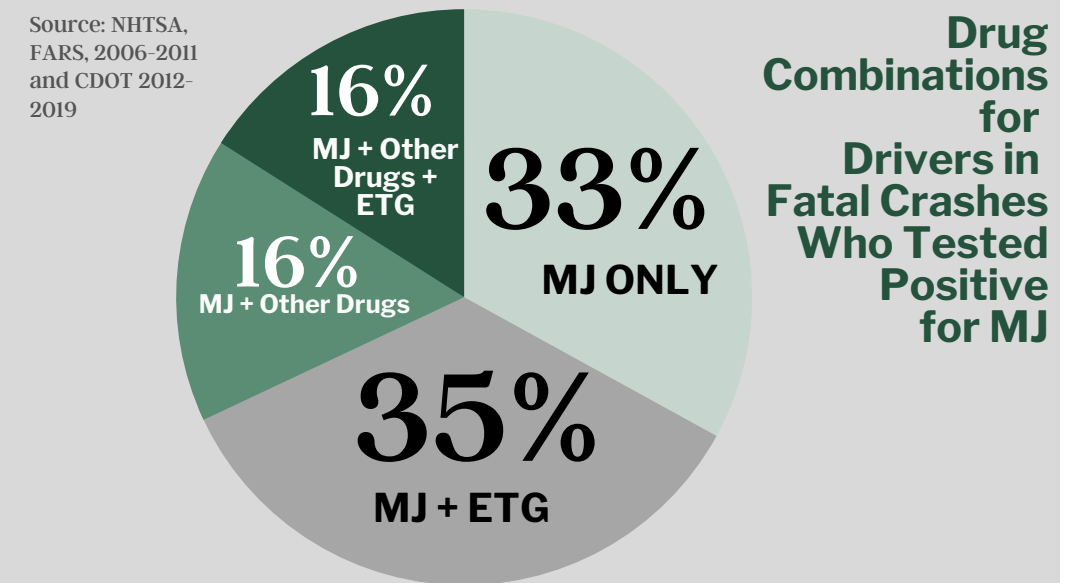
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WA State Fatalities Involving MJ

% of Fatal Crash Drivers Testing Positive for MJ Use

MJ Legalized 12/2012

2010	2011	2012	2013	2014
~5%	~6%	~11%	~13%	20%

AAA Foundation for Traffic Safety; 2016

Source: NHTSA, FARS, 2006–2011 and CDOT 2012–2019

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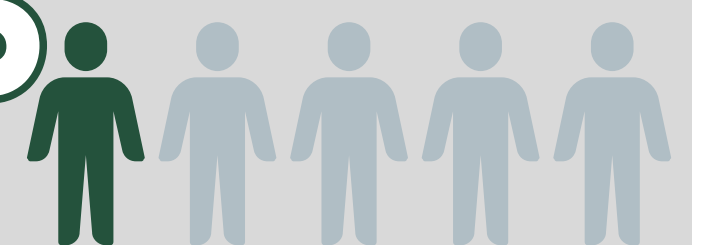| 2009	2011	2012	2013	2014	2015	2016	2017

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