

Cannabis and Cars-Addressing the Challenges of the Marijuana Impaired Driver



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Overview

- State of DUI in America
- Magnitude of the DUID problem
- Marijuana-impaired driving
- Complexities and challenges:
 - Policy
 - Enforcement
 - Testing
- Supervision solutions/
recommendations



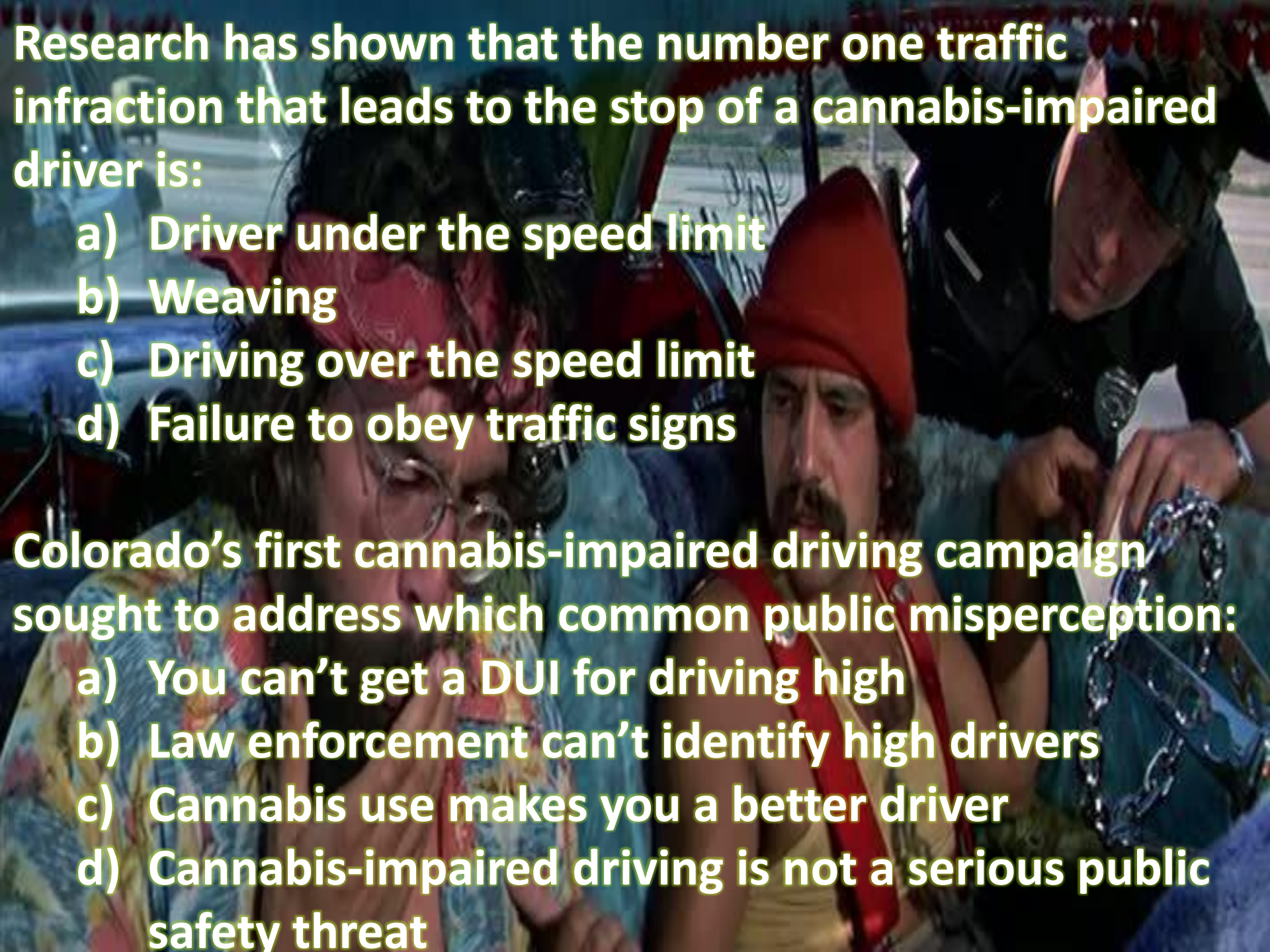


Cannabis is the most frequently detected drug in the systems of:

- a. Fatally-injured drivers**
- b. Surviving drivers**
- c. Drivers arrested for DUI**
- d. All of the above**

Research shows a sharp increase in DUI's in those state that legalize recreational MJ

- a. True**
- b. False**



Research has shown that the number one traffic infraction that leads to the stop of a cannabis-impaired driver is:

- a) Driver under the speed limit
- b) Weaving
- c) Driving over the speed limit
- d) Failure to obey traffic signs

Colorado's first cannabis-impaired driving campaign sought to address which common public misperception:

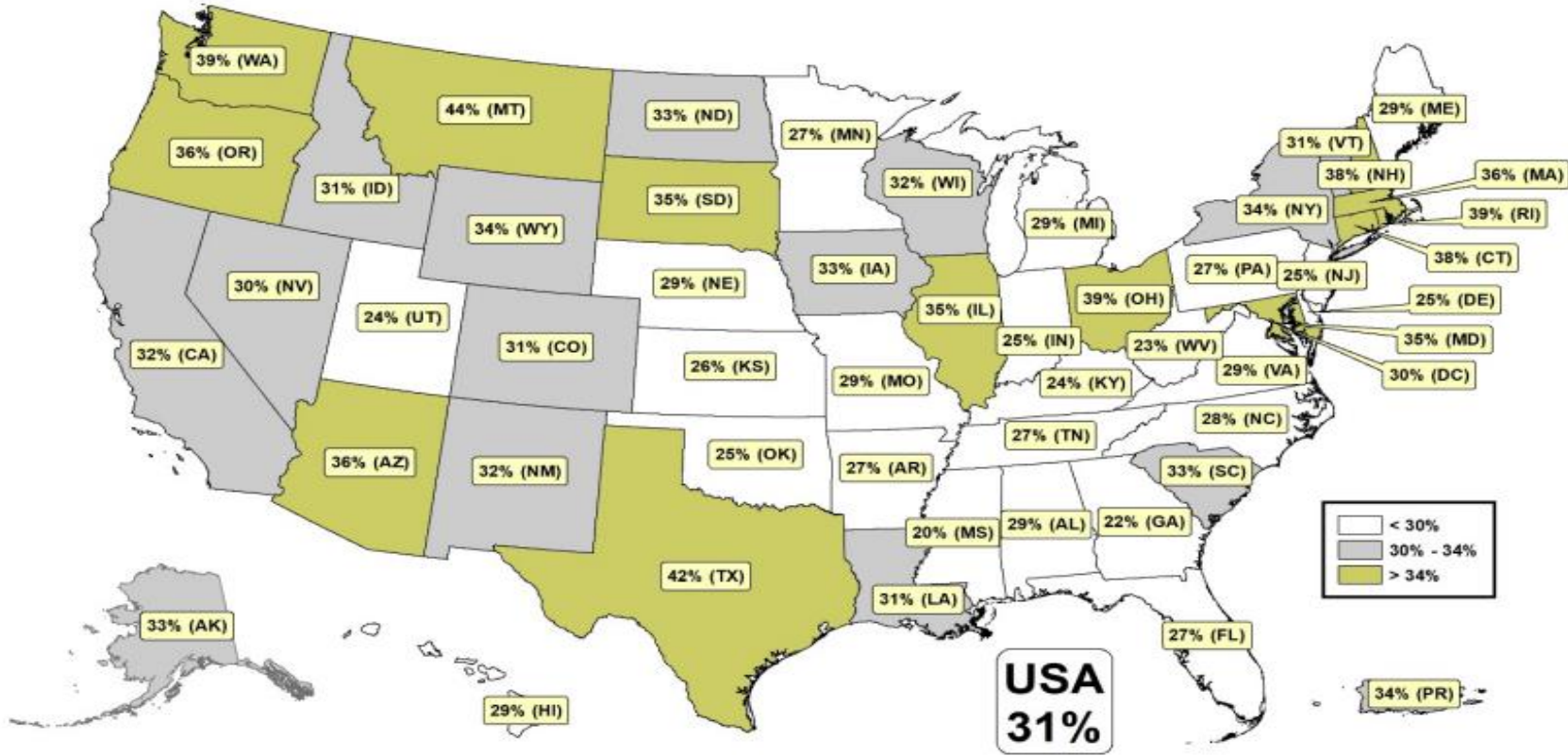
- a) You can't get a DUI for driving high
- b) Law enforcement can't identify high drivers
- c) Cannabis use makes you a better driver
- d) Cannabis-impaired driving is not a serious public safety threat

Impaired Driving by The Numbers

- In 2019, there were 1,024,508 drivers arrested for DUI.
- An alcohol-impaired driving fatality occurs every **39 minutes**.
- In 2021, there were **13,384** alcohol-related traffic fatalities. 294 were children. This comprises 31% of all traffic fatalities
 - **This is a 14% increase over 2020**
- In 2018, the most frequently recorded BAC among drinking drivers in fatal crashes was **.16**
- **121 million** drunk driving episodes occurred in 2019.



Alcohol-Impaired-Driving Fatalities as a Percentage of Total Fatalities 2021



Source: FARS 2021 ARF

Figure 12. Alcohol-Impaired-Driving Fatalities as Percentages of Total Traffic Fatalities, by State, 2021

Minnesota DWI Arrests

Impaired Driving Arrests
(BAC=.08+)*

2017
21,032

2018
20,241

2019
20,374

2020
17,731

2021
19,198

Minnesota DWI Fatalities

Alcohol-Impaired
Driving Fatalities
(BAC=.08+)*

2017

85
(24%)

2018

104
(27%)

2019

85
(23%)

2020

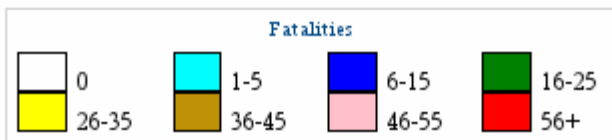
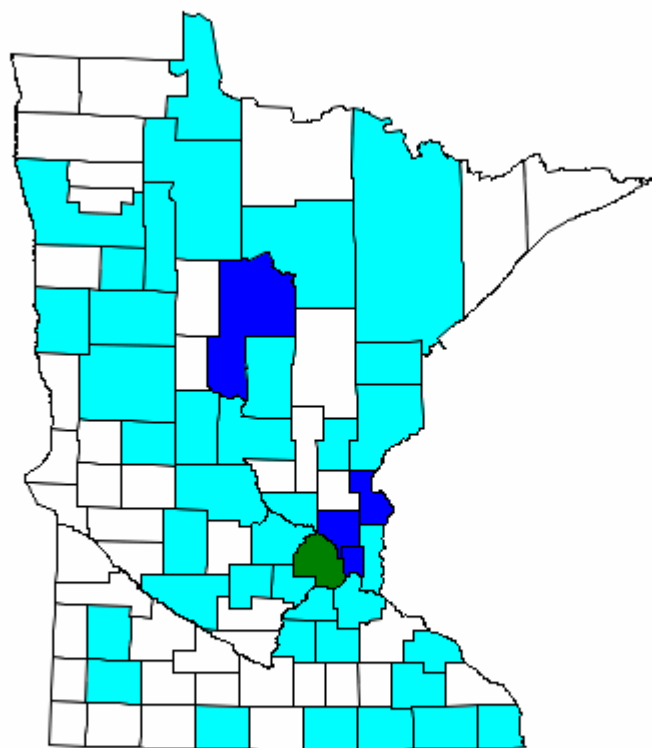
107
(27%)

2021

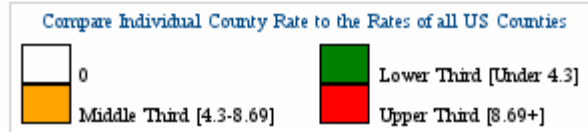
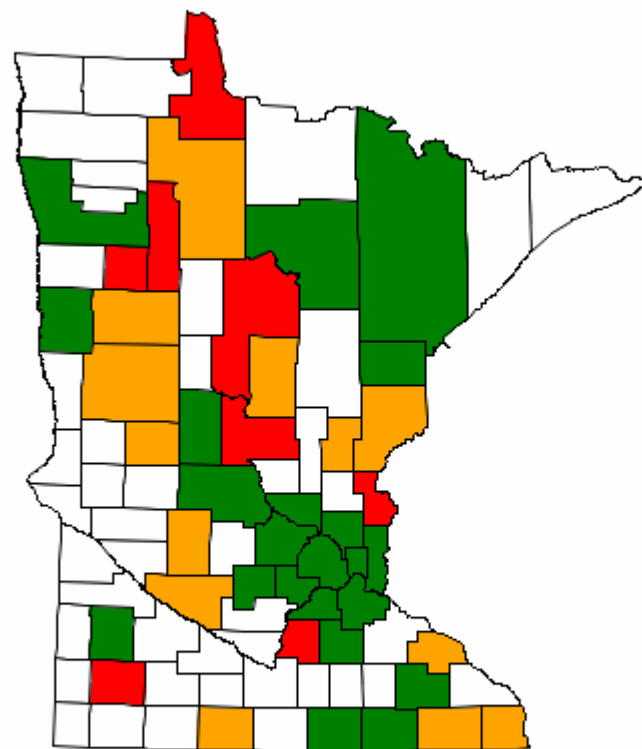
130
(27%)

Fatalities in Crashes Involving an Alcohol-Impaired Driver (BAC = .08+) by County for 2021

Fatalities in Crashes Involving an Alcohol-Impaired Driver (BAC = .08+)



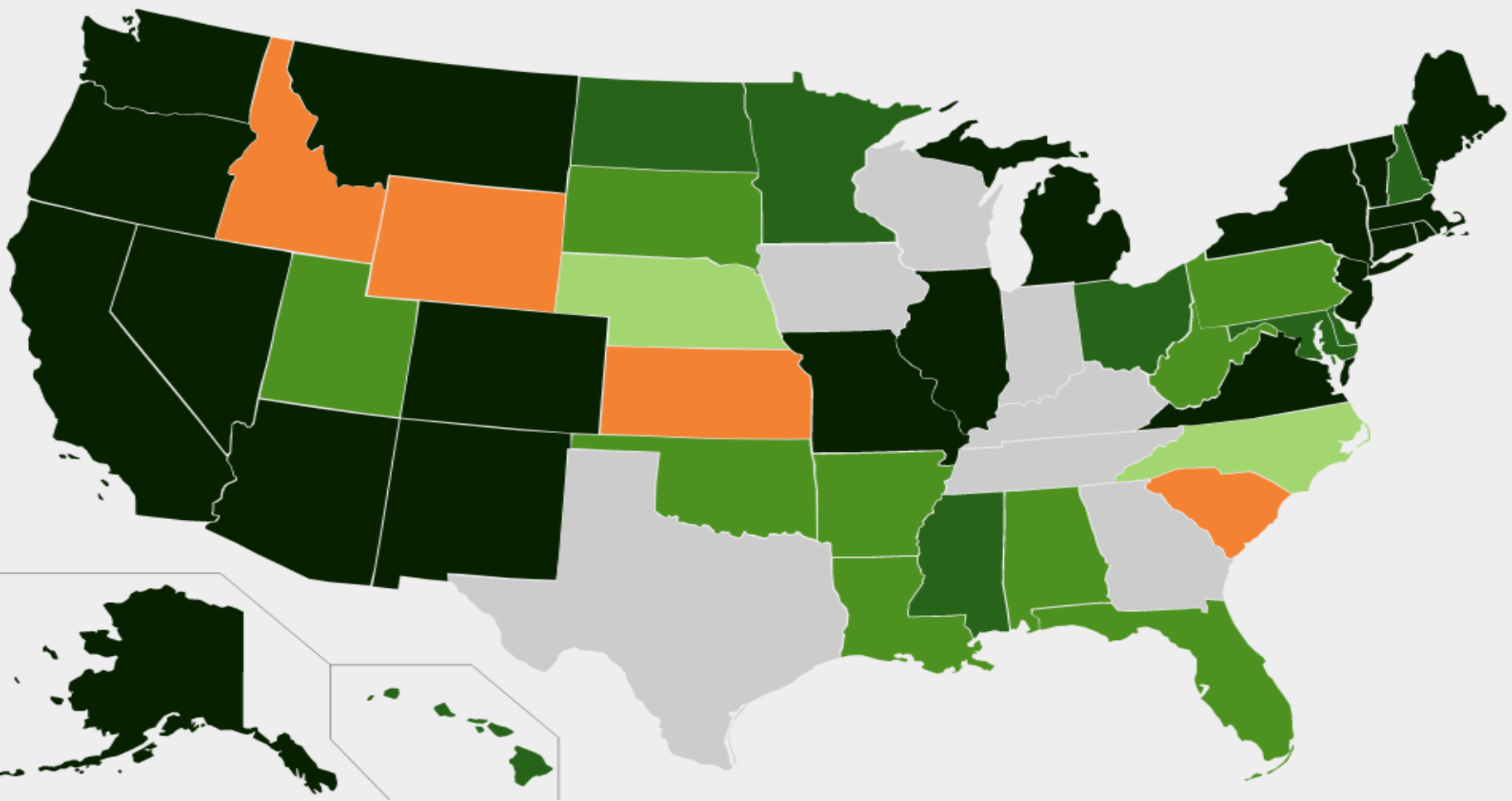
Fatalities in Crashes Involving an Alcohol-Impaired Driver (BAC = .08+) per 100,000 Population





DRUG-IMPAIRED DRIVING

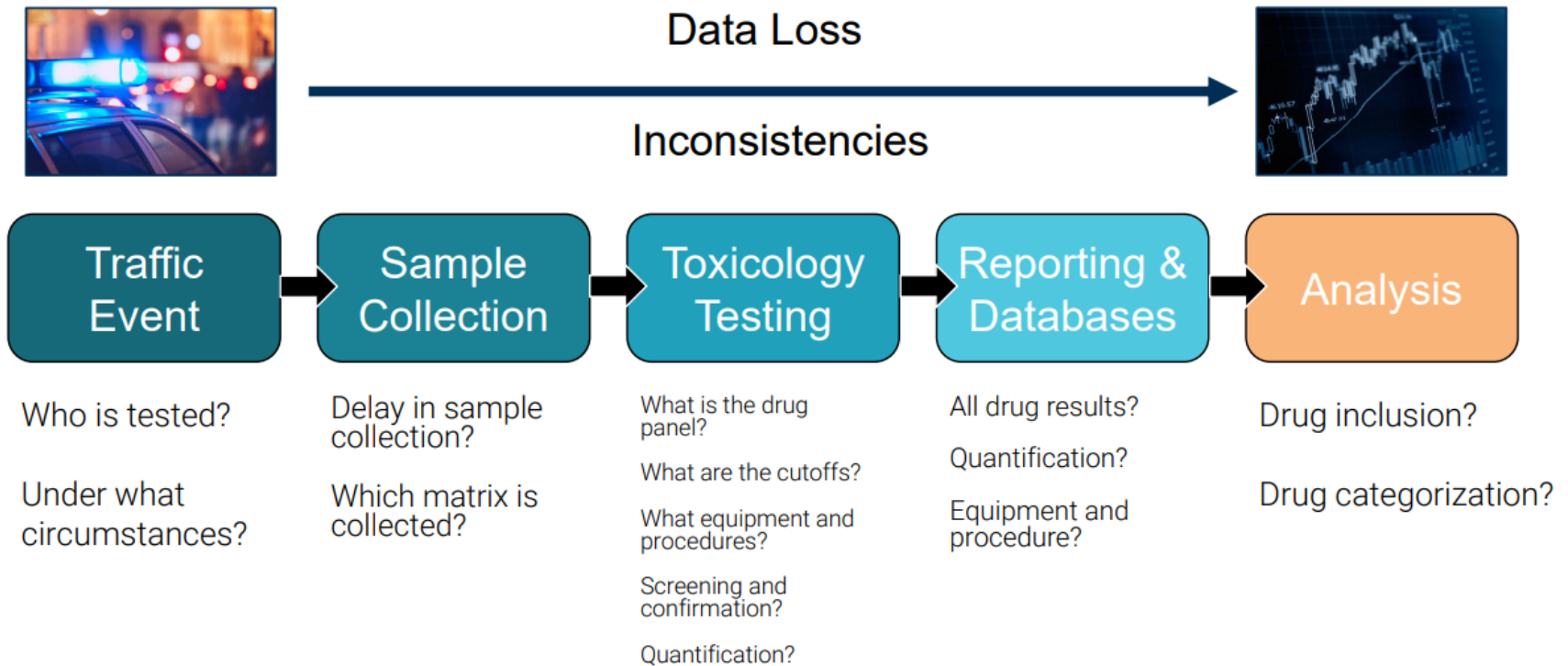
Legalized Medical and Decriminalized Medical Decriminalized CBD with THC Only Fully illegal



ROADSIDE SURVEYS:

	Weekday Days	Weekend Nights
Tested positive for some drug or medication	22.4%	22.5%
Illegal drugs, including marijuana	12.1%	15.2%
Medication	10.3%	7.3%
Marijuana	11.7%	12.6%
Alcohol	1.1%	8.3%

Challenges to Understanding Drug Prevalence



Other Challenges

- **MJ related impairment is now 2nd to alcohol in impaired driving stats**
- **MJ has a very short detection window**
- **Inconsistency of States, IE- adopting certain concentrations versus zero tolerance.**
- **In 2019, an estimated 13.6 million drivers aged 16 and older in the U.S. self-reported driving under the influence of illicit drugs, including cannabis, in the past year.**

MJ and the Pandemic

- A 2019-2020 NHTSA study found a significant increase in the prevalence of drugs detected in blood among seriously and fatally injured drivers, from 50.8% before the pandemic to 64.7% and 61.4%, during the two pandemic periods
- Of all the enforcement evaluations performed by Drug Recognition Experts (DREs) in 2019, about 42% concluded driver impairment was the result of polydrug use.

And if that wasn't enough....

- One third of MJ users consume on a daily basis.
- 74% of Americans have access to legal marijuana
- 20% of MJ users account for 80% of product consumption.
- MJ prices have dropped by 50%

Toxicology Issues

- About half of the Toxicology Labs test for drugs if an individual has .10 BAC or higher.....
- No clear evidence that MJ alone causes an increase in crashes

MJ and Other Drugs

Research—Other Drugs

- Medical/Recreational MJ reduces opioid use, no effect on ODs or deaths
- Medical/Recreational MJ reduces opioid prescriptions
- Medical/Recreational MJ increases combined alcohol/MJ use
- Medical/Recreational MJ no effect on alcohol sales
- Medical/Recreational MJ ? effect on other drugs

The challenge of polysubstance use



1+1=3

DUID crash risk

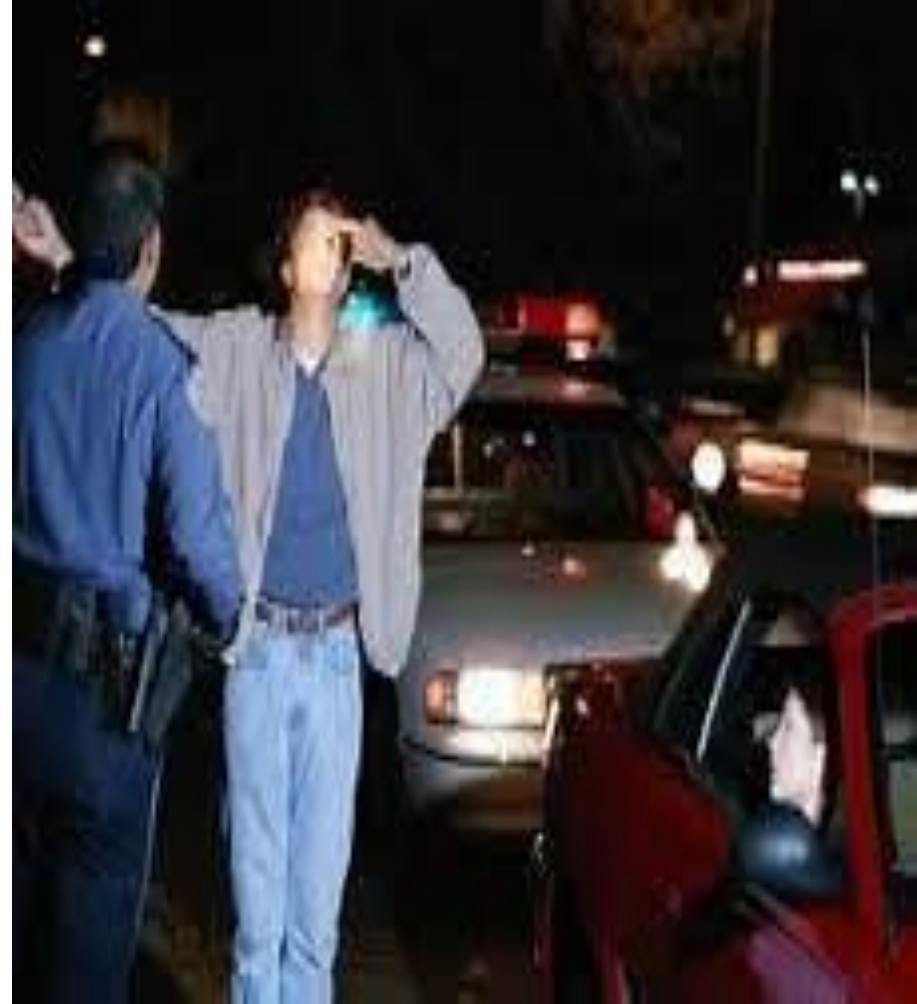
TABLE 3. CRASH RISK ASSOCIATED WITH DRUG USE IN EUROPEAN STUDIES

Risk level	Relative risk	Drug category
Slightly increased risk	1-3	marijuana
Medium increased risk	2-10	benzodiazepines cocaine opiods
Highly increased risk	5-30	amphetamines multiple drugs
Extremely increased risk	20-200	alcohol together with drugs

Shulze et al., 2012; Griffiths, 2014

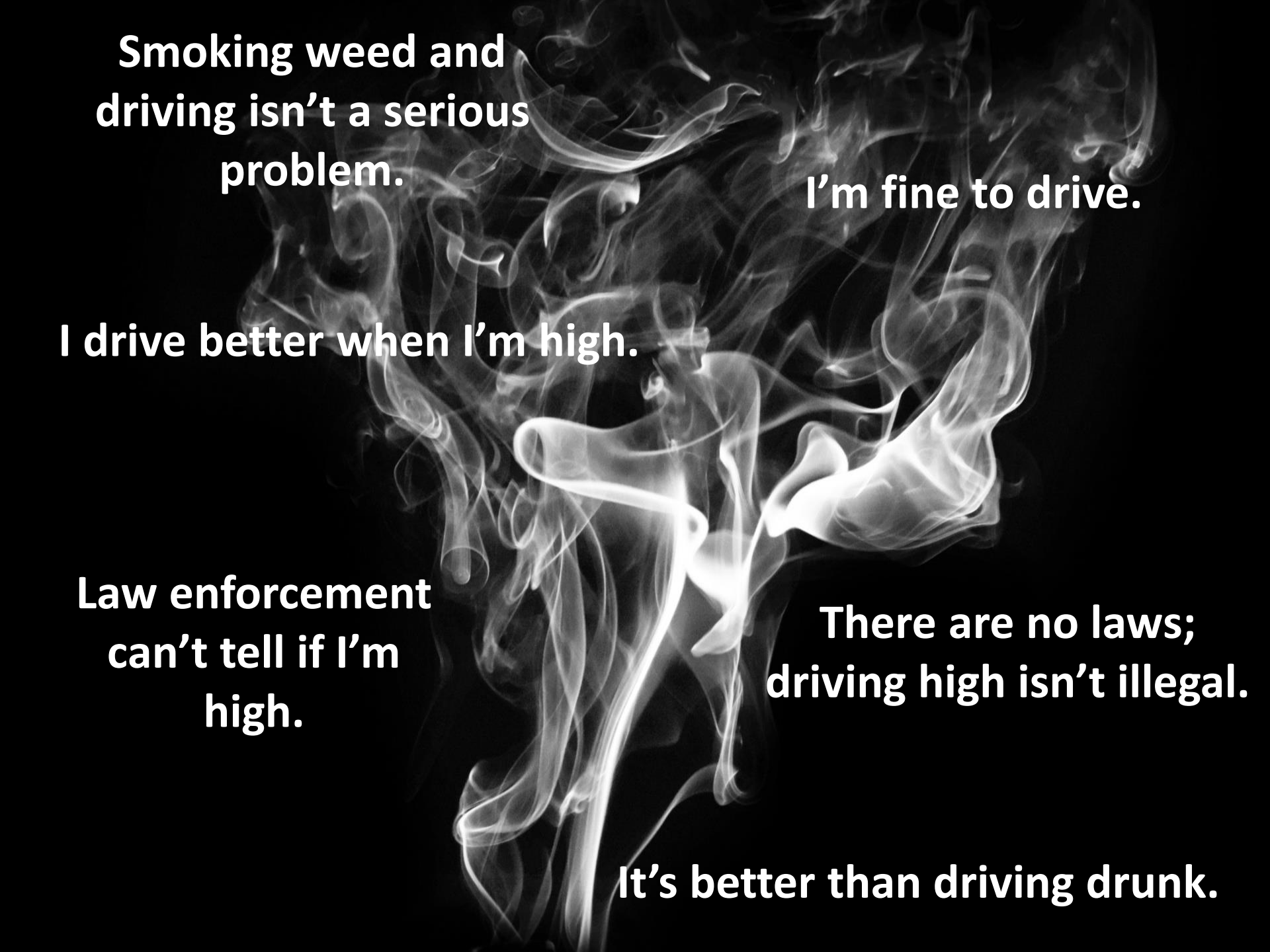
Traditional impaired driving enforcement

- **DUI is the *ONLY* crime where the investigation stops after obtaining a minimum amount of evidence.**
- Current protocols prevent drug testing once a suspect registers an illegal BAC.
- Implications:
 - » Hinders the ability to measure the true magnitude of the drug-impaired driving problem.
 - » Many DUI arrests are inaccurately attributed to alcohol alone.





PUBLIC AWARENESS & PERCEPTIONS



**Smoking weed and
driving isn't a serious
problem.**

I'm fine to drive.

I drive better when I'm high.

**Law enforcement
can't tell if I'm
high.**

**There are no laws;
driving high isn't illegal.**

It's better than driving drunk.

Sabina
HOLISTIC HEALTH

**DOES
MEDICAL
MARIJUANA
CURE
EVERYTHING?**



A woman with long dark hair, wearing a white lab coat over a blue top and a colorful necklace, looking directly at the camera.

**NEWS
9**

**CAN CANNABIS
CURE COVID-19?**



A man with dark hair and a beard, wearing a white button-down shirt, sitting in a news studio.

How can a person
get the fastest
relief for migranes
using cannabis?



**MARIJUANA
AND
SCHIZOPHRENIA**



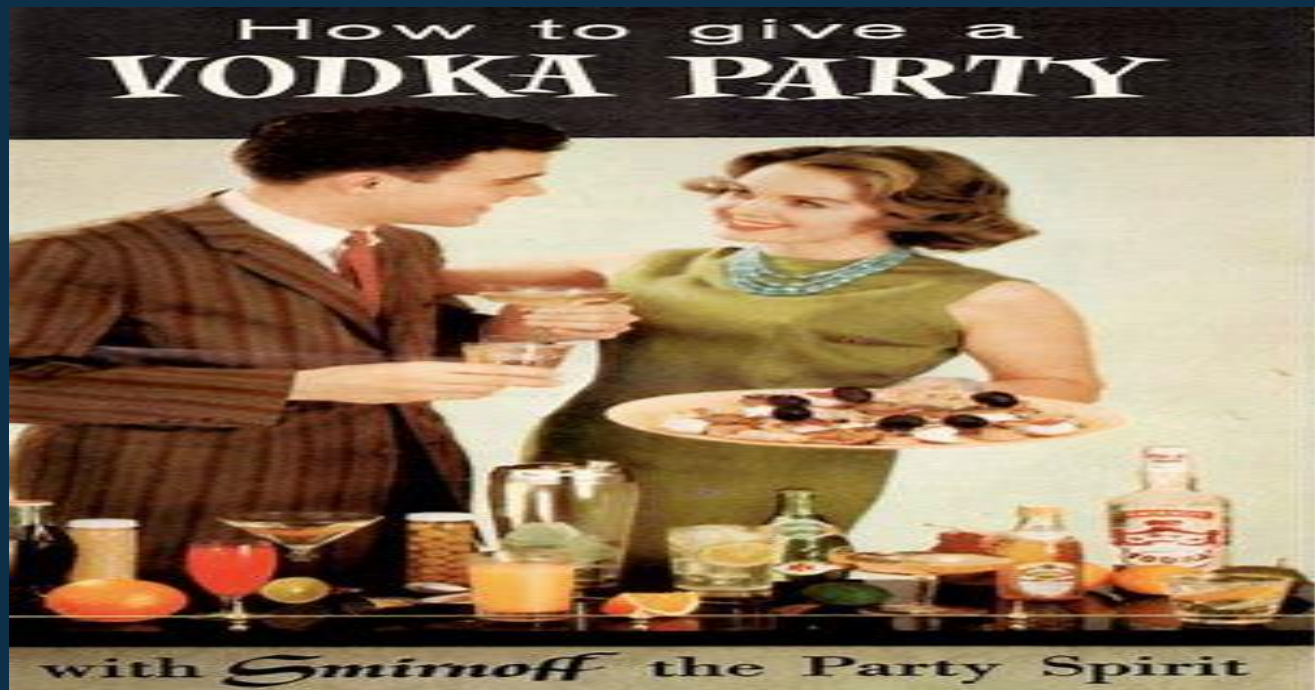
A woman with long brown hair, wearing a dark blazer over a grey top, smiling and holding a lit cigarette.

**Marijuana &
Your Metabolism**



A muscular man's torso and arms, rendered in a reddish-brown color, set against a background of green cannabis leaves.

Where we were with alcohol in the
70's.....



Is Where we are with marijuana today

Advertisement

EVER WAKE UP FEELING REALLY HUNG OVER FROM A NIGHT OUT SMOKING? THOUGHT NOT




No one overdoses on marijuana because it has a negligible therapeutic ratio; that is, you don't have to use much to get the desired effect.
For more information visit clubfbi.com/marijuana

Don't let the government fool you

LEGALIZE MARIJUANA
Authorised by the Rigo design Studio, Sydney, Australia.



I prefer **marijuana** over **alcohol** because **it doesn't make me rowdy or reckless.**



Why should I be punished?

On November 5th, vote **YES on Question 1**

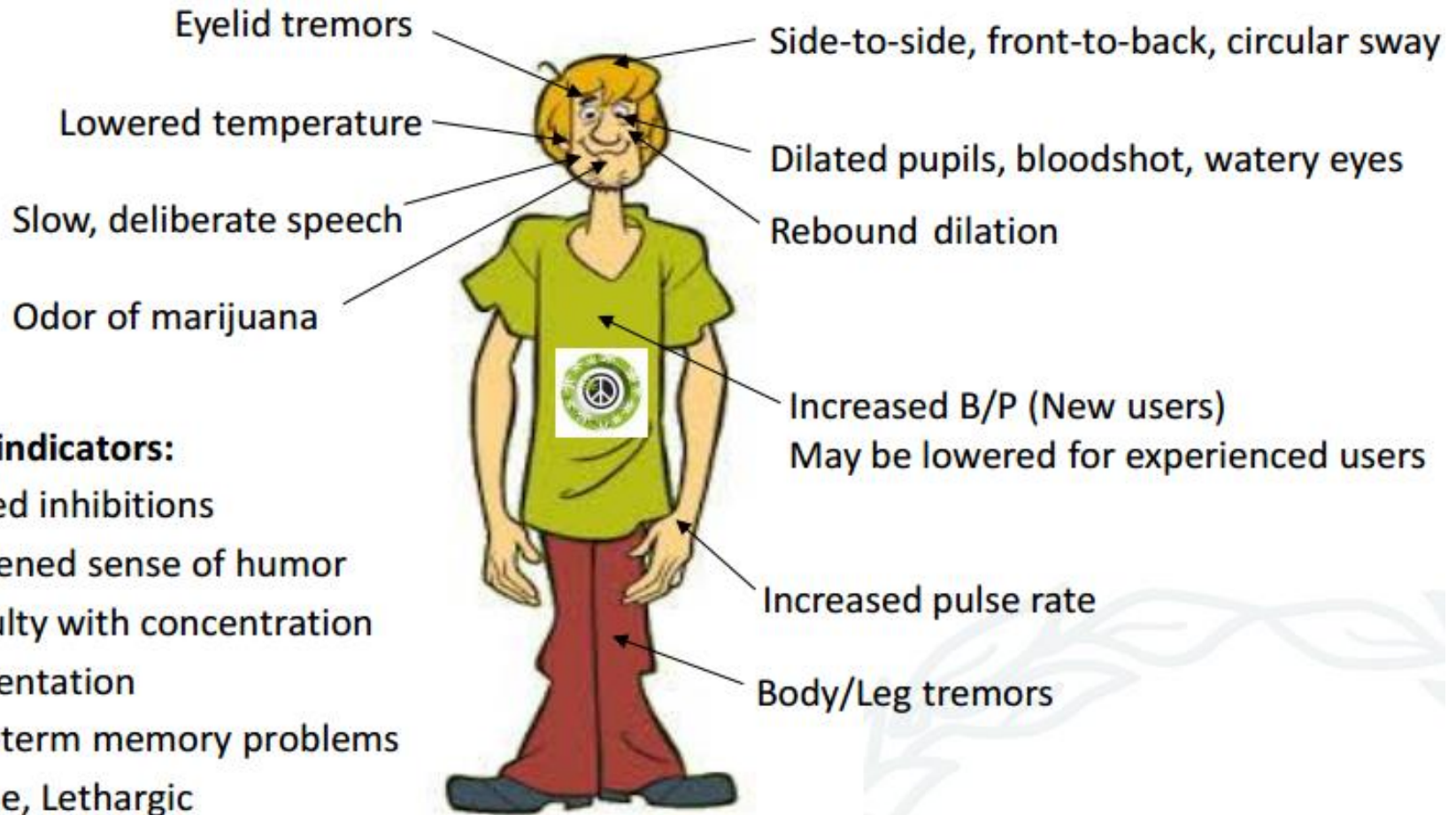
www.MarijuanaIsSafer.org

Paid for by the Marijuana Policy Project
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EFFECTS OF DRUGS ON DRIVING

Signs of cannabis impairment



Other indicators:

- Relaxed inhibitions
- Sharpened sense of humor
- Difficulty with concentration
- Disorientation
- Short-term memory problems
- Fatigue, Lethargic
- Altered time and space perception

Image source: Chuck Hayes, 2016.

Cannabis and driving

- **Poor attention to tasks**
- **Time and distance perception**
- **Slower braking/reaction time**
- **Poor speed maintenance**
- **Poor lane tracking/more steering corrections**
- **Drivers impaired by marijuana may compensate by driving slower and increasing following distance**
- **Level of impairment increases with dose**



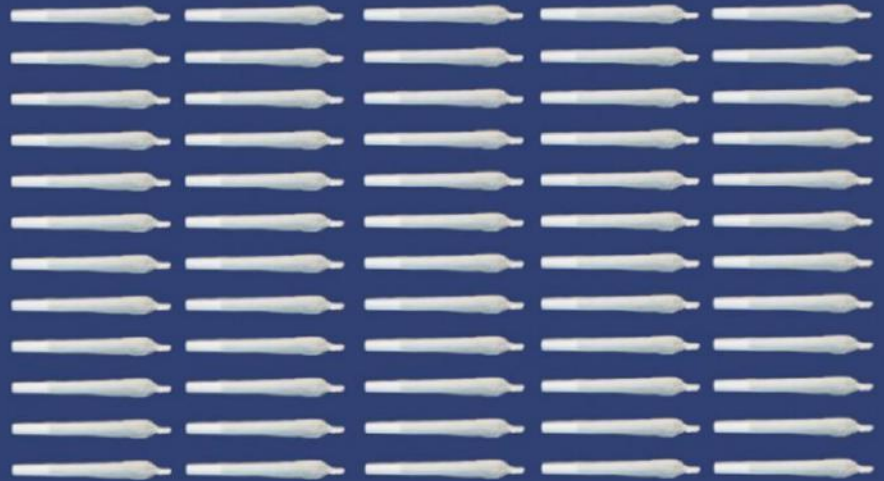
Sources: Compton and Berning, 2015; Hartman and Huestis, 2013; Kelly-Baker, 2014.



DRUG-IMPAIRED DRIVING POLICYAND CHALLENGES



1 OUNCE



60 JOINTS

“Cannabis Plant”





Business has changed since 2012...



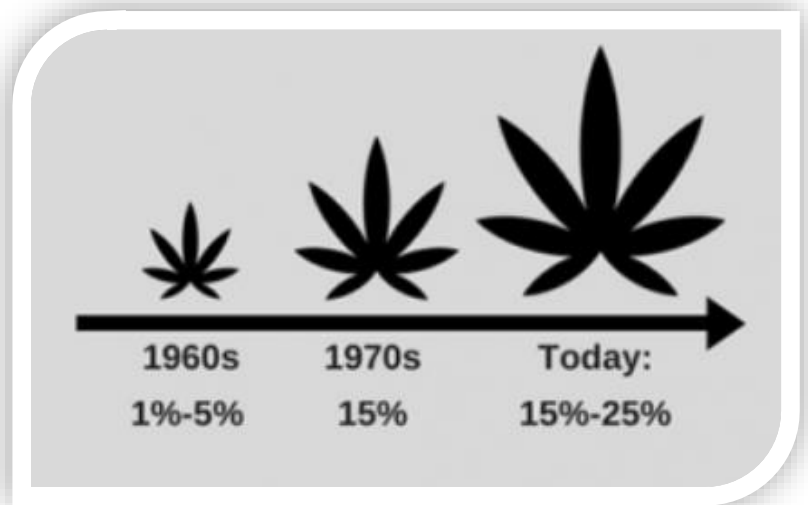
Designer dispensaries







*And so has the
product...*



Drugged driving is more complicated than drunk driving.

DRUGGED DRIVING

DRUNK DRIVING

Number: Hundreds of drugs

Alcohol is alcohol

Data on Use by Drivers & Crashes: Limited

Abundant

Use by Drivers: Increasing

Decreasing

Impairment: Varies by type

Well-documented

Crash Risk: Varies by type

Precise

Beliefs & Attitudes: No strong attitudes –
public indifferent

Socially unacceptable



RESPONSIBILITY.ORG

Presence vs. Impairment

- Relationship between a drug's presence in the body and its impairing effects is complex and not well understood.
- **Presence of a drug \neq impairment**
 - Some drugs/metabolites may remain in the body for days or weeks after initial impairment has dissipated.
 - Individuals differ considerably in the rate of absorption, distribution, and elimination of drugs.
 - Some people are more sensitive to the effects of drugs, particularly first-time or infrequent users.
 - Wide ranges of drug concentrations in different individuals produce similar levels of impairment in experimental situations.





Presence vs. Impairment: Marijuana

- Marijuana metabolites can remain in the body for 30+ days.
- THC concentrations fall to about 60% of their peak within 15 minutes after smoking; 20% of their peak 30 minutes after smoking; while impairment can last 2-4 hours.
- There is no DUID equivalent to .08 BAC.
 - It is currently impossible to define DUID impairment with an illegal limit as drug concentration levels cannot be reliably equated with a specific degree of driver impairment.

NOT RECOMMENDED: Impaired Driving Per Se Laws for Marijuana or Opioids



Drivers know
impairing effects?

✓ Drivers can plan with
"standard drinks"

⊘ Dose response is difficult to
predict, varies significantly

Correlation with
impairment?

✓ Presence = impairment

⊘ Presence ≠ impairment

Measurable at typical
time of blood draw?

✓ Dissipates gradually

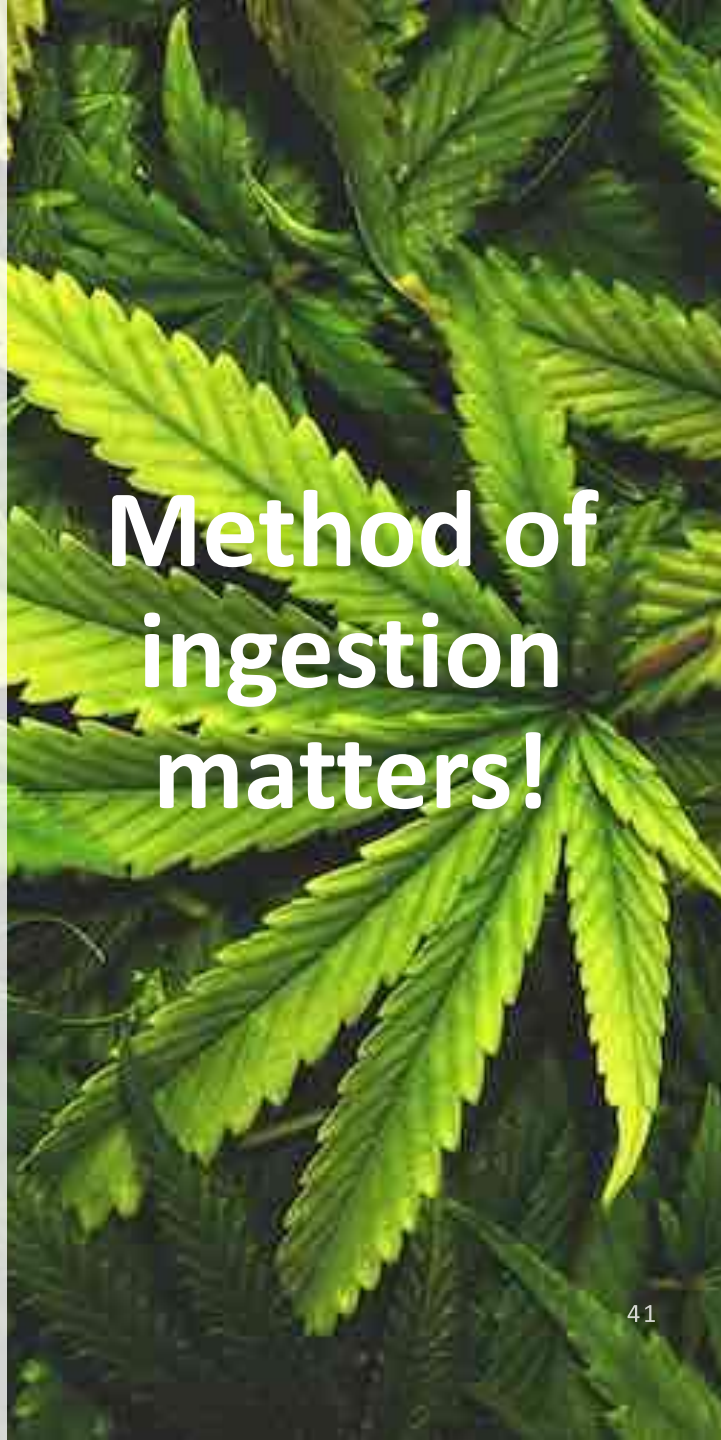
⊘ Dissipates rapidly

A close-up photograph of a police officer in a dark uniform, holding a handheld breathalyzer device. The officer is looking directly at the camera with a serious expression. In the background, out of focus, are the blue and red emergency lights of a police vehicle. The breathalyzer device is black and white, with a white mouthpiece. A semi-transparent dark grey box with white text is overlaid on the bottom center of the image.

“There is no BAC for THC”

Other Strains of Cannabis

- CBD-Pure CBD oil will not show up in testing and won't make you high
- Delta 8-is legal in most states and is an analog of THC though it has lower potency and can (but often isn't) be detected in testing
- Delta 10-Legal allegedly gives you more energy
- THC-O Legal- is a stronger analog of [delta 9 THC](#). It takes longer to kick in but produces effects that are roughly three times as strong as conventional THC.
- Rick Simpson Oil-Very high level of THC



Method of ingestion matters!

Cannabis Ingestion Methods

Inhaling - Pulmonary



Oral - Digestive





Trans mucosal – sublingual, intranasal, rectal, ocular



Transdermal



CANNABIS CONCENTRATES



CRUMBLE

Dried oil with a honey-comb like consistency



BADDER/BUDDER

Concentrates whipped under heat to create a cake-batter like texture



SHATTER

A translucent, brittle, & often golden to amber colored concentrate made with a solvent



DISTILLATE

Refined cannabinoid oil that is typically free of taste, smell & flavor. It is the base of most edibles and vape cartridges



CRYSTALLINE

Isolated cannabinoids in their pure crystal structure



DRY SIFT

Ground cannabis filtered with screens leaving behind complete trichome glands. The end-product is also referred to as kief



ROSIN

End product of cannabis flower being squeezed under heat and pressure



BUBBLE HASH

Uses water, ice, and mesh screens to pull out whole trichomes into a paste-like consistency

Edibles

No More of These...



DEA



DEA

EDIBLES DOSING CHART

THC CONTENT PER DOSE

WHAT TO EXPECT

WHO'S IT FOR?

● 1 - 2.5 mg THC

- Mild relief of pain, stress, anxiety, and other symptoms
- Improved focus and creativity

- First-time consumers
- Microdosers

● 2.5 - 15 mg THC

- Stronger symptom relief
- Euphoria
- May impair coordination and alter perception

- Patients with persistent problems
- Restless sleepers
- Social butterflies

● 15 - 30 mg THC

- Strong euphoria or unwanted effects in unaccustomed consumers
- May impair coordination and alter perception

- Well-seasoned consumers
- Medical patients with developed tolerances
- Experienced consumers seeking to sustain sleep

● 30 - 50 mg THC

- Very strong euphoria in unaccustomed consumers
- Likely to impair coordination and alter perception

- Consumers who have poor GI absorption of cannabinoids
- People with significant tolerance to THC

● 50 - 100 mg THC

- Can cause extreme side effects such as rapid heart rate, nausea, and pain
- Highly likely to impair coordination and alter perception

- For experienced THC individuals only
- Patients with cancer, inflammatory disorders, or conditions that necessitate high doses

Always begin at the lowest recommended dose. Gradually increase by 1 or 2mg per dose, if necessary, to find your optimal dose. For more information go to Healer programs: www.healer.com/programs

Stoner Things

COLORADO EDIBLES GET A NEW LOOK

10 mg THC
serving

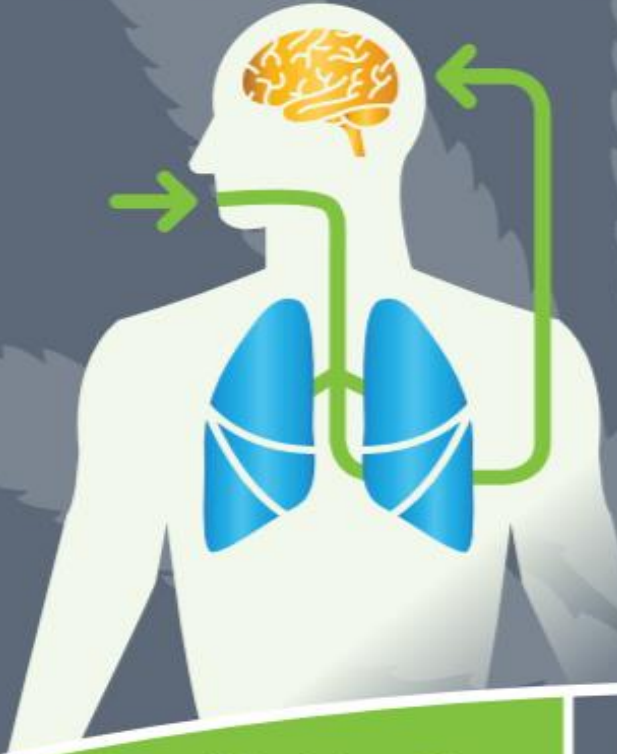


INHALING

— smoking or vaping —



Cannabis smoke or vapour delivers THC, the chemical that gets you high, into your lungs where it passes directly into your bloodstream and then your brain.



You will feel the effects from **seconds to a few minutes** of inhaling.

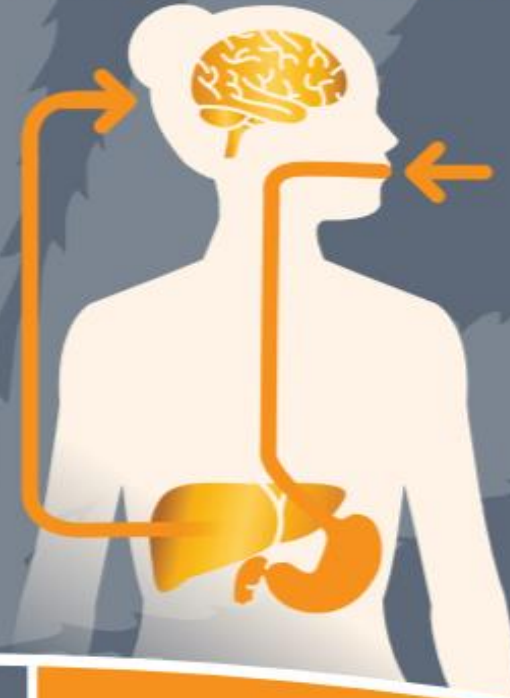
Full effects can peak within **30 minutes**.

INGESTING

— eating or drinking —



Edible cannabis travels first to your stomach then to your liver before getting into your bloodstream and brain. The liver converts THC into a stronger form and this combined with the THC from the original product adds to the intensity of the high.



You will feel effects within **30 minutes to 2 hours** of ingesting.

Full effects can peak within **4 hours**.

START OF EFFECTS



PEAK EFFECTS



CONSUMING CAN CAUSE CRASHING.



It takes up to two hours for an edible to affect you.
Don't be behind the wheel when your high hits.

IF YOU'RE HIGH, DON'T DRIVE.



COLORADO
Department of
Transportation



MOVING TOWARDS
ZERO
DEATHS

**What about this
scenario?**



***Tobacco
or THC?***



Officers need more tools

- Not all officers receive specialized training.
- Availability of DREs is limited.
- Polysubstance impaired driving is becoming increasingly common.
- Drugs metabolize quickly.
- Warrants take time.



Future testing methods



Cannabis breathalyzers

Intelligent fingerprinting



— PROBATION —



SUPERVISING THE DRUG-IMPAIRED DRIVER



What does the problem look like in your state?

- **Assess your state's drugged driving issues**
 - What drugs are you most commonly seeing (fatal crashes, arrested drivers)?
 - Are there regional differences?
 - Are there high-risk segments of the population?
- **Collect baseline data**
 - Test more drivers for drugs
 - Track DUID and DUI separately in crash, arrest, and court data for better analysis



**What tools are
available?**

- **Assessment**
- **Supervision**
- **Technology**
- **Testing**

Limitations of instruments

- Majority of instruments are not designed for or validated among DUI offender population.
- Using traditional assessments, DUI offenders are **commonly identified as low risk due to a lack of criminogenic factors.**
- DUI offenders often have unique needs and are resistant to change on account of limited insight.
- Recognition that specialized instruments should be created to accurately assess risk and needs of impaired drivers.



Do you assess for risk and needs with impaired drivers?

Do your assessment tools tell you what you need to know?

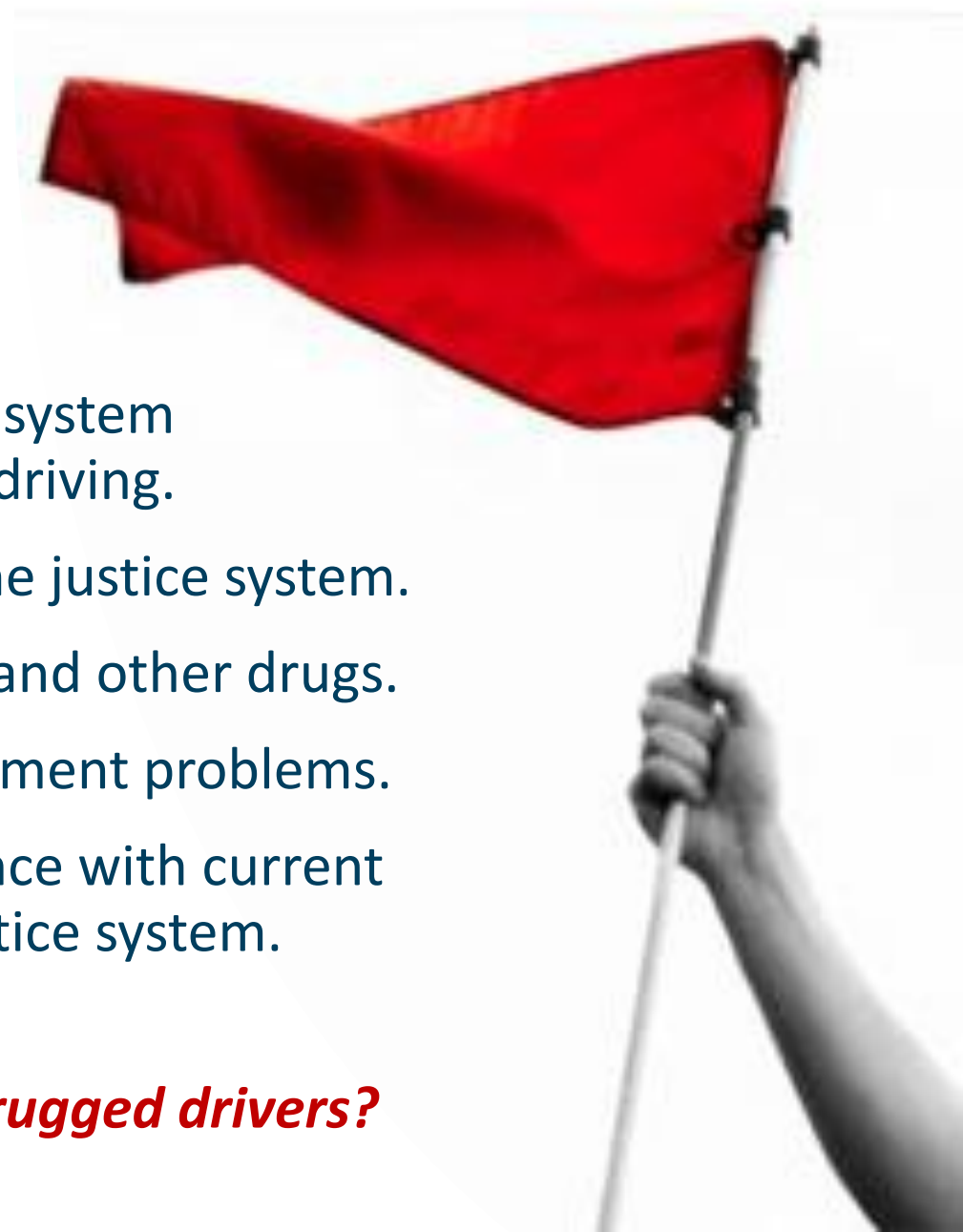




Major Risk Areas of DUI Recidivism

- Prior involvement in the justice system specifically related to impaired driving.
- Prior non-DUI involvement in the justice system.
- Prior involvement with alcohol and other drugs.
- Mental health and mood adjustment problems.
- Resistance to and non-compliance with current and past involvement in the justice system.

Are risk factors the same for drugged drivers?



Criminogenic risk factors

History of anti-social behavior

Anti-social cognitions

Anti-social personality pattern

Anti-social associates

Family/
marital
discord

Leisure/
recreation

Substance
abuse

School/
work



Assessments should drive decision-making

- Using traditional assessment tools, DUI/DUID offenders are commonly identified as low risk due to a lack of criminogenic factors.
- DUI/DUID offenders often have unique needs and are resistant to change on account of limited insight into their behavior.
- Specialized instruments should be used to accurately assess risk and needs of impaired drivers.
- Validated risk and needs assessment instruments are available – some specific to DUI population (e.g., IDA; CARS).



With impaired drivers, don't assume!

The drunk driver before you could actually be a polysubstance user.

PROS | CONS



*Where do we
place these
people?*





DWI offenders engage
in **behavior** that is
dangerous and
frequently causes
serious injury or
fatalities.

Focus on the behavior – it's more than just drug use!





QUESTIONS?

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Parole Association**

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