NATIONAL ACADEMIES Sciences Engineering Medicine

TRB TRANSPORTATION RESEARCH BOARD

TRB Webinar: Emerging Technology, Tools, and Practices to Address Impaired Driving

February 29, 2024

12:00 – 1:30 PM

PDH Certification Information

1.5 Professional Development Hours (PDH) – see follow-up email

You must attend the entire webinar.

Questions? Contact Andie Pitchford at TRBwebinar@nas.edu

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Purpose Statement

This webinar will share new tools and practices to address the continued threat. Presenters will discuss current issues related to driving under the influence (DUI) adjudication and impairment detection and how these processes can be improved. Presenters will also identify new and emerging ideas to address impaired driving on our roadways.

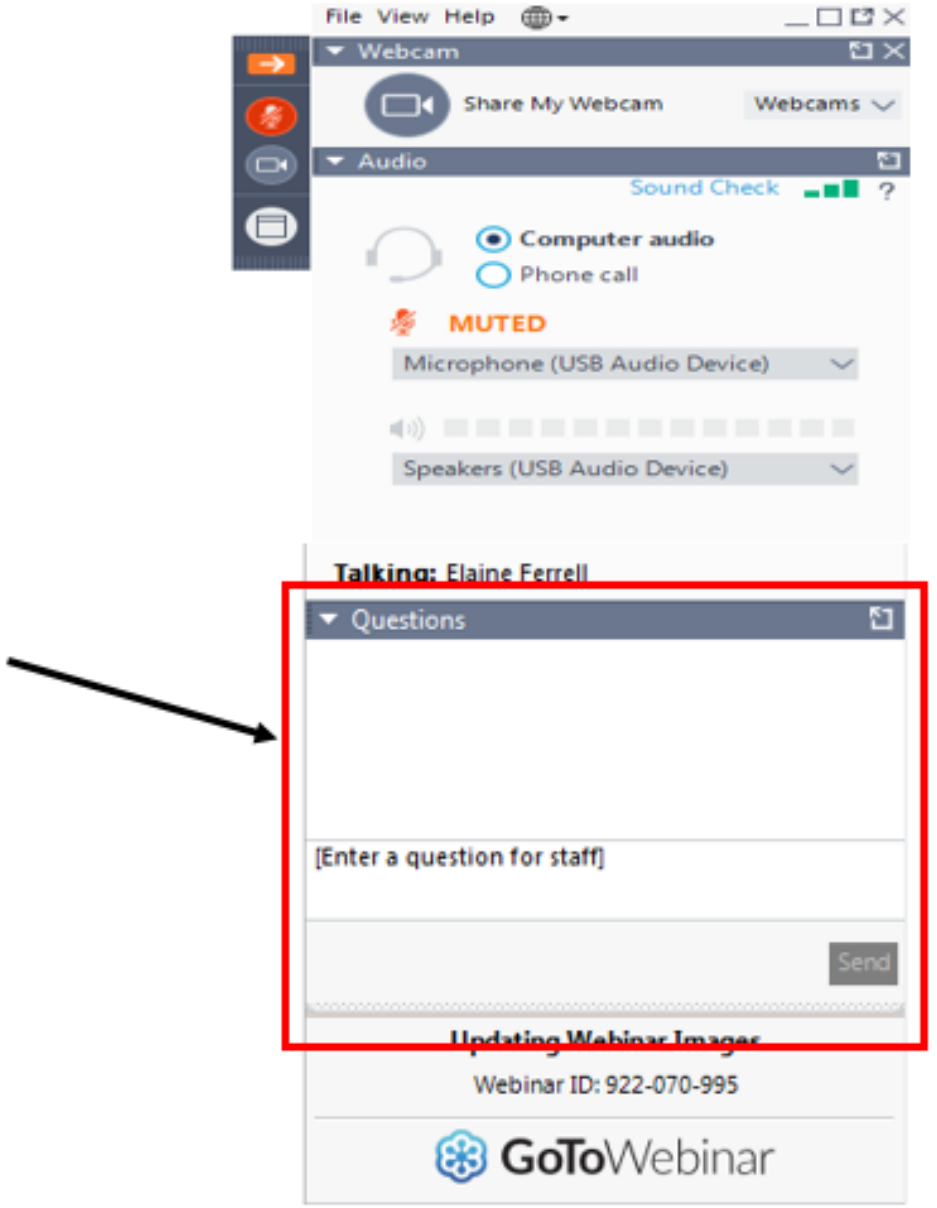
Learning Objectives

At the end of this webinar, you will be able to:

- Identify current issues in DUI adjudication and understand how new practices can improve the process
- Recognize how new technologies are used to detect driver impairment

Questions and Answers

- Please type your questions into your webinar control panel
- We will read your questions out loud, and answer as many as time allows



Today's presenters

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Washington Traffic Safety Commission

Ken Fichtler
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Gaize

Tara Casanova Powell
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Association of Transportation Safety Information Professionals

Jackie McMahon
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Connecticut Division of Criminal Justice

GAIZE

INTRODUCTION TO IMPAIRMENT DETECTION TECHNOLOGY

The Problem

Marijuana and drug impaired driving and working is on the rise, but legacy chemical tests cannot detect impairment.

Presence of Drugs ≠ Drug Impairment

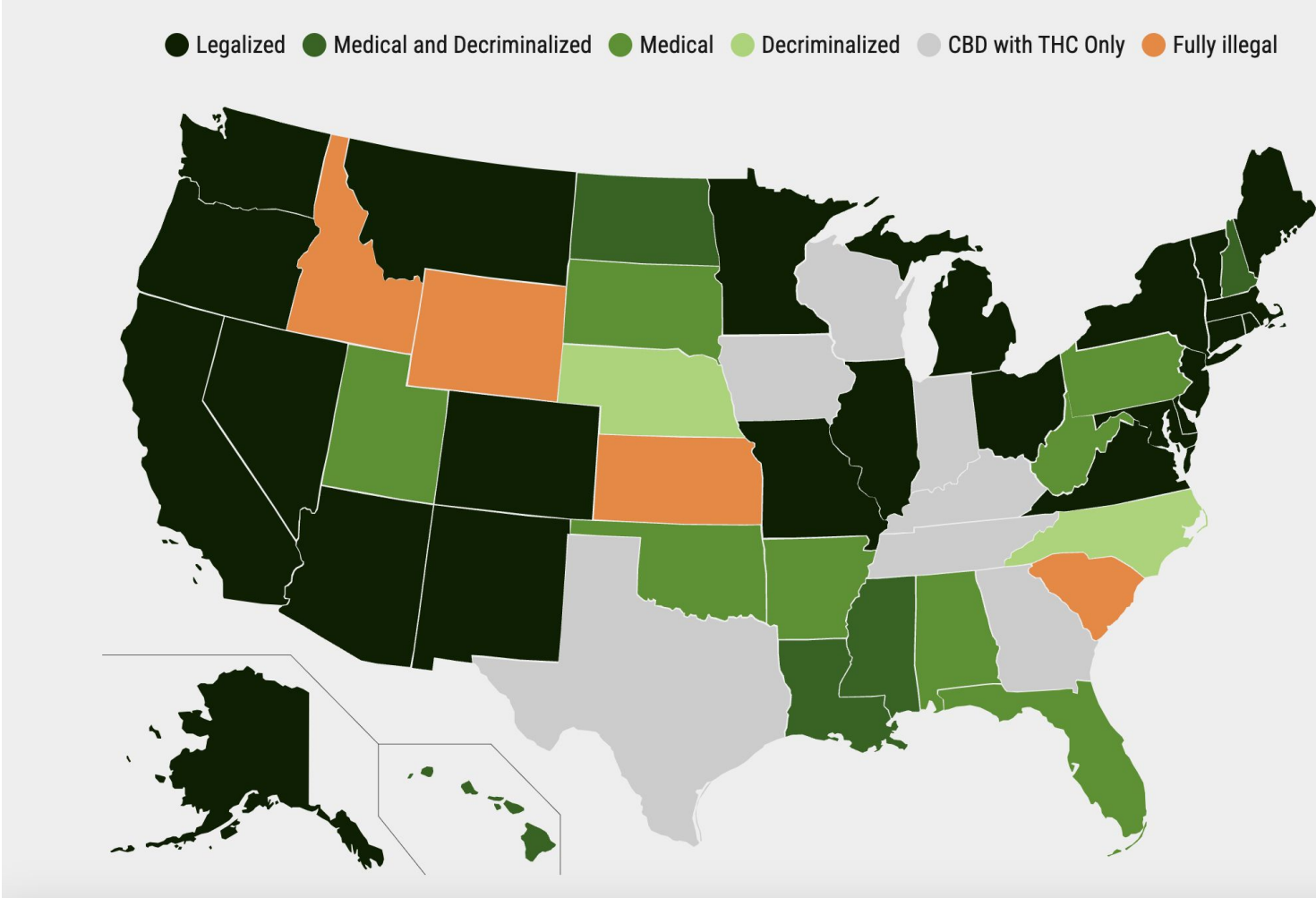
The Current Solution

Law enforcement officers do their best, but studies have shown that the field sobriety tests are very poor indicators of marijuana impairment.

Drug Recognition Experts are very few.

The World is Legalizing.

- 41 US states plus DC have legalized medical marijuana. **24 have also legalized recreational use**.
- Over 30 countries have legalized cannabis with many more on the way.
- Broadening societal acceptance means this trend will continue.
- THC users a protected class in many states.
- All drugs decriminalized in OR, BC, other markets



As of February 2024

Increasing Rates of Substance Use

56%

OF DRIVERS INVOLVED IN SERIOUS INJURY AND FATAL CRASHES TESTED POSITIVE FOR AT LEAST ONE DRUG.
(BASED ON STUDIED TRAUMA CENTERS)

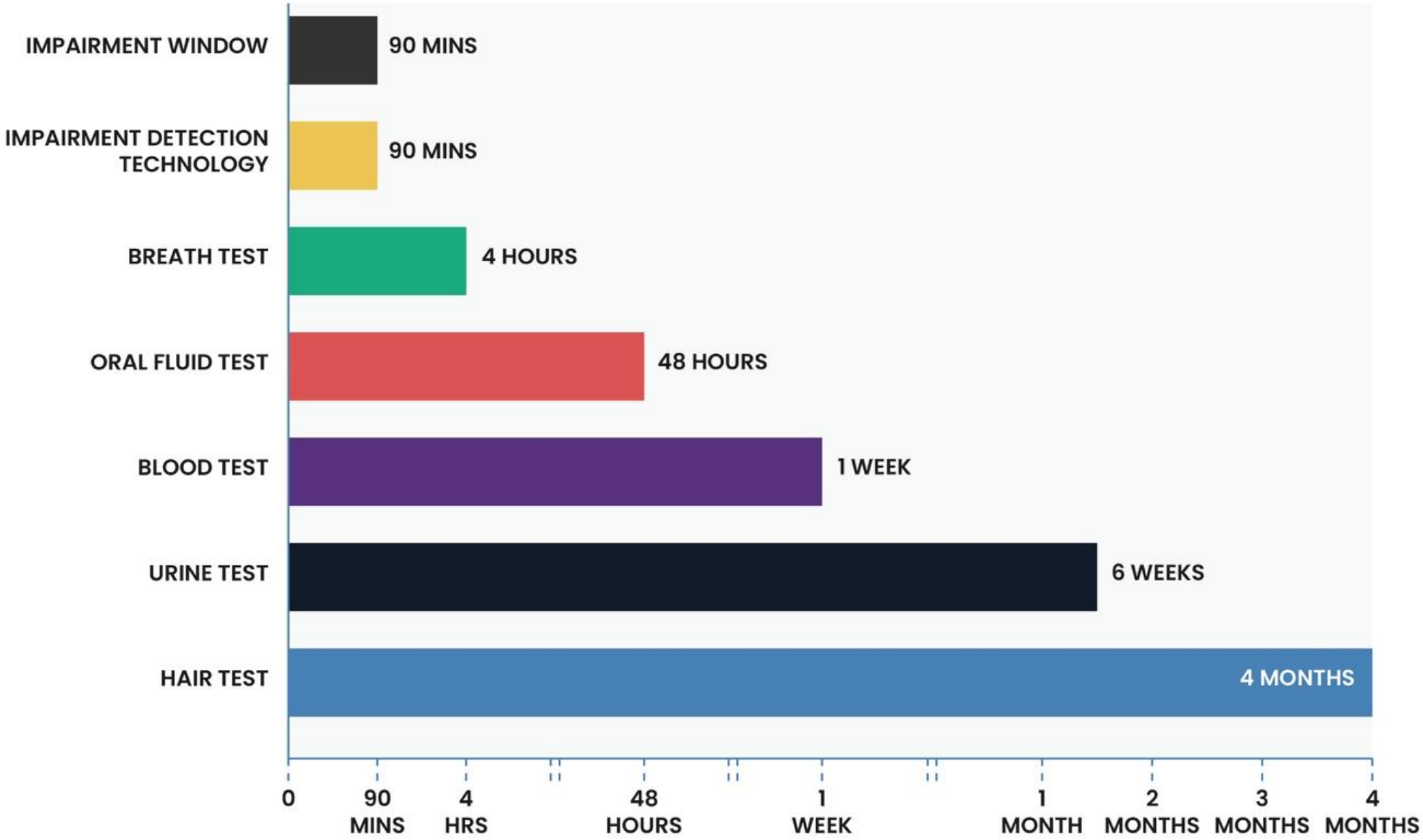
22%

OF AMERICANS USED MARIJUANA IN THE LAST YEAR. **(SAMHSA)**

13%

OF AMERICANS INITIATED OR INCREASED SUBSTANCE ABUSE TO COPE WITH ANXIETY OR OTHER EMOTIONS RELATED TO COVID-19. **(CDC)**

DETECTION TIMES FOR COMMON MARIJUANA TESTS



Which of these drugs can you detect with a standard 5-panel DOT test?

- DELTA-9 THC
- DELTA-8 THC
- SYNTHETIC CANNABINOIDS (K2 / SPICE)
- HEROIN
- SPEED (AMPHETAMINE)
- LSD
- PSILOCYBIN (MAGIC MUSHROOMS)
- PCP (PHENCYCLIDINE)
- KETAMINE
- PCP ANALOGUES
- FENTANYL
- NITAZINES
- COCAINE
- KRATOM
- CATHINONES
- XANAX (BENZODIAZEPINES)

Some IDTs can detect impairment from 100% of these.

What is Impairment Detection Technology?

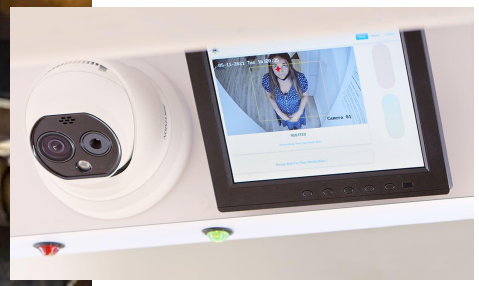
IDT measures the way the body responds to drugs, rather than the presence of a chemical.

Types of Impairment Detection Technology	Description	Examples of Tests
Performance-based	Measures a worker's cognitive and psychomotor performance.	Reaction time tests, balance tests, attention tests, memory tests, and decision-making tests.
Physiological	Measures physiological changes in the body that are associated with drug impairment.	Eye tracking tests, heart rate tests, pupil dilation tests, blood pressure tests, and skin conductance tests.

Examples of IDT

App-based

Ocular Analysis



Body Movement Analysis

Scientific Backing

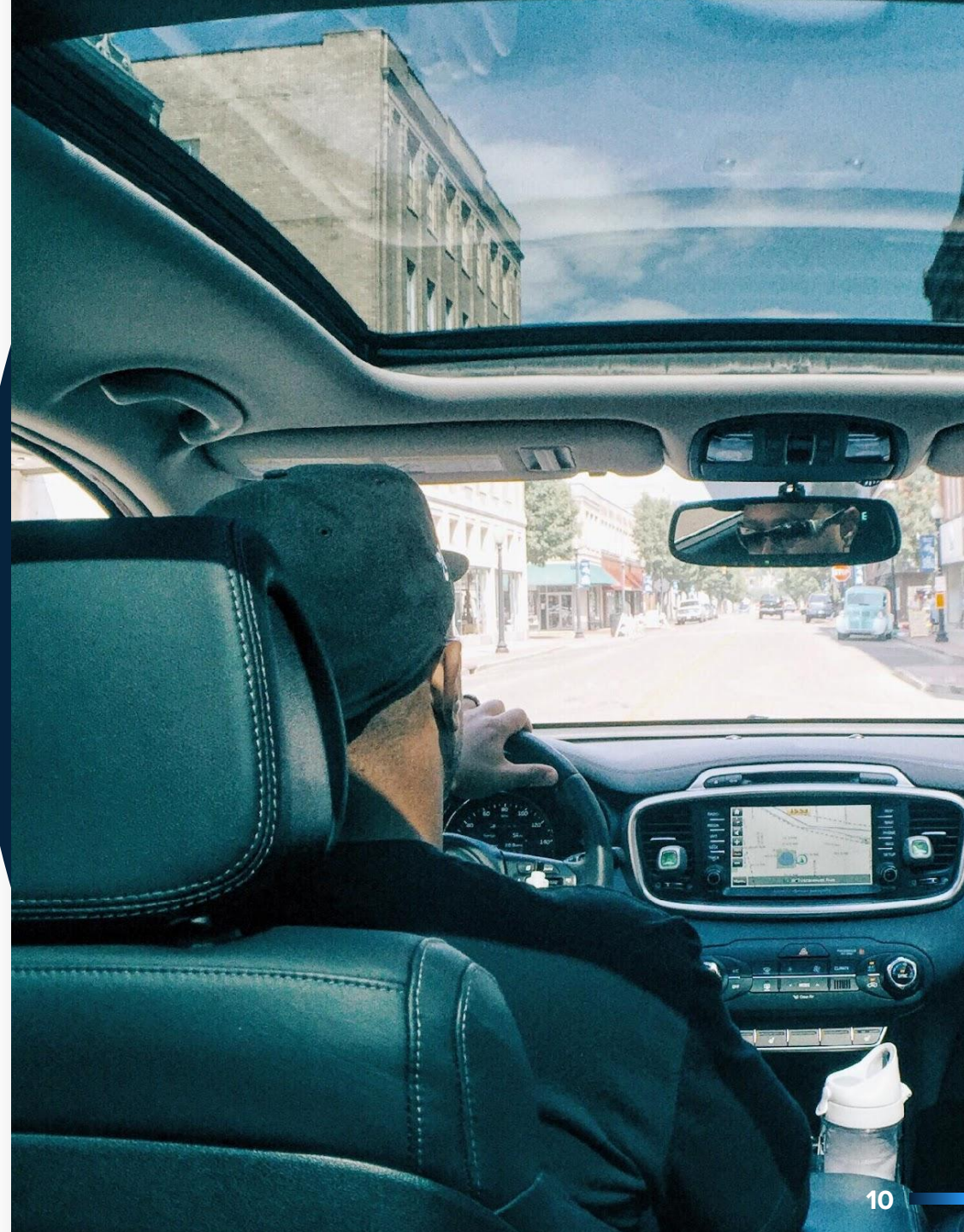
Ex. Gaize's Cannabis Impairment Clinical Trial
The World's Largest on Cannabis Impairment

- **350** Participants
- **1** Sober test + **4** THC Impaired Tests
- **500 million** data points: world's largest impaired eye movement dataset, used for Gaize's Machine Learning model training

Legality of Impairment Detection Technology

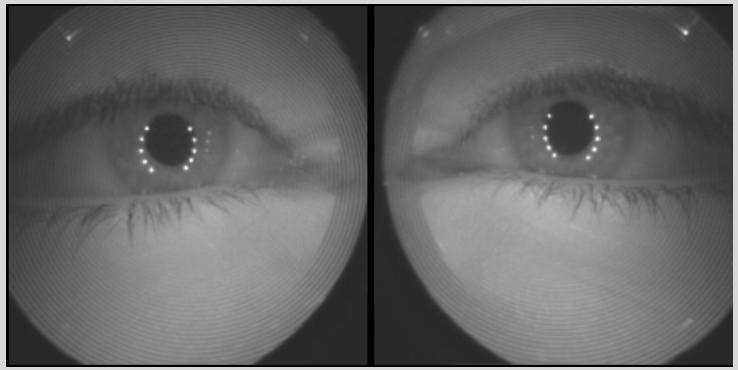
Impairment Detection Technology is currently 50-state legal, but…

- No court utilization to date
- Broadly varying levels of scientific validation
- No government support or formal approvals to date
- No state-wide deployments to date



IDT is the Best-Fit Solution to Drug Impairment Detection

- Demonstrated accuracy greater than human Drug Recognition Expert Police Officers
- Easy to use with almost no training
- Portable
- Non-Invasive
- Instant results



- Science Backed

- Rapid Testing

- Data Rich

The Future of Impairment Detection Technology

- IDT is on sale today and is in use by both law enforcement and safety-sensitive businesses
- Additional scientific validation and improvements in accuracy
- Consolidation of the industry is likely
- It will likely become the standard front of line testing technology for for businesses and law enforcement

GAIZE

Ken Fichtler
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Thank you!

Learn More at
www.gaize.ai

Judicial Challenges and Strategies Regarding DUI Adjudication

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TRB Webinar (February 29, 2024)

Challenge: Time for Evidence Collection

- Primary means of measuring BAC = breath testing
- In CT, data indicates that approximately 40% of individuals arrested for OUI refuse to provide a chemical sample
- Fleeting nature of impairment evidence and onerous process of obtaining search warrants from judges leaves investigating officers with few options in refusal cases

STRATEGY

Utilize Electronic Warrants for expedited issuance of search warrants for blood draws in OUI cases ("E-warrants")

- ✓ Ensure best evidence is collected, quickly
- ✓ Comprehensive data regarding alcohol- and drug-impaired driving

Research Points

1. How will obtaining chemical samples in more cases improve case outcomes?

2. What about recidivism? Is there a deterrent benefit to the offender having their substance known?

Challenge: Wasted Time

- Defendant may appear in court more than 10 times on a misdemeanor DUI
- Many court dates are not substantive
- Unrepresented offenders are often pushed to the end of the line to allow private attorneys to make their appearances and travel to another courthouse

Challenge: "Light" Plea Offers

- Misdemeanor conviction rate is ~40%
- In 2019, there were 65,000 criminal cases handled, only 41% resulted in convictions
  - Only 14% resulted in a prison sentence
- In FY 2018-2019, nearly 66% of DUI charges were dismissed.
- WHY?

STRATEGY

Manage misdemeanor DUI cases primarily via an online adjudication platform ("e-court")

- ✓ Avoid unnecessary in-person appearances
- ✓ Consolidate discovery process (evidence sharing from police to prosecutor to defense)
- ✓ Early offender screening for mental health and substance use, family/trauma history (partnership with court support services agencies)

Research Points

1. How do multiple court appearances (and the burdens associated therewith) and the delays in resolution of criminal cases impact substance use?

2. What about recidivism? Is there deterrent value to the delays and multiple appearances?

Today's presenters

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Upcoming events for you

March 20, 2024

TRB Webinar: Lessons of Agency Resilience During Periods of Disruption

June 23-26, 2024

2nd International Roadside Safety Conference

https://www.nationalacademies.org/trb/events

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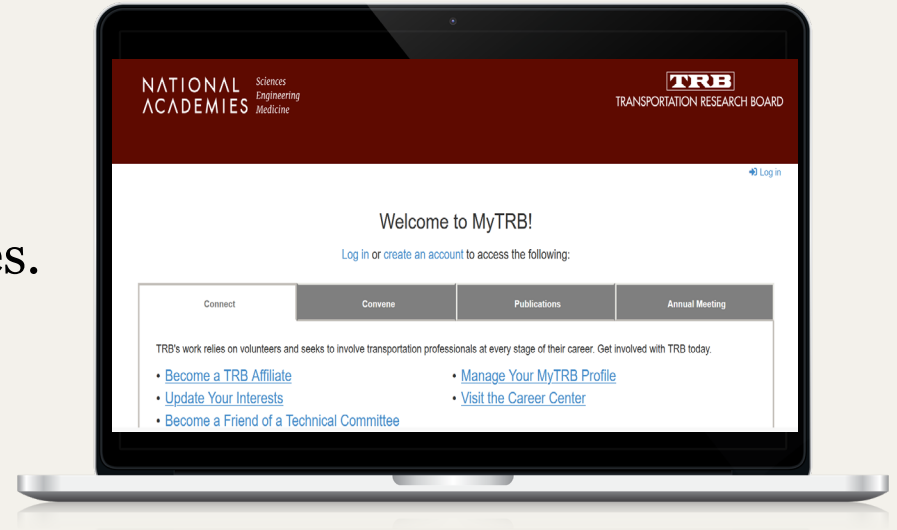

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