Office of Safety Programs

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NHTSA

Enforcement and Justice Services

1. **Impaired Driving Curricula Updates**
2. **DRE Data System**
3. **NHTSA Research: Drug Impaired Driving**

Curricula Update

1. *SFST/ARIDE/DRE*
   - *Currently meeting virtually*
   - *Pilot in the fall*
   - *Released by end of year*

2. *New Curricula*
   - *ARIDE refresher*
   - *Testifying in court as a DRE*

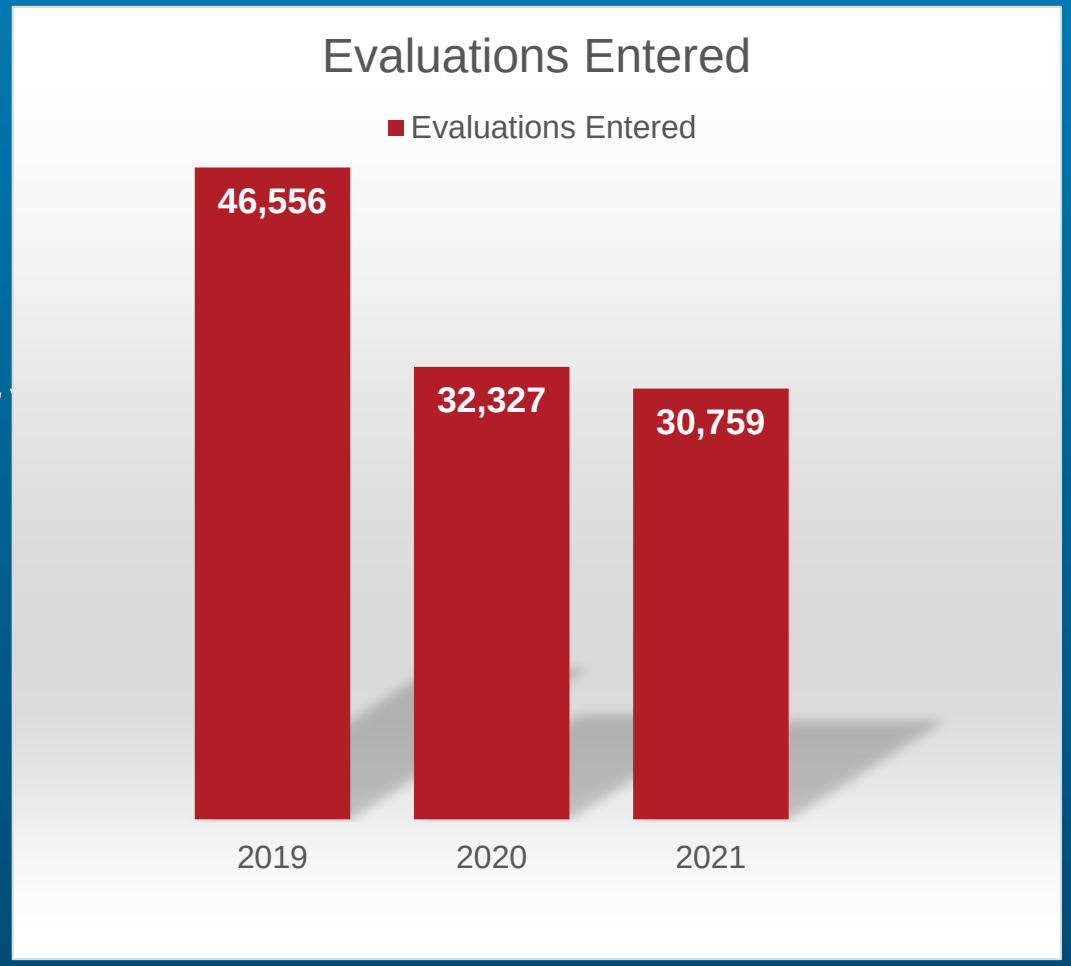
DRE Data System

DRE Data System

- *DRE Evaluations input*
- *Current users: 9854*
- *Run report Queries*
- *Supports DRE SCs with administration*
- *Third party states*

DRE Evaluations

- *TOTAL since inception of all systems 735,*
- *2019 - 46,556 evaluations*
- *2020 -32,327 evaluations*
- *2021 – 30,759 evaluations*



Impaired Driving Research

DUID

1. **How prevalent is the problem?**
2. **Countermeasures to reduce incidents**

Positives by Drug Category for Drivers and Pedestrians

	Drivers				Pedestrians			
	Before (N=1,157)		During (N=699)		Before (N=274)		During (N=142)	
Drug Category	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Alcohol	252	21.8	198	28.3*	67	24.5	43	30.3
Cannabinoids†	241	20.8	227	32.7*	51	18.6	44	31.0*
Stimulants	106	9.2	64	9.2	33	12.0	23	16.2
Sedatives	93	8.0	61	8.7	25	9.1	13	9.2
Opioids	87	7.5	97	13.9*	22	8.0	17	12.0
Antidepressants	26	2.2	3	0.4*	5	1.8	1	0.7
Over-the-Counter	25	2.2	10	1.4	8	2.9	6	4.2
Other Drugs	17	1.5	15	2.1	4	1.5	2	1.4
At Least 1 Category	588	50.8	452	64.7*	139	50.7	94	66.2*
Multiple Categories	204	17.6	177	25.3*	54	19.7	40	28.2

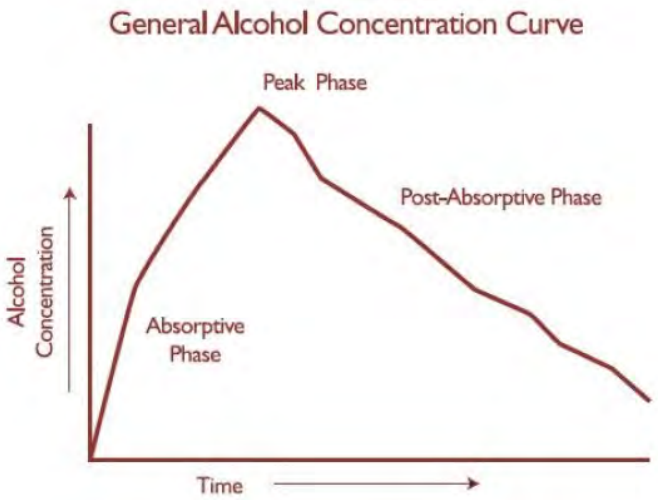
*Significantly different ($p < .05$) from Before period.
†Active THC (Δ-9-THC or 11-OH-THC)

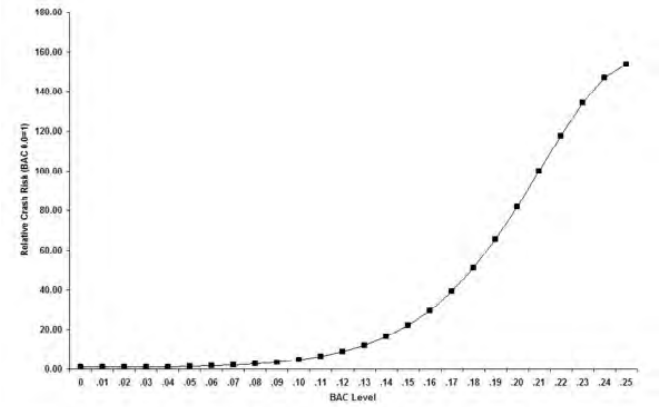
THC/Drug positive does not mean THC/Drug impaired

Thomas, et al. 2020, Drug and alcohol prevalence in seriously and fatally injured road users before and during the COVID-19 public health emergency

Research Challenges

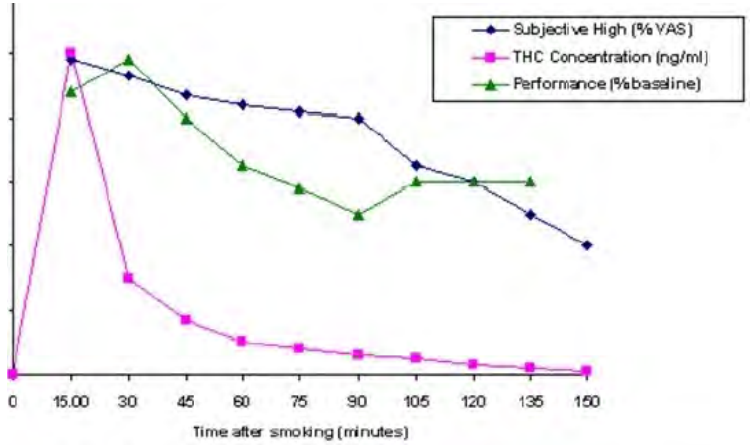
Alcohol

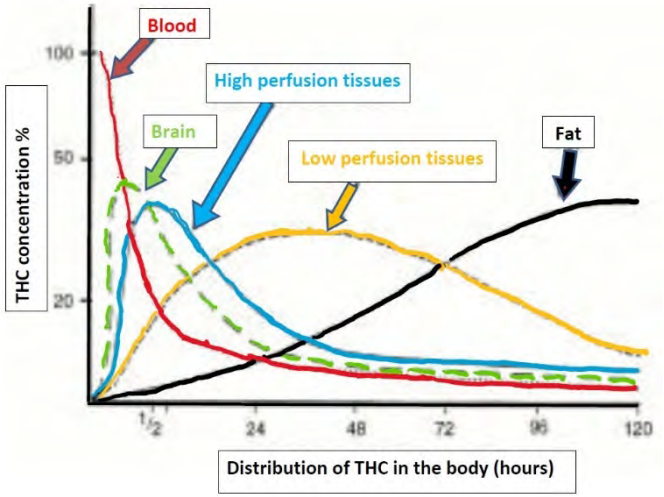




Source: Blomberg, Peck, Moskowitz, Burns, & Fiorentino (2005)

Cannabis





Impaired Driving Research Is Complex & Multifaceted

- Effects of alcohol on driving performance fairly well-known
- **50 years** of research and programmatic efforts on drugs
- The impact of polysubstance use on driving is understudied

	Alcohol	Other Drugs
Size of Effort	One type of drug	Many (illegal, OTCs, prescription)
Research Efforts	Well-studied	Many, disparate
Metabolism	Processes understood	Variable; many possibilities
Effect on Driving Behavior	Strong correlation to poor performance	Uncertain Correlation
Effect of High Doses	Greater decrements in performance	Unpredictable

- Specific drug concentration levels **cannot** be reliably equated with effects on driver performance

NHTSA's Office of Behavioral Safety Research DUID Research Program

Problem Identification

- ✓ Prevalence of Use in MVC Victims at Trauma Centers
- ✓ Determine Potential of Drugs to Impair Driving
- ✓ National Survey on Attitudes and Behaviors
- ✓ Drugs and Driving State of Knowledge
- ✓ Examining FARS Data Collection
- ✓ Analysis of DUID Investigations and Sanctions
- ✓ Examine Issues Prosecuting DUID Cases
- ✓ Characteristics of DUID Arrestees
- ✓ Examine Impact of Legalization and decriminalization on the DWI System
- ✓ Summary of *Per Se* Laws for marijuana
- ✓ Research on Forensic Toxicology Lab Testing and Data Processes

DUID

Countermeasures

- ✓ Examine Feasibility of SFST for Marijuana
- ✓ State-level Roadside Survey Methodology
- ✓ SBIR Oral fluid THC Detection Device
- ✓ SBIR Breath THC Detection Device
- ✓ Evaluation of On-site Oral Fluid Drug Screening Devices
- ✓ Drugs and Human Performance Fact Sheets
- ✓ Examine Clinical Research Evaluating Drug Effects on Behavioral Performance tests
- ✓ Examine who and how oral fluid drug testing devices are being used
- ✓ Toxicology Consultant

DUID Research Challenge

Presence

- ✓ Prevalence of Use in MVC Victims at Trauma Centers
- ✓ National Survey on Attitudes and Behaviors
- ✓ Examining FARS Data Collection
- ✓ SBIR Oral fluid THC Detection Device
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- ✓ Evaluation of On-site Oral Fluid Drug Screening Devices

- ✓ Drugs and Driving State of Knowledge
- ✓ Toxicology Consultant

National Roadside Survey of Driver Drug and Alcohol Use

Impairment

- ✓ Examine Feasibility of SFST for Marijuana
- ✓ Determine Potential of Drugs to Impair Driving
- ✓ Drugs and Human Performance Fact Sheets
- ✓ Examine Clinical Research Evaluating Drug Effects on Behavioral Performance tests

- ✓ Drugs and Driving SOK
- ✓ Toxicology Consultant

Alcohol and Drug Crash Risk Study

DUID

Examine the Feasibility of a Field Test for Marijuana Impairment: Laboratory Evaluations

- NHTSA study conducted by Yale University
- Evaluated literature on tests for impairment
- Includes tests for cognitive ability, behavioral tests, tests of physical ability, physiological tests, driving skills tests
- Assessing the accuracy, feasibility, and utility of individual tests and combinations of tests
- Working toward development of test battery for cannabis
- This is basic laboratory testing. If there are promising tests, we will move on to additional lab testing and field testing

Summary

- DUID is a growing concern – still many unknowns
- Research on drug-impaired driving is very challenging
  - Other drugs are differ from alcohol, and from each other
  - Drug concentration levels not reliable indicators of impairment
  - Safety concerns in research with human subjects
- NHTSA has a comprehensive DUID research program
  - Problem identification
  - Countermeasure development
- Complicated issue – must do your homework

Resources

Research in Progress: **https://rip.trb.org/**

Final Reports: **https://rosap.ntl.bts.gov/**

https://www.nhtsa.gov/behavioral-research

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