

# ORAL FLUID TESTING TO SUPPORT DUID INVESTIGATIONS AND IMPROVE DRUGGED DRIVING DATA:

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Nevada Traffic Safety Summit

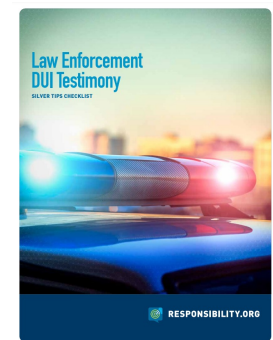
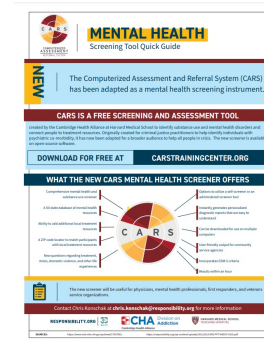
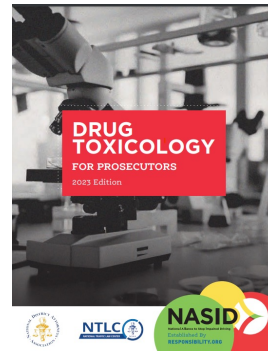
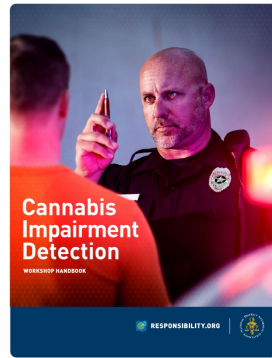
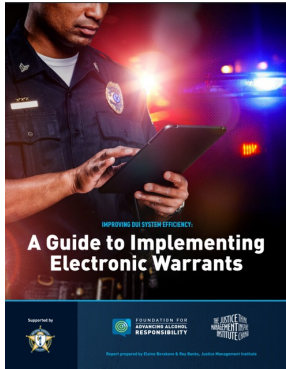
September 13, 2023



- RESPONSIBILITY.ORG AND NASID
- THE SCOPE OF THE DRUGGED DRIVING PROBLEM
- ALCOHOL AND DRUGGED DRIVING DATA
- ORAL FLUID COLLECTION
- NEXT STEPS

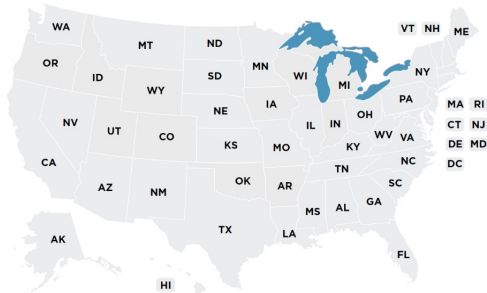
# Responsibility.org





## State Laws

SELECT A STATE on the map below to view statistics about and laws relating to impaired driving.



» End Drunk Driving » More Pages in This Section

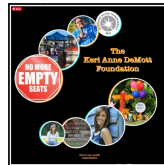
### End Drunk Driving



# NASID Members



## Allied Members:



# Drugs and Driving- The Scope of the Problem

- 2017 report:
  - ❖ European Transport Safety Council (ETSC) – “Preventing Drugged Driving in Europe”
  - ❖ Relative risk of being killed or seriously injured in a collision for various drugs:
    - ❖ Cannabis and illicit opiates: 1-3 times greater risk
    - ❖ Cocaine: 2-10 times greater risk
    - ❖ Amphetamines (alone): 5-30 times greater risk

# 2007 National Roadside Survey Results

- ❖ 3,276 blood and oral fluid paired samples collected VOLUNTARILY from drivers
  - ❖ Not stopped for a driving offense
- ❖ 16.3% of drivers tested positive for drugs
  - ❖ Almost 50% for THC
- ❖ Paired positive samples in both blood and oral fluid
  - ❖ 75.7% were an exact drug match across all classes
  - ❖ 21.4% had at least one drug class match
  - ❖ **97.1% CORRELATION RATE FOR PAIRED SPECIMENS**

Oral fluid is a viable alternative to blood, providing similar information on drug intake

# Drug Impaired Data-(Continued)

- 2014 National Roadside Survey:
  - 15.2 % tested positive for illicit drugs.
  - 7.3% tested positive for the presence of prescription OTC meds
  - 12.6% tested positive for THC, a 48% increase from the 2007 NRS
- ❑ Driving after Cannabis use more prevalent among HS students than drunk driving.
- ❑ 2017 Study - 13% of HS respondents admitted to driving one or more times after using Cannabis during the 30 days before the survey, in contrast with only 5.5% who reported driving after drinking (CDC).
- ❑ A 2012 Washington State survey conducted 1 mo. prior to legalization and 5 and 11 months post legalization, found positive THC measurements at 14.6 %, 19.4% and 21.4%.



# Alcohol Data:



- 100 + YEARS OF RESEARCH – WE KNOW THE EFFECTS ON THE BODY
- PER-SE OF .08 BASED ON SCIENCE
- IT IS ONE SINGULAR SUBSTANCE
- STANDARDIZED TESTING AND REPORTING
  
- WHAT WE KNOW WITH CERTAINTY – FATALITIES IN CRASHES INVOLVING ALCOHOL IMPAIRED DRIVING CONTINUE TO REPRESENT 1/3 OF TOTAL FATALITIES IN THE UNITED STATES!!

# Drug Impaired Data:



- Historically, much less research on drug impaired driving compared to alcohol.
- Hundreds of impairing drugs and poly-substance use
- Complicating the issue is the difference between presence and impairment.
- Differences in definitions: Per se limits vs any amount, vs impairing amount.
- Lack of data: Who is tested?- Some officers fail to test for drugs if the motorist has a BAC at .08 or above.
- Insufficient number of DRE and/or ARIDE trained officers.
- Poor drugged driving laws in states (ie. NY/FL - need to name the impairing substance to charge).
- Inconsistency – Drug panel being tested for, cutoff levels, delay in sample collection, etc
- **NO CERTAINTY/UNIFORMITY WITH STATE OR NATIONAL DRUGGED DRIVING DATA**

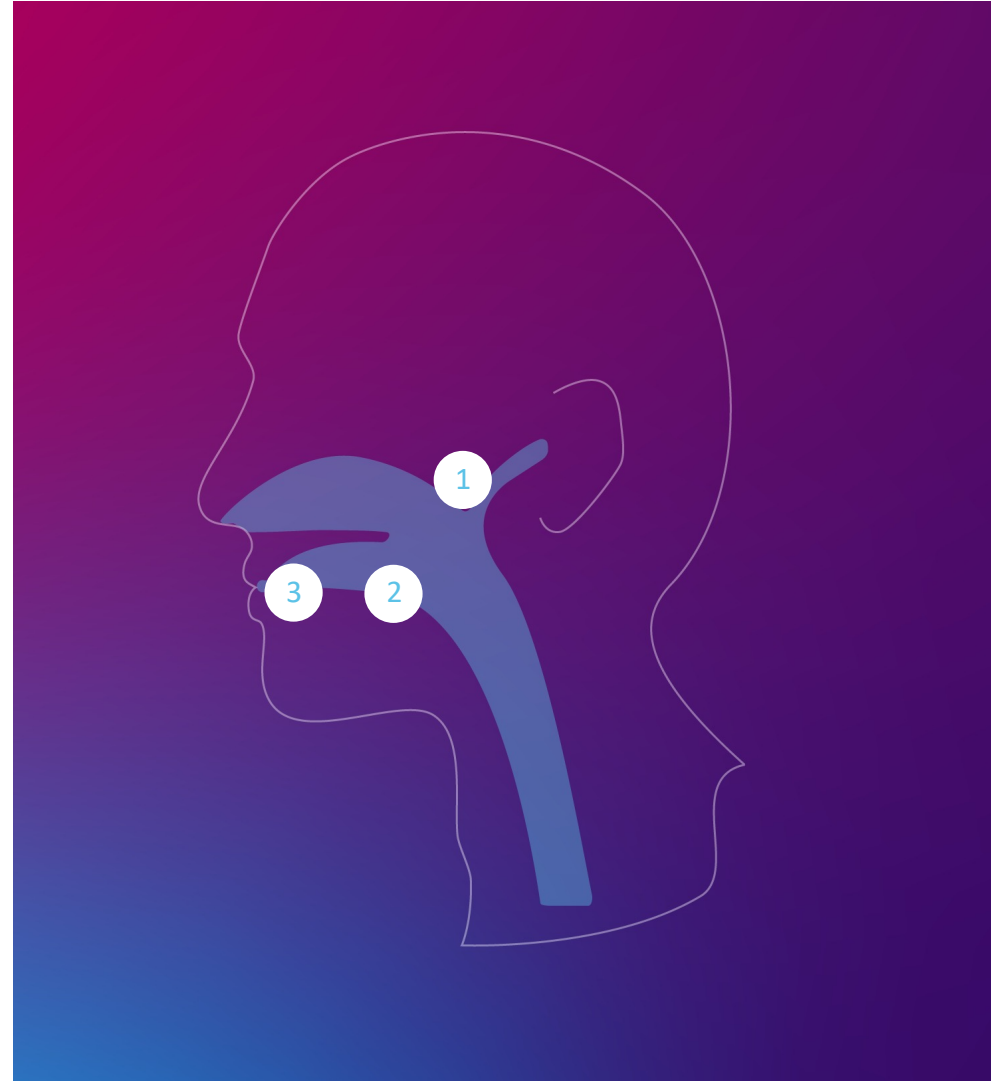
# How Can Roadside Oral Fluid Testing Improve Drugged Driving Data and Improve DUID Investigations?



TODAY'S GOAL

# What is Oral Fluid?

- ORAL FLUID IS COMPOSED OF THE FOLLOWING
  - Saliva
  - Bacteria
  - Blood
  - Gingival fluid
  - Epithelial cells
  - Food debris
- SALIVA IS PRINCIPALLY PRODUCED BY THE 3 MAIN SALIVARY GLANDS
  1. Glandular parotis (parotid gland)
  2. Glandular submandibularis (submandibular gland)
  3. Glandular sublingualis (sublingual gland)
- BETWEEN 0.5 L–1.5 L OF SALIVA IS PRODUCED PER DAY



# Countries that have implemented oral fluid testing

- ❖ Australia: THC, Methamphetamine
- ❖ Canada: THC, Cocaine, Methamphetamine
- ❖ Argentina, Austria
- ❖ Belgium, Brazil
- ❖ Chile, Columbia
- ❖ France, Germany
- ❖ Ireland, Italy
- ❖ Netherlands, New Zealand
- ❖ Poland, Portugal
- ❖ South Africa, South Korea
- ❖ Spain, Sweden
- ❖ Turkey, UAE
- ❖ United Kingdom (arrests up 600% since implementation in 2015)
- ❖ Vietnam
- ❖ United States

# Screening vs. Confirmation testing

Oral fluid screening	Confirmation test
Investigative tool used to support probable cause	Evidential test
Sample collected at roadside	Sample collected post-arrest (unless evidential OF)
Analysis conducted at roadside	Analysis conducted in forensic laboratory
Limited test panel (6+ drugs)	Significantly larger test panel (lab dependent)
Qualitative result (+/-)	Quantitative result (ng level)
Real-time information	Analysis can take months
Not used in court proceedings*	Key piece of evidence in court proceedings

# Oral fluid screening technology



- Analyzer devices use lateral flow immunoassay technology. Officers do not have to interpret results - analyzer provides qualitative result for each drug.
- Simple and quick collection process; subject performs oral fluid collection using swab.
- Most devices test for common drugs of abuse (e.g., cannabis (THC), cocaine, amphetamines, methamphetamines, opioids, benzodiazepines).
- Devices use pre-set cut-off levels for each drug.
- Rapid screening results returned in minutes. Shows recency of use.
- Ability to print results (e.g., to attach to arrest reports); technology can store test results (including date/time).
- Technology has built-in quality checks and procedures.

## SoToxa: Drugs and cut-offs

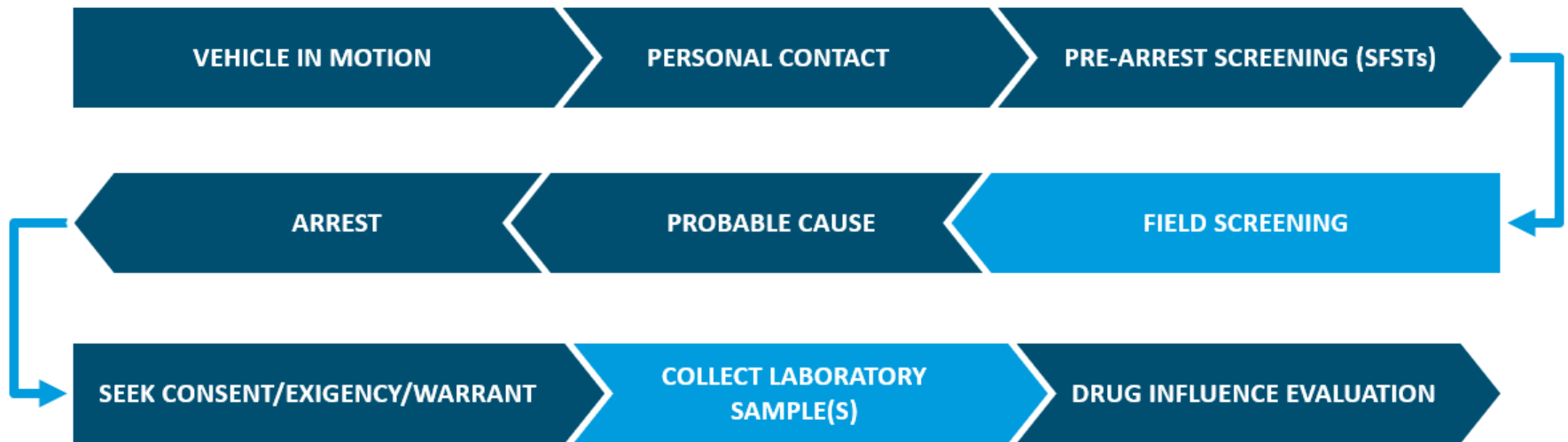
- Cut-off – decision point that differentiates a test result as either positive or negative.
- The cut-off for a test is given as a defined drug concentration.
- A negative screening result does not necessarily mean that the driver is not under the influence of drugs.

### DRUG CUT-OFF LEVELS

DRUG GROUP	TARGET COMPOUND	CUT-OFF (ng/mL)
Amphetamine	Amphetamine	50
Benzodiazepine	Temazepam	20
Cannabis	Delta-9-THC	25
Cocaine	Benzoylcegonine	30
Methamphetamine	Methamphetamine	50
Opiates	Morphine	40



# Impaired driving investigation: Oral fluid screening





## Roadside programs: Pathways to Implementation

Established via legislation and funded by the **STATE LEGISLATURE**.  
(e.g., Michigan, Minnesota)

Established and funded by a **STATE HIGHWAY SAFETY OFFICE** (program implemented by law enforcement agencies).  
(e.g., Arizona, Indiana)

Launched by a **LAW ENFORCEMENT AGENCY**.  
(e.g., California, Illinois, Montana)

Established by a **STATE AGENCY** (e.g., forensic laboratory) in coordination with law enforcement agencies and other partners.  
(e.g., Alabama)

# Phase I: Michigan Pilot Program

- Counties that participated: Berrien, Delta, Kent, St. Clair and Washtenaw
- 31 DREs participated
- **92** oral fluid roadside tests conducted, with one refusal
- 100% accuracy for: AMP, MAMP, OPI
- 85.71% accuracy for: BZO, COC, THC



Courtesy: Ken Stecker, Michigan TSRP

## Phase II Results

- October 1, 2019, to September 30, 2020
- 69 counties had oral fluid cases
- 131 DREs from 65 law enforcement departments participated
- **661** roadside oral fluid tests
- 547 oral fluid confirmation samples collected
- 632 blood confirmation results

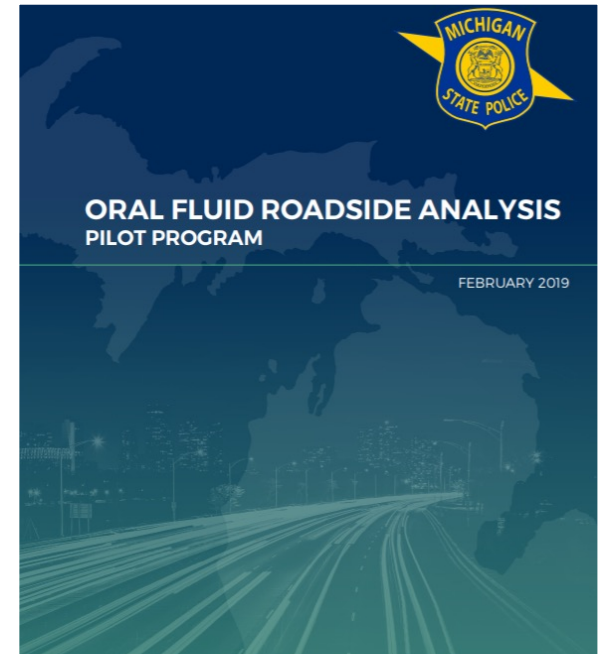


Courtesy: Ken Stecker, Michigan TSRP

# Michigan Pilot Findings

## Advancing Progress

- Michigan State Police (MSP) pilot study concluded:
  - Oral fluid has been found to be ***accurate for purposes of preliminary roadside testing.***
  - It is one of many tools that officers can use during impaired driving investigations.
  - SoToxa is easy to use, requires minimum training, and provides a result within 5 minutes after collection of the sample.
- Legislation is pending that would authorize preliminary oral fluid screening in Michigan, establishing parity with preliminary breath testing.
- Michigan pilot data used to establish a permanent statewide program in Indiana.



# Overview of Indiana Oral Fluid project



## Indiana: Benchmark for success

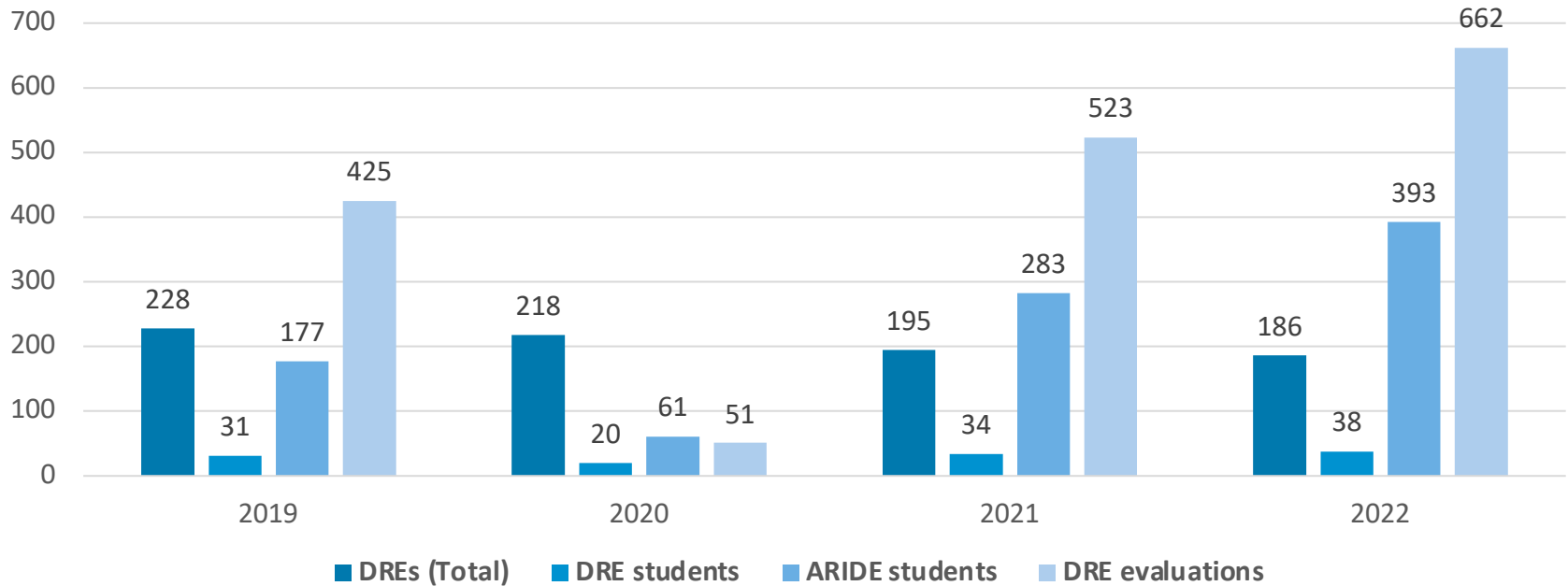
- Program launched in November 2020 by the ICJI with phased rollout.
- Statewide implementation at local level with focus on ARIDE-trained officers.
- Continued expansion with increasing devices and participating agencies.
- Indicators of success:
  - ↑ Increase in identification of drug-impaired drivers including drivers under the influence of multiple drugs.
  - ↑ Increase in DRE drug evaluations.
  - ↑ Increase in drug submissions to forensic laboratory.
  - ↑ Increase in officer engagement with training (all-time high participation in ARIDE trainings).





# Oral fluid screening supports the DRE program

## Indiana DRE Program and ARIDE training (2019-2022)



# IMPROVING DRUGGED DRIVING DATA

- **TIMELINESS AND ACCURACY:** COLLECTION PROXIMATE TO THE CRASH OR STOP BEFORE DRUG METABOLIZES AND YOU MISS THE IMPAIRING SUBSTANCE
- **COMPLETENESS:** TEST ALL IMPAIRED DRIVERS REGARDLESS OF BAC- WON'T MISS DRUG IMPAIRED DRIVERS
- **COMPLETENESS:** ABILITY TO MERGE ROADSIDE ORAL FLUID RESULTS WITH DRE DATABASE DATA TO DETERMINE WHAT SUBSTANCES ARE BEING FOUND IN DIFFERENT PARTS OF YOUR STATE
- **CONFIDENCE:** A TOOL TO INCREASE LAW ENFORCEMENT CONFIDENCE TO CALL A DRE FOR FURTHER TESTING RESULTING IN MORE DUID ARRESTS AND MORE COMPLETE DATA
- **GROWTH OF YOUR PROGRAM:** INCREASE DESIRE OF LAW ENFORCEMENT TO BECOME ARIE OR DRE TRAINED – MORE TRAINED OFFICERS EQUALS MORE DRUGGED DRIVERS BEING REMOVED FROM ROADWAYS AND A MORE COMPLETE PICTURE OF YOUR DUID PROBLEM

# Advantages of roadside Oral Fluid drug testing

- ❖ A reflection of free drug circulating in the blood
- ❖ Easy, rapid, non-invasive, observed collection
- ❖ Sample taken proximate to traffic stop
- ❖ No medical personnel required for collection
- ❖ Parent drug detection shows recency of use
- ❖ Aid the investigative process – help establish probable cause
- ❖ Enhances public safety
- ❖ Creates general deterrence



# Next Steps:

- Hold an Oral Fluid Summit
- Create an Oral Fluid Working Group-Establish SOP's for roadside use
- Review Oral Fluid educational documents (ie. AAA) and reports from pilot states
- Implement a program-Supported by NHTSA and is top NTSB recommended practice
- LEA's - Apply to your SHSO for funding and incorporate into HVE
- Conduct a Green lab that incorporates oral fluid testing

# Advancing Progress AAA Resources

## Use of Oral Fluid to Detect Drugged Drivers



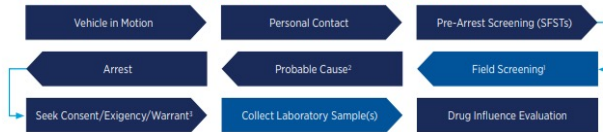
### ORAL FLUID FIELD SCREENING (OFFS)

- Portable & handheld options available
- Easy & fast collection
- Minimally invasive, similar to breath test
- Gender neutral collections
- Rapid results (≤ 10 minutes)
- Demonstrated accuracy, sensitivity & specificity
- Used in conjunction with other evidence to build probable cause for arrest decision
- Quickly identifies potential polydrug impaired drivers (regardless of BAC level)
- Results may support search warrant requests for additional biological samples
- Follow manufacturer instructions/guidelines
- Admissible in hearings like those on probable cause

### LABORATORY TESTING

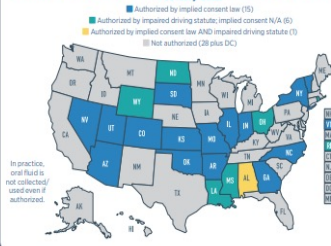
- Easy & fast collection
- Less invasive compared to blood & urine collection
- Collection close to the time of driving (e.g., at roadside)
- Gender neutral collections
- Less expensive to collect than blood
- Likely represents recent drug use
- Often increased detectability of drugs with rapid elimination from blood
- Difficult to adulterate
- Detects pharmacologically active, or impairing drugs (e.g., THC, cocaine)
- Laboratories use validated and accepted analytical techniques and instruments
- Admissible in all court proceedings; evidentiary

### WHEN TO COLLECT ORAL FLUID DURING AN INVESTIGATION



### ORAL FLUID AUTHORIZED TO DETECT DRUGS?

February 2022



### Interested in starting a program in your state?

#### Stakeholders to consult:

- Law Enforcement
- Toxicology Personnel
- Traffic Safety Resource Prosecutor(s)
- SFST & DRE State Coordinators
- Judiciary Representatives
- Device Manufacturers
- Local Impaired Driving Groups
- Researchers and/or Data Analysts
- State Highway Safety Office
- Probation Personnel
- State Public Health Agency
- Driver Licensing Officials

#### Pilot Project guidelines:

[soft-tox.org/files/2014\\_OF\\_Pilot.pdf](https://soft-tox.org/files/2014_OF_Pilot.pdf)

### ADDITIONAL RESOURCES

- AAA Foundation for Traffic Safety | [www.aaafoundation.org](http://www.aaafoundation.org)
- Alabama Department of Forensic Sciences | [www.adfs.alabama.gov/services/tox/toxicology-oral-testing-program](http://www.adfs.alabama.gov/services/tox/toxicology-oral-testing-program)
- DRE Program | [www.theiacp.org/projects/the-international-drug-evaluation-classification-program](http://www.theiacp.org/projects/the-international-drug-evaluation-classification-program)
- National Safety Council | [www.nsc.org/work-safety/get-involved/divisions/alcohol-drugs-and-impairment](http://www.nsc.org/work-safety/get-involved/divisions/alcohol-drugs-and-impairment)
- Traffic Safety Resource Prosecutor List | [ndaa.org/programs/ntic/commercial-drivers-license/traffic-safety-resource-prosecutor-list](http://ndaa.org/programs/ntic/commercial-drivers-license/traffic-safety-resource-prosecutor-list)
- Society of Forensic Toxicology FAQs | [www.soft-tox.org/files/2018%20OF\\_FAQ\\_FINAL.pdf](http://www.soft-tox.org/files/2018%20OF_FAQ_FINAL.pdf)

Use of Oral Fluid to Detect Drugged Drivers  
1st Edition

<sup>1</sup> Oral fluid field screening (OFFS) and preliminary breath test, if applicable.

<sup>2</sup> Based on totality of investigation.

<sup>3</sup> First seek consent. If no consent, are there exigent circumstances? If none, can you apply for a warrant?

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Thank you for your time and attention!!!

