Breakout Session 2:
Closing the Research Gaps In Impaired Driving Data

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Closing the Research Gaps in Impaired Driving Data

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Advancing Transportation Through Innovation
Drugged driving eclipses drunken driving in tests of motorists killed in crashes.

Drugged Driving on Rise, Passes Alcohol Alone in Fatal Crashes, Study Finds

'Drugged driving' surpasses drunken driving among drivers killed in crashes, report finds
A 2017 study published in The American Journal of Public Health which reported, “Three years after recreational marijuana legalization, changes in motor vehicle crash fatality rates for Washington and Colorado were not statistically different from those in similar states without recreational marijuana legalization.”

A 2016 study reported that the enactment of medical cannabis legislation is associated with an immediate decline in traffic fatalities among younger drivers.
Drug Data Reporting and Linking

Police Records
- Police Codes
- Crash Information
- Requested Lab Tests

Court Records
- Initial Charge
- Final Disposition
- Details of Disposition

Toxicology Results
- Type of Drug Test
- Drug Panel
- Quantifiable Results

Judicial System Evaluation

Couched Within State System
- State Legislation and Case Law
- DUI Statutes and Codes
- Toxicology Standards
- Frequency of DUI Arrests
- Presence of DREs
- Overall Police Training

VirginiaTech
Transporting Institute
Toxicology Challenges within a State

• Multiple Laboratories
  • State-run vs. Private

• Significant Variance in:
  • Drug Panels
  • Drug Matrices
  • Detection Thresholds

• Changes in Protocols over Time
• BAC Stop Testing Levels
• Flow of Toxicology Data
Other State-Level Challenges

• Data Linkage and Integration across Systems
• Combined Offenses for Alcohol and Other Drugs
• Charge Detail in Judicial Databases
• Linking of Toxicology Information
• Inability to Track an Individual from Citation to Final Disposition
Partnering with Research Groups

**Marijuana, Other Drugs, and Alcohol Use by Drivers in Washington State**

**Figure 1. Timeline of the Washington State Study**

**Table 4. Percentage of THC-Positive Drivers by Wave (Oral Fluid or Blood)**

<table>
<thead>
<tr>
<th>Wave</th>
<th>% THC-positive</th>
<th>N</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wave 1</td>
<td>14.6</td>
<td>908</td>
<td>[11.9, 17.8]</td>
</tr>
<tr>
<td>Wave 2</td>
<td>19.4</td>
<td>672</td>
<td>[16.4, 22.8]</td>
</tr>
<tr>
<td>Wave 3</td>
<td>21.4</td>
<td>810</td>
<td>[17.5, 25.9]</td>
</tr>
</tbody>
</table>

In this table, Ns are unweighted; percentages are weighted. THC-positive includes results from THC and hydroxy-THC.
Naturalistic Driving Research
Advancing Transportation Through Innovation
Potential Solutions

• Improved Communication within a State
  • Enhanced Focus on Toxicology
  • Build Broad Coalitions
• Consider Research Partnerships
• Invest in Toxicology and Technological Advancements
• Make Drugged Driving Data a State Value and Priority
• New BTSCRP Project “Tracking State Traffic Citation and Adjudication Outcomes”
Roadmap to Improving FARS Drug Data

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Fatality Analysis Reporting System (FARS)

- A census of all police-reported fatal motor vehicle traffic crashes in the U.S. (50 States, DC, & Puerto Rico)
- Operated cooperatively with States
- FARS Analysts–state employees gather, analyze,& enter data
FARS Operations

- Eight State record sources
- > 140 data elements coded into uniform data system
- Quality control checks
- Not all data is available
- Not all data elements are coded
Many people are seeking answers about drugged driving
Many look to NHTSA’s FARS data
FARS Drug-involved Data has many limitations
## Limitations—FARS Drug Data

<table>
<thead>
<tr>
<th>Issue</th>
<th>Things to Work On</th>
</tr>
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</table>
| **Quality** | • limited drugs entered  
• need specificity on specimen  
• need info on testing panels and thresholds  
• type of test not indicated  
  ▪ need concentration amounts  
• need positive and negative results  
• need time/date of specimen collection  
• non-representative  
  ▪ survivors and decedents  
• presence indicated not impairment* |
| **Quantity** | • >testing of surviving and deceased drivers |
Improvements to Date

- Unlimited drugs allowed
- Updated specimen list
- Some variables renamed
- Identify positive & negative tests
- Software & training updates

Improvements to Come

- Add Test Type Variable
  - Screening Test, Confirmatory Test, Unknown
- Record data source
- Reorganize drug list

Longer Term Updates

- Time and date of
  - specimen collection
  - test performed
- Record concentration level of each drug
- Testing panel and detection threshold