The Role Of Toxicology To Tackle Drug Impaired Driving

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Moderator: Elise Simonsen, Policy Analyst, NGA Homeland Security and Public Safety
The Orange County Model:
Testing, Training, Research, & Collaboration

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The Orange County Model
The Orange County Model

- Toxicology Exams
- Tox Cases
- DUID Cases

Graph showing trends from 2003 to 2018.
How does the OCCL process a DUID case?

- All blood cases with driving violations are tested for ethanol and other volatiles.
- All blood cases are screened for 300+ drugs.
- All positive screens are confirmed automatically.
- All drug requests are conducted if reasonable and sufficient sample volume is provided; not already included in screen.
- All DRE samples are comprehensively tested including all requests regardless of charge.
## OCCL DUI Trends 2018

_Samples Analyzed from August – December 2018_

### Top 15 Drugs Detected

The numbers in parentheses indicate the 1 year change.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Percentage (Change)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>77% (-1%)</td>
</tr>
<tr>
<td>THC</td>
<td>29% (+4%)</td>
</tr>
<tr>
<td>Methamphetamine</td>
<td>13% (+1%)</td>
</tr>
<tr>
<td>Alprazolam</td>
<td>4% (-3%)</td>
</tr>
<tr>
<td>Morphine</td>
<td>3% (-1%)</td>
</tr>
<tr>
<td>Cocaine</td>
<td>3% (No Change)</td>
</tr>
<tr>
<td>Codeine</td>
<td>2% (+2%)</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>2% (+1%)</td>
</tr>
<tr>
<td>Gabapentin</td>
<td>2% (+1%)</td>
</tr>
<tr>
<td>Nordiazepam</td>
<td>1% (No Change)</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>1% (+1%)</td>
</tr>
<tr>
<td>Diazepam</td>
<td>1% (No Change)</td>
</tr>
<tr>
<td>Zolpidem</td>
<td>1% (No Change)</td>
</tr>
<tr>
<td>Clonazepam</td>
<td>1% (No Change)</td>
</tr>
<tr>
<td>Lorazepam</td>
<td>1% (No Change)</td>
</tr>
</tbody>
</table>

*Average Blood Alcohol Concentration: 0.161%*

**DUI Blood Samples Analyzed: 3470**

**Evidential Breath Tests Administered: 2520**
Impairing drugs were detected in 36% of samples where the BAC was 0.08% or greater, an increase of 5% from the previous year.
## Fatally-Injured Drivers

<table>
<thead>
<tr>
<th>Year</th>
<th>Case Count</th>
<th>THC</th>
<th>Cannabis Use</th>
<th>THC Only</th>
<th>Ethanol</th>
<th>At least one drug</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016 operators tested (81%)</td>
<td>101</td>
<td>21%</td>
<td>23%</td>
<td>5%</td>
<td>29%</td>
<td>50%</td>
</tr>
<tr>
<td>2017 operators tested (80%)</td>
<td>118</td>
<td>17%</td>
<td>18%</td>
<td>9%</td>
<td>32%</td>
<td>56%</td>
</tr>
<tr>
<td>2018 operators tested (76%)</td>
<td>99</td>
<td>25%</td>
<td>28%</td>
<td>11%</td>
<td>36%</td>
<td>62%</td>
</tr>
</tbody>
</table>
Amy Miles
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WSLH Forensic Toxicology Team

- 3 Supervisors
- 5 Support Staff
- 13 Chemists

- Law enforcement samples (~18,000 cases/yr)
- Death investigation cases (~2,700 cases/yr)
- Testify in court all over the state
- Provide training in WI and across the country
Total number of OWI Cases Received

Year

WSLH Toxicology Workload: 2003-2018

OWI

Drugs (% of total)
Policies For Alcohol and Drug Testing

• Limit testing based on BAC
  – Common amongst other forensic laboratories doing DUID casework

• Limit testing based on Scheduled drugs
  – Each state is different, if policy exists, based on statute

• Resource coupled with technology limitations may drive testing decisions.
Forensic Toxicology in a Public Health Lab

State/Local Health Dept
CDC
Highway Safety
Chemical Emergency Response
Assoc of Public Health Labs (APHL)

Oral Fluid forensic toxicology
blood
Driving poisons
Death Investigations
legal impairment

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