Toxicological Investigation of Drug Impaired Driving

Toxicology Laboratory Survey

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Introduction:

Previous guidelines and recommendations for laboratories performing toxicology testing in support of DUID testing were published in 2007 by Farrell, et al. This research aims to assist in critically reviewing, updating and publishing the current guidelines and recommendations for the toxicology community. An online survey was conducted to poll laboratories identified by the Forensic Toxicology Council as being currently engaged in DUID testing. The intention of the survey was to gather information regarding the needs and capabilities of forensic toxicology laboratories. More specifically, the survey was developed with the objectives of identifying current practices, capabilities, training and research needs and gathering information regarding the scope and sensitivity of testing. Two independent surveys were also developed to gather information from the perspectives of Traffic Safety Resource Prosecutors and Drug Recognition Experts.

Toxicology laboratory directors or employees were contacted via email to initiate communication, confirm contact information, and verify their eligibility to participate in a survey regarding laboratory services in DUID cases. To create the survey, SurveyMonkey™, an online web survey instrument, was utilized. The survey questions focused on gathering information regarding current drugs being tested for, factors that affect drug collecting or analysis and ability to meet previous recommendations. The NSC CAOD committee expanded upon and amended the survey questions to increase their scope and clarity. The final revised survey was prepared for submission to confirmed participants via SurveyMonkey™.

The initial contact list included three hundred and seventy six toxicology laboratory directors or employees. These individuals were contacted via telephone and asked to participate in the survey if their laboratories conducted DUID/DRE casework. One hundred and twenty three individuals agreed to participate in the survey. These individuals were sent an initial contact email explaining the survey in more details and confirming their email addresses. Follow-up emails were sent to those who did not respond to the initial email. Telephone calls were also made to those who did not respond to the second email. Following these efforts, a total of ninety nine individuals
confirmed their email addresses and their participation. The survey was then emailed to these individuals to complete. The survey responses were collected and analyzed. Follow-up emails were sent to participants who did not answer every question in an effort to obtain as much information as possible. As a disclaimer, in spite of efforts to collect data, some participants did not respond to all questions therefore the data represents ninety-six reasonably completed surveys to the point where the survey was rendered suitable to be included in the data analysis. Also, questions originally included in the survey regarding oral fluid were omitted for this report due to a lack of responses.
Program Characteristics
What status best describes your laboratory?

Figure 1. Pie chart representing the percentage of responses to the status of each respondent laboratory status (n = 96).

Of the ninety-six responses, forty-three (45%) participants identified their status as a state laboratory, fifteen (16%) participants identified their status as a county laboratory, twelve (13%) participants identified their status as a private laboratory, eleven (11%) participants identified their status as a regional laboratory, six (6%) participants identified their status as a hospital laboratory, five (5%) participants identified their status as a municipal laboratory and four (4%) participants identified their status as a university laboratory (Figure 1).
Toxicology Laboratories Statistics
Approximately how many analysts are employed by your toxicology lab?

**Figure 2.** Histogram representing the number of analysts employed by each toxicology lab (n = 84).

Eighty-four toxicology laboratories are represented in the data. The distribution of data shows that responses range from zero to twenty-three analysts (Figure 2). Thirty two respondents indicated the number of analysts employed by their toxicology lab was less than or equal to 5 analysts. Twenty eight respondents indicated the number of analysts employed by their toxicology lab was between 6-10 analysts. Twenty respondents indicated the number of analysts employed by their toxicology lab was between 11-15 analysts. Three respondents indicated the number of analysts employed by their toxicology lab was between 16-20 analysts. Two respondents indicated the number of analysts employed by their toxicology lab was between 21-25 analysts. Four respondents indicated the number of analysts employed by their toxicology lab was greater than 25 analysts.
Approximately how many DUID/DRE cases does your lab currently analyze each month?

![Histogram](image)

**Figure 3.** Histogram representing the number of DUID/DRE cases each lab currently analyzes each month (n = 74).

Seventy-four toxicology laboratories are represented in the data. The distribution of data shows that responses range from zero to 1800 DUID/DRE cases analyzed each month per laboratory (Figure 3). Forty-nine respondents indicated the number of cases their lab analyzes each month was less than or equal to 75 cases. Thirteen respondents indicated the number of cases their lab analyzes each month was between 76-150 cases. Six respondents indicated the number of cases their lab analyzes each month was between 151-225 cases. Four respondents indicated the number of cases their lab analyzes each month was between 226-300 cases. No respondents indicated the number of cases their lab analyzes each month was between 301-375 cases. Two respondents indicated the number of cases their lab analyzes each month was between 376-450 cases. Eleven respondents indicated the number of cases their lab analyzes each month was greater than 450 cases.
Approximately how many times each month does your laboratory supply toxicology testimony in DUID/DRE cases?

**Figure 4.** Histogram representing the number of times each month each laboratory supplies toxicology testimony in DUID/DRE cases (n = 80).

Eighty toxicology laboratories are represented in the data. The distribution of data shows that responses range from zero to 35 times per month that each laboratory supplies toxicology testimony in DUID/DRE cases (Figure 4). Sixty nine respondents indicated that the number of times testimony is provided per month was less than or equal to 5 times. Ten respondents indicated that the number of times testimony is provided per month was between 6-10 times. Three respondents indicated that the number of times testimony is provided per month was between 11-15 times. One respondent indicated that the number of times testimony is provided per month was between 16-20 times. One respondent indicated that the number of times testimony is provided per month was between 21-25 times. One respondent indicated that the number of times testimony is provided per month was greater than 25 times.
Are toxicologists from your laboratory involved in training either DRE's or Prosecutors in toxicology topics?

**Figure 5.** Pie chart representing the percentage of responses to whether toxicologists are involved in training either DREs or prosecutors in toxicology topics (n = 88).

Of the eighty-eight responses, a total of forty-seven respondents (53%) said that they are involved in training either DRE’s or Prosecutors in toxicology topics. Forty-one out of eighty-eight respondents (47%) said that they are not involved in this type of training (Figure 5).
Toxicology Laboratories Training Information
The most common response to training provided to DRE officers was presentations at the DRE annual training sessions. These presentations include providing updates about the type of testing provided, specific drugs that are tested for, differences between biological fluids, understanding reports, and statistics on drugged driving. Some laboratories also report providing presentations at various DRE schools. Ohio and Virginia laboratories reported that they do not have DRE’s therefore they merely provide an overview of toxicology with emphasis on the need to collect blood instead of urine to interpret results. Virginia also provides lectures at the Commonwealth Attorney Workshop on DUID/DUI cases. On site one-on-one training is also provided by some laboratories when it is requested. Overall, most laboratories reported providing training regarding lab procedures, abilities, analysis limitations, common symptoms, general drug class education, testimony capabilities, basics of DRE testing and reporting information.
Approximately how many hours of training per year does your laboratory provide to DRE OFFICERS?

Figure 6. Histogram representing the number of hours of training per year each laboratory provides to DRE officers (n = 40).

Forty toxicology laboratories are represented in the data. The distribution of data shows that responses range from zero to fifty hours of training per year that each laboratory supplies to DRE officers (Figure 6). Twenty one respondents indicated that the number of hours of training per year was less than or equal to 2 hours. Seven respondents indicated that the number of hours of training per year was between 3-4 hours. Four respondents indicated that the number of hours of training per year was between 5-6 hours. One respondent indicated that the number of hours of training per year was between 7-8 hours. Two respondents indicated that the number of hours of training per year was between 9-10 hours. One respondent indicated that the number of hours of training per year was between 11-12 hours. Four respondents indicated that the number of hours of training per year was greater than 12 hours.
What type of toxicology training is provided by your laboratory to PROSECUTORS?

The most common response to training provided to prosecutors was a general overview of the laboratory testing services, general lab procedures, lab capability and what results mean for cases. Some responses included providing presentations at continued legal education seminars (CLEs) regarding testing protocols. Multiple laboratories reported providing one-on-one training with prosecutors either on-site at the laboratory or via phone. Some laboratories occasionally provided orientations to DUID/DUI testing to new prosecutors. These laboratories focus on providing training regarding testing and results for the first case of the new prosecutor. Some laboratories also reported Ad Hoc feedback about cases/interpretation of results. Annual statistics on drug detections, frequency and drug trends were also a topic of discussion at various training meetings. Overall, training is provided ranging from once every couple of years to six times per year regarding sample collection, sample testing and the effects of drugs via one-on-one training, seminars, presentations, classes and meetings.
Approximately how many hours of training per year does your laboratory provide to PROSECUTORS?

Figure 7. Histogram representing the number of hours of training per year each laboratory provides to prosecutors (n = 37).

Thirty-seven toxicology laboratories are represented in the data. The distribution of data shows that responses range from zero to fifty hours of training per year that each laboratory supplies to prosecutors (Figure 7). Twenty eight respondents indicated that the number of hours of training per year was less than or equal to 5 hours. Six respondents indicated that the number of hours of training per year was between 6-10 hours. Two respondents indicated that the number of hours of training per year was between 11-15 hours. Two respondents indicated that the number of hours of training per year was between 16-20 hours. Two respondents indicated that the number of hours of training per year was between 21-25 hours. Three respondents indicated that the number of hours of training per year was greater than 25 hours. As limitations of this survey question, no data captured what type of training was provided or the number of DRE officers or prosecutors trained.
If no training is provided, why aren’t toxicologists from your laboratory involved in DRE officer or prosecutor training?

![Pie chart](image)

- **57%** Have not been asked to provide any training
- **22%** Insufficient staffing or funding
- **16%** DRE training is not necessary for testifying
- **5%** Other

**Figure 8.** Pie chart representing the percentage of responses to why toxicologists aren't involved in DRE officer or prosecutor training (n = 41).

A total of forty-one participants indicated that they are not involved in DRE officer or prosecutor training. Of these participants, thirty-seven responded to this question regarding why training isn’t provided. Twenty-one (57%) participants responded to not having been asked to provide any training, six (16%) participants responded to not
having sufficient staffing or funding, two (5%) participants responded to DRE training not being necessary for testifying and eight (22%) responded to having some other reason for not providing training (Figure 8).

Respondents also had the ability to comment on other reasons for not providing DRE officer or prosecutor training. The main free text response reported that this type of training is handled by other sources such as other regional laboratories or other highly experienced DRE officers. A laboratory representative from West Virginia commented that they do not have DRE officers in their state. Other participants commented that they do not provide court room testimony very often and that they rarely go to court.
Laboratory Methods
Please indicate what methods are routinely used for drug SCREENING:

Figure 9. Bar graph representing what methods are routinely used for drug screening (n = 66).

Sixty six participants responded to this question. As multiple methods could be selected, a total of 121 responses were made to which methods are used for screening blood samples. Out of these responses, 13% (16 responses) indicated the use of EMIT, 34% (41 responses) indicated the use of ELISA, 28% (34 responses) indicated the use of GC-MS, 17% (20 responses) indicated the use of LC-MS, 0% (no responses) indicated the use of LC-TOF and 8% (10 responses) indicated that they don’t test blood for screening purposes. A total of 120 responses were made to which methods are used for screening urine samples. Out of these responses, 23% (28 responses) indicated the use of EMIT, 27% (32 responses) indicated the use of ELISA, 29% (35 responses) indicated the use of GC-MS, 14% (17 responses) indicated the use of LC-MS, 1% (1 response) indicated the use of LC-TOF and 6% (7 responses) indicated that
they don’t test urine for screening purposes. A total of 66 responses were made to which methods are used for screening oral fluid samples. Out of these responses, 4% (3 responses) indicated the use of EMIT, 9% (6 responses) indicated the use of ELISA, 2% (1 response) indicated the use of GC-MS, 3% (2 responses) indicated the use of LC-MS and 0% (no response) indicated the use of LC-TOF and 82% (54 responses) indicated that they do not test oral fluid for screening purposes. See Figure 9 for a bar graph representation of this data.
Please indicate what methods are routinely used for drug CONFIRMATION:

**Figure 10.** Bar graph representing what methods are routinely used for drug confirmation (n = 66).

Sixty six participants responded to this question. As multiple methods could be selected, a total of 101 responses were made to which methods are used for confirming blood samples. Out of these responses, 1% (1 response) indicated the use of EMIT, 0% (no responses) indicated the use of ELISA, 52% (53 responses) indicated the use of GC-MS, 36% (36 responses) indicated the use of LC-MS, 0% (no responses) indicated the use of LC-TOF and 11% (11 responses) indicated that they don’t test blood for confirmation purposes. A total of 100 responses were made to which methods are used for confirming urine samples. Out of these responses, 1% (1 response) indicated the use of EMIT, 0% (0 responses) indicated the use of ELISA, 59% (59 responses) indicated the use of GC-MS, 33% (33 responses) indicated the use of LC-MS, 1% (1 response) indicated the use of LC-TOF and 6% (6 responses) indicated that they don’t
test urine for confirmation purposes. A total of 64 responses were made to which methods are used for confirming oral fluid samples. Out of these responses, 2% (1 response) indicated the use of EMIT, 0% (no responses) indicated the use of ELISA, 11% (7 responses) indicated the use of GC-MS, 11% (7 responses) indicated the use of LC-MS, 0% (no responses) indicated the use of LC-TOF and 77% (49 responses) indicated they do not test oral fluid for confirmation purposes. See Figure 10 for a bar graph representation of this data.
Does your lab report unconfirmed screen results?

**Figure 11.** Pie graph representing whether the labs report unconfirmed screen results (n = 67).

Of the sixty-seven responses, the majority of the participants responded with “no.” A total of twenty-two out of sixty-seven respondents (33%) said that their lab reports unconfirmed screen results. A total of forty-five out of sixty-seven respondents (67%) said that their lab does not report unconfirmed screen results (Figure 11). If the laboratory indicated that it reported unconfirmed screen results then the participant had the ability to explain by a free text response comment (see next page).
Does your lab report unconfirmed screen results? - If yes, please comment:

According to the free text responses, although some clients only request screening results, the laboratory reports that confirmation is recommended. Screening for all classes of drugs may also result in a laboratory reporting unconfirmed results. In these cases, the laboratory may consult the prosecutor or investigator to determine which drugs need to be confirmed. A disclaimer is also included if a case is closed by the officer before confirmation. For laboratories operating under NYS DUID laws, if a drug is not chargeable then it is reported as a medication the subject is taking and can be reported without confirmatory analysis. However, all drugs chargeable under NYS DUID law require a confirmatory analysis.

Laboratories may report preliminary immunoassay positive results for urine Cannabinoid tests as well. Insufficient sample volume may also result in an unconfirmed screen result. A specimen screen may also be reported as an unconfirmed positive result, when the laboratory does not provide confirmatory analysis on this drug/drug class. In this case, the laboratory suggests the services of another laboratory if additional testing is desired. A bold disclaimer may also be included in unconfirmed screen results stating that screening tests gave a positive indication for a drug/drug class and confirmatory testing will be performed upon a subsequent request from the investigator/prosecutor. The results state that the unconfirmed screen results only represent presumptive positive results and should not be used for interpretation alone.
Drug Analysis - BLOOD
Does your laboratory provide BLOOD sample analytical services (screening or confirmation) for DUID/DRE samples?

Figure 12. Pie graph representing whether the laboratories provide BLOOD sample analytical services (screening or confirmation) for DUID/DRE samples (n = 85).

Of the eighty-five responses, the majority of the participants responded with “yes.” A total of sixty-eight out of eighty-five respondents (80%) said that their lab provides blood sample analytical services (screening or confirmation) for DUID/DRE cases. A total of seventeen out of eighty-five respondents (20%) said that their lab does not provide blood sample analytical services (screening or confirmation) for DUID/DRE cases (Figure 12).
Drug Analysis – BLOOD – SCREENING  Do you currently meet the guideline recommendations (given in parentheses) for SCREENING each of these drugs in BLOOD? (Graph Format)

Figure 13. Bar graph representing whether or not laboratories meet the guideline recommendations for screening drugs in blood.
Drug Analysis – BLOOD – SCREENING  Do you currently meet the guideline recommendations (given in parentheses) for SCREENING each of these drugs in BLOOD? (Table Format)

<table>
<thead>
<tr>
<th>Drug</th>
<th>% of Respondents who test for this drug (“Total that Test”)</th>
<th>% of Respondents that meet the recommendation/Total that Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannabis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carboxy-THC</td>
<td>84%</td>
<td>70%</td>
</tr>
<tr>
<td>CNS Stimulants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methamphetamine</td>
<td>95%</td>
<td>53%</td>
</tr>
<tr>
<td>Amphetamine</td>
<td>64%</td>
<td>51%</td>
</tr>
<tr>
<td>Benzoylecgonine</td>
<td>100%</td>
<td>77%</td>
</tr>
<tr>
<td>MDMA</td>
<td>98%</td>
<td>53%</td>
</tr>
<tr>
<td>MDA</td>
<td>90%</td>
<td>67%</td>
</tr>
<tr>
<td>CNS Depressants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nordiazepam</td>
<td>62%</td>
<td>82%</td>
</tr>
<tr>
<td>Oxazepam</td>
<td>93%</td>
<td>83%</td>
</tr>
<tr>
<td>Secobarbital</td>
<td>98%</td>
<td>76%</td>
</tr>
<tr>
<td>Narcotic Analgesics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methadone</td>
<td>92%</td>
<td>87%</td>
</tr>
<tr>
<td>Morphine (free drug)</td>
<td>95%</td>
<td>63%</td>
</tr>
<tr>
<td>Propoxyphene</td>
<td>81%</td>
<td>71%</td>
</tr>
<tr>
<td>Dissociative Drugs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phencyclidine</td>
<td>90%</td>
<td>83%</td>
</tr>
</tbody>
</table>

**Figure 14.** A table consisting of percentages regarding those who test for the drug as well as what percentage of those who test either meet or exceed the guideline recommendations for screening drugs in blood.

The percentage of respondents who test for this drug was calculated by adding together the number of respondents that meet the recommendation by being at or below the recommendation and respondents that don’t meet the recommendation by being above the recommendation. The result was termed the “Total that Test” and was used as the denominator for calculating the percentage of respondents who test that meet the recommendation (third column). This percentage represents the percentage of respondents that meet the recommendation out of the total percentage of respondents that test for the drug. All subsequent data was calculated in this manner.
Cannabis

For Carboxy-THC at the recommended screening cutoff of 10 ng/mL, 28% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 33% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 67% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 27% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 8% of participants reported that they do not test for this drug. A total of 5% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

CNS Stimulants

For Methamphetamine at the recommended screening cutoff of 20 ng/mL, 17% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 33% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 87% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 44% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. None of the participants reported that they do not test for this drug. A total of 6% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For Amphetamine at the recommended screening cutoff of 20 ng/mL, 16% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 29% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 71% meeting the
guideline recommendation by being either below or at the recommended screening cutoff. A total of 43% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 6% of participants reported that they do not test for this drug. A total of 6% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Benzoylcegonine** at the recommended screening cutoff of 50 ng/mL, 28% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 44% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 53% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 22% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 2% of participants reported that they do not test for this drug. A total of 5% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **MDMA** at the recommended screening cutoff of 20 ng/mL, 13% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 33% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 63% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 41% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 10% of participants reported that they do not test for this drug. A total of 3% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **MDA** at the recommended screening cutoff of 20 ng/mL, 13% of participants reported meeting the guideline recommendation by being below the recommended
screening cutoff. A total of 33% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 83% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 41% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 10% of participants reported that they do not test for this drug. A total of 3% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

**CNS Depressants**

For **Nordiazepam** at the recommended screening cutoff of 50 ng/mL, 40% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 34% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 84% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 16% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 5% of participants reported that they do not test for this drug. A total of 5% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Oxazepam** at the recommended screening cutoff of 20 ng/mL, 42% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 27% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 51% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 15% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 10% of participants reported that they do not test for this drug. A total of 6% of participants
reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Secobarbital** at the recommended screening cutoff of 100 ng/mL, 28% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 39% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 77% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 21% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 7% of participants reported that they do not test for this drug. A total of 5% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

**Narcotic Analgesics**

For **Methadone** at the recommended screening cutoff of 50 ng/mL, 34% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 44% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 70% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 11% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 5% of participants reported that they do not test for this drug. A total of 6% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Morphine** at the recommended screening cutoff of 20 ng/mL of free drug, 27% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 32% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the
participants who reported that they test for this drug, a total of 82% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 35% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 2% of participants reported that they do not test for this drug. A total of 5% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For Propoxyphene at the recommended screening cutoff of 50 ng/mL, 21% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 22% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 83% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 17% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 33% of participants reported that they do not test for this drug. A total of 6% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question. Please note that Propoxyphene was removed from the US pharmaceuticals as of 11/19/2010.

Dissociative Drugs

For Phencyclidine at the recommended screening cutoff of 10 ng/mL, 20% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 42% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 53% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 13% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 17% of participants reported that they do not test for this drug. A total of 8% of participants
reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

Overall, **Oxazepam** was the most frequently reported (42%) drug in this set for meeting the guideline recommendation by being below the recommended screening cutoff. **Benzoylecgonine** and **Methadone** were the most frequently reported (44% each) drugs in this set for meeting the guideline recommendation by being at the recommended screening cutoff. **Methamphetamine** was the most frequently reported (44%) drug in this set for not meeting the guideline recommendation by being below the recommended screening cutoff. **Methamphetamine** is the only drug in this set that was reported as always being tested.
Drug Analysis - BLOOD - CONFIRMATION Do you currently meet the guideline recommendations (given in parentheses) for CONFIRMING each of these drugs in BLOOD samples? (Graph Format)
Figure 15. Bar graphs representing whether or not laboratories meet the guideline recommendations for confirming drugs in blood.
Drug Analysis - BLOOD - CONFIRMATION Do you currently meet the guideline recommendations (given in parentheses) for CONFIRMING each of these drugs in BLOOD samples? (Table Format)

<table>
<thead>
<tr>
<th>Drug</th>
<th>% of Respondents who test for this drug (“Total that Test”)</th>
<th>% of Respondents that meet the recommendation/Total that Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannabis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>THC</td>
<td>62%</td>
<td>84%</td>
</tr>
<tr>
<td>Carboxy-THC</td>
<td>79%</td>
<td>92%</td>
</tr>
<tr>
<td>11-OH-THC</td>
<td>31%</td>
<td>72%</td>
</tr>
<tr>
<td>CNS Stimulants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methamphetamine</td>
<td>98%</td>
<td>70%</td>
</tr>
<tr>
<td>Amphetamine</td>
<td>98%</td>
<td>70%</td>
</tr>
<tr>
<td>MDMA</td>
<td>98%</td>
<td>69%</td>
</tr>
<tr>
<td>MDA</td>
<td>95%</td>
<td>71%</td>
</tr>
<tr>
<td>Cocaine</td>
<td>82%</td>
<td>61%</td>
</tr>
<tr>
<td>Benzoylecgonine</td>
<td>97%</td>
<td>95%</td>
</tr>
<tr>
<td>Cocaethylene</td>
<td>90%</td>
<td>72%</td>
</tr>
<tr>
<td>CNS Depressants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alprazolam</td>
<td>98%</td>
<td>80%</td>
</tr>
<tr>
<td>Chlordiazepoxide</td>
<td>75%</td>
<td>86%</td>
</tr>
<tr>
<td>Clonazepam</td>
<td>89%</td>
<td>74%</td>
</tr>
<tr>
<td>7-aminoclonazepam</td>
<td>77%</td>
<td>72%</td>
</tr>
<tr>
<td>Diazepam</td>
<td>98%</td>
<td>77%</td>
</tr>
<tr>
<td>Nordiazepam</td>
<td>98%</td>
<td>77%</td>
</tr>
<tr>
<td>Lorazepam</td>
<td>98%</td>
<td>71%</td>
</tr>
<tr>
<td>Oxazepam</td>
<td>95%</td>
<td>84%</td>
</tr>
<tr>
<td>Temazepam</td>
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<td>81%</td>
</tr>
<tr>
<td>Trazodone</td>
<td>79%</td>
<td>54%</td>
</tr>
<tr>
<td>Amitriptyline</td>
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<td>67%</td>
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<tr>
<td>Nortriptyline</td>
<td>80%</td>
<td>64%</td>
</tr>
<tr>
<td>Diphenhydramine</td>
<td>84%</td>
<td>65%</td>
</tr>
<tr>
<td>Carisoprodol</td>
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<td>71%</td>
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<tr>
<td>Meprobamate</td>
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<td>67%</td>
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<tr>
<td>Zolpidem</td>
<td>88%</td>
<td>82%</td>
</tr>
<tr>
<td>Butalbital</td>
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<tr>
<td>Phenobarbital</td>
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<tr>
<td>Secobarbital</td>
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<tr>
<td>Phenytoin</td>
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<td>72%</td>
</tr>
<tr>
<td>Carbamazepine</td>
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<td>74%</td>
</tr>
<tr>
<td>Topiramate</td>
<td>53%</td>
<td>84%</td>
</tr>
<tr>
<td>GHB</td>
<td>52%</td>
<td>75%</td>
</tr>
<tr>
<td>Drug</td>
<td>% of Respondents who test for this drug (&quot;Total that Test&quot;)</td>
<td>% of Respondents that meet the recommendation/Total that Test</td>
</tr>
<tr>
<td>--------------------</td>
<td>-------------------------------------------------------------</td>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Narcotic Analgesics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Codeine</td>
<td>98%</td>
<td>67%</td>
</tr>
<tr>
<td>6-acetylmorphine</td>
<td>88%</td>
<td>85%</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>98%</td>
<td>68%</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>92%</td>
<td>71%</td>
</tr>
<tr>
<td>Methadone</td>
<td>97%</td>
<td>49%</td>
</tr>
<tr>
<td>Morphine</td>
<td>97%</td>
<td>68%</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>98%</td>
<td>68%</td>
</tr>
<tr>
<td>Propoxyphene</td>
<td>87%</td>
<td>71%</td>
</tr>
<tr>
<td>Tramadol</td>
<td>83%</td>
<td>54%</td>
</tr>
<tr>
<td><strong>Dissociative Drugs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dextromethorphan</td>
<td>80%</td>
<td>70%</td>
</tr>
<tr>
<td>Phencyclidine</td>
<td>95%</td>
<td>76%</td>
</tr>
</tbody>
</table>

**Figure 16.** A table consisting of percentages regarding those who test for the drug as well as what percentage of those who test either meet or exceed the guideline recommendations for confirming drugs in blood.
Cannabis

For THC at the recommended screening cutoff of 2 ng/mL, 24% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 26% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 84% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 9% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 37% of participants reported that they do not test for this drug. A total of 4% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For Carboxy-THC at the recommended confirming cutoff of 5 ng/mL, 25% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 30% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 92% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 5% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 16% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For 11-OH-THC at the recommended confirming cutoff of 2 ng/mL, 10% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 6% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 72% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 6% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 52% of participants
reported that they do not test for this drug. A total of 25% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

**CNS Stimulants**

For **Methamphetamine** at the recommended confirming cutoff of 20 ng/mL, 24% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 29% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 70% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 23% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 1% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Amphetamine** at the recommended confirming cutoff of 20 ng/mL, 24% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 29% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 70% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 23% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 1% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Cocaine** at the recommended confirming cutoff of 10 ng/mL, 10% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 35% of participants reported meeting the
Toxicology Laboratory Survey

guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 61% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 29% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 1% of participants reported that they do not test for this drug. A total of 24% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Benzoylcegonine** at the recommended confirming cutoff of 50 ng/mL, 46% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 24% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 95% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 4% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 4% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Cocaethylene** at the recommended confirming cutoff of 10 ng/mL, 10% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 35% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 72% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 18% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 14% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.
For **MDMA** at the recommended confirming cutoff of 20 ng/mL, 23% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 28% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 69% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 23% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 3% of participants reported that they do not test for this drug. A total of 24% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **MDA** at the recommended confirming cutoff of 20 ng/mL, 23% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 27% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 71% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 20% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 8% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

**CNS Depressants**

For **Alprazolam** at the recommended confirming cutoff of 10 ng/mL, 27% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 34% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 80% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 15% of participants reported not meeting the guideline
recommendation by being above the recommended confirming cutoff. A total of 1% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Chlordiazepoxide** at the recommended confirming cutoff of 50 ng/mL, 22% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 86% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of % reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 8% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 19% of participants reported that they do not test for this drug. A total of 25% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Clonazepam** at the recommended confirming cutoff of 10 ng/mL, 22% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 29% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 74% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 18% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 9% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **7-aminoclonazepam** at the recommended confirming cutoff of 10 ng/mL, 18% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 25% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the
participants who reported that they test for this drug, a total of 72% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 16% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 18% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Diazepam** at the recommended confirming cutoff of 20 ng/mL, 32% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 27% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 77% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 18% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 1% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Nordiazepam** at the recommended confirming cutoff of 20 ng/mL, 30% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 28% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 77% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 18% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 1% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.
For **Lorazepam** at the recommended confirming cutoff of 10 ng/mL, 22% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 30% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 71% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 22% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 4% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Oxazepam** at the recommended confirming cutoff of 50 ng/mL, 46% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 15% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 84% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 11% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 4% of participants reported that they do not test for this drug. A total of 24% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Temazepam** at the recommended confirming cutoff of 50 ng/mL, 46% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 14% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 81% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 14% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 3% of
participants reported that they do not test for this drug. A total of 24% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Trazodone** at the recommended confirming cutoff of 25 ng/mL, 18% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 14% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 54% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 27% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 15% of participants reported that they do not test for this drug. A total of 27% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Amitriptyline** at the recommended confirming cutoff of 25 ng/mL, 22% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 19% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 67% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 20% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 14% of participants reported that they do not test for this drug. A total of 25% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Nortriptyline** at the recommended confirming cutoff of 25 ng/mL, 19% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 19% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 64% reported meeting the
guideline recommendation by being either below or at the recommended screening cutoff. A total of 22% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 11% of participants reported that they do not test for this drug. A total of 27% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Diphenhydramine** at the recommended confirming cutoff of 25 ng/mL, 22% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 19% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 65% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 22% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 11% of participants reported that they do not test for this drug. A total of 27% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Carisoprodol** at the recommended confirming cutoff of 500 ng/mL, 24% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 22% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 71% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 19% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 11% of participants reported that they do not test for this drug. A total of 24% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Meprobamate** at the recommended confirming cutoff of 500 ng/mL, 23% of participants reported meeting the guideline recommendation by being below the
recommended confirming cutoff. A total of 20% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 67% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 22% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 11% of participants reported that they do not test for this drug. A total of 24% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Zolpidem** at the recommended confirming cutoff of 20 ng/mL, 25% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 28% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 82% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 11% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 9% of participants reported that they do not test for this drug. A total of 27% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Butalbital** at the recommended confirming cutoff of 100 ng/mL, 14% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 22% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 51% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 34% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 5% of participants reported that they do not test for this drug. A total of 25% of participants
reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Phenobarbital** at the recommended confirming cutoff of 100 ng/mL, 11% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 20% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 45% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 38% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 6% of participants reported that they do not test for this drug. A total of 24% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Secobarbital** at the recommended confirming cutoff of 100 ng/mL, 14% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 24% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 56% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 30% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 6% of participants reported that they do not test for this drug. A total of 25% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Phenytoin** at the recommended confirming cutoff of 500 ng/mL, 19% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 20% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 72% reported meeting the guideline recommendation by being either below or at the recommended screening
cutoff. A total of 15% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 19% of participants reported that they do not test for this drug. A total of 27% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For Carbamazepine at the recommended confirming cutoff of 500 ng/mL, 20% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 16% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 74% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 13% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 24% of participants reported that they do not test for this drug. A total of 25% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For Topiramate at the recommended confirming cutoff of 1,000 ng/mL, 15% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 18% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 84% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 6% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 34% of participants reported that they do not test for this drug. A total of 27% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For GHB at the recommended confirming cutoff of 5,000 ng/mL, 16% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 14% of participants reported meeting the
guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 75% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 10% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 37% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

**Narcotic Analgesics**

For **Codeine** at the recommended confirming cutoff of 10 ng/mL, 14% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 37% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 67% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 25% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 1% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **6-acetylmorphine** at the recommended confirming cutoff of 10 ng/mL, 25% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 30% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 85% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 10% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 9% of participants reported that they do not test for this drug. A total of 25% of participants
reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Hydrocodone** at the recommended confirming cutoff of 10 ng/mL, 15% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 37% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 68% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 24% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 1% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Hydromorphone** at the recommended confirming cutoff of 10 ng/mL, 18% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 33% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 71% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 20% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 6% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Methadone** at the recommended confirming cutoff of 10 ng/mL, 9% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 28% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 49% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff.
cutoff. A total of 38% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 3% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For Morphine at the recommended confirming cutoff of 10 ng/mL, 16% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 34% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 68% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 24% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 3% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For Oxycodone at the recommended confirming cutoff of 10 ng/mL, 15% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 37% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 68% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 24% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 1% of participants reported that they do not test for this drug. A total of 23% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For Propoxyphene at the recommended confirming cutoff of 50 ng/mL, 22% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 25% of participants reported meeting the
guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 71% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 19% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 10% of participants reported that they do not test for this drug. A total of 24% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question. Please note that Propoxyphene was removed from the US pharmaceuticals as of November 19, 2010.

For Tramadol at the recommended confirming cutoff of 20 ng/mL, 10% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 23% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 54% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 28% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 13% of participants reported that they do not test for this drug. A total of 27% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

Dissociative Drugs

For Dextromethorphan at the recommended confirming cutoff of 20 ng/mL, 16% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 25% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 70% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 18% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 15% of participants reported that they do not test for this drug. A total of 25% of participants
reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Phencyclidine** at the recommended confirming cutoff of 10 ng/mL, 20% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 32% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 76% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 16% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 4% of participants reported that they do not test for this drug. A total of 28% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.
For drugs which you do not currently meet the recommendations, please indicate the reasons (please check all that apply):

**Figure 17.** A bar graph representing reasons participants do not currently meet the recommendations in blood samples (n = 57).

Fifty-seven participants that don’t currently meet all the recommendations responded to this question. Multiple reasons could be selected by each participant. Seventeen (30% of the participants) responses indicated that the participant does not agree with the current recommendations, twenty-three (40% of the participants) responses indicated that the participant lacks staffing, nineteen (33% of the participants) responses indicated that the participant lacks instrument capacity, twenty-one (37% of the participants) responses indicated that the participant lacks appropriate instrument...
technology, and sixteen (28% of participants) responses indicated that the participant’s methods are not validated (Figure 17).

Respondents also had the ability to comment on other reasons for not meeting the recommendations for blood samples (21 responses; 37% of the participants). Some participants indicated that they only do qualitative analysis or that quantitative analysis is only performed on a needed basis. One participant said that some drugs are not reported in the presence of other drugs and that they are only recommendations. Another participant said that DUID law only applies to scheduled substances so their lab does not look for those that are not listed in their state’s schedules I-IV. One participant stated that they found their methods were less accurate than previously thought through validation. This participant indicated the lab is currently improving their methods and accuracy.
Drug Analysis - URINE
Does your laboratory provide URINE drug analytical services (screen or confirmation) for DUID/DRE samples?

Figure 18. Pie graph representing whether the laboratories provide URINE sample analytical services (screening or confirmation) for DUID/DRE samples (n = 82).

Of the eighty-two responses, a total of fifty-six respondents (68%) said that their lab provides urine sample analytical services (screening or confirmation) for DUID/DRE cases. A total of twenty-six respondents (32%) said that their lab does not provide urine sample analytical services (screening or confirmation) for DUID/DRE cases (Figure 18).
Drug Analysis - URINE - SCREENING Do you currently meet the guideline recommendations (given in parentheses) for SCREENING each of these drugs in URINE samples? (Graph Format)

Figure 19. Bar graph representing whether or not laboratories meet the guideline recommendations for screening drugs in urine.
Drug Analysis - URINE - SCREENING Do you currently meet the guideline recommendations (given in parentheses) for SCREENING each of these drugs in URINE samples? (Table Format)

<table>
<thead>
<tr>
<th>Drug</th>
<th>% of Respondents who test for this drug (“Total that Test”)</th>
<th>% of Respondents that meet the recommendation/Total that Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannabis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carboxy-THC</td>
<td>98%</td>
<td>67%</td>
</tr>
<tr>
<td>CNS Stimulants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methamphetamine</td>
<td>98%</td>
<td>62%</td>
</tr>
<tr>
<td>Amphetamine</td>
<td>94%</td>
<td>61%</td>
</tr>
<tr>
<td>Benzoylecgonine</td>
<td>98%</td>
<td>96%</td>
</tr>
<tr>
<td>MDMA</td>
<td>90%</td>
<td>60%</td>
</tr>
<tr>
<td>MDA</td>
<td>82%</td>
<td>63%</td>
</tr>
<tr>
<td>CNS Depressants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nordiazepam</td>
<td>94%</td>
<td>65%</td>
</tr>
<tr>
<td>Oxazepam</td>
<td>98%</td>
<td>60%</td>
</tr>
<tr>
<td>Secobarbital</td>
<td>92%</td>
<td>78%</td>
</tr>
<tr>
<td>Narcotic Analgesics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methadone</td>
<td>90%</td>
<td>98%</td>
</tr>
<tr>
<td>Morphine</td>
<td>100%</td>
<td>67%</td>
</tr>
<tr>
<td>Propoxyphene</td>
<td>64%</td>
<td>94%</td>
</tr>
<tr>
<td>Dissociative Drugs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phencyclidine</td>
<td>77%</td>
<td>98%</td>
</tr>
</tbody>
</table>

Figure 20. A table consisting of percentages regarding those who test for the drug as well as what percentage of those who test either meet or exceed the guideline recommendations for screening drugs in urine.
Cannabis

For Carboxy-THC at the recommended screening cutoff of 20 ng/mL, 19% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 29% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 67% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 24% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 1% of participants reported that they do not test for this drug. A total of 26% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

CNS Stimulants

For Methamphetamine at the recommended screening cutoff of 200 ng/mL, 22% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 22% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 62% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 28% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 1% of participants reported that they do not test for this drug. A total of 26% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For Amphetamine at the recommended screening cutoff of 200 ng/mL, 22% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 19% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 61% reported meeting the guideline recommendation by being either below or at the recommended screening
A total of 26% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 4% of participants reported that they do not test for this drug. A total of 28% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Benzoylcegonine** at the recommended screening cutoff of 300 ng/mL, 36% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 35% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 96% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 3% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 1% of participants reported that they do not test for this drug. A total of 25% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **MDMA** at the recommended screening cutoff of 200 ng/mL, 22% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 15% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 60% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 25% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 7% of participants reported that they do not test for this drug. A total of 31% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **MDA** at the recommended screening cutoff of 200 ng/mL, 21% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 15% of participants reported meeting the
Toxicology Laboratory Survey

guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 63% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 21% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 13% of participants reported that they do not test for this drug. A total of 31% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

CNS Depressants

For **Nordiazepam** at the recommended screening cutoff of 100 ng/mL, 28% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 17% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 65% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 24% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 4% of participants reported that they do not test for this drug. A total of 28% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Oxazepam** at the recommended screening cutoff of 100 ng/mL, 26% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 15% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 60% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 28% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 1% of participants reported that they do not test for this drug. A total of 29% of participants...
reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Secobarbital** at the recommended screening cutoff of 200 ng/mL, 14% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 39% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 78% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 15% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 6% of participants reported that they do not test for this drug. A total of 26% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

**Narcotic Analgesics**

For **Methadone** at the recommended screening cutoff of 300 ng/mL, 29% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 33% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 98% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 1% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 7% of participants reported that they do not test for this drug. A total of 29% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Morphine** at the recommended screening cutoff of 200 ng/mL, 31% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 19% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 67% reported meeting the
guideline recommendation by being either below or at the recommended screening cutoff. A total of 25% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. None of the participants reported that they do not test for this drug. A total of 25% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Propoxyphene** at the recommended screening cutoff of 300 ng/mL, 15% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 26% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 94% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 3% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 25% of participants reported that they do not test for this drug. A total of 31% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question. Please note that Propoxyphene was removed from the US pharmaceuticals as of November 19, 2010.

**Dissociative Drugs**

For **Phencyclidine** at the recommended screening cutoff of 25 ng/mL, 17% of participants reported meeting the guideline recommendation by being below the recommended screening cutoff. A total of 39% of participants reported meeting the guideline recommendation by being at the recommended screening cutoff. Of the participants who reported that they test for this drug, a total of 98% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 1% of participants reported not meeting the guideline recommendation by being above the recommended screening cutoff. A total of 17% of participants reported that they do not test for this drug. A total of 26% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.
Drug Analysis - URINE - CONFIRMATION Do you currently meet the guideline recommendations (given in parentheses) for CONFIRMING each of these drugs in URINE samples? (Graph Format)
Figure 21. Bar graphs representing whether or not laboratories meet the guideline recommendations for confirming drugs in urine.
Drug Analysis - URINE - CONFIRMATION Do you currently meet the guideline recommendations (given in parentheses) for CONFIRMING each of these drugs in URINE samples? (Table Format)

<table>
<thead>
<tr>
<th>Drug</th>
<th>% of Respondents who test for this drug (“Total that Test”)</th>
<th>% of Respondents that meet the recommendation/Total that Test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cannabis</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>THC</td>
<td>29%</td>
<td>79%</td>
</tr>
<tr>
<td>Carboxy-THC</td>
<td>94%</td>
<td>54%</td>
</tr>
<tr>
<td>11-OH-THC</td>
<td>13%</td>
<td>67%</td>
</tr>
<tr>
<td><strong>CNS Stimulants</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methamphetamine</td>
<td>100%</td>
<td>63%</td>
</tr>
<tr>
<td>Amphetamine</td>
<td>100%</td>
<td>63%</td>
</tr>
<tr>
<td>Cocaine</td>
<td>90%</td>
<td>58%</td>
</tr>
<tr>
<td>Benzoylecgonine</td>
<td>94%</td>
<td>68%</td>
</tr>
<tr>
<td>Cocaethylene</td>
<td>72%</td>
<td>65%</td>
</tr>
<tr>
<td>MDMA</td>
<td>100%</td>
<td>67%</td>
</tr>
<tr>
<td>MDA</td>
<td>94%</td>
<td>69%</td>
</tr>
<tr>
<td><strong>CNS Depressants</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alprazolam (total)</td>
<td>85%</td>
<td>93%</td>
</tr>
<tr>
<td>Chlordiazepoxide (total)</td>
<td>63%</td>
<td>77%</td>
</tr>
<tr>
<td>Clonazepam (total)</td>
<td>73%</td>
<td>83%</td>
</tr>
<tr>
<td>7-aminoclonazepam (total)</td>
<td>80%</td>
<td>82%</td>
</tr>
<tr>
<td>Diazepam (total)</td>
<td>86%</td>
<td>79%</td>
</tr>
<tr>
<td>Nordiazepam (total)</td>
<td>94%</td>
<td>78%</td>
</tr>
<tr>
<td>Lorazepam (total)</td>
<td>91%</td>
<td>77%</td>
</tr>
<tr>
<td>Oxazepam (total)</td>
<td>94%</td>
<td>75%</td>
</tr>
<tr>
<td>Temazepam (total)</td>
<td>91%</td>
<td>77%</td>
</tr>
<tr>
<td>Trazadone</td>
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<td>68%</td>
</tr>
<tr>
<td>Amitriptyline</td>
<td>72%</td>
<td>73%</td>
</tr>
<tr>
<td>Nortriptyline</td>
<td>68%</td>
<td>72%</td>
</tr>
<tr>
<td>Diphenhydramine</td>
<td>72%</td>
<td>79%</td>
</tr>
<tr>
<td>Carisoprodol</td>
<td>85%</td>
<td>67%</td>
</tr>
<tr>
<td>Meprobamate</td>
<td>85%</td>
<td>64%</td>
</tr>
<tr>
<td>Zolpidem</td>
<td>80%</td>
<td>70%</td>
</tr>
<tr>
<td>Butalbital</td>
<td>91%</td>
<td>53%</td>
</tr>
<tr>
<td>Phenobarbital</td>
<td>89%</td>
<td>48%</td>
</tr>
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<td>Secobarbital</td>
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<td>59%</td>
</tr>
<tr>
<td>Phenytoin</td>
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<td>93%</td>
</tr>
<tr>
<td>Carbamazepine</td>
<td>61%</td>
<td>89%</td>
</tr>
<tr>
<td>Topiramate</td>
<td>57%</td>
<td>92%</td>
</tr>
<tr>
<td>GHB</td>
<td>58%</td>
<td>100%</td>
</tr>
<tr>
<td>Drug</td>
<td>% of Respondents who test for this drug (“Total that Test”)</td>
<td>% of Respondents that meet the recommendation/Total that Test</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------------------------------------------</td>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Narcotic Analgesics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Codeine</td>
<td>100%</td>
<td>76%</td>
</tr>
<tr>
<td>6-acetylmorphine</td>
<td>96%</td>
<td>82%</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>100%</td>
<td>75%</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>94%</td>
<td>73%</td>
</tr>
<tr>
<td>Methadone</td>
<td>92%</td>
<td>73%</td>
</tr>
<tr>
<td>Morphine (total)</td>
<td>96%</td>
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</tr>
<tr>
<td>Oxycodone</td>
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<td>81%</td>
</tr>
<tr>
<td>Propoxyphene</td>
<td>85%</td>
<td>65%</td>
</tr>
<tr>
<td>Tramadol</td>
<td>78%</td>
<td>51%</td>
</tr>
<tr>
<td><strong>Dissociative Drugs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dextromethorphan</td>
<td>71%</td>
<td>78%</td>
</tr>
<tr>
<td>Phencyclidine</td>
<td>87%</td>
<td>66%</td>
</tr>
</tbody>
</table>

**Figure 22.** A table consisting of percentages regarding those who test for the drug as well as what percentage of those who test either meet or exceed the guideline recommendations for confirming drugs in urine.
Cannabis

For THC at the recommended confirming cutoff of 2 ng/mL, 3% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 12% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 79% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 4% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 48% of participants reported that they do not test for this drug. A total of 33% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For Carboxy-THC at the recommended confirming cutoff of 5 ng/mL, 18% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 16% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 54% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 29% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 4% of participants reported that they do not test for this drug. A total of 33% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For 11-OH-THC at the recommended confirming cutoff of 2 ng/mL, no participant reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 5% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 67% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 3% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 56% of participants reported that
they do not test for this drug. A total of 36% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

**CNS Stimulants**

For **Methamphetamine** at the recommended confirming cutoff of 50 ng/mL, 27% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 15% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 63% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 25% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. None of the participants reported that they do not test for this drug. A total of 33% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Amphetamine** at the recommended confirming cutoff of 50 ng/mL, 26% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 16% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 63% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 25% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. None of the participants reported that they do not test for this drug. A total of 33% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Cocaine** at the recommended confirming cutoff of 20 ng/mL, 18% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 16% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the
participants who reported that they test for this drug, a total of 58% meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 25% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 7% of participants reported that they do not test for this drug. A total of 34% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Benzoylcegonine** at the recommended confirming cutoff of 50 ng/mL, 27% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 16% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 68% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 21% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 4% of participants reported that they do not test for this drug. A total of 32% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Cocaethylene** at the recommended confirming cutoff of 20 ng/mL, 18% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 12% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 65% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 16% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 18% of participants reported that they do not test for this drug. A total of 36% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.
For **MDMA** at the recommended confirming cutoff of 50 ng/mL, 27% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 16% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 67% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 22% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. None of the participants reported that they do not test for this drug. A total of 34% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **MDA** at the recommended confirming cutoff of 50 ng/mL, 25% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 18% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 69% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 19% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 4% of participants reported that they do not test for this drug. A total of 34% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

**CNS Depressants**

For **Alprazolam** at the recommended confirming cutoff of 50 ng/mL, 30% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 22% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 93% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 4% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 10% of participants
reported that they do not test for this drug. A total of 34% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For Chlordiazepoxide at the recommended confirming cutoff of 50 ng/mL, 21% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 12% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 77% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 10% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 25% of participants reported that they do not test for this drug. A total of 33% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For Clonazepam at the recommended confirming cutoff of 50 ng/mL, 26% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 14% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 83% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 8% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 18% of participants reported that they do not test for this drug. A total of 34% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For 7-aminoclonazepam at the recommended confirming cutoff of 50 ng/mL, 27% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 16% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 82% reported meeting the
guideline recommendation by being either below or at the recommended screening cutoff. A total of 10% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 14% of participants reported that they do not test for this drug. A total of 33% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Diazepam** at the recommended confirming cutoff of 50 ng/mL, 27% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 18% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 79% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 12% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 10% of participants reported that they do not test for this drug. A total of 33% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Nordiazepam** at the recommended confirming cutoff of 50 ng/mL, 29% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 19% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 78% meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 14% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 4% of participants reported that they do not test for this drug. A total of 34% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Lorazepam** at the recommended confirming cutoff of 50 ng/mL, 27% of participants reported meeting the guideline recommendation by being below the
recommended confirming cutoff. A total of 18% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 77% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 14% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 5% of participants reported that they do not test for this drug. A total of 36% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Oxazepam** at the recommended confirming cutoff of 50 ng/mL, 27% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 18% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 75% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 15% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 4% of participants reported that they do not test for this drug. A total of 36% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Temazepam** at the recommended confirming cutoff of 50 ng/mL, 26% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 19% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 77% meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 14% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 5% of participants reported that they do not test for this drug. A total of 36% of participants
reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For Trazadone at the recommended confirming cutoff of 50 ng/mL, 14% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 15% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 68% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 14% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 21% of participants reported that they do not test for this drug. A total of 37% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For Amitriptyline at the recommended confirming cutoff of 50 ng/mL, 16% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 16% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 73% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 12% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 18% of participants reported that they do not test for this drug. A total of 37% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For Nortriptyline at the recommended confirming cutoff of 50 ng/mL, 16% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 15% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 72% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff.
cutoff. A total of 12% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 21% of participants reported that they do not test for this drug. A total of 36% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Diphenhydramine** at the recommended confirming cutoff of 50 ng/mL, 17% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 19% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 79% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 10% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 18% of participants reported that they do not test for this drug. A total of 37% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Carisoprodol** at the recommended confirming cutoff of 500 ng/mL, 18% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 18% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 67% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 18% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 10% of participants reported that they do not test for this drug. A total of 37% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Meprobamate** at the recommended confirming cutoff of 500 ng/mL, 15% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 19% of participants reported meeting the
guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 64% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 19% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 10% of participants reported that they do not test for this drug. A total of 37% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Zolpidem** at the recommended confirming cutoff of 20 ng/mL, 15% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 21% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 70% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 15% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 12% of participants reported that they do not test for this drug. A total of 37% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Butalbital** at the recommended confirming cutoff of 100 ng/mL, 14% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 18% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 53% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 27% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 5% of participants reported that they do not test for this drug. A total of 36% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.
For **Phenobarbital** at the recommended confirming cutoff of 100 ng/mL, 12% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 15% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 48% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 30% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 7% of participants reported that they do not test for this drug. A total of 36% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Secobarbital** at the recommended confirming cutoff of 100 ng/mL, 14% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 18% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 59% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 22% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 7% of participants reported that they do not test for this drug. A total of 40% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Phenytoin** at the recommended confirming cutoff of 5,000 ng/mL, 22% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 14% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 93% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 3% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 22% of participants...
reported that they do not test for this drug. A total of 40% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Carbamazepine** at the recommended confirming cutoff of 5,000 ng/mL, 21% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 12% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 89% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 4% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 23% of participants reported that they do not test for this drug. A total of 40% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Topiramate** at the recommended confirming cutoff of 1,000 ng/mL, 12% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 19% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 92% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 3% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 26% of participants reported that they do not test for this drug. A total of 40% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **GHB** at the recommended confirming cutoff of 10,000 ng/mL, 25% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 14% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 100% reported meeting
the guideline recommendation by being either below or at the recommended screening cutoff. None of the participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 27% of participants reported that they do not test for this drug. A total of 34% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

**Narcotic Analgesics**

For **Codeine** at the recommended confirming cutoff of 50 ng/mL, 36% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 15% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 76% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 16% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. None of the participants reported that they do not test for this drug. A total of 33% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **6-acetylmorphine** at the recommended confirming cutoff of 10 ng/mL, 27% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 23% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 82% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 11% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 3% of participants reported that they do not test for this drug. A total of 36% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.
For **Hydrocodone** at the recommended confirming cutoff of 50 ng/mL, 36% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 14% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 75% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 16% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. None of the participants reported that they do not test for this drug. A total of 34% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Hydromorphone** at the recommended confirming cutoff of 50 ng/mL, 32% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 14% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 73% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 16% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 4% of participants reported that they do not test for this drug. A total of 34% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Methadone** at the recommended confirming cutoff of 50 ng/mL, 26% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 18% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 73% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 16% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 5% of
participants reported that they do not test for this drug. A total of 34% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Morphine** at the recommended confirming cutoff of 50 ng/mL, 30% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 16% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 74% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 16% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 3% of participants reported that they do not test for this drug. A total of 34% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Oxycodone** at the recommended confirming cutoff of 50 ng/mL, 34% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 18% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 81% reported meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 12% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 1% of participants reported that they do not test for this drug. A total of 34% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.

For **Propoxyphene** at the recommended confirming cutoff of 50 ng/mL, 16% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 19% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 65% reported meeting the
guideline recommendation by being either below or at the recommended screening
cutoff. A total of 19% of participants reported not meeting the guideline
recommendation by being above the recommended confirming cutoff. A total of 10% of
participants reported that they do not test for this drug. A total of 36% of participants
reported that they either do not know if they meet the guideline recommendation or did
not respond to the question. Please note that Propoxyphene was removed from the US
pharmaceuticals as of November 19, 2010.

For Tramadol at the recommended confirming cutoff of 20 ng/mL, 10% of
participants reported meeting the guideline recommendation by being below the
recommended confirming cutoff. A total of 15% of participants reported meeting the
guideline recommendation by being at the recommended confirming cutoff. Of the
participants who reported that they test for this drug, a total of 51% reported meeting the
guideline recommendation by being either below or at the recommended screening
cutoff. A total of 23% of participants reported not meeting the guideline
recommendation by being above the recommended confirming cutoff. A total of 14% of
participants reported that they do not test for this drug. A total of 38% of participants
reported that they either do not know if they meet the guideline recommendation or did
not respond to the question.

Dissociative Drugs

For Dextromethorphan at the recommended confirming cutoff of 50 ng/mL, 15% of participants reported meeting the guideline recommendation by being below the
recommended confirming cutoff. A total of 19% of participants reported meeting the
guideline recommendation by being at the recommended confirming cutoff. Of the
participants who reported that they test for this drug, a total of 78% reported meeting the
guideline recommendation by being either below or at the recommended screening
cutoff. A total of 10% of participants reported not meeting the guideline
recommendation by being above the recommended confirming cutoff. A total of 18% of
participants reported that they do not test for this drug. A total of 38% of participants
reported that they either do not know if they meet the guideline recommendation or did
not respond to the question.
For Phencyclidine at the recommended confirming cutoff of 10 ng/mL, 21% of participants reported meeting the guideline recommendation by being below the recommended confirming cutoff. A total of 16% of participants reported meeting the guideline recommendation by being at the recommended confirming cutoff. Of the participants who reported that they test for this drug, a total of 66% meeting the guideline recommendation by being either below or at the recommended screening cutoff. A total of 19% of participants reported not meeting the guideline recommendation by being above the recommended confirming cutoff. A total of 8% of participants reported that they do not test for this drug. A total of 36% of participants reported that they either do not know if they meet the guideline recommendation or did not respond to the question.
For drugs which you do not currently meet the recommendations, please indicate the reasons (please check all that apply):

**Figure 23.** A bar graph representing reasons participants do not currently meet the recommendations in urine samples (n = 54).

Fifty-four participants that don’t currently meet all the recommendations responded to this question. Multiple reasons could be selected by each participant. Sixteen (18% of the participants) responses indicated that the participant does not agree with the current recommendations, eighteen (20% of the participants) responses indicated that the participant lacks staffing, thirteen (15% of the participants) responses indicated that the participant lacks instrument capacity, nineteen (21% of the participants) responses indicated that the participant lacks appropriate instrument...
technology, and ten (11% of the participants) responses indicated that the participant’s methods are not validated (Figure 17).

Respondents also had the ability to comment on other reasons for not meeting the recommendations for urine samples (13 responses; 15% of participants). One participant responded that they do not quantitate urine drug levels. Another participant said that their DUID law only applies to scheduled substances so they don’t look for those that aren’t listed in their state’s schedules I-IV and that they exempt tetrahydrocannabinoids unless impairment is shown. Another participant said that they are close to what is recommended in each and that they don’t have strict cutoffs for all analytes although they can detect many at low levels by instrumental screens. A participant indicated that they do the bulk of their urine confirmations for monitoring programs such as parole and probation and drug court therefore the cut-off levels they employ are appropriate for that type of testing. Other participants reported that they do qualitative urine testing and would have to do a limit of quantitation study to know if they are able to detect the compounds listed at the recommendations. Others stated that they use state enforcement cutoffs or that confirmations are performed using an external toxicology laboratory.
Laboratory Resources
Please indicate your laboratory’s top THREE priorities for additional resources by ranking the following options (number 1-3; 1 = highest priority):

![Bar graph showing priorities](image)

**Figure 24.** A bar graph representing the top three priorities for additional resources (n = 36).

Out of the 36 respondents to this question, 47% stated that their first priority is additional staffing. A total of 22% stated that their first priority is additional instruments for confirmation. A total of 14% stated that their first priority is additional instruments for screening. A total of 14% stated that their first priority is upgrading or a new facility. A total of 3% stated that their first priority is additional training.

A total of 36% stated that their second priority is additional instruments for screening. A total of 25% stated that their second priority is additional staffing. A total of 22% stated that their second priority is additional instruments. A total of 14% stated...
that their second priority is additional staffing. A total of 3% stated that their second priority is upgrading or a new facility.

A total of 31% stated that their third priority is additional training. A total of 19% stated that their third priority is additional instruments. A total of 19% stated that their third priority is upgrading or a new facility. A total of 17% stated that their third priority is additional instruments for confirmation. A total of 14% stated that their third priority is upgrading or a new facility.

Other priorities listed in the open-ended response portion of this question included more certified reference materials, consumables, and instrument maintenance. Other participants indicated that method development and testimony on the effects of findings were priorities. One participant also indicated that additional LC/MSMS was a priority.
What are the greatest areas of need for training for your toxicology staff?

Some participants reported instrument related training including troubleshooting, ion suppression, potential for interference, reference ranges, uncertainty determination, confirmation testing and LC/MS/MS and GC/MS training. Other participants reported time and resources to provide appropriate training. These participants indicated more funding to attend the Borkenstein Drug school, SOFT meeting, and mock trial training. Other responses included method development and validation, data certification and reporting, and the effects of drugs on human performance.
Laboratory Turnaround Time
What is the approximate turnaround time of your lab in regards to ALCOHOL analysis?

Figure 25. Histogram representing the approximate turnaround time of each lab in regards to alcohol analysis (n = 61).

Sixty-one toxicology laboratories are represented in the data. The distribution of data shows that responses range from zero to 121 days as the approximate turnaround time regarding alcohol analysis (Figure 14). Forty eight respondents indicated their turnaround time for alcohol analysis was less than or equal to 10 days. Twelve respondents indicated their turnaround time for alcohol analysis was between 11-20 days. Four respondents indicated their turnaround time for alcohol analysis was between 21-30 days. One respondent indicated their turnaround time for alcohol analysis was between 31-40 days. Two respondents indicated their turnaround time for alcohol analysis was between 41-50 days. Three respondents indicated their turnaround time for alcohol analysis was greater than 50 days.
What is the approximate turnaround time of your lab in regards to DRUG analysis?

![Histogram](image)

**Figure 26.** Histogram representing the approximate turnaround time of each lab in regards to drug analysis (n = 62).

Sixty-two toxicology laboratories are represented in the data. The distribution of data shows that responses range from one to 558 days as the approximate turnaround time regarding drug analysis (Figure 15). Thirty-six respondents indicated their turnaround time for drug analysis was less than or equal to 25 days. Fifteen respondents indicated their turnaround time for drug analysis was between 26-50 days. Eleven respondents indicated their turnaround time for drug analysis was between 51-75 days. Three respondents indicated their turnaround time for drug analysis was between 76-100 days. Seven respondents indicated their turnaround time for drug analysis was greater than 100 days.
Final Comments
Which of the following additional drugs should be included in the recommendations for routine screening and confirmation and in what sample type(s)?

![Bar graph](image)

**Figure 27.** A bar graph representing what additional drugs should be included in recommendations for routine screening and confirmation in oral fluid, urine and blood samples (n = 68).
A total of 68 participants responded to this question. For **Methydone**, 21% responded by saying it doesn’t need to be included for testing. A total of 68% of participants responded by saying it should be included in testing for blood samples. A total of 56% of participants responded by saying it should be included in testing for urine samples. A total of 3% of participants responded by saying it should be included in testing for oral fluid samples.

For **MDPV**, 13% responded by saying it doesn’t need to be included for testing. A total of 74% of participants responded by saying it should be included in testing for blood samples. A total of 63% of participants responded by saying it should be included in testing for urine samples. A total of 3% of participants responded by saying it should be included in testing for oral fluid samples.

For **Mephedrone**, 12% responded by saying it doesn’t need to be included for testing. A total of 76% of participants responded by saying it should be included in testing for blood samples. A total of 60% of participants responded by saying it should be included in testing for urine samples. A total of 4% of participants responded by saying it should be included in testing for oral fluid samples.

For **JWH-018**, 19% responded by saying it doesn’t need to be included for testing. A total of 62% of participants responded by saying it should be included in testing for blood samples. A total of 53% of participants responded by saying it should be included in testing for urine samples. A total of 4% of participants responded by saying it should be included in testing for oral fluid samples.

For **JWH-073**, 19% responded by saying it doesn’t need to be included for testing. A total of 62% of participants responded by saying it should be included in testing for blood samples. A total of 53% of participants responded by saying it should be included in testing for urine samples. A total of 4% of participants responded by saying it should be included in testing for oral fluid samples.

For **JWH-250**, 24% responded by saying it doesn’t need to be included for testing. A total of 59% of participants responded by saying it should be included in testing for blood samples. A total of 47% of participants responded by saying it should
be included in testing for urine samples. A total of 4% of participants responded by saying it should be included in testing for oral fluid samples.

For JWH-081, 28% responded by saying it doesn’t need to be included for testing. A total of 57% of participants responded by saying it should be included in testing for blood samples. A total of 44% of participants responded by saying it should be included in testing for urine samples. A total of 4% of participants responded by saying it should be included in testing for oral fluid samples.

For JWH-122, 29% responded by saying it doesn’t need to be included for testing. A total of 56% of participants responded by saying it should be included in testing for blood samples. A total of 43% of participants responded by saying it should be included in testing for urine samples. A total of 4% of participants responded by saying it should be included in testing for oral fluid samples.

For JWH-210, 28% responded by saying it doesn’t need to be included for testing. A total of 57% of participants responded by saying it should be included in testing for blood samples. A total of 46% of participants responded by saying it should be included in testing for urine samples. A total of 4% of participants responded by saying it should be included in testing for oral fluid samples.

For JWH-019, 26% responded by saying it doesn’t need to be included for testing. A total of 59% of participants responded by saying it should be included in testing for blood samples. A total of 46% of participants responded by saying it should be included in testing for urine samples. A total of 4% of participants responded by saying it should be included in testing for oral fluid samples.

For JWH-200, 25% responded by saying it doesn’t need to be included for testing. A total of 60% of participants responded by saying it should be included in testing for blood samples. A total of 49% of participants responded by saying it should be included in testing for urine samples. A total of 4% of participants responded by saying it should be included in testing for oral fluid samples.
For **AM-2201**, 32% responded by saying it doesn’t need to be included for testing. A total of 51% of participants responded by saying it should be included in testing for blood samples. A total of 38% of participants responded by saying it should be included in testing for urine samples. A total of 4% of participants responded by saying it should be included in testing for oral fluid samples.

For **RCS-4**, 40% responded by saying it doesn’t need to be included for testing. A total of 44% of participants responded by saying it should be included in testing for blood samples. A total of 31% of participants responded by saying it should be included in testing for urine samples. A total of 4% of participants responded by saying it should be included in testing for oral fluid samples.

For **RCS-8**, 40% responded by saying it doesn’t need to be included for testing. A total of 44% of participants responded by saying it should be included in testing for blood samples. A total of 31% of participants responded by saying it should be included in testing for urine samples. A total of 4% of participants responded by saying it should be included in testing for oral fluid samples.

For **Benzylpiperazine** (BZP), 22% responded by saying it doesn’t need to be included for testing. A total of 63% of participants responded by saying it should be included in testing for blood samples. A total of 44% of participants responded by saying it should be included in testing for urine samples. A total of 4% of participants responded by saying it should be included in testing for oral fluid samples.

For **Trifluromethylphenylpiperazine** (TFMPP), 31% responded by saying it doesn’t need to be included for testing. A total of 53% of participants responded by saying it should be included in testing for blood samples. A total of 35% of participants responded by saying it should be included in testing for urine samples. A total of 4% of participants responded by saying it should be included in testing for oral fluid samples.

For **Dimethyltryptamine** (DMT), 32% responded by saying it doesn’t need to be included for testing. A total of 51% of participants responded by saying it should be included in testing for blood samples. A total of 35% of participants responded by saying it should be included in testing for urine samples. A total of 4% of participants responded by saying it should be included in testing for oral fluid samples.
saying it should be included in testing for urine samples. A total of 4% of participants responded by saying it should be included in testing for oral fluid samples.

For Salvinorin-A, 51% responded by saying it doesn’t need to be included for testing. A total of 32% of participants responded by saying it should be included in testing for blood samples. A total of 26% of participants responded by saying it should be included in testing for urine samples. A total of 1% of participants responded by saying it should be included in testing for oral fluid samples.

For MCPP, 37% responded by saying it doesn’t need to be included for testing. A total of 44% of participants responded by saying it should be included in testing for blood samples. A total of 31% of participants responded by saying it should be included in testing for urine samples. A total of 1% of participants responded by saying it should be included in testing for oral fluid samples.

For Lunesta (Zopiclone) 11% responded by saying it doesn’t need to be included for testing. A total of 79% of participants responded by saying it should be included in testing for blood samples. A total of 53% of participants responded by saying it should be included in testing for urine samples. A total of 4% of participants responded by saying it should be included in testing for oral fluid samples.

For Modafinil, 34% responded by saying it doesn’t need to be included for testing. A total of 50% of participants responded by saying it should be included in testing for blood samples. A total of 37% of participants responded by saying it should be included in testing for urine samples. A total of 3% of participants responded by saying it should be included in testing for oral fluid samples.

For Quetiapine, 21% responded by saying it doesn’t need to be included for testing. A total of 64% of participants responded by saying it should be included in testing for blood samples. A total of 49% of participants responded by saying it should be included in testing for urine samples. A total of 2% of participants responded by saying it should be included in testing for oral fluid samples.
For **Zaleplon**, 18% responded by saying it doesn’t need to be included for testing. A total of 68% of participants responded by saying it should be included in testing for blood samples. A total of 49% of participants responded by saying it should be included in testing for urine samples. A total of 3% of participants responded by saying it should be included in testing for oral fluid samples.

For **Buprenorphine**, 12% responded by saying it doesn’t need to be included for testing. A total of 76% of participants responded by saying it should be included in testing for blood samples. A total of 54% of participants responded by saying it should be included in testing for urine samples. A total of 6% of participants responded by saying it should be included in testing for oral fluid samples.
What additional drugs should be included in the new recommendations for DUID/DRE testing?

<table>
<thead>
<tr>
<th>Additional Drugs</th>
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<tbody>
<tr>
<td>Methylphenidate</td>
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<tr>
<td>Synthetic Cannabinoids</td>
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<tr>
<td>Gabapentin</td>
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<tr>
<td>Fentanyl</td>
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<tr>
<td>Mirtazapine</td>
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<tr>
<td>Difluoroethane</td>
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<tr>
<td>Venlafaxine</td>
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<tr>
<td>Oxymorphone</td>
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<tr>
<td>Tapentadol</td>
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<tr>
<td>Citalopram</td>
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<td>SSRI's</td>
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<tr>
<td>Cathinones</td>
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<tr>
<td>Methylecgonine</td>
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<tr>
<td>Ketamine</td>
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<tr>
<td>Chlorpheniramine</td>
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</table>
If you have suggestions for changes to the cut-off for a currently listed drug, please comment below.

For urine samples, respondents indicated that cut-offs should be higher for antidepressants and barbiturates. Also that THC, 11-OH THC and clonazepam are not likely to be detected in urine. For this reason, one respondent stated that only THC-COOH is tested for in urine regarding THC. The same respondent stated that his/her lab does not hydrolyze urine for benzodiazepines, but the limit of detection is set much lower than what is specific for “total” drug levels. One respondent stated that quantifying drugs in urine does not make a lot of sense from a pharmacological standpoint.

For blood samples, one respondent indicated that the recommendation for sympathomimetic drugs should be 50 ng/mL, Tramadol should be 50 ng/mL, Diphenhydramine should be 50 ng/mL, Dextromethorphan should be 50 ng/mL, Opiates should be 20 ng/mL except for oxymorphone, hydromorphone and 6-MAM which should be 5 ng/mL, and cocaine and coaethylene should be 50 ng/mL.

In general, a couple of respondents merely indicated a few suggestions for recommendation changes. One respondent stated that opiates should be lowered to 10 or 20 ng/mL for screening and 5 ng/mL for confirmation. Also, this respondent reported that benzodiazepines in oral fluid should be screened at 10 ng/mL and confirmed at 5 ng/mL. Another respondent indicated that the cutoff levels for Phenobarbital and Trazodone are too low.

Some respondents referred to the pharmacological effects versus the recommendations. For example, one lab reported that the cut off may be trace relative to a more reasonable therapeutic or toxic level which is impairing. One respondent stated that he/she would like cutoffs that can be supported and are meaningful or serve a purpose in interpretation to be able to report low concentrations. One respondent suggested that the recommendations should match the Substance Abuse and Mental Health Services Administration (SAMHSA) levels.
If there is any other information you would like the DUID survey or NSC to have that was not covered in the survey questions, please comment below.

Suggestions for additional questions included information regarding types and numbers of instruments used in the lab, scope and accreditation/certification of staff. One respondent indicated that he/she uses Randox for screening and blood and has experience false positive problems. As a result he/she raised his/her cutoffs to address this problem. One respondent stated that all special testing is referred to Armed Forces Medical Examiner System (AFMES). Also, one lab reported that his/her county prosecutors only accept blood samples for prosecuting DUI. As a result, this hinders his/her ability to detect some of the synthetic cannabinoids and/or the Piperazine derivatives due to their short half-lives and low concentrations encountered in blood samples.

One respondent wrote a lengthy open-ended response asking if drug quantitations are necessary for factual testimony. This respondent explained that prosecutors require quantitation although he/she believes the concentrations are confusing and that they do not change the testimony. This respondent further explained that Oklahoma does not have drug per se laws and focuses upon the presence of impairing substance...