



## NEVADA FORENSIC TOXICOLOGY LABORATORY: GAP ANALYSIS



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# **NEVADA FORENSIC TOXICOLOGY LABORATORY: GAP ANALYSIS**

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## INTRODUCTION

Nevada is one of two U.S. jurisdictions without a state forensic toxicology laboratory (the other state is Hawaii). Instead, three public forensic toxicology laboratories provide services across the state (City of Henderson, Las Vegas and Washoe County), leaving some counties underserved, although the magnitude of this issue is unknown.

The absence of a state laboratory is an impediment to understanding the magnitude of the impaired driving problem in Nevada. Similarly, the lack of standardized testing and data collection is a barrier to decision-making in terms of policy development and resource allocation. This problem has become more pronounced as a result of cannabis legalization. Moreover, without a state lab to conduct independent testing, it is challenging to enforce regulatory requirements related to cannabis production and sale.

This new legal context and its resulting real-world implications have profound consequences for public safety. There is an urgent need for more testing, and more consistent testing and analysis of blood samples collected during Driving Under the Influence of Drugs (DUID) investigations. Standardized and high-quality data are the cornerstone of effective policies and programs to reduce road deaths and injuries resulting from alcohol- and drug-impaired driving.

Against this backdrop, the Traffic Injury Research Foundation (TIRF; [www.tirf.ca](http://www.tirf.ca)), an independent road safety research institute, was invited to conduct a gap analysis to inform the implementation of a state forensic toxicology laboratory in Nevada (henceforth referred to as a “state lab”). This involved assessing existing lab services against best practices and undertaking a gap analysis to inform the development of an implementation plan. This work was conducted in consultation with forensic experts from several jurisdictions and representatives of state agencies in Nevada.

TIRF has a cooperative agreement with the National Highway Traffic Safety Administration (NHTSA) to provide technical assistance to requesting states in order to enhance the implementation and delivery of impaired driving countermeasures. From 2009 to 2017, TIRF delivered technical assistance and training for alcohol ignition interlock programs in more than 30 states. In 2017, the cooperative agreement was expanded to encompass technical assistance related to a continuum of impaired driving countermeasures. Notably, TIRF assists jurisdictions by developing tailored solutions for more complex challenges in consultation with leading experts. The objective is to help states implement evidence-based solutions and achieve major improvements in countermeasures to accelerate reductions in deaths and injuries. To date, TIRF has provided such assistance to more than 40 U.S. jurisdictions.

This report describes the gap analysis conducted by TIRF, including the methods applied to achieve the objectives, the results, and conclusions. The implementation plan is described in a separate report.



## METHODS

The gap analysis was conducted using three primary methods:

- > Critically review and analyze guiding documents associated with business and operational plans as well as documents related to current lab operations in Nevada and best practices for toxicology labs.
- > Develop a data collection instrument to structure discussion with state agencies in Nevada and leading toxicology experts in the U.S.; and,
- > Synthesize the data from these sources to inform a gap analysis.

### Document review

In preparation of data collection, a series of documents were critically reviewed to enable TIRF researchers to familiarize themselves with current practices and context in Nevada as well as best practices for toxicology labs. These documents included summaries of previous discussions in Nevada regarding the need for a state lab as well as current agreements with existing public labs and relevant operational information. Best practices for state toxicology labs and a variety of business plans templates were considered, including “Designing a Successful Business Plan. Positioning the Lab for Success” by Haddon Carryer from the Mayo Clinic. Additional materials emerging during the data collection phase were also reviewed. These documents served to further augment and expand the knowledge base of TIRF team members and were used in an iterative fashion throughout the gap analysis exercise. These documents included:

- > Detailed documents from the public labs (e.g., organizational charts, accreditations);
- > 2016 Toxicology Laboratory Survey. Updates for Recommendations for Drug Testing in DUID & Traffic Fatality Investigations. By: Amanda L. D’Orazio, BS, Karen S. Scott, PhD, Amanda L.A. Mohr, MS and Barry K. Logan, PhD, F-ABFT. ©Copyright 2016, Center for Forensic Science Research and Education;
- > Recommendations for Toxicological Investigation of Drug-Impaired Driving and Motor Vehicle Fatalities – 2017 Update. By: Barry K. Logan, Amanda L. D’Orazio, Amanda L.A. Mohr, Jennifer F. Limoges, Amy K. Miles, Colleen E. Scarneo, Sarah Kerrigan, Laura J. Liddicoat, Karen S. Scott, and Marilyn A. Huestis published in the Journal of Analytical Toxicology.
- > Legislation from other jurisdictions creating and granting authority to state labs.

### Data collection instrument development

A bank of draft questions was created in the form of a discussion guide once the document review was completed. Questions were initially structured according to the four perspectives of the Balanced Score Card methodology: human resources, business processes, customers/clients, and finance. An additional section on legal framework was subsequently added. The purpose of the

discussion guide was to structure conversations with state agencies and experts and capture relevant information to identify gaps and inform the implementation plan.

This bank of draft questions was then shared with four Subject Matter Experts (SMEs; refer to the Appendix for their names, titles and affiliations) who formulated feedback to further refine the discussion guide. The final version served as the master discussion guide during data collection and a copy is included in the Appendix of this report.

## **Data collection**

Using the GoToMeeting software, a series of virtual meetings was conducted involving representatives from relevant state agencies (law enforcement, prosecutors, toxicologists, highway safety office, and cannabis compliance agency) on May 1, 4, 5, 6 and 7, 2020. Each meeting was approximately 90 minutes. The number of participants in each call varied between three and eight; one discussion was held separately with one key individual who was unable to participate at scheduled times.

Different blocks of questions from the master discussion guide were selected based on the expertise and topics relevant to each group of participants. Questions were designed to elicit knowledge and experience pertaining to strengths, operational issues, gaps and needs using a semi-structured discussion format. As such, no two meetings were alike, but each meeting provided complementary information from the perspective of different stakeholders. Follow-up questions identified during each call were formulated and shared with designated individuals to either clarify information or obtain additional information. Input gathered during each call was synthesized and answers to follow up questions were integrated. Draft versions were further reviewed by experts for completeness and technical accuracy and their feedback was incorporated. A synopsis of each meeting is available in the Appendix and these final notes contain the “raw data” from which the gaps and needs were identified.

## RESULTS

The main results of the gap analysis are described in this section. Important contextual information relating to key demographic characteristics of Nevada as well as metrics related to the magnitude of the DUI/DUID problem are presented first. This is followed by an overview of existing lab practices. Collectively, this information aids with the interpretation of results. The main results focus on identified gaps in conjunction with needs as expressed by stakeholder groups contributing to the data collection phase of this work.

### State demographics

The estimated population of Nevada was 3,080,156 in July 2019 which represents a 14% increase since 2010 according to the U.S. Census Bureau statistics (<https://www.census.gov/quickfacts/NV>). Nevada is estimated to be 109,781.18 square miles with a population of 28.1 people per square mile in 2019 (compared to 24.6 in 2010). Slightly less than half of the population (49.9%) was female. Persons aged 5 years or younger represented 6.1% of the population, persons under 18 years were 22.7%, and persons 65 years and older was 15.7%.

The majority of inhabitants identify as White (48.7%), followed by Hispanic (i.e., referring to native speakers of Spanish, or have Spanish-speaking ancestry) or Latino (i.e., referring to geographical Latin American origin or ancestry) (29.0%). The representation of other ethnic groups is much smaller: Black or African American (10.1%), Asian (8.7%), American Indian and Alaskan Native (1.7%), and Native Hawaiian and other Pacific Islanders (0.8%).

Between 2014 and 2018, approximately 30% of people aged five years and older spoke a language other than English at home. Almost one-fifth (19.4%) of the population was estimated to be foreign born (i.e., did not have U.S. citizenship at birth).

A total of 208,731 (6.8%) were veterans (i.e., men and women who had served but were not currently serving on active duty in the U.S. Army, Navy, Air Force, Marine Corps, or the Coast Guard, or who served in the U.S. Merchant Marine during World War II).

There were approximately 1,075,930 households (between 2014 and 2018) in the state with an average of 2.68 people per household. A large majority lived in the same household for more than one year (81.6%). During this same timeframe, a large majority of households had a computer (91.2%) and a broadband Internet subscription (81.3%). More than half of all housing units (1,285,684) were owner-occupied (55.8%) with a median value per housing unit of \$242,400. The median household income in 2018 dollars was \$57,598. Just under 13% (12.9%) of Nevada residents were living in poverty, 13.0% under the age of 65 did not have health insurance, and 8.9% under the age of 65 had a health disability.

Between 2014 and 2018, among all persons aged 25 or older, 86.3% had graduated at least from high school while 24.2% had a Bachelors degree or higher. In addition, 63.4% of persons aged 16 or older were in the civilian labor force. Among females only of the same age, the percent was 58.7%. The mean travel time from home to work was 24.3 minutes.

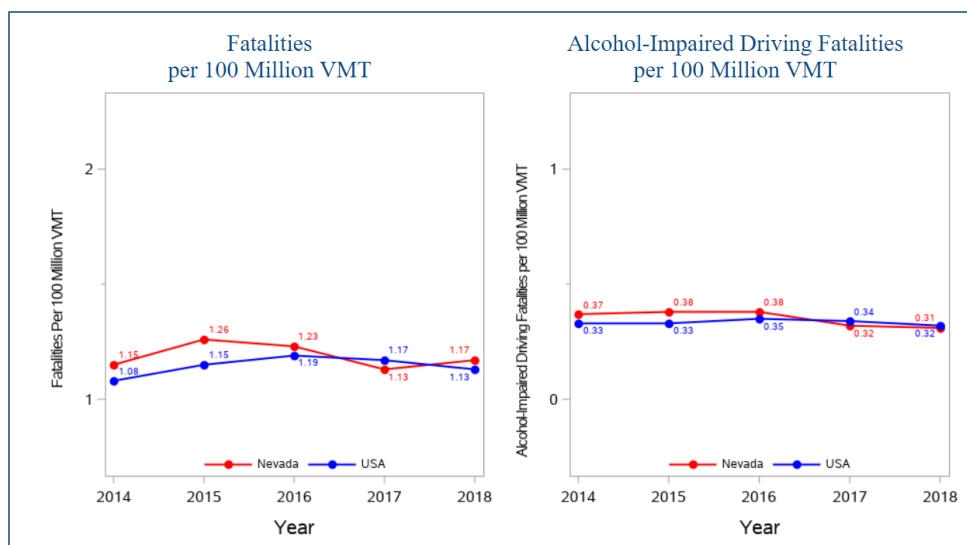
## Impaired driving in Nevada

The total number of all road fatalities in Nevada in 2018 was 330 according to the NHTSA as compared to 291 in 2014.<sup>1</sup> The Office of Traffic Safety in Nevada reported the five-year average number of fatalities was 316 during this timeframe.<sup>2</sup>

The 2018 fatality rate in Nevada was 10.88 fatalities per 100,000 population which is slightly lower than the U.S. rate of 11.17. However, compared to 2014, the rate in Nevada increased from 10.31. Using miles driven as the denominator to calculate the rate, in 2014 there were 1.15 fatalities per 100 million Vehicle Miles Traveled (VMT) and this increased slightly to 1.17 in 2018. The U.S. rates were 1.08 and 1.13, respectively.<sup>3</sup>

Although the overall road safety performance in Nevada has declined somewhat in the past five years, the data indicate progress reducing alcohol-impaired driving. As shown in Figure 1, the rate of alcohol-impaired driving fatalities per 100 million VMT decreased from 0.37 in 2014 to 0.31 in 2018, while it only decreased from 0.33 to 0.31 in the U.S.

**Figure 1: Fatalities and alcohol-impaired driving fatalities per 100 million Vehicle Miles Traveled (VMT) in NV and the U.S.**



Source: Traffic Safety Facts Nevada 2014-2018 retrieved from <https://cdan.nhtsa.gov/SASStoredProcess/guest>

Similarly, in 2018, the percent of alcohol-impaired driving fatalities (BAC= .08+) was 26% (87 of 330) which was lower than 2014 when 32% of all fatalities (93 of 291) were alcohol-impaired. In comparison, across the U.S. declines were much smaller from 30% in 2014 to 29% in 2018. Of concern, 17% of alcohol-impaired driving fatalities in 2018 involved a BAC=.15 or higher. A

<sup>1</sup> Source: 2018 FARS data as mentioned in NHTSA's December 2019 Traffic Safety Facts resource

<sup>2</sup> Source: 2019 Nevada Office of Traffic Safety Annual Report,

<sup>3</sup> Source: Nevada traffic safety facts as reported on <https://cdan.nhtsa.gov/SASStoredProcess/guest>



detailed breakdown of fatalities (all fatalities) for the top 10 counties from 2014 to 2018 is provided in Figure 2.

**Figure 2: Five-year trend of fatalities for the top 10 counties of 2018**

Nevada Counties by 2018 Ranking		Fatalities					Percent of Total				
		2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
1	Clark County	174	210	217	208	220	60	64	66	67	67
2	Washoe County	38	37	50	40	44	13	11	15	13	13
3	Nye County	12	11	6	9	14	4	3	2	3	4
4	Lyon County	12	7	1	10	12	4	2	0	3	4
5	Elko County	13	12	8	9	10	4	4	2	3	3
6	Lincoln County	3	4	1	0	5	1	1	0	0	2
7	Churchill County	4	5	8	6	4	1	2	2	2	1
8	Esmeralda County	3	5	3	4	4	1	2	1	1	1
9	Humboldt County	10	8	5	3	4	3	2	2	1	1
10	Pershing County	4	1	1	2	3	1	0	0	1	1
<b>Sub Total 1.* Top Ten Counties</b>		<b>277</b>	<b>307</b>	<b>317</b>	<b>303</b>	<b>320</b>	<b>95</b>	<b>94</b>	<b>96</b>	<b>97</b>	<b>97</b>
<b>Sub Total 2.** All Other Counties</b>		<b>14</b>	<b>19</b>	<b>12</b>	<b>8</b>	<b>10</b>	<b>5</b>	<b>6</b>	<b>4</b>	<b>3</b>	<b>3</b>
<b>Total All Counties</b>		<b>291</b>	<b>326</b>	<b>329</b>	<b>311</b>	<b>330</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: Traffic Safety Facts Nevada 2014-2018 retrieved from <https://cdan.nhtsa.gov/SASStoredProcess/guest>

In 2019, the Nevada Department of Public Safety (DPS), Committee on Testing for Intoxication reported there were 12,860 arrests and 3,457 completed court cases for impaired driving. Among completed court cases, 213 cases were dismissed and four were deemed not guilty.

Data regarding drug-impaired driving arrests, convictions or crashes are limited. Nevertheless, substance involved fatal traffic crashes continue to represent a large percentage of overall statistics in Nevada with more than 50% of fatal crashes involving an impairing substance or combination of substances (polysubstance). In the period from 2016 – 2018 polysubstance involved fatal crashes increased by nine percent. Data also revealed that marijuana was by far the most common substance present when polysubstance use was observed. To illustrate, in 71 out 95 cases, or 75%, of polysubstance use, marijuana was detected (source: Office of Traffic Safety, State Fatal Data).

## Overview of existing laboratory services

Currently, lab testing services are provided by three public labs in Nevada. A brief description of the services and capacity provided by each lab each is below.

### Henderson lab

- > Accredited by the American National Standards Institute (ANSI) National Accreditation Board (ANAB).
- > Service area covers 600,000 people including North Las Vegas, Mesquite and Lake Mead.

- > Annual number of impaired driving cases ranges from 700-800 and the lab considers their caseload to be manageable, however, they estimate they are currently at maximum capacity.
- > All samples are tested for drugs regardless of BAC result.
- > The lab is capable of screening for approximately 100 drugs and does confirmatory testing for approximately 60 drugs. Drug panels are regularly reviewed to ensure alignment with current drug trends in the state.
- > Approximately 25% of tested samples in 2018 were positive for drugs only and 24% were positive for alcohol only. Slightly less than half of all samples (47%) were positive for alcohol (BAC >.08) and drugs.
- > Test protocols are standardized. Two toxicologists process all DUI samples, including accessioning (i.e., the process of recording a new sample), and both toxicologists do the same work to create efficiencies (i.e., both test for alcohol and drugs instead of one or the other only). Blood samples are first analyzed for alcohol and then tested for drugs. A single report describing both the alcohol and drug results is produced. No presumptive results are reported. Blood samples are returned to the police evidence vault when testing is finished. Alcohol analysis is completed in approximately two weeks and drugs take three to six weeks for drugs (depending on how many drugs tested).
- > The lab has one working LC/MS/MS which should be replaced in the next six to nine months. All post-mortem cases are outsourced to the county coroner's office. A small number of samples require testing for Novel Psychoactive Substances (NPSs) and these are outsourced (due to different test protocols) as is testing for synthetic drugs and urine analysis.

## Las Vegas Metro lab

- > Accredited by ANSI National Accreditation Board (ANAB).
- > Approximately 80% of samples received are from the Las Vegas Metropolitan Police Department while 20% are submitted by outside agencies.
- > The annual impaired driving caseload (based on recent yearly averages) was 6,484 test requests: 3,822 for blood alcohol and 2,662 for drugs. The total DUI/DUID caseload equates to 30% of the total lab workload.
- > Ten scientists conduct breath alcohol, blood alcohol, drug screens, and drug confirmations.
- > The Lab is equipped with two LC/MS/MS and it is anticipated another LC/MS/MS will be needed in six to nine months to accommodate anticipated growth in caseload.
- > 60% of DUI cases screened positive for marijuana in 2018.
- > Alcohol results take about one week to process and the report is produced. If drug testing is also requested the toxicology analysis is done and a separate report is produced. No presumptive results are reported.
- > As of May 2020, there was a two-month backlog for alcohol testing and a five-month backlog for drugs.

- > Cases requiring special confirmatory testing are outsourced and have a turnaround time of 10 months. Post-mortem cases are outsourced as are some felony cases that require specialized testing.
- > There is a separate budget for overtime to manage the handling of rush cases and rush cases are not uncommon.

## Washoe County lab

- > Accredited by ANSI National Accreditation Board (ANAB).
- > The lab provides services to thirteen mostly rural counties. These counties have a limited property tax base, and consequently constrained funding for testing. Approximately 16% of cases are for Washoe County Sheriff's Office while the rest are for outside police departments.
- > Annual caseload of 3,700 DUI/DUID cases, which includes 1,200 breath test and 2,500 drug tests.
- > The lab is staffed with four toxicologists and one accessioner for toxicology, plus breath alcohol calibration staff which includes one full time breath analyst, and two part-time breath analysts. It is estimated quadruple staff and additional instruments would be needed to test all samples for drugs.
- > Due to resource limitations, samples in misdemeanor cases are only tested for drugs if the alcohol test shows a BAC below the per se limit, or unless specifically requested by the prosecuting attorney. Samples are routinely tested for drugs in felony cases irrespective of BAC. Testing ceases once a per se violation of drug is detected unless further testing is requested by prosecuting attorney.
- > A 2008 policy regarding turnaround times for completion of lab testing specifies ten working days for alcohol and four to six weeks for drugs.
  - » Post-mortem cases are outsourced, as are some cases that require specialized testing.

## Identified gaps

- > **Not all blood samples are tested for drugs.** Polysubstance use is quite common among impaired drivers. A small study by the Henderson lab revealed more than 60% of all impaired driving samples were positive for one or more drugs. The lab subsequently opted to conduct drug testing as a standard protocol. Recent arrest data and fatal crash data from Washington and California demonstrates the prevalence of polysubstance use among impaired drivers. Cannabis (THC) is the drug most commonly detected in addition to alcohol, followed by cocaine. Anecdotal evidence from police officers in Nevada further suggests a growing problem with polysubstance use among impaired drivers.

At present, one of the three labs currently providing toxicology analysis in Nevada lacks the instruments and staff to conduct adequate levels of drug testing as a result of resource limitations. This is an important issue because it masks the prevalence of the drug problem from a policy and resource allocation perspective. Moreover, while suspects in this service area

may not exceed a per se threshold for a specific drug, the combination of drugs in their system may be significantly impairing.

The importance of routine testing of all samples for drugs is further necessitated by an inadequate number of Drug Recognition Experts (DREs) officers in the state. DREs are trained to identify drug impairment among impaired drivers and can determine drug categories. As such, consistent toxicological testing for drugs is essential to adequately enforce drug-impaired driving laws. The absence of toxicological results and DRE testimony are major impediments to the prosecution of drug-impaired drivers.

- > **Testing panels and cutoff thresholds are not uniform across labs.** The three labs utilize different testing panels and test for a different number of drugs. The number of drugs tested for ranges from 30 to more than 60 drugs. There are also differences in the cutoff values used to distinguish between positive and negative results, including for common drugs such as THC and Oxycodone. In other words, labs only detect the drugs they test for and different panels means some drugs detected in one jurisdiction may be undetected in another. Labs also use different cut-off values which lead to different interpretations of results, ultimately producing inconsistency between jurisdictions. Lower cut off values may result in drivers testing positive in one area of the state whereas the same driver may test negative in another jurisdiction. Of concern, cut-off values that are too high can result in impaired drivers avoiding detection. More generally, these variations across laboratory protocols make it difficult to draw conclusions regarding the number of drivers under the influence of drugs and whether in fact they are impaired. Benefits associated with applying standard cut-off concentrations in casework include:

- » Fair treatment of all drivers.
- » Ability to compare data across geographical areas and jurisdictions,
- » Ensure drugs which are known to cause impairment are included; and,
- » Public confidence in the results obtained by the laboratory.

The use of different cutoff values across the three labs makes it impossible to compile uniform and comparable statistics on DUID in the state which is essential to measure the prevalence of impaired driving. Equally concerning, it creates inequality in justice where a suspect may be found guilty for DUID in one county using a lower cutoff value whereas another suspect who consumed the same amount of the same drug may receive no penalty in another county where the lab uses a higher cutoff value. There is a recognized need for consistency with respect to drug testing by using the same testing panels and using the same cutoff thresholds across the state, in line with national standards (an important initiative across the country has focused on standardizing thresholds nationally). The presence of a state lab would set standards for test protocols and cut-off values and facilitate the uniform collection of data across the state.

- > **Inadequate capacity for testing is a source of delays and slow turnaround times for analysis.** All three labs reported being at maximum capacity in terms of the number of

samples that can be analyzed each year. With the current caseload, at best it takes on average it takes four weeks to produce alcohol test results and approximately two months to produce drug test results. For many cases these times may be longer. These turnaround times result in long delays for cases to proceed to court, and felony suspects, must be released from custody prior to charging when results are not available in a timely fashion to charge and hold them. While some labs may be able to rush cases, this results in higher operating costs due to overtime, and additional capacity is needed to clear backlogs and increase processing capacity and speed. In sum, there is a strong need for increased testing capacity so high-risk drivers are not released prior to charging, so criminal cases are processed in a timely manner, and to ensure underserved areas of the state are able to submit samples for analysis.

- > **Post-mortem samples for fatally injured road users are either not tested for drugs or testing is outsourced which has resource implications.** Inadequate testing of drivers killed in road crashes serves to mask the prevalence of the drug-impaired driving problem. These data are the most robust indicator of impaired driving. The lack of testing is an impediment to prioritizing the development of effective road safety policies and countermeasures and resource allocations.
- > **Demands for court testimony from toxicologists is substantial.** Toxicologists receive requests to testify to results of toxicological analysis in 40% to 80% of impaired driving cases. This detracts from the time available to efficiently analyze test samples, contributing to backlogs and delays. In some jurisdictions, toxicologists are requested to testify in the majority of cases, whereas in other jurisdictions requests are limited. Moreover, although toxicologists may be called to testify often, the proportion of cases in which they actually testify is much smaller (perhaps 2%). However, the preparation required to testify in each case is significant, as is the travel time when testimony must be delivered in person as opposed to electronic means. Often, they are not uninformed they are not needed until after the work preparing and traveling has been performed. There are substantial cost-implications associated with the current approach. Of course, travel is limited in more urban areas where the courthouse is in close proximity, but in rural areas travel may exceed four hours in one direction.

Video testimony has been relied upon more often during the COVID-19 pandemic although it is still used in a limited fashion. The expectation or demands from the defense bar for in-person testimony may return to the same level as before pandemic-related restrictions came into place. Furthermore, while video testimony may help to reduce travel times, it is unlikely wait times would be entirely reduced, and certainly prep time would remain unaffected.

Further compounding this issue is the low number of DREs in Nevada, and as of yet the Nevada Supreme Court has not ruled on the qualification of DREs as experts, which means courts are less likely to rely exclusively on their testimony. This makes testimony from toxicologists essential to provide impaired driving cases. The presence of a state lab would ensure toxicologists are able to provide timely results and timely testimony as needed.

- > **Some rural areas may be underserved due to long travel times and inadequate budgets.** Stakeholders reported they believed certain areas in the state were underserved,



mostly as a result of the lack of financial resources to cover costs associated with blood analysis as well as transporting samples. As a result, drug-impaired drivers may go undetected and pose a serious risk on the road. Based on the available evidence, it appears demand for drug testing would very likely increase if a state lab was available to service all police agencies in Nevada.

- > **Cannabis compliance testing is a critical need and strong oversight of labs is needed.** With the legalization of recreational cannabis in 2017, state agencies are tasked with setting requirements for production, testing and sale of cannabis products and ensuring compliance with health and product regulations. At present, an independent lab is not available to test and retest cannabis products. A wide variety of private labs are used for this purpose with little oversight, and labs asked to retest products tested by other labs have a clear conflict of interest. Currently, there are approximately ten labs performing cannabis product testing. The transparency of quality assurance protocols is limited, and state agencies find it difficult to reliably and consistently enforce state regulations in this regard. The presence of a state lab which conduct independent and consistent compliance testing of cannabis growing facilities and products, or at least to provide strong oversight of labs who do such testing, would fill this gap.
- > **Toxicologists lack capacity to consistently educate key stakeholders.** Police agencies and prosecutors rely on toxicologists to educate their staff about important aspects of drug-impaired driving including protocols for collecting and handing samples as well as recent patterns and trends in drug-impaired driving and drug prevalence. Staff turnover is quite common across police agencies and prosecutor offices. Misunderstandings and errors by stakeholders add to the workload of toxicologists. There is inconsistent knowledge among stakeholders regarding the types of testimony toxicologists can provide (i.e., the results of a toxicological analysis) and not (i.e., actual impairment during the time of arrest), as well as the different steps involved and the time required to complete the analysis. As such, there is a need for education among different stakeholders about the role of toxicologists, notably to manage expectations when providing testimony and to better understand the testing workflows as well; describing the life of a DUID sample would be useful to help manage expectations. The presence of a state lab would increase the capacity of toxicologists to fill this gap.

## Priority needs

At the end of each meeting, participants were invited to identify priority needs and considerations with respect to the implementation of a state toxicology lab. The following is a summary of those needs.

- > **Augment the services provided by existing lab as opposed to replacing them.** The implementation of a state lab should be designed to strengthen and build capacity for toxicological analyses and work cooperatively with existing labs to alleviate backlog as well as coordinate test protocols. A state lab should also fill important gaps such as the testing of post-mortem samples and cannabis compliance testing.

- > **Two locations.** The state lab should have two locations, one in Las Vegas, and one in another city such as Reno or Carson City. This would ensure the entire state has access to the state lab, which could also provide service in underserved areas as well as reduce turnaround times.
- > **Optimize processing and turnaround times.** A state lab should increase the capacity for toxicological analysis and reduce processing and turnaround times and reduce backlogs. While expectations varied widely generally speaking (from 48 hours to 30 days), certainly for felony cases and cases with serious injuries/fatalities there was agreement such cases should be rushed with results available within 48 to 72 hours to avoid having to release dangerous drivers onto the road simply because toxicological results are unavailable in a timely fashion.
- > **Toxicologist designated as contact person.** Assigning a toxicologist as the dedicated contact person within the lab, especially for larger police agencies, would help streamline the processing and reporting of toxicology analysis.
- > **Training.** Having a designated training person at the laboratory would be a major benefit to law enforcement. Currently there are law enforcement officers trained to train other law enforcement officers but given the frequent turnover and lateral transfers across agencies, this is not an effective training method. Having a designated training person at the laboratory would ensure consistency with training across all agencies and officers.





## CONCLUSION

An analysis was conducted to identify gaps in preparation of an implementation plan for a state forensic toxicology lab in Nevada. Based on this analysis priorities were formulated to inform the implementation. These priorities are:

- > The state lab should augment the services provided by existing labs as opposed to replacing them.
- > The state lab should have two locations, one in Las Vegas, and one in another city such as Reno or Carson City.
- > A state lab should increase the capacity for toxicological analysis and reduce processing and turnaround times and reduce backlogs.
- > A toxicologist should be assigned as the dedicated contact person within the lab, especially for larger police agencies.
- > Having a designated training person at the laboratory would be a major benefit to law enforcement.

The implementation plan provides a detailed strategy to implement the state lab with these priorities in mind.



## **APPENDIX A: SUBJECT MATTER EXPERTS**

**Amy Miles, Forensic Toxicology Section Director**

Wisconsin State Laboratory of Hygiene

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NMS Labs

**Sergeant Brandon Villanti**

Washington State Patrol Impaired Driving Section

**Laura Bailey, Director, Office of Alcohol Testing**

Arkansas Department of Health



## APPENDIX B: DISCUSSION GUIDE

### Nevada Impaired Driving Toxicology Lab Implementation

#### Introduction

The Traffic Injury Research Foundation (TIRF) is providing technical assistance to the State of Nevada through its cooperative agreement with the National Highway Traffic Safety Administration (NHTSA). In this jurisdiction, the objective of the assistance is to develop an implementation plan for a state toxicology lab. This work involves an analysis of contract services currently provided through three existing labs, a gap analysis based on best practices and safety standards, as well as optimal processing capacity and turnaround times for the state. It also explores potential revenue streams and funding models, and legal authorities required to make the lab financially viable. Information collected during the technical assistance with this discussion guide is being synthesized to inform the development of the implementation plan for the state agencies to consider.

#### Existing services provided by contracted labs

Currently, the analysis of impaired driver toxicological samples are contracted services performed by three laboratories located in Washoe county, Las Vegas, and Henderson. Services are provided by a total of seventeen employees, including technicians, analysts, and scientists across the three labs. Each lab currently has one LC/MS/MS. Some communities within the state are under-served, but the exact numbers are difficult to quantify. Possession and consumption of marijuana became legal on January 1, 2017 and prompted this initiative since increased drug testing is likely required. Lower turnaround times for the analysis of samples is an important priority to keep pace with demand.

A state toxicology lab should be designed to provide the following services:

- > conduct toxicological testing of samples from impaired drivers for alcohol and other drugs;
- > provide training to all law enforcement personnel seeking to become certified breath test instructors, and regular updates to drug recognition experts (DREs);
- > provide repair and maintenance services for breath testing devices;
- > maintain ongoing records of individual breath testing devices (i.e., accuracy, reliability, repair, calibration);
- > provide expert testimony; and,
- > provide scientific evaluation regarding the accuracy and reliability of breath testing devices.

This discussion guide is organized into five discussion topics:

- > Business structure
  - » Operational business structure
  - » Environmental business structure

- > Human resources
- > Customer and client requirements
- > Business model and financial structure
- > Legal framework

Questions in each topic area are preceded by a brief description of services currently provided by contracted labs.

## Discussion Topics

### Business structure

#### Operational business structure

The average caseload for existing labs ranges from 700 to 6,480 impaired driver samples depending on the areas serviced. Processing times for blood alcohol tests range from four days to four months, and the processing time for drug tests are at least four weeks and may take up to seven months. Some cases are outsourced and had a turnaround time of ten months. One of the three labs only tests for drugs if the alcohol test shows a BAC below the per se limit unless specifically asked by the prosecuting attorney. Another of the three labs tests all alcohol samples for drugs, regardless of the BAC and can screen samples for approximately 100 drugs.

1. What is the process for determining best practices?
2. Will the lab be accredited?
3. What is the average number of impaired driver toxicological samples analyzed each year?
  - a. Alcohol-impaired driving only
  - b. Drug-impaired driving only
  - c. Alcohol and drug-impaired driving
4. What is the workflow for the testing?
5. How long does an analysis of a single sample take from start to finish (in days)?
  - a. What is the analysis process for each alcohol sample case from submission to reporting of results?
  - b. What is the analysis process for each drug sample case from submission to reporting of results?
  - c. What is deemed an acceptable processing time by the state?
    - » How often are samples are accessioned? Does the turnaround time mean a number of days from time of receipt by the lab or from the time it was relinquished to the lab?
  - d. Are results peer reviewed? If so, how long does the peer review process take?

- e. What are the expectation of stakeholders for turnaround time and scope?
6. What is the threshold to conduct drug-testing of a sample? (i.e., only if drugs suspected by officer vs. all samples?)
  - a. What is the overall scope of drug testing? What are the cut off levels?
7. How many cases are outsourced to other labs annually?
  - a. What is the estimated number of outsourced alcohol samples?
  - b. What is the estimated number of outsourced drug samples?
  - c. How long does it take in days for an external lab to return a result for alcohol samples?
  - d. How long does it take in days for an external lab to return a result for drug samples?
  - e. Which external labs receive outsourced samples for analysis? What criteria exist for the selection of an external lab?
  - f. What is the deciding factor to outsource the testing?
8. How are sample analysis results reported? What information is included in each report?
  - a. How are data about results collected and stored?
  - b. Who are data results shared with?
  - c. How are data results shared?
  - d. How are requests for records handled?
9. What quality assurance practices are in place for the management of samples and reporting of results?
  - a. How many Proficiency Tests does the lab participate in and which ones?
10. Are there any measures related to timely, accurate analysis of samples and reporting of results?

#### Environmental business structure

Each lab currently has at least one working LC/MS/MS. All labs have expressed the need to replace the LC/MS/MS within the next eight to eighteen months. The labs reported receiving advanced notice of upcoming high-visibility enforcement (HVE) initiatives would be helpful in managing workload in addition to the advanced ordering of additional supplies required.

When determining the location of the lab, experts recommend looking at what jurisdictions submit the majority of samples for analysis. This jurisdiction may serve as a good home base and satellite offices could be added as needed.

It is recommended by experts that specific instruments should not be written into law as it is too restricting. Having the flexibility to add or remove instruments and products is important to ensure the program keeps pace with technological advancements.

1. Assuming none of the analysis work is subcontracted to another lab, what are the standard equipment requirements for a working toxicology lab analyzing samples from impaired drivers?

What kinds of equipment and how many units of each may be needed based on existing volume?

2. What is the ideal space requirement (i.e., square footage) for labs conducting impaired driving and other alcohol-related testing? Is there an appropriate or optimal ratio of staff/equipment/space?
3. What are the standard hours of operation for staff (per week) to optimize efficiency and manage workload? How long are shifts and how many shifts?
  - a. What hours is the lab open and accessible to clients?
  - b. What hours are staff processing samples?
  - c. Are scheduled appointments required to bring in samples?
4. What types of security are required for the lab building?
  - a. What level, if any, of background checks for different staff categories?
  - b. What types of premise entry requirements (key fobs, personal passcode, security screening) for staff versus visitors (limited entry upon ID first)?
  - c. How are samples and associated paperwork be secured?
  - d. Are there any types of limitations or eligibility requirements for visitors?
  - e. Camera surveillance? Security personnel? Alarm system?
  - f. If security guards, how many (at one time)?
  - g. Is their presence required 24/7?
5. How much notice does a lab require to prepare to process impaired driver samples following an HVE initiative?
6. What counties are under-served by existing laboratories due to caseloads and location? Is it feasible/preferable to maintain one location for the lab, or to use satellite locations across the state? What process is used for rural areas to submit samples to labs for analysis?
7. How are samples transferred into, and out of, the lab?
  - a. From police services?
  - b. From a delivery service?
  - c. How is the sample movement tracked within the lab? Taking the sample from storage for testing, then replacing?
8. What safety measures should be in place for staff (including training) for the day-to-day handling of biological materials?
9. What is the biomedical waste disposal protocol?



## Human resources

Among the existing labs, services are provided by a total of seventeen employees, including technicians, analysts, and scientists. Staff participate in “lunch-and-learn” sessions with city attorneys to receive new and relevant information. One lab sends all the employed technicians to annual training, but not all labs can afford to provide consistent continuing education opportunities.

Experts suggest dedicating staff to alcohol and drug testing while others are dedicated to the other types of testing coming into the lab. Cross-training lab employees is beneficial, and having staff dedicated to a type of testing can increase the consistency and efficiency of the testing.

1. What is the optimal mix of staff to run an efficient lab for a set caseload?
  - a. What profiles are needed (toxicologists, lab technicians, administrative personnel, etc.)
  - b. How many managers vs. line staff?
  - c. What is the reporting process according to an organizational chart? Who has what authority and who has the authority for final sign off on results?
  - d. What qualifications (i.e., education and training) are required for each job description?
  - e. How many staff in each position are needed for the anticipated caseload in NV?
2. What orientation is required for new staff? How long does a probationary period last?
  - a. How long is the orientation process?
3. How frequently should staff receive training and/or continuing education? Are there accreditation renewals or certification periods?
  - a. How often are staff's analytical proficiencies checked?
4. How do lab staff stay abreast of trends in drug use to ensure up-to-date analysis protocols across the state?
5. How much time is spent by staff testifying in court (per month)?
  - a. Is testimony segregated between alcohol and alcohol/drug cases? Do more than one analyst appear on any given case due to lack of expertise?
  - b. Do prosecutors expect scientists to testify just to the analytical findings or do they expect interpretive testimony about the effects of the drugs and the significance of per se concentrations?
6. How many law enforcement officers currently receive training from labs (annually)?
  - a. What is the estimated number of law enforcement officers who require training?
  - b. What topics are officers eligible to testify to in court? Are they certified as experts and can they testify to all, some or none of the issues related to toxicology? Limits on police testimony will have implications for the amount of testimony required from lab staff.

7. Will lab staff be responsible for training law enforcement officers?
  - a. What will be the scope of the training?
  - b. Will a train-the-trainer approach be adopted or will all officers be trained by the lab staff?
  - c. Will the training qualify officers to testify in court?
  - d. Will re-training be required? If yes, how often (i.e., annually, biannually, etc.)?
  - e. Will officers be able to testify only on behalf of the agency certifying them or will the certification still apply if they move agencies?
8. How involved are law enforcement with the labs currently?
  - a. Do DREs and/or breath test instructors have special access to personnel/files in their area of expertise?
9. What processes are needed to establish a clear chain of custody and to protect the integrity of samples?
10. What is the process for internal communication with regard to sample analysis?
11. What processes are needed to ensure transparent and efficient external communication (i.e., with law enforcement)?

## Customers and client requirements

All three labs reported a positive working relationship with law enforcement. All labs were responsive to requests for training and open to providing training for officers and providing feedback related to targeted enforcement. This included the Attorney General's office, the district attorney's office, police academy, detective school, and law enforcement agencies.

1. Who does the toxicology lab serve?
2. What are standard client service requirements?
3. What are the relationships with other labs in the state?
4. How are working relationships with the following practitioners structured?
  - a. Police agencies
  - b. DREs
  - c. Prosecutors
  - d. Courts
  - e. Probation
  - f. TSRP
5. How are services delivered in rural areas or how can they be delivered efficiently?

### **Business model and financial structure**

For one lab, the Sheriff's Office controls the fee structure the lab uses to charge outside jurisdictions for tests. Some labs do charge for providing testimony, while others do not as it is included within the testing fee in the service contract.

It is important the financial structure is implemented upfront. Experts have expressed the difficulty of implementing costs for training, testing, and instrument inspections once the initial law granting authority to the lab has been passed.

1. What business models are available to structure state labs? What revenue streams exist? What proportion is state-funded?
  - a. Is it possible to secure a portion of fees from driver's license reinstatement or other existing fees?
2. What funding model may be most suitable for Nevada?
3. What are monthly cash flow projections for a lab comparable to meet needs in Nevada?
4. What fees are charged to clients for different types of services (e.g., analysis, training, testimony, certification of equipment, repairing equipment, maintenance of equipment)?
5. Who is responsible for repairs to analysis devices/units/equipment? Are devices shipped to manufacturers or do technicians service them in the lab?
  - a. Are service contracts in place for the instruments? If so, what is the cost annually and what does that cover?
6. What are the annual estimated cost projections for the for the following line items?
  - a. Salaries, benefits, and training
  - b. Equipment and supplies (i.e., analysis equipment, lab supplies including gloves, vials, tubes, pipettes, etc.). Over what period are assets like equipment amortized and do any equipment purchases come with service agreements? Annual certification of pipettes, thermometers, and glassware used will be governed by the accrediting body.
  - c. Quality assurance
  - d. Rent
  - e. Utilities
  - f. Insurance
  - g. Repairs
  - h. Other? Cf. Annual accreditation mentioned in 37 (b).

### **Legal framework**

1. What statutes typically grant authority for labs? What level of authority do labs need or have (i.e., level of independence vs oversight from state agency)? Are agencies able to collect fees typically?
2. What state agencies may be responsible for the management and operations of the lab?
3. Are lab employees generally unionized within the State?
4. What licenses or permits are required to run the lab and do they require renewal? What is the cost?
  - a. Are the analysts each permitted or required to hold a certification?
5. What types of insurance do labs require?
6. Does the lab have any bonding requirements for employees?

## APPENDIX C: CONFERENCE CALL SYNOPSES

### Laboratories: May 1<sup>st</sup>, 10:30am-12:00pm (PST)

In attendance: : Kerri Heward (Director of the WCSO-FSD) Karyl Brown (Supervisor WCSO FSD), Rick, Tim (only for second half), Kim, Perry, Chuck, Amy Davey, Amy Miles (Director of the Forensic Toxicology Program at the Wisconsin State Laboratory of Hygiene), Barry Logan (Senior Vice President, Forensic Science Initiatives, Chief Scientist, NMS Labs), Sergeant Brandon Villanti (Washington State Patrol Impaired Driving Section), Laura Bailey (Director, Office of Alcohol Testing, Arkansas), Robyn Robertson (President & CEO, TIRF), Ward Vanlaar (COO, TIRF) and Hannah Barrett (Research Associate, TIRF).

### Operational business structure

The average caseload for existing labs ranges from 700 to 6,480 impaired driver samples depending on the areas serviced. Processing times for blood alcohol tests range from four days to four months, and the processing time for drug tests are at least four weeks and may take up to seven months. Some cases are outsourced and had a turnaround time of ten months. One of the three labs only tests for drugs if the alcohol test shows a BAC below the per se limit unless specifically asked by the prosecuting attorney. Another of the three labs tests all alcohol samples for drugs, regardless of the BAC and can screen samples for approximately 100 drugs.

1. What is the average number of impaired driver toxicological samples analyzed each year?
  - a. Alcohol-impaired driving only
    - » **Henderson:** 60/month. There is no threshold where they do not test for drugs. Did a pilot test (3yrs ago), took 120 samples with BAC more than .084 to see if there were drugs and % of the time there was drugs. 2/3s of samples had drugs in the blood, which is why all samples are tested for drugs and alcohol.
    - » **Washoe:** 2,500
    - » **Las Vegas:** 2,894 (breath)
  - b. Drug-impaired driving only
    - » **Henderson:** 25% of cases. Ethanol only: 28% of cases.
    - » **Washoe:** 1,110
  - c. Alcohol and drug-impaired driving combined
    - » **Henderson:** 47% of total case work
    - » **Washoe:** Unknown.

d. Confirmatory testing

- » **Henderson:** 100% of cases are confirmed
- » **Washoe:** Blood: 1,700 and urine: 450

**Las Vegas:** In 2019, LVMPD received 4,750 requests for alcohol testing and 3,560 requests for drug testing. It cannot be determined how many of those cases were alcohol or drug only cases, or how many required confirmatory testing.

2. What is the workflow for the testing?

**Henderson:** In Henderson the protocol for testing samples is always the same. There are two toxicologists who are responsible for the entire process, including accessioning. The same toxicologists do the same work to create efficiencies. First, the blood sample is analyzed for alcohol, then it moves across the hall for a full tox analysis. Only one final report is created describing both the alcohol and drug results. No presumptive reports are created (with the exception of a few instances where diverting from the typical workflow was justified). Once testing is done, the blood sample is returned to the police evidence vault.

**Washoe:** Processes are similar to Henderson.

**Las Vegas:** Processes are similar to Henderson.

3. How long does an analysis of a single sample take from start to finish (in days)?

**Henderson:**

- > Alcohol: 2 weeks
- > Drugs: 3-6 weeks (depending on the number of drugs involved in the case)
- > Standard combinations: Since marijuana legalization, there has been a drop in some drugs in favor of marijuana. Polysubstance is pretty common – there is a lot of meth use and is commonly used with marijuana.
- > Analysts are trained in alcohol, drugs, and drug confirmation. Each sample is tested from start to finish by one analyst. This include written reports and any required testimony.

**Washoe:**

- > Alcohol: 7-10 business days
- > Drugs: 6-8 weeks
- > All analyses are assigned to analysts in batches. In instances where multiple analysts have performed work on a case, the analyst who performed the testing with the greatest relevance will take responsibility for the case.

**Las Vegas:**

- > Alcohol: 4 weeks
- > Drugs: 20 weeks

- a. What is the analysis process for each alcohol sample case from submission to reporting of results?
- b. What is the analysis process for each drug sample case from submission to reporting of results?
- c. What is deemed an acceptable processing time by the state?
- d. How often are samples are accessioned? Does the turnaround time mean a number of days from time of receipt by the lab or from the time it was relinquished to the lab?
- e. Are results peer reviewed? If so, how long does the peer review process take?
  - » Technical and administrative reviews are done by another person.
  - » In all three labs there are different layers of review including an analysis review, technical review and administrative review. These levels of review are required as part of the accreditation. Different reviews are not necessarily done by different people. For example, in Las Vegas the tech reviewer is also the admin reviewer.

**Washoe:** There is an analyst review and a technical and admin review; the latter two are usually done by the same person.

**Las Vegas:** The technical and admin reviews are done by a separate person 100% of the time.

- f. What are the expectations of stakeholders for turnaround time and scope?
4. What is the threshold to conduct drug-testing of a sample? (i.e., only if drugs suspected by officer vs. all samples?)

**Washoe:** Toxicology Testing Protocols - The following protocols are used to determine what testing will be performed:

1. When an alcohol result of 0.090 g/100mL or higher is detected in non-felony cases, no additional testing for drugs will be performed unless specifically requested by the prosecuting attorney.
2. When drug testing results in a per se violation no additional testing for non-per se drugs will be performed unless specifically requested by the prosecuting attorney.
3. If both blood and urine samples are submitted and blood testing results in a per se violation or detection of a drug level that would affect driving, the urine sample will not be tested. No further testing will be performed unless requested by the prosecuting attorney.

**Las Vegas:** Drug testing is performed on every sample. Drug testing would only not be conducted if it was requested to not be done.

- a. What is the overall scope of drug testing? What are the cut off levels?
- b. All laboratories have provided this information and will be in the accompanying documents.



5. How many cases are outsourced to other labs annually?

**Henderson:** All post-mortem cases are outsourced to the county coroner's office. Urine testing is sent to Quest PD. Most urine samples are post-conviction services. The majority of NPS are outsourced. Some can be done in the lab, screening is conducted and once it is confirmed it is sent to a third party lab who provides a quantitative value. Testing for synthetic drugs is outsourced, as they do not have the expertise for. Results are typically received within a week. They also do not do any urine analysis.

**Washoe:** All post-mortem cases are outsourced, as are DFSA and outside scope of testing. Urine testing is done in house. Few samples are outsourced; usually about 35 sexual assault cases. They do accept urine. Turnaround times for outsourced cases is 1-3 weeks

**Las Vegas:** Drug confirmation is outsourced as are NPS. Misdemeanor cases are not outsourced; only felony cases if they do not have the technology to do the analysis. They can screen urine analysis but not do the confirmatory analysis, so this is also being outsourced. Results are typically received within two to three weeks.

- a. What is the estimated number of outsourced alcohol samples?
- b. What is the estimated number of outsourced drug samples?
- c. How long does it take in days for an external lab to return a result for alcohol samples?
- d. How long does it take in days for an external lab to return a result for drug samples?
- e. Which external labs receive outsourced samples for analysis? What criteria exist for the selection of an external lab?
- f. What is the deciding factor to outsource the testing?

6. How are sample analysis results reported? What information is included in each report?

**Henderson:** A copy of the report goes to the records bureau, investigator, DA or municipal court.

**Washoe:** The report goes to the requesting agency and the DA.

**Las Vegas:** Same as in Washoe.

- a. How are data about results collected and stored?
  - b. Who are data results shared with?
  - c. How are data results shared?
  - d. How are requests for records handled?
7. What quality assurance practices are in place for the management of samples and reporting of results?
- a. How many Proficiency Tests does the lab participate in and which ones?
8. Are there any measures related to timely, accurate analysis of samples and reporting of results?



9. What is the process for determining best practices?

**Henderson:** Completed an in-depth study of their processes and delivered two presentations about it. Two changes have been made to their protocol since implementation of it based on in-depth study.

10. Will the lab be accredited?

**Henderson:** ANSI National Accreditation Board (ANAB)

**Washoe:** ANSI National Accreditation Board (ANAB)

**Las Vegas:** ANSI National Accreditation Board (ANAB)

## Environmental business structure

Each lab currently has at least one working LC/MS/MS. All labs have expressed the need to replace the LC/MS/MS within the next eight to eighteen months. The labs reported receiving advanced notice of upcoming high-visibility enforcement (HVE) initiatives would be helpful in managing workload in addition to the advanced ordering of additional supplies required.

When determining the location of the lab, experts recommend looking at what jurisdictions submit the majority of samples for analysis. This jurisdiction may serve as a good home base and satellite offices could be added as needed.

It is recommended by experts that specific instruments should not be written into law as it is too restricting. Having the flexibility to add or remove instruments and products is important to ensure the program keeps pace with technological advancements.

1. Assuming none of the analysis work is subcontracted to another lab, what are the standard equipment requirements for a working toxicology lab analyzing samples from impaired drivers? What kinds of equipment and how many units of each may be needed based on existing volume?

**Henderson:** 2 GCMS (ethanol), moving to a 1 LCMS (drugs), 2 GC/FIDs (methonal). Helium shortage worldwide is impacting the machines. Moving them over to the LCMS. Wants 2 LCMS for the lab.

**Washoe:** 1 Headspace GC/FID (blood and urine for volatiles), 2 GC/MS (blood and urine for drug confirmations), 2 LC/MS/MS (blood and urine for drug confirmations), 1 Hamilton Starlet (blood and urine for ELISA drug screening)

**Las Vegas:** 3 GC headspace for alcohol (blood and urine), Dynex DSX (ELISA) for screen (blood), 2 LCMSMS for drug confirmations (blood), 2 GCMS for drug confirmations (blood), and a Siemens Viva-E (EMIT) for screen (urine).

2. What is the ideal space requirement (i.e., square footage) for labs conducting impaired driving and other alcohol-related testing? Is there an appropriate or optimal ratio of staff/equipment/space?

3. What are the standard hours of operation for staff (per week) to optimize efficiency and manage workload? How long are shifts and how many shifts?

**Henderson:** They have a 40-hour week, with 10 hours shifts from Monday to Thursday. If there are rush cases, they are prioritized within the queue. Paying overtime has not been necessary in a long time. There is one lab technician who also works as the accessioned and who picks up samples and after accessioning, turns them over to the toxicologist.

**Washoe:** Staff work 8 or 9-hour shifts and every other Friday off. Samples can be mailed in through regular mail or FedEx, they can be hand-delivered, and they have a drop box at the jail; the evidence section will bring in samples retrieved from the drop box to the lab once a day.

**Las Vegas:** Staff work 8 or 9-hour shifts, Toxicologists all 9-hour shifts. Monday to Friday and have one day off every other week. They also have an overtime budget for rush cases; this happens quite often. There is a dedicated person who picks up samples from PDs and bring them to the lab from Monday to Friday between 7 am and 5 pm.

In all three labs it is not allowed for safety reasons to have just one person in the lab. One person may be doing administrative work alone, but it is not allowed to have one person work alone in the lab.

- a. What hours is the lab open and accessible to clients?
  - b. What hours are staff processing samples?
  - c. Are scheduled appointments required to bring in samples?
4. What types of security are required for the lab building?

All three labs have access control, swipe cards and pin numbers. All external visitors are signed in and escorted. Interior locked doors with swipe card and pin. Access is monitored by computer (e.g., to log the use of doors: who opens them at what times). Alarmed whenever not open. Washoe also uses video cameras around building as they are housed in police agency.

- a. What level, if any, of background checks for different staff categories?
  - b. What types of premise entry requirements (key fobs, personal passcode, security screening) for staff versus visitors (limited entry upon ID first)?
  - c. How are samples and associated paperwork be secured?
  - d. Are there any types of limitations or eligibility requirements for visitors?
  - e. Camera surveillance? Security personnel? Alarm system?
  - f. If security guards, how many (at one time)?
  - g. Is their presence required 24/7?

5. How much notice does a lab require to prepare to process impaired driver samples following an HVE initiative?

**Henderson:** Provides agencies with blood collection kits and they are centralized in close proximity to other agencies. They are always prepped as part of workflow and don't need much notice.

**Washoe and Las Vegas:** Need 30 to 60 days notice to prepare as the provide test kits to provide to police.

All three labs purchase the kits and provide these test kits themselves (it is easier to manage so they have this as a line-item in their budget).

6. What counties are under-served by existing laboratories due to caseloads and location? Is it feasible/preferable to maintain one location for the lab, or to use satellite locations across the state? What process is used for rural areas to submit samples to labs for analysis?

**Henderson:** Has lowered costs. The only fee they increased at \$100/hour is for testifying (including the prep time and travel time).

**Washoe:** Has a separate budget for some agencies and other agencies without a service agreement may be invoiced in a per test basis.

**Las Vegas:** Has a schedule of service fees and contract with state

None of the call participants believed any of the counties are underserved. They respond to all requests from their agencies. They acknowledged that those agencies may have budgetary constraints though and may not be able to test as much or as frequently as needed.

7. How are samples transferred into, and out of, the lab?
  - a. From police services?
  - b. From a delivery service?
  - c. How is the sample movement tracked within the lab? Taking the sample from storage for testing, then replacing?
8. What safety measures should be in place for staff (including training) for the day-to-day handling of biological materials?
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## Human resources

Among the existing labs, services are provided by a total of seventeen employees, including technicians, analysts, and scientists. Staff participate in "lunch-and-learn" sessions with city attorneys to receive new and relevant information. One lab sends all the employed technicians to annual training, but not all labs can afford to provide consistent continuing education opportunities.

Experts suggest dedicating staff to alcohol and drug testing while others are dedicated to the other types of testing coming into the lab. Cross-training lab employees is beneficial, and having staff dedicated to a type of testing can increase the consistency and efficiency of the testing.

1. What is the optimal mix of staff to run an efficient lab for a set caseload?

**Henderson:** 1 supervisor, 2 toxicologists, 1 part-time accessioner. Optimally would have 2-3 more scientists and 2-3 more instruments (LC). Henderson does not charge their parent agency and prep time is costly but they only testify in 1-2% of cases. Henderson noted NC has a good system for prosecutors to notify toxicologists if they are not needed.

**Washoe:** One-full time accessioner plus 4 toxicology staff, 1 supervisor and 1 director. Does not charge for testimony and goes all over northern NV. Prep and travel time are much more costly. Video testimony can be used in misdemeanor cases. Will likely be used more in NV due to COVID-19.

**Las Vegas:** 13 toxicologists for breath and drugs which appears adequate for the 10,456 breath, drug and confirmatory tests. Had 4,871 subpoenas just for breath in 2019 and 8,700 subpoenas for forensic lab; 83% were for toxicology and breath. 80% of testimony is for parent agency (LVPD) so they are not charged and travel time not an issue. For external agencies they are reimbursed for time and gas.

Labs generally agree they have adequate staffing, the point out that preparing for testimony, and travel to courts, is a huge drain on their resources, even if, ultimately, they only testify in approximately 1 to 2 percent of cases.

Planning for this must not be based on the actual number of cases in which they do provide testimony but rather on the prep time and travel time for all the cases where they may have to provide testimony (it is not possible to know in advance if a plea agreement will be reached or if they will actually be called by a judge; regardless, they still have to prepare and be there – sometimes they have to drive up to four hours one way to the courthouse).

- a. What profiles are needed (toxicologists, lab technicians, administrative personnel, etc.)
- b. How many managers vs. line staff?
- c. What is the reporting process according to an organizational chart? Who has what authority and who has the authority for final sign off on results?
- d. What qualifications (i.e., education and training) are required for each job description?
- e. How many staff in each position are needed for the anticipated caseload in NV?
2. What orientation is required for new staff? How long does a probationary period last?
  - a. How long is the orientation process?
3. How frequently should staff receive training and/or continuing education? Are there accreditation renewals or certification periods?

**Henderson:** All analysts are board certified by the American Board of Forensic Toxicology. Each employee usually goes to one professional conference annually. These conferences are usually a week-long. Analysts are required by the Board to have 8 hours of education credits each year, and every 5 years they require 50 hours.

**Washoe:** Regulations require Forensic Analysts of Alcohol (FAAs) to have two continuing education activities during each 2-year renewal period. The goal is for all toxicology staff to obtain some level of education on an annual basis. This is accomplished through conferences and webinars.

**Las Vegas:** Analysts receive continuing education via conferences, webinars, in-house classes and literature.

- a. How often are staff's analytical proficiencies checked?
4. How do lab staff stay abreast of trends in drug use to ensure up-to-date analysis protocols across the state?

**Washoe:** WCSO FSD retains membership/access to relevant forensic journals (Journal of Analytical Toxicology, etc.)

5. How much time is spent by staff testifying in court (per month)?

**Henderson:** Of the requested cases, probably 2% result in actual testimony. On average, each subpoena takes 1-2 hours in preparation.

**Washoe:** Varies by jurisdiction. Washoe County = approx. 2%. Other counties, approximately 10%. Non-Washoe county, mostly video testimony (Misdemeanors only, Felonies require in-person).

FAA testimony is usually fairly standard requiring minimum prep (15 minutes). Toxicology: approximately 1 hour to prepare, additional time if pre-trial conferences are scheduled by DA's office.

Breath Alcohol: Unknown. Some agencies subpoena for 100% of breath-testing cases. Other agencies only subpoena when necessary. Of approximately Northern Nevada 1200 breath cases WCSO received 755 subpoenas (63%). Toxicology: 4,100 cases, 1770 subpoenas (43%)

**Las Vegas:** Unknown. Toxicologists are called by the court as a trial is beginning, with no time to prepare other than the time it takes to review the case file.

- a. Is testimony segregated between alcohol and alcohol/drug cases? Do more than one analyst appear on any given case due to lack of expertise?

**Henderson:** There is no separation between alcohol/drug and alcohol cases as all samples are tested for both alcohol and drugs. Also, one analyst is assigned to each case, meaning there is no need for more than one analyst appearing on a given case.

**Washoe:** FAAs only testify in breath-alcohol cases. Toxicology: Analyst who performs testing testifies on the case. Testing is only assigned to analysts who have been deemed competent to perform testing based on training modules, i.e. volatiles and drug testing.

**Las Vegas:** All analysts testify.

- b. Do prosecutors expect scientists to testify just to the analytical findings or do they expect interpretive testimony about the effects of the drugs and the significance of per se concentrations?

**Henderson:** Toxicologists testify on impairment, the effects of alcohol and drugs on a person, and polysubstance.

**Washoe:** Calibration of devices as required by statute, verification of alcohol standards as required by statute, training of officers as operators and effects of deviation from SOP, confounding breath-testing factors, and general effects of alcohol, etc.

- 6. How many law enforcement officers currently receive training from labs (annually)?

**Henderson:** The police departments are relatively strict about the inhouse training received and they usually only ask for training officers on filling out the lab requests, data on blood alcohol kits, and storing information.

**Washoe:** Currently, only in-person training for LEOs (pilot online under development). Re-certification covers laws & regulations/requirements for testing as well as operation of the device. Operators are required to demonstrate competence in testing. Initial certification also includes behavior and effects of alcohol in the body.

Full certification taught in LEO academies and to LEOs whose certification has expired more than 6 months. Re-certification taught to all LEOs who seek it.

**Las Vegas:** Officers are trained as evidential breath testing (EBT) device operators in a classroom setting. All recruits are trained as EBT device operators. Officers can receive training by request to be preliminary breath testing (PBT) device instructors.

- a. What is the estimated number of law enforcement officers who require training?
- b. What topics are officers eligible to testify to in court? Are they certified as experts and can they testify to all, some or none of the issues related to toxicology? Limits on police testimony will have implications for the amount of testimony required from lab staff.
- c. **Henderson:** The SFST. DREs can testify about more, but there are not many DREs. Toxicologists do most of the testing.
- d. **Washoe:** Law enforcement are operator certified only.
- 7. Will lab staff be responsible for training law enforcement officers?
- a. What will be the scope of the training?

**Washoe:** Currently, only in-person training for LEOs (pilot online under development). Re-certification covers laws & regulations/requirements for testing as well as operation of the device. Operators are required to demonstrate competence in testing. Initial certification also includes behavior and effects of alcohol in the body.



**Las Vegas:** The EBT class includes a lecture portion which consists of a discussion of alcohols in general, possible interferences, process by which ethanol is absorbed, distributed and eliminated, the theory of breath testing, relevant Nevada Revised Statutes and Nevada Administrative Codes, and the operation of the breath instrument. There is also a written exam and practical portion. The practical portion of the class is devoted to the students demonstrating proficiency in the operation of the breath instrument.

- b. Will a train-the-trainer approach be adopted, or will all officers be trained by the lab staff?

**Washoe:** Only certified Forensic Analysts of Alcohol are permitted to train Evidential Breath Test operators. Only Washoe County and Las Vegas Metro crime labs currently have FAAs.

**Las Vegas:** Officers must be trained by a Forensic Analyst of Alcohol (FAA), which is a State of Nevada certification, on EBT devices.

- c. Will the training qualify officers to testify in court?
- d. Will re-training be required? If yes, how often (i.e., annually, biannually, etc.)?

**Washoe:** Recertification required every three years. Shorter re-certification course permitted if renewed while current or expired less than six months. Otherwise, full course required.

**Las Vegas:** An operator must be recertified once every three years.

- e. Will officers be able to testify only on behalf of the agency certifying them or will the certification still apply if they move agencies?

**Washoe:** Certified across the state on the device on which they are certified.

**Las Vegas:** Certified across the state on the device on which they are certified.

- 8. How involved are law enforcement with the labs currently?
  - a. Do DREs and/or breath test instructors have special access to personnel/files in their area of expertise?
- 9. What processes are needed to establish a clear chain of custody and to protect the integrity of samples?
- 10. What is the process for internal communication with regard to sample analysis?
- 11. What processes are needed to ensure transparent and efficient external communication (i.e., with law enforcement)?

## Customers and client requirements

All three labs reported a positive working relationship with law enforcement. All labs were responsive to requests for training and open to providing training for officers and providing feedback related to targeted enforcement. This included the Attorney General's office, the district attorney's office, police academy, detective school, and law enforcement agencies.

1. Who does the toxicology lab serve?
2. What are standard client service requirements?
3. What are the relationships with other labs in the state?
4. How are working relationships with the following practitioners structured?
  - a. Police agencies
  - b. DREs
  - c. Prosecutors
  - d. Courts
  - e. Probation
  - f. TSRP
5. How are services delivered in rural areas or how can they be delivered efficiently?

## Business model and financial structure

For one lab, the Sheriff's Office controls the fee structure the lab uses to charge outside jurisdictions for tests. Some labs do charge for providing testimony, while others do not as it is included within the testing fee in the service contract.

It is important the financial structure is implemented upfront. Experts have expressed the difficulty of implementing costs for training, testing, and instrument inspections once the initial law granting authority to the lab has been passed.

1. What business models are available to structure state labs? What revenue streams exist? What proportion is state-funded?
  - a. Is it possible to secure a portion of fees from driver's license reinstatement or other existing fees?
2. What funding model may be most suitable for Nevada?
3. What are monthly cash flow projections for a lab comparable to meet needs in Nevada?
4. What fees are charged to clients for different types of services (e.g., analysis, training, testimony, certification of equipment, repairing equipment, maintenance of equipment)?
5. Who is responsible for repairs to analysis devices/units/equipment? Are devices shipped to manufacturers or do technicians service them in the lab?

**Las Vegas:** Fixes PBTs themselves but also send them to manufacturers as needed.

- a. Are service contracts in place for the instruments? If so, what is the cost annually and what does that cover?
6. What are the annual estimated cost projections for the for the following line items?
  - a. Salaries, benefits, and training



- b. Equipment and supplies (i.e., analysis equipment, lab supplies including gloves, vials, tubes, pipettes, etc.). Over what period are assets like equipment amortized and do any equipment purchases come with service agreements? Annual certification of pipettes, thermometers, and glassware used will be governed by the accrediting body.
- c. Quality assurance
- d. Rent
- e. Utilities
- f. Insurance
- g. Repairs
- h. Other? Cf. Annual accreditation mentioned in 37 (b).

### **Wish list to increase efficiencies:**

Careful consideration should be given to the choice of location for the state lab because providing testimony is a huge burden in a big state like NV where experts spend a lot of time driving around to courts.

**Henderson:** Two to three satellite labs with identical procedures would be ideal. Choosing just one location is not realistic.

**Washoe:** Where the lab would go? Who it would be staffed by? Where the funding would come from? And whether post-mortem testing and the breath alcohol program will be included?

**Las Vegas:** Post-mortem samples should be tested in-house.

### **Traffic Resource Safety Prosecutor (TRSP): May 5<sup>th</sup>, 10:30am-12:00pm (PST)**

In attendance: Shannon Wittenberger, Daniela Botal, Khristie Cury, DeNeese Parker, Michael Close, Shannon Briant, Brenda Hahn, Victoria Hauan, Amy Davey, Amy Miles (Director of the Forensic Toxicology Program at the Wisconsin State Laboratory of Hygiene), Barry Logan (Senior Vice President, Forensic Science Initiatives, Chief Scientist, NMS Labs), Sergeant Brandon Villanti (Washington State Patrol Impaired Driving Section), Laura Bailey (Director, Office of Alcohol Testing, Arkansas), Robyn Robertson (President & CEO, TIRF), Ward Vanlaar (COO, TIRF) and Hannah Barrett (Research Associate, TIRF).

### **Turnaround time**

- > Generally speaking, DA's are satisfied with turn-around times for testing, which is approximately three to four weeks for alcohol testing and an additional three to four weeks for drug testing.
- > 3-4 weeks for alcohol
- > 6-8 weeks for cannabis
- > Some blood results take 4-6 months

- » This is problematic in that the license cannot be taken from drivers until the results come back, meaning these drivers are still on the road.
- » Most of the backlog occurs in Clark County (due to overloading of labs)

### Testimony

- > The biggest issue is availability of experts to provide testimony at trial, notably phlebotomists. Due to an increase in litigation (especially more motions), testimony in person for toxicologists is increasingly becoming a problem. This is especially true in Washoe County. While the current pandemic has led to an increase in the use of telephone and video conference testimony, the expectation is that once the pandemic is over, perhaps this will revert back to in-person testimony.

### Caseload

- > 75% of the DUI caseload is misdemeanors

### Court relationship

- > There are not enough phlebotomists to satisfy trial needs
- > Two courts rely on video/telephone testimony, they are in Washoe county. Video/telephone testimony is vastly underused across the state.
- > Toxicologists will testify on the combined effects of drugs
- > There are no issues regarding the qualifications of the toxicologists, they are given more credence over DREs.
- > Trials are rescheduled due to the lack of availability of toxicologists.
- > Urine samples are not used in court. Urine samples are primarily used post-conviction
- > Need for education among judges regarding the impairing effects of drugs, including cannabis, as well as the scientific evidence regarding DREs. Due to a lack of information on DREs, judges are less receptive to their testimony. This places an additional burden on toxicologists to provide testimony on the nexus between test results and officer's observations. Often trials have to be rescheduled because of a lack of toxicologists to provide testimony.

### Law enforcement

- > There are not enough DREs
- > Not many field tests occur for DREs
- > Many judges do not believe that cannabis impairs driving and they do not allow (or want) DRE testimony
- > There are major qualification issues in court regarding DREs, notably the lack of case law deeming them experts to testify.
- > There is no existing case law regarding DREs as experts

### Drug cases

- > A challenge is the increased occurrence of poly drug cases. Such cases may not be over the BAC limit and not necessarily over a drug threshold either, yet due to the combined usage, subjects still presented as impaired. In this scenario, a toxicologist has to provide testimony on the additive effects when using more than one drug and how this corresponds to what the officer observed at the scene. This is a complicated task which requires more time for the expert to prepare to provide testimony.
- > The protocol regarding drug testing today is that drug testing is only done if the prosecutor explicitly requests it; in case of a positive BAC, drug testing may not be requested. There is, however, a need for drug testing by default as well as for obtaining post-conviction information so they have a more complete picture of what type of offender they are dealing with.
- > Drug impaired driving cases are typically polysubstance use, but polysubstance testing is not done often enough
- > Re-screening will be requested in felony cases
- > Drug testing is not automatically done, the law enforcement officer indicates what they think the impairing element is, and then testing is done.
- > If the BAC is over .08%, drugs will not be tested for because the BAC per se limit was reached
- > If BAC is less than .08%, drugs will be tested because while they may not meet the per se limit on alcohol alone, they likely will be found impaired when combined with drugs
- > Drug screen requests are made by prosecutor
- > Henderson lab generates drug tests faster because they have a lighter load
- > Issues with herbal drugs – where there is impairment, but no drugs are detected. This happens once or twice a month. NMS lab can check for herbal drugs but the three labs in NV do not have this capacity
- > Roadside oral testing
  - » Drager 5000
  - » Was of better use when marijuana was prohibited
  - » Does not provide the actual impairment level, but the quantitative number is needed for court proceedings.
  - » There is no existing case law regarding oral fluid testing

### Underserviced areas

- > Rural areas are underserviced
- > Esmerelda and White Pines are underfunded. This means they will not ask for retests, multiple screens, or send to NMS for herbal testing (if needed)

### Approved devices

- > Intoxalyzer 8000
  - » Will be replaced in 2-5 years
  - » Is used state-wide
  - » State pays for the calibration and training required
  - » There are 80-100 across the state
  - » Training is done by Las Vegas and Washoe labs
  - » Used for evidentiary purposes
  - » Calibrated every 90 days

### Cannabis Compliance: May 5<sup>th</sup>, 12:00-1:30pm (PST)

In attendance: Kim Wayman, Mike Miles, Karalin Cronkhite, Victoria Hauan, Amy Davey, Amy Miles (Director of the Forensic Toxicology Program at the Wisconsin State Laboratory of Hygiene), Barry Logan (Senior Vice President, Forensic Science Initiatives, Chief Scientist, NMS Labs), Sergeant Brandon Villanti (Washington State Patrol Impaired Driving Section), Laura Bailey (Director, Office of Alcohol Testing, Arkansas), Robyn Robertson (President & CEO, TIRF) and Hannah Barrett (Research Associate, TIRF).

### Cannabis Compliance

- > Fee based
  - » Labs pay for their license and the renewal of that license to Cannabis Compliance
  - » Cultivator pays for retesting
  - » Labs are billed \$111/hour for inspectors
  - » Penalties for infractions are fee-based
- > Cannabis Compliance has worked with the Dept. of Agriculture for testing, but they are limited in the help they can offer (i.e., can only test for yeast/mold).
- > Has a good working relationship with the cannabis industry (i.e., will self-report some violations)
- > Cultivators are more interested in growing more cannabis as opposed to growing higher-quality or better cannabis.
- > Some of the producers are increasing capacity to grow more rather than grow better product, especially now that they are moving into oil products.

### Labs

- > There are 10 licensed labs in the state, there is currently no intention to license more.
- > The cultivator pays the private lab for the cost of compliance testing.
- > The labs are privately owned and operated, which means there is competition between the labs.
- > The default is to inspect all labs twice a year. Private labs for compliance testing are licensed for a fee and there is also a fee for inspections. In addition, more compliance tests are done based on analysis results.
- > There is a process for decertifying growing facilities in case of violations. First there would be a warning, then suspension, then decertification.
  - » Two Category-1 violations or three Category-2 violations result in decertification. Category 5 violations result in warnings.

### Testing

- > The cannabis labs conduct retesting on products when those products fail in other labs
- > The selected lab for retesting is chosen randomly to prevent bias
- > Potency testing, delta 9 THC, 20 pesticides, microbial testing (yeast/mold), analysis for arsenic, full metals (lead, mercury)
- > Instruments: HPLC (potency), GSMC (pesticides), LC/MS/MS, Headspace (solvents), IS (heavy metals), ICR (salmonella)
- > Each lab tests anywhere from 5-500 products
- > Flower, trim, oil, and edibles are all tested. All are tested at least three times.

### Inspections

- > Ideally, inspections would be conducted twice a year, but due to workload they are struggling to inspect each lab once a year.
- > Inspections can be prompted by a complaint
- > It is rare to have no violations during an inspection
- > Violations may still be frequently occurring due to the young age of the program.
- > Violations also occur because of the competition between labs. Some labs will cut corners to turn over product faster.
- > Common violations: poor oversight, controls failing, repeating tests until they pass, THC inflation, being overly friendly with the client and putting that relationship before the safety of the consumer.
- > The most egregious violation is capitalizing on chance by repeating a test that failed until it does not fail; hence certain tests for compliance are repeated numerous times, which is a

serious diversion from testing protocols. Also, there is a lack of oversight in growing facilities. And the lack of standard methods for compliance testing makes the oversight by the state more challenging.

- > Regarding consequences in case of violations, the officers for the cannabis compliance agency merely write a report with their findings and civil penalties can be imposed such as a fine.
- > Labs will often fix the problem and revert back to the problematic behavior.
- > More compliance testing is necessary, but each time testing is done, so many issues are found that it is hard with current capacity to even do testing just once a year.
- > There is a good relationship between the state and the industry. Industry self-reports a lot and contacts the state to ask about problems. Nevertheless, there are still a lot of violations – mostly because it is a competitive industry, perhaps also because it is young.

### **Support for state lab**

- > A state lab could conduct the retesting which could help eliminate competition and guarantee impartiality.
- > A state lab cannot replace the existing 10 labs but could assist with the retesting process.
- > For their purpose, no satellite labs for the state lab are necessary, just one location would be fine.

### **Law Enforcement: May 6<sup>th</sup>, 1:00-2:30pm (PST)**

In attendance: Eric Spratley, Erica Souza, Chris Canon, Susan Hohn, Amy Davey, Amy Miles (Director of the Forensic Toxicology Program at the Wisconsin State Laboratory of Hygiene), Barry Logan (Senior Vice President, Forensic Science Initiatives, Chief Scientist, NMS Labs), Sergeant Brandon Villanti (Washington State Patrol Impaired Driving Section), Laura Bailey (Director, Office of Alcohol Testing, Arkansas), Robyn Robertson (President & CEO, TIRF), Ward Vanlaar (COO, TIRF) and Hannah Barrett (Research Associate, TIRF).

### **Frequency of DUI**

- > North Las Vegas estimates 600-800 DUIs/year
- > There are 40-60 regular DUIs/month
- > There have been fatal DUI/serious injury DUI in 2020 to date

### **Turnaround times**

- > For fatal DUIs and DUI resulting in bodily injury, the lab can expedite the results
- > 2-3 months for blood alcohol results (non-fatal DUIs)
- > Las Vegas lab can provide results for fatal DUI/serious injury DUI within 48 hours
- > Henderson lab can provide results for fatal DUI/serious injury DUI within three days

- > Law enforcement indicate they have used the expedited services 1-3 times/month.
- > Clark County says there are no issues with “speedy trials” (i.e., delayed due to sample results)
- > There are some issues with felony cases, but they will get extensions for blood results. This is only an issue when the person is in custody, they are being held while waiting for the results on their blood sample.
- > Washoe lab has limited capacity. The capacity issue is more pronounced due to increasing demands. Therefore, they are in favor of a state lab and believe it is long overdue. There is also concern of overloading existing labs in Henderson and Las Vegas so they would be in favor of a state lab as well, especially for those less problematic misdemeanor DUIs that they are currently sending to the private lab.
- > Despite the capacity issue, law enforcement will nevertheless continue to collect information for both alcohol and drugs and submit everything.
- > Main concern is with the more severe DUIs because it involves people in jail and if you do not get the results back fast, you have to release them. These are the people that you do not want on the road. Therefore, ideally results should be obtained within 24 hours for alcohol, maximum 72 hours, and perhaps a few extra days for drugs at best. For the lesser misdemeanor DUIs, anything less than three months would be great

## Interactions with labs

- > None with Henderson or Las Vegas
- > There is no follow-up or re-testing of samples based on error (i.e., if an error is noticed in results from Henderson lab, Las Vegas lab will not re-test the sample)

## Training

- > Las Vegas lab provides intoxalyzer training and calibrates the devices
  - » The devices are kept at the jails, technicians will come there to calibrate and update the log. This occurs every 3-4 months.
- > Breathalyzer training
  - » 4-hour initial course, 2-hour re-certification course
  - » Trained officers are issued a card that is good for 3 years (with a 6 month grace period to re-certify). Card has to be swiped when using the breathalyzer device.
  - » Only state-certified Forensic Analysts of Alcohol (FAAs) are allowed to train in evidentiary breath testing. Currently, all FAAs are employed by either LVMPD or WCSO and train all LEOs in the state. Certification cards are issued by FAAs on behalf of the Director of the Department of Public Safety. Note that the card stays valid for three years, regardless of the officer’s position or tasks within that time period.
  - » Training is state issued and is good regardless of the jurisdiction an officer resides/works in



- » Officers who are certified can testify to the results and the toxicologist/analyst from the lab can testify to the calibration of device.
- » The forensic analyst checks devices and their calibration on a less-than-90 day cycle to ensure compliance with State regulations requiring devices be calibrated by an FAA (and only an FAA) no more than 90 days prior to any evidential test. There is a log for each device and a checklist for officers to complete/follow when using device.

### Lab Express

- > Used for minor/no injury/misdemeanor DUIs
  - » They do this to combat a workload issue; so which lab they choose depends on circumstances of the case to better manage workload (misdemeanors to Lab Express; serious DUIs to Henderson or Las Vegas). On average they have about 40 to 60 lesser DUIs per month and one to three more serious DUIs per month.
- > Law enforcement agency has a private contract with this lab
- > Takes 2-3 months for blood alcohol results
- > Will not test for drugs unless the BAC is under the per se limit
- > There have been some administrative challenges, for example billing for tests completed has at times been so late (more than 12 months) to the point where the city refuses to pay. It is surmised that these issues are a result of changing management (company has been bought) and while things have been getting better, there are still issues.
- > Does alcohol/drug testing only
- > Charges \$300 for samples (Henderson charges \$60)
  - > Henderson and Las Vegas labs are used for serious injury DUIs through interagency agreements. Results for rush cases can be back within two to three days from Henderson and in 48 hours from Las Vegas for alcohol while drugs take a bit more time

### Relationship with courts

- > Great relationship in Clark County. Prosecutors will keep law enforcement up to speed
- > Some issues with district attorneys, largely due to the volume of cases, updates are less frequent.

### Refusal rates

- > Clark County: 1 in 20 refuse, but once they know that a refusal results in a lost license they will submit.
- > Warrant can be issued to obtain blood sample



- > New issue being raised in court if the driver can consent to a blood draw, given that they are intoxicated

### Underserviced areas

- > Any underserviced areas are the result of budget issues, there is just no capacity to afford additional testing
- > Forensic issues with drugs, DNA

### Wishlist

- > The existing labs have to be kept whole when establishing the state lab; this is an important caveat that his constituents have expressed concern about.
- > A faster turnaround time for non-fatal DUIs
- > Two labs, one in Clark County, the other in Carson city
- > Assign one analyst to the larger agencies. This would be one designated contact person who would loop them in with prosecutors. This would help streamline the process.
- > Ideal turnaround times on alcohol would be 30 days
- > Ideal turnaround times on fatal/serious injury DUI would be 24-72 hours.

### Nevada Highway Patrol: May 7<sup>th</sup>, 10:30am-12:00pm (PST)

In attendance: Colonel Dan Solow, Pat Conway with DPS Chief of Investigative Division, DPS Director George Togliatti, Robyn Robertson (President & CEO, TIRF) and Hannah Barrett (Research Associate, TIRF).

### Experiences with labs

- > Colonel Solow's unit primarily works with Las Vegas and Washoe
- > Highway patrol primarily has breath and blood samples for both alcohol and drugs
- > The turnaround time for drugs averages at 6 months. This can result in court cases being continued because results are not ready in time. This is primarily due to the workload; the labs are given more samples than they are capable of working with in a timely manner. Notably the courts need the results quickly and within a week in instances where defendants are held in custody.
- > There are standard substances that are screened for but will also test for drugs if officers specify.
- > For drugs to be tested, highway patrol will specifically indicate which drugs they want tested on the sample.
- > Highway patrol does not feel as though there are currently any underserviced jurisdictions within the state for laboratory access. All samples within highway patrol are transferred across the state by Sergeants.

- > Samples are typically transported to the laboratory within 48 hours of taking the sample. Once the sample is taken, it remains with the trooper until it is booked into the evidence vault. It is then transported by a Sergeant or evidence custodian to the laboratory.

### Communication with labs

- > Communication with the Washoe lab is good. The primary issues with the lab regard the queue, which is a result of the overload of work the lab receives. There is not enough manpower to run all the samples.

### Caseload of highway patrol

- > All troopers are ARIDE trained.
- > Highway patrol does approximately 40-50% of DUI cases across the state
- > Officers testify about the following: probable cause, administration of test(s), and the receipt of results.
- > There are 30 DREs within the state. All 30 have Basic DRE training and 8 have Instructor DRE training as well.
  - » Reno: 6
  - » Las Vegas Metro: 6
  - » Washoe County: 5
  - » Lyon: 2
  - » DPS North: 1
  - » WC Department Alt. Sen.: 1
  - » White Pine: 1
  - » Clark County: 1
  - » NYE County: 1
  - » Lincoln County: 1
  - » DPS: 1
  - » Elko: 1
- > Roadside oral fluid testing has not started at this time, but there will be a future pilot project that is similar to the one in Michigan.

### Wishlist for a state laboratory

- > **Training.** Having a designated training person at the laboratory would be a major benefit to law enforcement. Currently there are law enforcement officers trained to train other law enforcement officers but given the transient nature of law enforcement this is not an effective

training method. Having a designated training person at the laboratory would ensure consistency with training.

- > **Forensic analysis.** Having trained specialists for vehicle crashes would be a major benefit for law enforcement. The scientific credibility held by these specialists would help not only in court testimony, but also when attempting to pass new legislation.
- > **Two locations.** Ideally, the state laboratory would have a location in Las Vegas, with a second location elsewhere (i.e., Reno). This would ensure the entire state has access to the state laboratory, which could also help with turnaround times.

## Defense Attorneys: May 12<sup>th</sup>, 1:00-2:30pm (PST)

In attendance: Michael McDonald, Jeremy Cooley, Michael Giles, Eric Bauman, Amy Davey, Amy Miles (Director of the Forensic Toxicology Program at the Wisconsin State Laboratory of Hygiene), Sergeant Brandon Villanti (Washington State Patrol Impaired Driving Section), Laura Bailey (Director, Office of Alcohol Testing, Arkansas), Robyn Robertson (President & CEO, TIRF) and Hannah Barrett (Research Associate, TIRF).

### Experience with labs

- > **Washoe**
  - » 1 month wait for blood results (average), but recently has been more like 2 months
  - » No charges are made until the results are received
  - » “it is what it is” attitude, it has been this way for so long, unsure of what an “ideal” time would be
- > **Las Vegas**
  4. 1-3 months for alcohol
  5. 3-6 months for drugs
  6. Rush results are available for fatal DUIs at the prosecutor’s request
- > **Henderson**
  - » 2-3 month turnaround
  - » The turnaround time does not seem to affect cases

### DUIs

- > DUIs are the most common misdemeanor cases, along with domestic violence
- > Quantitative results up front are necessary, a presumptive screen is not enough.
- > Controlled substances are a major issue

- > Since legalization of marijuana in past few years, Washoe does an initial screen and if they find alcohol they will not test for drugs unless law enforcement or prosecutors request it; this is to conserve time and energy.
- > Clark county sees approximately 7,500-10,000 DUIs/year
- > Henderson county sees approximately 700-800 DUIs/year. This is around 20% of their caseload
- > Washoe will not test for drugs if alcohol is above .08% unless specifically asked by the prosecutor.
- > In Clark county, 3-5% of DUI cases go to trial (vs. pled guilty). Drug cases are always pursued
- > In Henderson, less than 10% of DUI cases go to trial. Drug cases always require testimony
- > In Humbolt county, 10% of DUI cases go to trial. Drug cases are always pursued
- > 5-10% of DUI cases are repeat offenders
- > Impairment without lab results is very difficult to prove. In a large percentage of DUI cases there is no driving evidence, for example of weaving. Perhaps they were pulled over for broken taillight, so often there is no information about driving. Also, there are a lot of lay judges in rural NV. Even though a lot of them have a background in law enforcement, they have “a strong commitment toward the defendant”, so impairment is a difficult sell without toxicology results. Without blood results or Intoxalyzer results, it would be rare to move forward with the charge
- > The burden of proof is the same for misdemeanors and felonies (beyond a reasonable doubt). First two misdemeanors in 7 years and the 3rd offense is charged as a felony. Once a felon the lookback period is forever for any subsequent charges. Any DUI with bodily harm is a felony.

### Underserviced areas

- > **Washoe:** Underservicing not perceived as an issue, due to complacency (“it is what it is”). Scheduling testimony can be difficult because people in Reno are driving 3-4 hours to rural areas to provide testimony.

### Testimony

- > More than half of the cases require testimony
- > In Clark county, most misdemeanor cases will have an affidavit, opposed to testifying
- > In Henderson, there are affidavits around 30% of the time
- > Testimony is always required in district court
- > In Humbolt, video conferencing is crucial. Ten counties are served, and some are 3-4 hours apart. If not for video testimony some people would drive a full day just to testify. The counties do have to compete for video conference testimony time. About 13 courts are competing for scheduling toxicologist from Washoe lab.

- > There have been no issues or challenges with toxicologists as experts
- > Clark and Henderson do not support video testimony (i.e., technical limitations).
  - » The Henderson lab is directly across the street from the court so the need for video testimony is lower. However, even when travel is not a challenge, it is still a time-consuming task due to the need for preparation as well as the waiting to be called by the court to appear.
- > Law enforcement testify re: signs/symptoms of impairment
- > Determining the impairment without lab testimony is difficult. There often isn't any evidence like "they were weaving so I pulled them over" many drivers are pulled over because they had a light out or their registration was expired.
- > One DRE in Clark county has been accepted as an expert by one judge. But there are not enough DREs in the state for this to be common practice.
- > A couple of attorneys, notably out of Reno, object against the use of declarations so testimony is often required; in about half of the cases testimony is requested. Even in misdemeanors they need a toxicologist to testify. About 10% of cases go to trial. If evidence about drugs is available, they will pursue it.

## Wishlist

- > Humbolt:
  - » Turnaround time. The current times cause issues in that a person may have 2-3 cases against them before they can be charged because no charges are laid until results are received
  - » Help with DNA testing would be ideal. It's currently outsourced and takes a long time
- > Ideal turnaround – 48-72 hours.
- > No cases are dismissed because results take too long because no charges are laid until results are back. In Clark county dismissing cases was a problem 2-3 years ago, but that it no longer an issue.

## Expert input:

Amy Miles mentions that in WI they used to have an issue when more than one toxicologist works on a case. For example, 7 toxicologists, one doing alcohol, the other drugs, etc., then sometimes they ended up having to send all 7 for testimony. To combat this, they now assign one toxicologist to a case. They can still do batch work (with one person in charge of alcohol, another in charge of drugs, etc.) but use the work-around of assigning one person per case for testimony. Batch work means one specialist does all the alcohol testing and creates a batch of samples that can then go to another specialist who does all the drug testing, etc. This way, the work can be done efficiently, and then, by assigning one officer to a particular case, the testimony challenge can be avoided. This designated lab representative assigned to a case can provide all the testimony and paperwork for the lab. Amy shared case law from Wisconsin and several other states rely on this.

