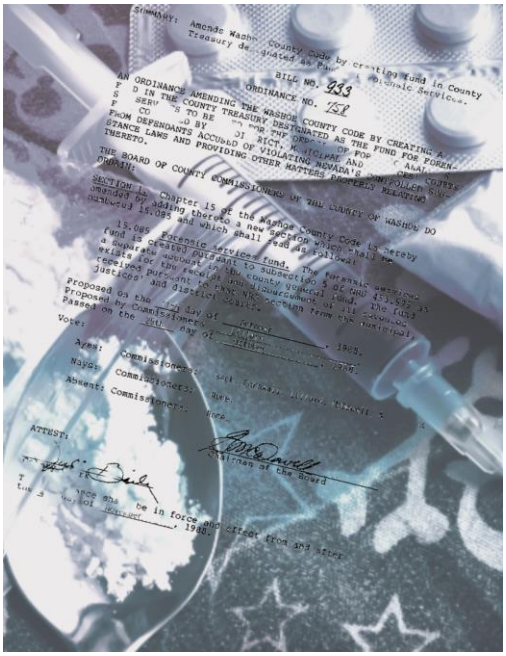

FORENSIC TOXICOLOGY & NEVADA'S OVERDOSE SURVEILLANCE SYSTEM

Needs Assessment & Recommendations

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For the Nevada Overdose Data to Action Grant

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Forensic Toxicology and Nevada's Overdose Surveillance System Needs Assessment

Introduction

The opioid crisis continues to ravage communities across the country. In Nevada, the opioid and illicit substance landscape is rapidly changing. This is likely a result of the rise in fentanyl and the prevalence of poly-substance exposure. In 2020 there was a 227% increase in fentanyl-related overdose fatalities.[1] The rise in fentanyl and the increase in fentanyl-laced stimulants has a detrimental impact on prevention and interventions efforts. In 2020, deaths by methamphetamine accounted for 47.7% of fatal overdose deaths. Increase in stimulant use has implications for prevention, intervention messaging, and treatment. Now more than ever, it is imperative for states to understand what is in their drug supply and to use that information to inform prevention and interventions efforts, and to appropriately allocate resources.

Currently, public health and policymakers depend on limited data sets to tell us what is in our drug supply. This presents challenges. Nevada only uses fatality data to inform its overdose risk. Vital records data provides "suspected" case of heath and suspected substance, the State Unintentional Drug Overdose Reporting System (SUDORS) data, which includes the confirmatory toxicology results are reporting with a 9 to 12 month lag. The drug supply is constantly evolving. By the time public health agencies, law enforcement, and other services providers have compiled and reported their data, the overdose landscape will have changed. Forensic toxicology provides public health, public safety programs, and policymakers pertinent information, confirmed by forensic test, on what specific drugs are putting people at risk for overdose today so we can prevent overdoses tomorrow.

Nevada's Surveillance Systems

[1] Nevada SUDORS 2020 Report- EMBARGOED UNTIL INTERNAL REVIEW AND RELEASE

At this time, Nevada does not have a single cohesive overdose surveillance system. The state Overdose Data to Action Program (OD2A) is working to create a centralized data system for analysis and reporting of overdose data and information. The OD2A Program is a CDC Cooperative Agreement housed in the Nevada Department of Health and Human Services (DHHS), Division of Public and Behavioral Health (DPBH), Office of Public Health Investigations and Epidemiology (OPHIE). The OD2A program is being administered at the University of Nevada, Reno in the School of Public Health Trudy Larson, M.D. Institute for Public Health Impact and Equity (Larson Center). DHHS uses many data sets to paint a picture of Nevada's substance abuse and overdose risk.[2] This is not an exhaustive list of data sources the state uses to assess risk, but these sources provide the most real-time picture of what is happening at the community level.

Syndromic Surveillance

DHHS uses hospital emergency room (ER) data to report on the suspected overdose morbidity in the state. This data comes from the National Syndromic Surveillance Program (NSSP). Nevada captures NSSP data from 80% of the state's hospitals. The system collects deidentified information on chief compliant ICD-10 codes at discharge.

Syndromic surveillance is a good measure for overdose morbidity as it provides close to real-time data from hospitals. The ability to collect and report data at this frequency gives public health officials information about emerging and persistent emergency health issues. However, there are some limitations. This data system only captures nonfatal overdoses that made it to the ER. Additionally, it is not standard practice for hospitals to do a urine drug screen or blood test to confirm substances. This means that the chief complaint ICD-10 codes that get reported as an overdose from a substance are only "suspected."

[2] For this report "the Department of Health and Human Services" or "DHHS" means the Overdose Data to Action Program and the Office of Analytics.

Syndromic surveillance data is currently incorporated in OD2A's monthly overdose surveillance reports and incorporated into the quarterly situational awareness reports which are sent to all ODMAPS level one users and provided to other partners in ad-hoc reports.

Vital Records Data

DHHS uses death certificate information from the Nevada Electronic Death Registry System (EDRS) to report on overdose mortality in the state. This source relies on ICD-10 codes. On average, the cause and manner of death are available 2-3 months after the death investigation. Another limitation is select ICD-10 codes group multiple opioids together, making it difficult to separate specific opioids that may have been attributed to deaths. In addition, complete toxicology and information about the circumstances preceding death are unavailable. EDRS data is currently incorporated into the OD2A's monthly overdose surveillance reports.

Nevada State Unintentional Drug Overdose Reporting System (SUDORS)

SUDORS uses death certificates and coroner/medical examiner reports (including post-mortem toxicology testing results) to capture detailed information on toxicology, death scene investigations, route of drug administration, and other risk factors that may be associated with a fatal overdose. SUDORS was established in Nevada in 2017 with opioid-related deaths of unintentional/undetermined intent only. In 2019, it was expanded to cover drug-related overdose deaths of unintentional/undetermined intent. It takes time to abstract data from death records and this results in reporting delays. Additionally, data completeness is dependent on information documented at the time of death, which results in large amounts of missing data. SUDORS data is reported twice a year. The first half of the year (January to July) is reported before January of the following year and the second half of the year is reported by August.

ImageTrend

ImageTrend is a statewide surveillance system utilized by the state Emergency Medical Services (EMS) program. Serving our community since 1988, ImageTrend is responsible for collecting and

analyzing important data for programs like EMS and Fire & Rescue. Some of this data includes critical care transportation documentation, hospital-based medical registries, overdose due to substance abuse, and integrated healthcare and community paramedicine. Providing real-time location, users can monitor these types of incidents in their community and provide aid in future crisis situations. Having this ability only assists data collection for ODMAPS in the state's efforts to monitor trends of substance abuse. The software also provides learning tools for its users to familiarize themselves with access to the data collected by multiple agencies, provides learning webinars and video tips, and also provides release notes from past medical service calls. One of the known limitations of ImageTrend stems from a linkage between EMS transport records and hospital care. For example, when EMS arrives on the scene of a medical emergency and the patient refuses hospital transport, the user may not see that data from hospital records and may only view records provided by the responding agency.

ImageTrend data is not currently being incorporated into any regular reports, it has been pulled upon request for adhoc reports.

ODMAPS

Nevada has been working to implement the HIDTA's Overdose Data Mapping Application Program (ODMAPS). The Attorney General's Office has made great strides in gaining some level of participation from law enforcement and first responder agencies. Law enforcement has been slow to engage with the system and report into it. Currently, the Attorney General's Office is looking to establish an automated program interface between the EMS Electronic Medical Record (called ImageTrend) and ODMAPS. This will allow for ODMAPS to be updated automatically. A program like ODMAP and ImageTrend will give the state, and local communities a better idea of overdose morbidity and mortality rates.

Additional Data Needs

The Overdose Data to Action program is interested in obtaining a clearer understanding of what additional data sources or indicators exist which may improve the clarity of the state's overdose situational awareness. Specifically, the OD2A program is interested in better understanding how and where we can identify what is in the drug supply so we can use data-driven tools to determine overdose risk. The OD2A program has identified a minimum data set which the program has determined that law enforcement and other first responder agencies may hold that could help to fill in the picture. This proposed minimum data set is included as an Appendix to this report. The minimum data set relates to indicators that law enforcement agencies can collect and report on. The OD2A surveyed public safety agencies in Nevada to learn which indicators are being collected out of the proposed minimum data set. No one agency was collecting all of the indicators, which is what we expected. The establishment of the minimum data sets would give our public safety agencies and OD2A something to work towards as we work to establish standardized data collection across the state.

"Stakeholders in Nevada agree that an ideal overdose surveillance system would be a robust surveillance system that supports the rapid exchange of information at the community level which could then promote rapid community response by public health, public safety, and overdose spike response agencies."

The overdose reporting system that OD2A has built retrieves information from several compartmentalized systems then compiles and analyzes that data, which is reported out to various agencies quarterly. The systems that the OD2A program is currently pulling from will likely never directly interface, but improved centralized analysis and reporting is a realistic goal.

Stakeholders in Nevada agree that an ideal overdose surveillance system would be a robust surveillance system that supports the rapid exchange of information at the community level which could then promote rapid community response by public health, public safety, and overdose spike response agencies. The OD2A program will continue to support work to improve the quality and quantity of data collected and reported. To that end, the OD2A program

conducted this needs assessment to understand how the forensic system can be improved to meet the overdose surveillance needs to the state.

Project Objectives

This this needs assessment was conducted in response to CDC Overdose Data to Action grant requirement, for all OD2A recipient states to conduct a Forensic Toxicology Needs Assessment. Nevada OD2A recognized the need to better understand the surveillance data collection system from a more global perspective and decided to expand on the CDC's assessment requirement. Nevada's project objectives include:

- Clarify and document the processes for data collection and reporting through various systems, specifically related to opioids and other substances implicated in overdose and death.
- Understand state and federal chain of command rules and regulations for drug testing
- Identify gaps in information within public health reporting systems.
- Identify opportunities to improve surveillance and data sharing toward the aim of reducing overdose and death and supports a robust community response to overdose events.
- Identify critical Issues and provide recommendations for the next steps.

Key Questions to Answer through the Assessment

- What resource limitations affect organizations' ability to collect and disseminate data?
- What other barriers exist in sharing data with public health partners?
- What types of additional forensic toxicology data can be used to inform Nevada's overdose risk. How can that data be reported and collected?
- What data would your organization benefit from seeing? Who are the people/ organizations that would need access? Under what timeline?

Methods

A project team, consisting of two primary Nevada Overdose Data to action staff facilitated this project between December of 2020 and August of 2021. Focus groups, key informant interviews, and document reviews were used to fact-find and gather information about the existing forensic toxicology and surveillance systems in Nevada. The project was completed in four phases.

Inquiry

- Document Review: Review existing documents that can inform the assessment
- Surveys were used to collect quantitative information from identified stakeholders
- Key Informant Interviews: Interviews took place via phone/zoom. Interviews provided in-depth information on key areas of inquiry. Interviews were recorded with consent and notes were taken.
- Focus Groups: In some cases, groups of stakeholders will be convened to answer key questions.

Documentation

- With consent, interviews and focus groups will be recorded. Key themes will be extracted from notes to report in the need assessment.
- A report template will serve as the main repository for results and findings.

Analysis

- Information will be compiled and synthesized
- Participatory methods may be used to analyze data further and identify recommendations for system improvements.

Limitations

The OD2A staff and many state agencies were still working remotely during the bulk of our data collection , thus all of our meetings were held virtually. Due to the primarily virtual working environment, we struggled to network and gain robust engagement with some public safety

agencies. For this reason, several key questions were not able to be answered due to a lack of engagement. For example, law enforcement was not successfully reached, leaving a gap in perspectives and information. Additionally, hospitals trade association contacts had limited time in 2021 as a result of legislative and COVID competing priorities.

Results

Unfortunately and as expected, Nevada has a fractured overdose surveillance system. The existing system is overly reliant on confirmatory forensic toxicology from fatal overdose cases. The state's forensic testing system is built upon an antiqued funded system. The antiqued system is inflexible which is problematic given the changing landscape of the illicit drug market. The current lab network does not have the funding or workforce capacity to expand into the new types of surveillance testing. The Fund for Forensic Testing was established in state law 20 years ago, and has remained stagnant while the drug trade has innovated at a rapid pace. In 2020 overdose deaths attributed to synthetic variations of benzodiazepines surged.[3] In the next 20 years, the overdose landscape will be all new, and Nevada needs a toxicology and surveillance system that is savvy enough to keep up with the pace of the ever-changing drug landscape.

This next segment of this report addresses the critical issues identified through the needs assessment. More research is needed as it relates to funding for toxicology services county by county; however, the recommendations provided in this report should be used to inform grant applications and funding requests.

Description of the Current System & Opportunities of Increase Forensic Testing

Forensic Testing for Fatal Overdose Cases

[3] https://www.cdc.gov/mmwr/volumes/70/wr/mm7034a2.htm?s_cid=mm7034a2_w

Nevada has decentralized toxicology services. Nevada has three forensic toxicology labs. There is one lab in Washoe County, which services the Washoe County Sheriff's Department and the Washoe County Coroner. There are two labs in Clark County. The lab at Las Vegas Metro PD services the Clark County Coroner for forensic toxicology testing, and the lab at Henderson Police Department services Henderson Police Department. Nevada is one of only two U.S jurisdictions without a state forensic toxicology lab. This structure leaves some counties underserved for forensic toxicology services[4]. However, as it relates to toxicology services as part of overdoses, the existing structure does provide adequate capacity for forensic toxicology for the purposes of autopsy and coroner medical examiners investigations. NRS 259.050 (1) requires all violent deaths to be sent to one of the two-state coroner medical examiners for postmortem examination. Overdoes are considered a violent death in Nevada[5]. For this reason, all suspected overdose deaths are sent to either the Washoe County Coroner Medical Examiner or the Clark County Coroner Medical Examiners.

The CDC developed a forensic testing survey tool to help OD2A funded jurisdictions better understand forensic toxicology testing protocol and identify strengths and gaps in testing procedures. Looking at the results of the CDC's survey tool, we can see that forensic testing is generally pretty uniform between the two Coroner Medical Examiners (COMEs)in Nevada. Autopsies are performed by 91-100% of all overdose's cases in Nevada. Seventy-Six to 100% of all samples are sent to labs from Nevada's two COMEs and for each coroner, the lab can provide a standard set of screening and confirmatory tests. In the cases of Washoe County additional analysis is often done after receiving initial results (37-67% of deaths), but in Clark County, additional tests are rarely run (1-33% of deaths). Toxicology testing results are turned around in 30 days or less for both COME offices. In addition to this uniformity in the specimen being sent to forensic labs, both COMEs are testing for the same types of substances, however, the frequency by which each lab is testing may vary.

[4] Nevada Forensic Toxicology Laboratory: Gap Analysis, 2020, Traffic Injury Research Foundation
[5] SB463 in 2019 Legislative recently made changes to this chapter of NRS is it related to Sheriff Coroners ordering forensic toxicology tests. As further inquiry into the state's forensic testing is done, the role of sheriff coroners should be looked at to ensure that all forensic toxicology is being fed into the state's surveillance system appropriately.

Testing Frequency	% of cases
Almost Always Tested	91-100
Often Tested	68-90
Sometimes	34-67
Rarely tested	1-33

Substance	Washoe County Frequency	Clark County Frequency
Almost Always Tested	Almost Always Tested	Almost Always Tested
Amphetamine	Almost Always Tested	Almost Always Tested
Barbiturates	Almost Always Tested	Almost Always Tested
Benzodiazepines	Almost Always Tested	Almost Always Tested
Bupropion	Almost Always Tested	Almost Always Tested
Cannabinoids	Almost Always Tested	Almost Always Tested
Cocaine	Almost Always Tested	Almost Always Tested
Common opioid medications	Almost Always Tested	Almost Always Tested
Fentanyl	Almost Always Tested	Almost Always Tested
Methamphetamine	Almost Always Tested	Almost Always Tested
Piperazine	Almost Always Tested	Almost Always Tested
MDMA	Almost Always Tested	Almost Always Tested
Gabapentin	Almost Always Tested	Often Tested
Ketamine	Almost Always Tested	Often Tested
LSD	Almost Always Tested	Often Tested
Fentanyl Analogs	Almost Always Tested	Often Tested
Mitragynine	Almost Always Tested	Often Tested
Muscle Relaxants	Almost Always Tested	Often Tested
Naloxone	Almost Always Tested	Often Tested
OTC medications	Almost Always Tested	Often Tested
Other synthetic opioids	Almost Always Tested	Rarely Tested
Phencyclidine/PCP	Almost Always Tested	Often Tested
Sedative hypnotics	Almost Always Tested	Often Tested
Tryptamines	Almost Always Tested	Rarely Tested
Volatiles	Almost Always Tested	Rarely Tested
Xylazine	Almost Always Tested	Often Tested
Other NPS	Sometimes Tested	Rarely Tested

Phenethylamines	Sometimes Tested	Often Tested
Synthetic Cannabinoids	Sometimes Tested	Sometimes Tested
Cathinones	Rarely Tested	Rarely Tested
GHB	Rarely Tested	Rarely Tested
Antidepressants	Almost Always Tested	Often Tested
Antipsychotics	Almost Always Tested	Often Tested
Anti-seizure	Almost Always Tested	Often Tested

Washoe County appears to be testing for a wider range of substances more frequently than Clark County. However, but between the "/always" and "Often" tested, the two counties are generally testing for the same substances. Additionally, both COMEs are using the sending the same routinely obtained sources to the labs. There is some difference in the turnaround time for death certificates with Washoe County COME getting them back in 31 to 60 days, while Clark County COME gets their death certificates back between 61 to 90 days.

Nevada's Overdose Surveillance System is only receiving toxicology input from forensic death investigations. Forensic toxicology information is translated and reported through the OD2A program. The OD2A program funds Data Abstractors in each COME. These data abstractors support reporting in the State Unintentional Drug Overdose Reporting System (SUDORS). The current surveillance system does not get toxicology input from any seized drugs, or even from any other programs that are also doing toxicology work, like the state's DUI Impaired Driving Program. As OD2A staff sought information about how the surveillance system may be able to expand capacity it was clear that limited funding and lab capacity were the issues for the limited amount of testing done in Nevada.

Opportunities for Additional Tox Testing

Before the OD2A program started its work on this needs assessment, program staff met with their counterparts in Minnesota and learned about their MNDOSA program. Through the Minnesota Overdose Data to Action program, human specimens are sent to their state public health lab as a surveillance sample to test for fentanyl. The MNDOSA program notes that this

system helps them determine the impact of overdose and substance use in Minnesota hospitals, raises awareness of new clusters of a drug overdose in near real-time, and identifies new substance being used. Nevada can leverage the great efforts which have been made through the SOR program and MERIT study to establish peer response to many emergency rooms across Nevada to pilot an ER-based surveillance sample program. At this time, collection of urinalysis and screening for fentanyl is not standard practice at Nevada's ERs. Additionally, there is likely not capacity at the existing forensic labs to take on this testing. There will need to be additional funding and training support for hospitals to establish a surveillance sample program.

The Washington DC State Forensic Laboratory is currently using various types of toxicology data from instances of nonfatal fatal overdose, as well fatal drug overdoses. Of note, as it relates to our key questions, they are using drug seizure data and surveillance samples for returned syringes to give them information about what is in their current drug supply. Nevada has existing syringe services programs that can be leveraged to build out a syringe services sampling program.

Nevada has two syringe services points. Change Point in Washoe County and Trac B Exchange in Clark County. Both of these organizations provide needle exchange services and Naloxone distribution. At the time of our data collection Change Point had not started its fentanyl test strip distribution. Trac B has had a fentanyl test strip program for a few years. In 2017 Nevada was the first state to have syringe vending machines in Las Vegas. There are now five syringe vending m\Machines across the state. Currently, there is no testing of returned syringes. There is likely not capacity at the existing forensic labs to take on this testing. There will need to be additional funding and training support for hospitals to establish a surveillance sample program. The D.C. lab is their jurisdiction's forensic lab, so streamlining the testing of drug seizure data, and returned syringes, into their surveillance systems was possible.

Through our data collection process, we were connected to the State Public Health Lab and the state forensic hospital's lab director to discuss opportunities for wastewater testing. In 2020 the University of Nevada Reno began sampling wastewater in Truckee Meadow to identify COVID spikes. In her Wastewater testing proposal, Dr. Deborah Keil acknowledges that there are currently no accurate indicators to determine collective and current drug use, nor emerging drugs effecting communities. She proposed that tracking aggregate use of drugs through community water is an effective tool to identify drug use trends in near real-time.

Currently, wastewater testing is unallowable under the CDC's Overdose Data to Action grant, and the existing lab likely does not have the capacity or funding to take on this type of testing. Dr. Keil's proposal is not included in the appendix to this report. If additional information about her proposal is needed the OD2A program can provide a connection to her.

The Director of the State Public Health Lab is interested in building out capacity for this type of testing, as well as the syringe testing. Through meetings with the OD2A program and other state stakeholders, the State Public Health Lab director was able to start the application process for a controlled substance license so they will be able to do this testing once they have the appropriate testing equipment. However, the lab will need a new mass spectrometer to do the wastewater or syringe testing.

Forensic Testing Capacity in Nevada

Currently, Nevada's Overdose Surveillance System is only getting toxicology input from forensic death investigations. There are other ways the state could get toxicology information to inform public health and public safety agencies about what is in the drug supply, and what the potential risk for an overdose may be. These ways include testing of seized drugs, through a lab or by field test, testing of syringes, wastewater testing, and urinalysis of people who have experienced a nonfatal overdose.

While forensic toxicology for suspected overdoses is streamlined in that they are going to one of two labs for testing and are reported out through the same program, testing for seized drugs is not streamlined and does not appear to be done with any sort of regularity across the state. Based on conversations from various sources the OD2A program knows that most seized drugs, most of the state's seized drugs are not tested. Limited funding, workforce, and lab capacity were all noted as reasons for the lack of testing. At this time, seized drugs are taken to one of the three forensic labs. OD2A program staff could not determine if seized drugs from counties outside of Washoe and Clark are brought into these labs for testing. However, we do know that there are counites that there unserved for DUI lab testing and that the scale and impact of being underserved is unknown[6] .

Funding for Forensic Testing.

In Nevada forensic testing is paid through a county's general fund. NRS 457.575 requires a court to include in court fees a $60 fee for analysis of the controlled substance or other substance or drug. Per the statute, these funds are to be included in the court's docket and collected by the municipal court. Fees collected under this statute are to be deposited into each county's fund for forensic services. If a county's forensic toxicology resources are limited, it may be a result of this limited funding. If counties can only recoup the cost for analysis after someone is determined to be guilty and fines are assessed this may cause delays and strains on resources. Additional research into all the revenue streams that support county-wide forensic testing will be done by the OD2A program.

The funding caps on the OD2A grant's surveillance funding and the limited county funding that come through the court assess fees does not leave much space for the development of new types of surveillance, like surveillance sample testing, wastewater testing, or nonfatal overdose urine sample testing.

[6] Nevada Forensic Toxicology Laboratory: Gap Analysis, 2020, Traffic Injury Research Foundation

Forensic Pathology Workforce Shortage

During the needs assessment kick-off meeting, the Washoe County Corner brought up her concerns about a forensic pathologist workforce shortage in Nevada. OD2A was not able to quantify the exact workforce shortage in Nevada, however, there were workforce training and pipeline issues identified. Nevada does not have an accredited Forensic Pathology Program. The OD2A program reached out to both COMEs in Nevada to gauge interest in a potential partnership with the OD2A program and other identified stakeholders to develop an accredited fellowship. The Washoe County Coroner noted that they would have to add staff to do this, and they currently don't have the bandwidth. The Clark County Coroner Medical Examiner was interested but would also need staff.

The Bureau of Justice Assistance has a regular funding opportunity to support the expansion of Forensic Toxicology Fellowships. This funding is limited and would likely not support the depth and breadth of planning support needed to develop a Nevada program. The State of Nevada has a Graduate Medical Expansion program. While the program was established to expand the primary care workforce in Nevada, the need to support forensic pathology to expand capacity for drug overdose testing is an immediate public health concern. For this reason, it may be advantageous to meet with the GME Taskforce to understand their current funding priorities and consider bringing partners together to submit a proposal. Information about forensic pathology workforce shortages and accreditation are attached as an appendix. Also, attached is a Forensic Pathology ACGME Fellowship Program Requirements.

Additional Consideration- Surveillance Data Dissemination

The findings in this report are specific to the forensic toxicology input into the state's overdose surveillance system. This report does not discuss the work that needs to be done to ensure that once forensic toxicology results are fed into the state's overdose system, they are reported out in a meaningful way to inform situational awareness and action at the local level.

Currently, eight communities have adopted overdose spike response plans. All of these plans have been built using ODMAP is the only system for spike detection. As explained in the system overview this system has several limitations. However, a community's spike response agency and plan should look to take information from various sources to inform the risk of spike events. In 2021 the OD2A surveillance coordinator and program manager have been working to develop a proposal for a two-part surveillance system that will create a robust surveillance system that supports the rapid exchange of information at the community level which could then promote rapid community response by public health, public safety, and overdose spike response agencies. This proposal is included in the appendix of this report.

Critical Issues

1. Forensic testing funding mechanisms are antiqued and do not allow for the flexibility needed to meet the changing overdose and substance misuse landscape.
    - Inconsistent Funding across jurisdictions.
        - County forensic toxicology funds are built by court fees.
    - Decentralized lab services
        - Inconsistency in testing and reporting
    - The existing system is overly reliant on toxicology results from fatal overdoses cases

2. Lack of Standardization across Jurisdictions as it relates to situational awareness and risk for overdose spike.
    - Lack of standardization in assessing jurisdictional risk for overdose spike.
    - Lack of standardization as it relates to public safety and drug data.

3. Forensic Pathology Workforce Shortage
    - No existing forensic pathology workforce pipeline in Nevada.

Recommendations

1. **Development of a statewide forensic toxicology lab that can support surveillance sample testing, and other types of toxicology testing that may increase the amount of information used to inform situational awareness of risk overdose spike.**

    This needs assessment supports the recommendation in the Nevada Forensic Toxicology Laboratory: Gaps Analysis report to create a statewide forensic lab. To support the overdose surveillance system a statewide forensic lab should have the flexibility to test and report on various types of forensic toxicology

specimens. Additionally, a statewide lab needs to be built in a way to allow for specimen testing innovation to meet the needs of an ever-changing drug landscape, including the foresight to improve or change, anticipating the next analog or designer drug.

2. **Expansion of surveillance testing will require a new funding formula for forensic toxicology as well as better leveraging of federal funds.**

   More research should be done to understand all of the revenue streams that support a county's forensic testing services and crime labs. The funding mechanism laid out in NRS 453.575 is not appropriate in meeting the state's current forensic toxicology needs. The state could work with counties and their labs to see how OD2A and other federal funds can be better leverage to support surveillance sample testing.

3. **Standardized data sharing between public safety agencies and local spike response plans. To support local partners that they can act quickly if needed.**

   Currently, most Nevada Spike Response Lead Agencies are using ODMAP to identify a potential spike. Given the limitations in that system, jurisdictions should ensure they are obtaining information from various sources to help understand their risk for spike overdose. Additionally, at least one spike response lead agency is getting information via informal communication channels about the current goings-on in the community as it relates to substance use. This type of data sharing should be formalized through data sharing and use agreements. While every jurisdiction is going to have different needs and different resources at its disposal, the state should work to try and standardize this data reporting and sharing as much as possible.

4. **Partner with local Coroner/ Medical Examiner, Medical Schools, and other relevant stakeholders that may be able to move forward to develop an accredited forensic pathology program.**

   This recommendation is looking to the future. To meet the forensic toxicology needs in Nevada, we need more Forensic Pathologists. To sustain and innovate the field of forensic testing, we need to develop a workforce pipeline. A meaningful first step will be to develop an ACGME Forensic Pathology Fellowship Program in Nevada. Federal funding opportunities or state Graduate Medical Education funds should be leveraged to support this work. The first step is to bring stakeholders together to define and document what would be needed to develop this type of program.

Appendix-

Appendix attachments omitted for file size. To review the attachments, visit nvopioidresponse.org/od2a/ or contact ecmonroy@unr.edu

Meeting Notes, Presentations & Stakeholder Questions

- Needs Assessment Kick-Off Meeting
- Syringe Service Program Meeting Notes
- Health District Spike Response Program Meeting Notes
- Merit Peer Recovery Program

Additional Documents and Backup

- Nevada Forensic Toxicology Needs Assessment Report (A)
- Nevada Forensic Toxicology Needs Assessment Report (B)
- Public Safety Survey Results
- Overdose Death Investigation Survey
- Nevada Forensic Toxicology Laboratory: Gap Analysis
- Forensic Pathology Workforce Research
- ACGME Forensic Pathology Program Requirements