

# Wisconsin State Crime Laboratory Bureau Needs Assessment Report



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## Executive Summary

The Wisconsin State Department of Justice contracted the National Forensic Science Technology Center at Florida International University (NFSTC@FIU) to perform a needs assessment of the Wisconsin State Crime Laboratory Bureau (WSCLB). To improve the productivity and efficiency of analytical sections, a detailed analysis and review of the workflow from the time of evidence receipt through completion of analysis was performed.

It is critical and imperative to evaluate the analytical processes and all contributing factors that may influence productivity and efficiency. A review of each forensic unit in each of the three laboratories examined workflow, staffing, efficiencies and other contributing factors. Subject matter experts in the different analytical disciplines as well as experts in laboratory management participated in this project.

Activities included:

- Analysis of workload data: request for service, case submissions, backlogs, turn-around time, performance measures.
- Review of analytical technical procedures and policies.
- Workflow review from time of evidence submission through completion of analysis.
- Layout and condition of physical facilities.
- Availability of equipment, training, supervision and technical resources.
- Review of employee interactions with coworkers and interaction with supervisors.
- Employee administrative requirements and duties.

This report presents assessor observations of the Laboratory Bureau as a whole as well as individual observation from each laboratory site and/or pertaining to a specific discipline. Observations reported are based upon direct review of data by an assessment team member or information provided by a staff member that is substantiated, where possible. Each observation is followed by a recommended course of action for consideration.

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## Laboratory System Structure

The WSCLB consists of three separate laboratory facilities located in the cities of Madison, Milwaukee and Wausau. In order to understand the organization as a whole and as individual laboratory entities, a four-person team from NFSTC@FIU was tasked to travel to each of the separate laboratory locations to assess evidence flow, analyst caseload, methodologies, processes, procedures, overall resources, and the facilities themselves. The three-laboratory onsite assessment occurred over a five- day period with two full days at both the Madison and Milwaukee Laboratories and one day at Wausau laboratory. Two laboratories, Madison and Milwaukee, are full service, as they both have DNA Analysis Units.



The following forensic unit reviews occurred in the Madison Laboratory:

- DNA Analysis
- DNA Databank
- Controlled Substances
- Toxicology
- Latent Prints
- AFIS (Ten Print)
- Forensic Imaging
- Crime Scene Response

The following forensic unit reviews occurred in the Milwaukee Laboratory:

- DNA Analysis Unit
- Controlled Substances
- Toxicology
- Trace Examination
- Latent Prints
- Forensic Imaging
- Firearms
- Crime Scene Response

The following forensic unit reviews occurred in the Wausau Laboratory:

- Controlled Substances and Blood Alcohol Toxicology
- Latent Prints
- Forensic Imaging
- Crime Scene Response

## System-wide Observations

### Observation: Autonomy

**Observation:** As a Bureau under the Division of Law Enforcement Services, the Laboratory is operating under a number of constraints that limit their ability to operate efficiently and effectively.

1. By appearance, the Laboratory is an operating arm of law enforcement rather than deriving scientifically-supported conclusions from the evidence submitted. The most obvious example is the Attorney General is a laboratory report signatory whose electronic signature appears on every analysis report.
2. As currently structured, the WSCLB must compete with law enforcement for funding. It is a difficult process to replace high cost scientific equipment while competing with the price of police vehicles or the value of upgraded bulletproof vests. Similarly, the need for continued scientific training and education is costly and essential to remain current with the rapid pace of scientific advancement. Support services such as information technology requests also seem to require non-value-added approval steps to be carried out.
3. Daily operational impediments hinder effective operations. Recognizing the need to respect the chain of command currently requires approval from numerous levels of authority for routine support such as information technology, purchasing, and human resource actions. The lack of authority delegated to laboratory leaders impacts every level of the laboratory requiring unnecessary steps for the simplest action. For example, it takes five levels of approval to purchase needed materials, and some of these approvers might not understand the need for the items requested. This reduces the efficiency and the ability of examiners to focus on their primary mission, case examination.
4. Currently, the WSCLB is administered and operations are directed by law enforcement personnel rather than Lab Managers or Bureau Directors. While the setting for the Bureau is within a laboratory, decisions impacting scientific operations are influenced by law enforcement. This can be perceived as impacting the impartiality of the laboratory, with potential for creating bias and conflicts of interest. Per the National Academy Science Report on Forensic Science "...The potential for conflicts of interest between the needs of law enforcement and the broader needs of forensic science are too great...Scientific and medical assessment conducted in forensic investigations should be independent of law enforcement efforts either to prosecute criminal suspects or even to determine whether a criminal act has indeed been committed. Administratively, this means that forensic scientists should function independently of law enforcement administrators. The best science is conducted in a scientific setting as opposed to a law enforcement setting.<sup>1</sup>"

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<sup>1</sup> National Research Council. 2009. *Strengthening Forensic Science in the United States: A Path Forward*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/12589>.

**Recommended Action:** Establishing the WSCLB as a separate division should be considered. If the WSCLB cannot be aligned as a separate division, the laboratory would benefit from a delegation of authority, identifying responsible leaders within the laboratory. Benefits include:

- This would potentially allow the laboratory to make purchasing decisions with appropriate, minimal oversight and tracking rather than seeking individual approvals.
- This would potentially allow the laboratory to leverage various Wisconsin pay incentives within approved guidelines.
- This would potentially allow the laboratory to exercise hire authority in a timely manner.
- This would ensure and solidify the concept that the forensic science laboratory in the state can perform its scientific work with impartiality and with no question of bias for the citizens of the state. This is a benefit as it will provide confidence in the work performed for a multitude of stakeholders. Bureau leadership reported they are developing solid relationships with Division and AG decision-makers. This is critical to advancing the single Bureau operation concept and ensuring the necessary support and authority.

**DOJ Response:** This recommendation supports DOJ's plan to make WSCLB its own division. DOJ has been contemplating making WSCLB its own division for several years. However, DOJ recognizes that this would require legislative action and the support of the Department of Administration. DOJ will be proposing this reorganization in its budget submission, including the creation of a new Division Administrator position, with certain education requirements. While this will allow some level of autonomy, many of the same processes for hiring, pay incentives, and purchasing are outside of DOJ's control and will remain in place.

DOJ agrees that independence of the WSCLB is important, and is comfortable that no conflict of interest exists. It is important to note that "competition" for funding between WSCLB and other DOJ divisions has not impacted DOJ's investment in the WSCLB. Retention and hiring, as well as an insufficient number of positions, rather than funding levels, have been DOJ's main concern when managing the increase in submissions over the past years.

### Observation: Advancement

**Observation:** The current structure of the WSCLB has left analysts with limited opportunities for advancement. The current structure has three levels: Entry, Senior and Advanced. Progression from entry to senior occurs after completion of training and upon reaching a specified amount of time on the job. Because of restrictions imposed on the number of Advanced Analysts within each discipline at each laboratory, changing disciplines, laboratories or seeking promotion to management are the only advancement options for the vast majority of the Senior Analysts. A contributing factor restricting advancement is the younger age of most Advanced Staff and management personnel.

**Recommended Action:** A revision of the analytical staff structure should be considered to incorporate additional steps within in each level. It was noted by staff that at some point in the past, each level did contain advancement steps, but this practice had been discontinued for some time.

An additional position classification should be considered that would be between the level of technician and analyst. This additional classification, for example a Forensic Specialist, could be used as an advancement opportunity for staff.

**DOJ Response:** This recommendation supports the efforts DOJ has undertaken, and will continue to undertake, with respect to staff structure and retention. DOJ attempted to remedy the pay progression structure last year during the State Compensation Plan process, but was unsuccessful. DOJ also requested a survey and assessment of the Forensic Program Technician position, which resulted in a moderate pay increase for those employees, and the opportunity to add a lead-worker pay range. However, the lead-worker pay range was recently decreased when, outside of DOJ's control, the WSCLB position classifications were combined with those at other labs, such as the Department of Agriculture, Trade, and Consumer Protection Lab, which provides microbiological, food chemistry, and agricultural testing results.

DOJ will be addressing this again during the 2019-2021 state budget submission and compensation plan process. We will propose pay progression steps at current market rates as well as pay upon appointment flexibility, and a defined path for scientists to follow over the course of their careers. We also plan to add a classification between Forensic Program Technicians and Analyst

### Observation: Performance Metrics

**Observation:** The laboratory developed performance metrics to "level the playing field" and establish a consistent approach to the number of samples/exhibits examined (i.e. work done) in a given discipline. The metric considers time out of the laboratory and assignments other than casework. Performance metric expectations have been established for each discipline. As an example, performance metrics for each examiner for Q1 2017 through Q2 2018 organized by groups within a unit support an observation about a disparity in analytical procedures being used within each unit:

- Unit 3 consistently outperformed Units 1 and 2.
- Productivity in Unit 3 was consistently higher than that of Unit 1 (~17%) and Unit 2 (~26%) when data for Q4 2017 through Q2 2018 was reviewed.
- For the 9-month period: Unit 1 averaged 30.7 PMs, Unit 2 averaged 26.2 PMs and Unit 3 averaged 37 PMs.

It appears that examiners in Unit 2, in particular, may not be utilizing procedures or equipment as efficiently as the other units. A similar analysis of the work done throughout the Bureau should be done to determine if there are similar observations.

**Recommended Action:** Performance metrics are a good idea, but the process is confusing and not monitored consistently. If possible, an analysis of processes and procedures used in all of the units should be conducted to determine the reasons for the disparities in performance. Consistency should be stressed unless plausible reasons exist for deviations. It is important to point out that case output must not supplant the emphasis needed on producing quality results.

**DOJ Response:** The WSCLB management team is reviewing the performance metric (PM) and plans to evaluate multiple data points with regards to performance metrics. The PM is a relatively new metric to the WSCLB and as such, has become a tool that will supplement an individual's performance review. WSCLB is evaluating not only the PM but also case output and case complexity.

It is the goal of DOJ to create a productive work environment that properly evaluates the contribution of all staff to the completion of quality casework conclusions in a timely manner. With creation of a pay structure that incentivizes good quality, strong work ethic, and productivity, DOJ believes that the productivity of the staff will increase.

**Observation:** Although there are established Performance Metrics (PM), these are not consistently reviewed by supervisors. Upper management reported that analysts can pull their own numbers, but some analysts admitted they do not know how to calculate the metrics and therefore do not know if they are meeting their requirement until they have a yearly review. It should be up to supervisors to check these numbers and meet with staff who are not performing to find out why.

**Recommended Action:** Supervisors need to be given more time to actually supervise. They should know which team members are on which tasks and therefore know how much casework to expect from each person. Supervisors should:

- Track non-casework duties like validations, tech reviews and crime scene response (CSR) to ensure a balance of responsibilities.
- Review schedules and try if possible prevent overlap of duties such as tech review and CSR. This will prevent slowdown of tech reviews if someone is out on CSR.
- Meet with staff whose metrics are below goals to determine root cause and provide direction.

**DOJ Response:** WSCLB management has provided information to all analysts on checking their personal metrics in the past and is planning to provide more information to all staff members on how they can look up their output data. DOJ recognizes that limited resources at the laboratories result in supervisors performing other necessary tasks in addition to their supervisory duties. DOJ has repurposed a portion of an FTE position to complete some of the non-supervisory responsibilities, including data production and performance metric tracking and reporting. DOJ plans to propose additional positions for the WSCLB in its upcoming state budget request to address the remaining non-supervisory functions.

### Observation: Scheduling

**Observation:** According to the scientific staff interviewed, the majority have the ability to flex their schedule (e.g. work 10-hour days) and/or work overtime when approved. These are benefits that definitely help with employee retention and case backlog reduction; however, giving all employees the ability to work from home on occasion would also assist in these areas. Currently, only the DNA units have the option available to perform technical reviews from home, which has not been well received by the other forensic units.

**Recommended Action:** The perception is that flexible work locations are applied unfairly across disciplines. Workflows should be analyzed to determine which disciplines can allow remote work and whether or not this flexibility would benefit the laboratory, thus the benefit could be applied equitably.

**DOJ Response:** The current remote-work program is a project-specific pilot to determine if more opportunities to work from home are feasible. DOJ recognizes that some work can be performed from home, but has struggled with remote-work policies in the past, and must ensure that employee metrics are being tracked and maintained when an employee is working from home. In addition, DOJ has not seen an appetite from analysts for more overtime. A blanket approval for overtime has been in place for several months, with only limited participation. DOJ will work with DLES and WSCLB management to determine whether other steps can be taken to encourage overtime, and to evaluate the success of the remote-work pilot program once the project is complete.

### Observations: Communication

**Observation:** Information and communication of information, particularly to non-supervisory staff, across three laboratories is inherently challenging. Bureau leadership is demonstrating a commitment to advancing communications to the staff through face-to-face town halls, regular visits to each of the labs and regular staff meetings with supervisory staff. Despite these efforts, the assessment team encountered staff who did not feel adequately informed.

Presented below are a number of examples of communication issues cited by staff:

- Analysts and supervisors still believe that there must be a 50% mandatory coverage within the unit during normal laboratory operations between the hours of 0745 to 1630. However, that coverage requirement is actually only 30% per the Bureau Director. A policy update enacted in the past 18 months outlined the new standard of 30% replacing the former standard of 50% coverage. As a result of this misunderstanding, one unit believed it was unable to given time off when requested.
- Two seasoned analysts believe that they must stop everything they are doing if they get a laboratory-wide, overhead page. This has caused interruption in case workflow for some analysts on several occasions. According to management, this is no longer the case and the policy was update in the past 18 months, but is not being followed.
- It was relayed that some staff believe supervisors may not be passing complete information on to staff. As analysts discuss items amongst themselves and with other laboratories, casual conversation seems to take on more credibility than the official communications methods.
- Many staff noted in discussion that their ideas receive little to no response from management. This discourages staff from contributing in the future if they feel that they are not being heard. For example, Y-STR screening is a common method used to quickly screen through sexual assault kits. Many staff suggested this idea, however they never received a response. Discussion with managers, however, show that the idea was considered and tested and did not work as well as they had hoped and it is being modified. Managers feel they are considering new ideas, but staff indicate no response and feel their ideas are not being considered.

- When special projects are started, only the staff tasked to work on them are aware of the project's initiation.

**Recommended Action:**

When reviewing the staff feedback, bureau management appeared familiar with the issues and indicated having taken steps to remedy them. However, the staff seemed unaware that management knew of their concerns. Bureau management needs to meet directly with all staff to ensure the message they want delivered is being provided in a timely manner and in the way intend.

There appears to be a disconnect between management and staff when it comes to communication. Bureau management believes they are passing information down the line; however, the analysts are not receiving it.

The stream of information from bureau leadership to laboratory staff needs to be disseminated regularly and consistently as appropriate through regular meetings, documentation (memos or news feeds), or other methods identified as both convenient and accessible.

**DOJ Response:** As noted, DLES and WSCLB have taken, and continue to take, steps to remedy miscommunications. DOJ management will work with division and bureau management to ensure that communications are passing through front-line supervision at the labs, and to the employees. DLES and WSCLB will also remind employees that many communications are sent through email, and employees are responsible for reading such communications. WSCLB management will strive to be more responsive to employee communications and will consider using different forms of communication to deliver the message, such as podcasts. Ideas such as town hall meetings have been recently incorporated allowing the WSCLB Directors the ability to interface directly with the team members within the Bureau. This a new practice with the newer management team and will take time and consistency for the employees to gain the trust that meetings like the monthly town hall meetings will continue.

**Observations: Compensation**

**Observation:** The salary disparity between seasoned and entry-level forensic analysts was verbally expressed to interviewers on numerous occasions by laboratory staff. According to management, newer entry-level analysts are making more money than senior and advanced analysts who possess much more experience, knowledge, skills and abilities. This situation, known as pay compression, is the result of the market-rate for a given job outpacing the increases historically given by the organization to high tenure employees.<sup>2</sup>.

Pay compression results in several WSCLB issues cited below:

- Pay differential has caused strife between staff members and has lowered morale within the individual units.

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<sup>2</sup> <https://definitions.uslegal.com/p/pay-compression/>

- There is a high rate of turnover attributed to the pay issue resulting in a trickle-down effect to productivity because the laboratory is in a constant state of training. The laboratory provides mentorship training, which takes the trainer off casework throughout the training period.
- Administrative staff are paid at such a low level; they are constantly seek employment elsewhere. This affects laboratory productivity because the analysts must handle administrative work that requires time and effort that could be devoted to casework.
- There is a perceived imbalance in the distribution of overtime pay. It was explained by management that this is a Fair Labor Standards Act (FLSA) rule of exempt vs. non-exempt employees. The entry level employees are non-exempt and the senior level employees are exempt, which is why the application of overtime is different.
- There is little to no incentive to volunteer for the Crime Scene Response Team. On-call pay is low and normal caseload is not adjusted accordingly.

**Recommended Action:** The pay structure must be reviewed and adjusted as soon as possible. As cited above, this is causing cascading issues across the entire bureau.

Regarding the perceived imbalance in overtime pay, overtime is being applied correctly and although it seems the message has been shared repeatedly, it apparently is still not correctly understood by staff. This can be addressed with improving all communications avenues.

**DOJ Response:** This recommendation supports DOJ's attempts to increase pay for WSCLB employees. However, in several cases, DOJ cannot make independent decisions or has limited discretion in setting pay which includes pay on transfer, correcting inequities, merit awards, retention awards, sign-on bonuses, and assigning positions to pay schedules and ranges and their corresponding salaries. Such requests are reviewed and modified or approved outside of DOJ.

In 2017, DOJ conducted a survey on Forensic Program Technicians that increased pay for entry-level positions from \$13.11 to \$15.66 and increased the rate for DNA screeners to \$16.95. However, DOJ requested, and continues to request, more autonomy to set pay within a given range for new hires in these positions. Currently, we are undergoing the same process for the Identification Technicians.

DOJ recognizes that market forces often cause inequities like the ones experienced at the crime laboratories, and DOJ has been addressing the issues as opportunities arise. When awarding annual merit and retention-based pay increases (DMCs and DERAs), we continue to place importance on laboratory positions and attempt to correct as many inequities as we can. However, DOJ is restricted in the number and size of awards, and was not able to fix all existing inequalities.

In addition, DOJ has formulated a budget request that addresses both the pay of current analysts being below market levels, and providing opportunity for advancements and pay increases in the future to eliminate recreating a pay compression situation. DOJ's proposal will be a statutory, merit-based pay progression that gives DOJ the autonomy to give pay increases according to market forces and performance of our employees.

## Observations: Evidence

**Observation:** Currently, the WSCLB is using a hardwired networked Bar Coded Evidence Analysis Statistical Tracking (B.E.A.S.T) LIMS system to track a case from start to finish. As a result, laboratory customers have to contact the laboratories directly to check on the status of cases, retrieve results, etc. Also, the system is not currently configured to suit the needs of the controlled substances and toxicology units (i.e. case notes and accurate transmittal information). Also, analysts have to be at their computer or another hardwired computer in order to access case information.

**Recommended Action:** The current B.E.A.S.T LIMS system needs to be updated to the newest available web-based version. If a secured portion of the system was made available to the submitters over the Internet, they could also enter their own transmittal data as well as retrieve needed information in a timely manner. This would reduce the information that is currently being distributed by the laboratory staff or entered by evidence technicians, improving efficiency. Also, the ability to access case information anywhere within the laboratory (via a secure WIFI) or other off-site locations would allow analysts to perform case review, data entry and other job-related activities. This would be especially helpful to in-unit areas that are currently in need of more space (Milwaukee).

**DOJ Response:** DOJ has already purchased and will begin testing and implementing the web based BEAST.net LIMS system, which will allow customers to directly access testing status and results, and potentially facilitate a more lenient remote-work policy.

The new BEAST.net software will have the ability to create modules for each scientific discipline within the WSCLB, which will allow each unit the ability to configure the program to meet its needs. The BEAST.net software will also have a pre-log feature that will allow law enforcement agencies the ability to enter evidence they intend to submit to the WSCLB into the system prior to arrival at the laboratory, which will reduce the amount of time they have to be present at the laboratory for in person evidence submissions.

**Observation:** Discussions with staff revealed the evidence acceptance policies of the WSCLB are not being consistently enforced. This can be seen in incomplete evidence (e.g. missing DNA standards; incomplete case/investigative information) or by the acceptance of evidence that should not be worked by the laboratory (e.g. some possession cases). While there may be customer-specific reasons those exceptions are made, the front-line perceptions are additional work is being created and accountability for evidence acceptance is not being applied.

Example: A drug case: According to staff interpretation of the policy, a case is NOT supposed to be accepted if there is no set pre-trial/trial court date or if there is not a felony charge. However, cases continue to be accepted by both the Madison and Milwaukee laboratories even though these acceptance criterion are not being met. According to the WSCLB document *APM 4.1 Authorized Submitters, Acceptable Evidence Types and Special Conditions*, "The Crime Laboratory may decline to accept evidence in any case not involving a potential felony charge," but there is no mention of specifics with respect to not having a pre-trial or trial court date set.

**Recommended Action:**

Empowering a person with the case manager responsibilities, as we understand them, will be very beneficial to both the customer and the laboratory in terms of efficiency and the potential benefits can result in reduced turn-around times and backlog reductions.

Submitting agencies need to be contacted directly through outreach methodologies such as: off-site and on-site training, formal letters, email, etc. and provided the information regarding what is expected of them when submitting evidence. The evidence submission acceptance policies must be clearly defined within the Administrative Procedure Manual and then enforced by management within the WSCLB once stakeholders are made aware of any changes. If evidence is received by mail, policy enforcement can be accomplished by simply sending the evidence back to the submitting agency and accompanying the evidence with a formal letter explaining why it is not being accepted at this time. If the evidence is hand-delivered by the submitting agency, it may be refused directly, with information about the policy.

An example of success: A strict but structured evidence acceptance policy was implemented by the Wausau laboratory a few years ago and they were able to make a significant reduction in their case backlog as a result. By doing so, Wausau is now taking on controlled substances cases from another laboratory within the bureau.

**DOJ Response:** DOJ very recently hired a forensic case manager for the WSCLB. Additionally, the WSCLB recently released Latent Print Evidence Submission Guidelines for the first time. The WSCLB is revising the format of their evidence submission guidelines to make them clearer, more concise, and more user friendly. WSCLB also continues to review, clarify, and more strictly enforce submission guidelines through more contact with law enforcement to educate them on WSCLB policies and best practices. Posters with revamped guidelines are being produced and will be disseminated to submitting agencies. In addition, WSCLB will be updating guidelines across all disciplines. The forensic case manager will assist in not only enforcing the guidelines but also disseminating information about the guidelines at the many different events and conferences in the state.

**Observations: Crime Scene Response**

**Observation:** The number of crime scene callouts has remained consistent over the past few years. In 2017, there were 91 calls for service, with staff expending approximately 1,900 hours at these scenes. Depending on the type of scene, anywhere from three to five staff members responded to each scene. Over time, these additional duties not only prove to be a drain on the responding staff members, but also an additional burden on the staff within the individual units at the laboratory. At any given time, half of the staff of a unit may be responding to a crime scene that delays casework, technical reviews, validations and many other laboratory activities.

**Recommended Action:** The potential of initiating a full-time dedicated Crime Scene Response Unit should be explored. At least three staff members dedicated to the Crime Scene Response Unit, one per laboratory, could have a positive impact on limiting the amount of time other staff members have to spend on Crime Scene Response Unit related responsibilities. It was relayed by staff members that a significant number of law enforcement agencies in the northern part of the state have very limited

resources. Surveying these agencies might determine that a significant need for a full-time response unit exists and would be used significantly.

**DOJ Response:** DOJ will evaluate the potential for a full-time CSR team. Currently, the limited number of full-time employees the agency is allowed to hire does not allow for dedicated full-time staff, but limited-term employees have been utilized as dedicated CSR members. DOJ will evaluate additional duties the CSR members could perform during times when call-outs are low. In addition, DOJ will request the recommended 3 FTEs in the budget submission. WSCLB management will continue to evaluate the make-up of the CSR team, and its impact on WSCLB workload.

### Observations: Quality

**Observations:** The Quality Assurance Coordinator's (QAC) responsibilities significantly increased in July 2018 with the Technical Unit Leaders (TUL) reporting to the QAC. The QAC now has a total of eight direct reports. Five of the reports are not in Madison where the QAC is located. The TULs, per the newly issued guidance document, in addition to his/her discipline specific quality assurance and technical direction responsibilities is a "working analyst." As a working analyst the "TUL must perform analysis in their discipline for a minimum number of cases as determined by the Quality Assurance Coordinator." The TUL is also required to be accessible in person at laboratory locations as determined by the Director. It is no longer clear what the responsibilities are for the Laboratory Quality Managers and how he/she will interact and complement the QAC role since the QMs now report to the site-specific Laboratory Manager.

The WSCLB utilizes Qualtrax compliance management software to track non-conformities (NCs) and the status of corrective actions. In 2015, the Bureau added Level 3 NCs as a tracked category. NCs can be entered into the system by every examiner. We reviewed the Qualtrax corrective action summary and turnaround time data concentrating on 2016 to present data.

The Bureau averaged approximately 13 NCs per month.

- On average, there was one Level 1 NC every 2 months, which is described as "The nature or cause of the nonconformance directly affects and has a fundamentally negative impact on the completed work or the integrity of the evidence."
- There were more than five NCs per month being Level 2 where "The nature or cause of the nonconformance has the potential for serious consequences but has not had substantial effect on the quality of any completed work or the integrity of submitted evidence and the impact is not widespread."

Recognizing we do not have a comprehensive understanding of all aspects of your quality system process or access to all the Qualtrax root cause and corrective action information we make several observations.

- This appears to be a significant number of NCs for the organization. These cause a significant drain on resources to investigate, adjudicate and resolve.

- The investigation and remediation process defined in your quality documents and as described by staff is relatively complex requiring all the “interactions” to be carried out in Qualtrax.
- Multiple persons engaged in the investigation and corrective action implementation seem to have “veto” ability to halt or significantly delay closing out any corrective action. The twelve (12) NCs still open from 2015 to 2017 are evidence of encumbrances in the NC process and impact on efficiency.
- Every person in the organization has the ability to effectively define a NC by entering a concern into Qualtrax introduces a level of inconsistency in what is considered a NC.
- Categorizing the NC in Qualtrax enables consistent counting of NC classes, but may be hindering or limiting the ability to develop corrective actions that fully address the root cause.
- Evidence Support, as listed in the Qualtrax overview, has a disproportionate number of NCs for the number of staff with those responsibilities. This suggests, on its face, that the volume of work for the available staffing or the processes used may be contributing factors.

### Recommended Actions:

As the new QAC responsibilities evolve, it will be important to ensure he has sufficient training and support to carry out his new first-line supervisory responsibilities. Close coordination with the discipline supervisors is needed to ensure the TULs get the direction needed and are not reporting to two supervisors in practice. It may be worth evaluating the supervisory lines to ensure proper understanding of tasks and metrics to ensure the quality line and the bench lines are evaluated correctly.

The self-reporting of NCs in Qualtrax enables all examiners the opportunity to participate in the quality system. Restructuring the process to limit who (e.g. TUL or supervisor) is able to initiate a NC in Qualtrax should result in more consistency. We also suggest that the process require person-to-person discussion about the investigation and corrective action planning to facilitate completing corrective actions. The appropriate supervisor should be engaged in that discussion along with the TUL and the QAC or QM.

A TUL has significant responsibilities in every discipline. To support the TUL in each of the sites, consideration should be given to assigning an examiner in the other locations Assistant TUL responsibilities, particularly in the larger technical disciplines. This would enable the TUL to provide consistent technical guidance and oversight through his/her assistant.

A detailed review of some portion of recently closed corrective actions is suggested. The objective should be to determine the effectiveness of implemented corrective actions and their ability to address a root cause. The review should include to what degree and frequency are similar NCs occurring, how they were categorized and what were identified as the root causes.

The Evidence and Administrative Support staff would benefit from awareness training in the technical branches. This would advance their individual toolset and ensure they have an operational understanding of the evidence submission guidelines. It would also demonstrate to them how valuable their individual role is, not only contributing to laboratory efficiency, but also the ultimate justice outcome.

**DOJ Response:** This recommendation supports DOJ’s desire to hire additional quality assurance employees. Due to limited resources, our quality assurance personnel must also take on additional

duties to handle the increasing workload at the labs. DOJ will consider requesting additional FTEs in its state budget submission to allow quality assurance personnel to remain dedicated to that mission. In addition, WSCLB has worked to educate analysts on when it is appropriate to declare an NCI.

When the WSCLB was assessed back in February 2017 by ASCLD/LAB they were lauded for the thorough NCI documentation and quality system. This recommendation will be evaluated but the WSCLB accreditation requirements will dictate the final decision on how best to proceed.

### Observations: Biology / DNA

**Observation:** The number of staff in the DNA sections is only adequate if those employees are focused solely on casework. When the bureau management was asked how many people actually come in and just focus on casework the answer was very few. This is because DNA staff some weeks conduct robot activities, volunteer for crime scene response, conduct technical reviews or are involved in validations. During these times, they cannot do casework. So even though the Performance Measure metric may look favorable since it is only based on actual casework hours, they are not actually completing many cases.

**Recommended Action:** The DNA section needs to be staffed to identify a validation team, and a CSR unit. This ensures that validations are completed in a timely manner and be quickly implemented rather than taking a year or more. Also, having a full-time CSR unit will prevent pulling staff from other duties like technical reviews or casework to work crime scenes, as noted above. Depending on the crime scene, a staff member can be out of the laboratory for days and their work or work of other analysts are waiting for them to do (e.g. robot or tech reviews)and do not get done.

The section would benefit from more technicians or specialists, at least 3 additional full time positions in each of the DNA Units. Technicians or specialists can assist with tasks such as contacting submitters to ensure the work still needs to be done thus preventing work on adjudicated cases. The techs can also assist with evidence returns, which takes significant time from analysts. This should be evaluated in tandem with the evidence submissions recommendations to ensure tasks are covered appropriately. Example: If evidence handlers were hired, this aspect of technician support may not be needed.

**DOJ Response:** DOJ and WSCLB began a High Throughput DNA processing workflow pilot program at the Milwaukee laboratory. This project entails keeping a subset of the analysts focused on a particular duty for a set amount of time, after which that subset rotates to another duty. It allows each small team of analysts to focus on an individual function for a period of time to complete a large number of cases in a timely manner. Once the team finished their portion of the casework, they forward it to the next team, who performs the next function. For example, one team will work on extraction, another on data interpretation, and a third on tech review. Once that time period expires, the teams rotate in order to keep all skills up to date, and to prevent analysts from becoming bored or stagnant. WSCLB management is evaluating the success of this pilot, and plans to expand it if appropriate.

In addition, DOJ hired a team of forensic biologists into LTE positions to assist with workflow. The biologists are responsible for preparing evidence for the analysts to work up. This saves the analysts time, and keeps them focused on the actual case work. Because of LTE status, DOJ cannot incentivize

employees to stay with the WSCLB and progress to analyst. DOJ will include additional FTEs in its state budget request to build a more permanent team of forensic biologists in a new Forensic Specialist classification. This helps solve the problem of inadequate advancement opportunities, as well, since specialists can be hired at entry level and work toward becoming analysts.

### Observations: Chemistry / Toxicology

**Observation:** The majority of the Toxicology evidence that is received by WSCLB from submitting agencies comes in a kit that is paid for and distributed by the Wisconsin Laboratory of Hygiene. The form contained within the kit is suited for cases being submitted to that agency and NOT the crime laboratory. This has caused delays in case work flow for the evidence techs, toxicology supervisors and analysis as they often need to call and get the chemistry-appropriate information.

**Recommended Action:** A form that is applicable to both agencies could be created to better capture case information and test requests (maybe one side for forensic testing and the other for health), and still be used by both laboratory systems. Since both are state laboratories, this should be easily accomplished. Instructions could also be included in the kit to ensure that the new form is filled out appropriately.

**DOJ Response:** WSCLB and the Wisconsin laboratory of Hygiene have discussed reformatting the form to provide information adequate for both laboratories, and will continue to pursue that option per the recommendation.

**Observation:** The transmittal entered by the agency or the evidence technicians need to be more descriptive. Currently, the number of evidence items are not being accurately captured for controlled substances or toxicology. For example, a bag containing ten individual bags will be submitted as one item by the agency. In addition, it was noted that toxicology may receive a sample case with two blood draws and a urine sample, but the case will only be logged as having only two items. One blood item and one urine. These item discrepancies do have an effect on case workflow for the evidence technician, the unit supervisor assigning the case and the analyst working the case.

**Recommended Action:** Ensure that the submitting agencies are filling out their submission forms correctly and consistently. This can be accomplished through outreach mechanisms. The evidence technicians need to be properly trained on how to process case submissions as it pertains to a particular forensic discipline and ask questions when necessary. While this observation is specific to toxicology, it illustrates the larger evidence acceptance issues addressed above.

**DOJ Response:** DOJ will continue to work with the submitting agencies to address these concerns, including providing written guidance, and specialized training when necessary. WSCLB will continue to improve the evidence submission guidelines for the disciplines in the Chemistry Section to ensure that all appropriate requirements for submission are clearly defined. Additionally, the WSCLB intends to create an instruction form for the Evidence Transmittal form to clearly spell out what information is required for case submission.

**Observation:** It was noted that the Technical Unit Leaders for both toxicology and controlled substances have limited time to perform their respective duties such as analyst training, equipment validations, standardization, proficiencies and other duties within their respective units.

Examples:

- An entry level CS analyst interview revealed they had not seen their TUL during training and, as a result, had little to no interaction with them.
- The Milwaukee toxicology unit has a Hamilton Multi-volume electronic pipetting device that could significantly reduce the time it takes to perform alcohol analysis, but it is not being used because the validation has not been completed.

**Recommended Action:** Given that the TULs for both toxicology and controlled substances work at the Milwaukee location and fall under the Quality Assurance Coordinator (QAC) which resides at the Madison location, the QAC needs to work closely with their unit supervisor to ensure that they are performing their respective duties as a case analyst as well as the bureau's Technical Unit Leader. This goes back to the discussion about supervisory lines, and should be evaluated system-wide. For example: Because of the supervisory question, goal dates still need to be set for the validation of the LC-MS/MS and the Hamilton pipette in Milwaukee.

**DOJ Response:** DOJ, DLES, and WSCLB will review the workload of TULs, and attempt to free up time for TULs to train, research, and validate as recommended. As noted previously, the workload of TULs is impacted significantly by the limited FTE resources. DOJ will ask for more position authority from the legislature in the state budget request, but cannot hire additional full time employees without approval through the budgetary process.

**Observation:** Analysts within the Toxicology and Controlled Substance Units have to spend a considerable amount of their time working on tasks that could be accomplished by a technician or specialist; thus, taking away time that could be spent on casework.

**Recommended Action:** It is recommended that technician or specialist positions be considered for the Chemistry Units, at least one position per laboratory. Technicians or specialists can assist with tasks such as contacting submitters to ensure the work still needs to be done thus preventing work on adjudicated cases. The techs can also assist with evidence returns and prepping samples.

**DOJ Response:** DOJ will be requesting additional FTEs as recommended.

**Observation:** Across the entire bureau, the GC-MS Instrument methods, column types and lengths were noted to be non-standardized. This was observed for both toxicology and the CS units at all three laboratories. This inconsistency between individuals and laboratories could result in the inability to detect certain drug analytes of interest due to differences in instrument parameters and configuration. Examples:

- Some of the analysts within the same CS unit were using 12 meter columns, while others were using 10 meter ones.
- An analyst at another laboratory was using completely different GC-MS methods on their individually assigned instrument that varied in the split ratio as well as other GC parameters.

Given this instrument variability, a drug analysis performed by one analyst may be able to confirm the presence of a particular drug analyte, while another analyst within the same unit may not.

- During one interview, it was mentioned that on occasion some toxicology cases need to be sent to another laboratories within the bureau because they are better able to detect certain drug classes.

**Recommended Action:** The bureau needs to standardize the GC-FID and/or GC-MS instrument methods as well as column types and lengths across trace, controlled substances and the toxicology units. TULs and/or the QAC should do annual audits to ensure that methods and instrument configurations are in compliance with the established bureau standard.

**DOJ Response:** WSCLB management will evaluate the recommendation and implement standardization as soon as practicable. In addition, WSCLB plans to pursue the purchase of a LC/MS/MS for the Madison Laboratory to have consistent instrumentation between both Toxicology Units that perform drug analysis. DOJ will evaluate including this purchase in the budget submission.

**Observation:** During the interview process, we learned that case batching techniques are being used to streamline case workflow and increase efficiency within both the toxicology and controlled substances units. Batching is a proven technique to increase laboratory effectiveness; but unfortunately, some of the batching techniques that are being used by the bureau in these units are not optimized to their fullest extent. For example, toxicology was noted at all three laboratories to wait until they were able to batch a specific number of alcohol request cases (i.e. greater than 20 or so) and then setup a batch run. In the interim, many alcohol only and/or alcohol with suspected drug cases would be required to wait two to three weeks before the alcohol analysis was completed.

Controlled substances was also noted to perform batching techniques; however, supervisors in these units are holding on to cases, and then assigning them in small batches of similar type (plant material suspected of being marijuana, cocaine positive field test, meth, etc.) to a given CS analyst. Again, a case(s) may sit for at least one week until enough cases can be assigned.

**Recommended Action:** It is recommended that all of the toxicology units perform alcohol analysis at a minimum of once per week. While a typical alcohol run using Headspace analysis by GC-FID does require the preparation of at least five standards, a few controls and some instrument data entry, the entire process to include the data review of these QA/QC samples is less than an hour. Therefore, the brief amount of time spent to prepare these extra QA/QC samples for weekly runs would have little to no impact on overall analyst's time. By implementing this change, the total number of alcohol cases that would need to be prepared, analyzed and reviewed would be significantly reduced running smaller, weekly batches. As a result, 'alcohol only' cases would then be completed one to two weeks sooner than they are currently done, decreasing turnaround time. Given that the bureau also has a policy that they will NOT perform a drug screen or drug quantitation if the alcohol was determined to be above 0.10 g/dL, these types of cases would also be completed much quicker.

Although cases are being assigned utilizing batching methodologies in the controlled substances units, some of the CS analysts were observed to be doing analysis one case at a time. Thus the batching of

cases by the supervisor defeats the entire purpose. It is recommended that CS not batch cases unless every case analyst is batching their analysis.

**DOJ Response:** DOJ and WSCLB management are aware of the potential delays inherent in batching. In the past, WSCLB used its best judgment to balance time and material resources, but the increase in submissions has caused us to reevaluate the batching processes. DOJ will evaluate the recommended changes in batching policy and implement those that are appropriate.

**Observation:** While examining cases at the various locations, it was noted that every controlled substance analyst was using a slightly different or completely different case note form. Some analysts were trying to capture notes electronically while others were doing it by hand. These inconsistencies have made technical and administrative review difficult, cumbersome and more time consuming.

**Recommended Action:** The TUL for the controlled substance unit needs to standardize an electronic case note form and ensure that it is distributed to all CS analysts for use. Supervisors, QAC and TULs need to ensure that the form is being used.

**DOJ Response:** WSCLB intends to standardize the case note forms used throughout the Bureau.

**Observation:** Controlled substances, trace and toxicology analysts do not currently have access to the instrument software on their individual desktops or if they do, their desktops or lab computers are too old to handle multiple functions at the same time. Analysts are noting slowdowns or computer freezes. Some analysts have to be at the computer that is directly attached to the instrument in order to do any data interpretation.

**Recommended Action:** Instrumentation software from the Agilent GC-MS, GC-FIDs, FT-IR, LC-MS/MS could be made available so that analysts could remotely connect over the network to the instrument computer to retrieve data and perform data analysis from their desktop.

**DOJ Response:** WSCLB intends to work with DOJ Bureau of Computing Services to see if this recommendation is feasible.

**Observation:** It was observed that the Madison CS unit is putting their instrumental data into a separate folder within the case jacket. This separate folder is attached to the case jacket by hole punch, but the instrumental data is loose within the secondary folder. At any time during the technical, administrative, pretrial or trial review, these documents could become lost. By adding this extra step, this has also slowed down the administrative and technical review process. Milwaukee and Wausau both hole punch their documents and included them within the case jacket itself, which reduces the risk of document loss and makes the review process more streamlined.

**Recommended Action:** Adjust instrument macros and ensure that the bureau is sharing the same macros between the individual units, so that all of the reports that are generated are the same and are not affected when hole punched at the top.

**DOJ Response:** WSCLB will reevaluate the macros used within the Controlled Substance Units and work towards uniformity and consistency.

**Observation:** There are several inconsistencies that were observed between the laboratories within the bureau as it relates to the chemistry units. For example, when it comes to the tuning of the Agilent GC-MS systems, Milwaukee does not tune every day, Wausau does and Madison varies.

**Recommended Action:** TULs need to ensure that each laboratory within the bureau is doing everything consistently. An analyst exchange could also help with this. An analyst from each lab could visit a neighboring lab for a week to see how they operate and vice versa.

**DOJ Response:** WSCLB intends to work towards uniformity and consistency.

**Observation:** Our interviews of staff revealed that training and or conference attendance for analysts is under-funded. It is difficult to get approval to attend these types of events so analysts can stay current within their field of expertise.

**DOJ Response:** Funding is available for conference attendance and training. However, the increased submissions in recent years, in addition to limited human resources at the lab, forced DOJ management to reduce analyst time away from casework as much as possible. DOJ intends to ask for additional FTE positions in the state budget request, which would free up more analyst time for training and conference attendance, as well as lab visits.

## Observations Specific to the Madison Laboratory

**Observation:** It was noted that there is not enough clerical or evidence staff located at the Madison laboratory to support demand. Controlled substance and forensic toxicology analysts have to retrieve their own evidence, put together case jackets, file their own cases and answer legal requests (i.e. discovery and open letter requests). Having to perform these administrative tasks takes time, which could be better spent doing actual casework.

**Recommended Action:** Hire evidence techs that can do both administrative as well as evidence tasks. This will save the bureau from having to hire for both positions and should allow them to increase their pay given that they are performing multiple assigned duties.

**DOJ Response:** DOJ will be addressing this during the 2019-2021 state budget submission and compensation plan process.

**Observation:** The Madison Laboratory has three separate DNA laboratories that are not all equipped equally. One laboratory does not have an EZ1 robot, but staff are not willing to go and use EZ1 in the other lab. They did have the opportunity to get one and declined.



**Recommended Action:** New methods or technology being adopted to increase productivity must be required to be used by all staff. Staff should not be able to choose how they will do casework unless their method is proved to be equally effective.

**DOJ Response:** WSCLB will evaluate how each of the DNA Laboratories in Madison are equipped and will consider purchasing of equipment. The goal of the WSCLB is consistency in how samples are processed and the intention to have a well-defined workflow with only limited variation for specific circumstances. WSCLB is awaiting the results of the High Throughput pilot project to best determine how to proceed with the DNA processing workflow.

**Observation:** The Madison Laboratory DNA space is split into three separate rooms. This has created separation between the staff. Each laboratory functions as its own unit and in some cases different methodologies are adopted.

**Recommended Action:** To foster more teamwork, it would be better to divide the three lab spaces into different parts of the DNA process so all the staff can work together. For example Evidence Screening, Extraction and Robotics, and Post Amplification.

**DOJ Response:** WSCLB will evaluate how each of the DNA Laboratories in Madison are equipped and will consider reorganization.

## Observations Specific to the Milwaukee Laboratory

**Observation:** The DNA section is cramped. The section is divided into 3 separate labs however, due to differences in space, not all labs have the same equipment. Staff are constantly moving from one lab to the other to complete their DNA processes.



**Observation:** The laboratory has had some past roof leaking issues in the DNA section. If a leak occurs in the DNA laboratory, it must be shut down while the problem is fixed to avoid evidence contamination.

**Observation:** There is no central storage of materials/supplies. Staff advised they can spend a significant amount of time going from one lab to the next looking for supplies.

**Observation:** The lack of space is preventing the acquisition of and/or the most productive use of equipment. Ideally, there should be one EZ1 and QIAcube per 4 analysts. It is unclear what the current ratio is exactly, but is clear that the laboratories could use more equipment to support higher throughput. However, this is not possible because there is no place to put them in the laboratory.

In the North laboratory space, the robots EZ1 and QIAcube are situated next to each other in a tight space. The area is so small that two people cannot work at the same time. This prevents one instrument from being used when an analyst is using the other, impacting efficiency.

**Recommended Action:** A new facility in Milwaukee is needed as soon as possible to provide appropriate space for laboratory instrumentation, workflow and storage.

**DOJ Response:** DOJ has been working diligently with DOA to build a new Milwaukee Crime Laboratory.

## Observations Specific to the Wausau Laboratory

**Observation:** Opportunities to recognize good quality and hard work seem to be overlooked by management. For example, Wausau is taking on controlled substance cases from another laboratory within the bureau and could be recognized for their dedication to duty and high productivity, but nothing has been said or done to note the extra effort.

**Recommended Action:** Have a news bulletin or bureau wide meeting that recognizes individuals for their hard work ethic. This should also come with an award of some type: time off or other affordable compensation. A communications tool of this type could also be used to improve communications about policy and procedure changes and other WSCLB-related news, helping to address issues of communication noted above.

**DOJ Response:** WSCLB management will strive to be more responsive to laud the hard work of employees. WSCLB will consider bringing back the quarterly newsletter.

**Observation:** It was mentioned to this evaluator that there are no visual smoke alarms within the entire laboratory facility. Specifically because there is one hearing-impaired team member, this should be addressed sooner than later.

**Recommended Action:** Install both visual and audible alarms to ensure the safety of all staff and visitors.

**DOJ Response:** There are visual smoke alarms in the main part of the facility, but more visual smoke alarms are needed. WSCLB plans to correct this safety concern as soon as possible.

## Concluding Remarks

The NFSTC@FIU Assessment Team wishes to thank the staff of the WSCLB for their candor and willingness to take time and share information for the benefit of the entire laboratory system. The staff's service to the citizens of the State of Wisconsin is extremely commendable. It must be noted that the Laboratory Bureau Director and Assistant Director are both relatively new in their positions. Improving any forensic laboratory environment and provision of services is a difficult and time-consuming task. It is the opinion of the Assessment Team that the Laboratory Bureau staff is moving in the right direction and is dedicated to insuring that everything possible is being done to continue to improve the forensic laboratory environment.

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