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Perspectives on Addressing the Collection, Tracking, and Processing of Lawfully Owed DNA Samples

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Overview/Abstract

The Federal Bureau of Investigation's (FBI's) Combined DNA Index System (CODIS) is a powerful tool that supports the criminal justice system by generating investigative leads, identifying perpetrators, and linking cases together—helping to identify serial criminal activity. The term *CODIS* typically represents the FBI's operations program for databases that support the criminal justice system as well as software for the system.

DNA profiles obtained from convicted offenders and arrestees are entered into the appropriate index (i.e., Convicted Offender Index or Arrestee Index) and uploaded into the State DNA Index System (SDIS) and the National DNA Index System (NDIS); SDIS and NDIS are both components of CODIS. Through the search process, CODIS may identify a match between the DNA profile obtained from a forensic crime scene sample and the DNA profile obtained from a convicted offender or an arrestee; this match results in an offender CODIS hit. An offender CODIS hit is a valuable investigative lead. Recent research and practitioner experiences have confirmed that the CODIS database is not consistently populated with DNA profiles obtained from (1) convicted offenders' DNA samples and, in relevant states, (2) arrestees. These samples—often known as "lawfully owed DNA" samples—are critical to CODIS, which is founded on being a comprehensive national system supporting the criminal justice system.

This study—conducted by the National Institute of Justice's (NIJ's) Forensic Technology Center of Excellence (FTCoE), in collaboration with several U.S. agencies—seeks to identify (1) potential barriers related to the collection, tracking, and processing of arrestee and convicted offender samples as well as (2) successful policies. The following report also highlights recommendations for improved and more efficient tracking, collection, and testing of lawfully owed DNA samples. This report can assist criminal justice stakeholders with identifying and resolving needs associated with the effective tracking, collection, and testing of lawfully owed DNA samples to ensure the state and national databases are appropriately populated to comply with state and national legislation.

Introduction

The CODIS database has become a cornerstone of support to the criminal justice system. The FBI, law enforcement agencies, and forensic testing laboratories strongly emphasize and support the process of uploading DNA profiles from evidentiary and convicted offender/arrestee samples; additionally, standard operating procedures (SOPs) and protocols clearly define this process.

CODIS connects DNA samples as *forensic hits* or as *offender hits*—both of which are useful to investigations. Forensic hits link cases to each other through evidence-generated DNA profiles. Offender hits link the DNA profile obtained from case evidence to the DNA profile obtained from a convicted offender or, as applicable by state or national law, an arrestee. Offender hits are associated with named individuals, making these hits powerful investigative leads. Forensic hits can also provide tangible investigative leads to law enforcement through information contained in the case files, such as similarities related to the modus operandi or the name of a person of interest. For CODIS to work optimally, both types of DNA profiles—those generated from evidence and those obtained from convicted offenders/arrestees—need to be uploaded to the system.

More than a decade ago, political leaders initiated legislation to require the collection of lawfully owed DNA to support the effective use of CODIS. In fact, by 2009, the federal government and all 50 states had passed bills mandating the collection of DNA from individuals *convicted* of certain crimes; some states had even passed bills requiring collection from individuals *arrested* for certain crimes.[1]

[1] Nelson, M. (2011). *Making sense of DNA backlogs, 2010—myths vs. reality* (Special Report NCJ 232197). U.S. Department of Justice, National Institute of Justice. www.ncjrs.gov/pdffiles1/nij/232197.pdf

Across states, legislation differs about who is responsible for collecting lawfully owed DNA samples, when samples should be collected, and what crimes require DNA collection. The lack of standardization and the challenges associated with the responsibility of collection create the potential for an inadvertent failure to collect these samples for CODIS entry.

Recent research, practitioner experiences, and media reports[2] have confirmed that the CODIS database is not consistently populated with the DNA profiles obtained from (1) convicted offenders' DNA samples and (2) arrestees (based on relevant state and federal legislation). These samples—often known as "lawfully owed DNA"—are required for the intended application of CODIS. Not effectively tracking, collecting, processing, and uploading lawfully owed DNA samples (1) results in delinquencies in connections that CODIS can create and (2) delays the identification of individuals and investigative leads. These negative outcomes impact the ability to solve crime and identify suspects—plus these outcomes also threaten community safety.

In response to legislation, agencies have created SOPs for the collection, tracking, and processing of lawfully owed DNA samples. However, possible gaps in workflow design and overall challenges associated with communication between agencies may result in inefficiencies in collecting and testing these samples, and then uploading them to CODIS.

Similar to federally funded programs that aid in processing forensic evidence for upload to CODIS, federal programs exist to specifically address the issue of lawfully owed DNA samples. Historically, the NIJ[3] DNA Capacity Enhancement for Backlog Reduction (CEBR) program and—more recently—the Bureau of Justice Assistance's (BJA's) National Sexual Assault Kit Initiative (SAKI) have both provided funding opportunities for the collection, tracking, processing, and data management of lawfully owed DNA samples to increase the number of samples uploaded to CODIS.

Both programs support the processing of lawfully owed DNA samples; however, the target agencies and objectives differ. Laboratories are typically the target recipients for the CEBR program funding, which supports improved workflows and enhanced laboratory capacity to process lawfully owed DNA samples. This funding has been, and continues to be, essential support for crime laboratories to address the needs and challenges associated with processing volumes of lawfully owed DNA samples.[4]

Over the years, state legislation has changed to require the collection of lawfully owed DNA samples from additional types of violent crime, felony convictions, and certain misdemeanors—as well as from additional categories of arrestees. Solving cases with the support of CODIS has led to expanded legislation; however, despite the intention of supporting the criminal justice system's investigative branch, laboratories struggled to be responsive because they did not receive additional fiscal support to address the influx of samples.

Crime laboratories have used CEBR funding effectively by hiring staff, purchasing supplies, and implementing new technologies and relevant equipment—including high-throughput systems. Undoubtedly, these changes have substantially reduced the backlog associated with processing offender DNA samples. It is important to note that the laboratory is not responsible for the collection of convicted offender and arrestee samples—and as such, additional work is needed to ensure these samples are collected and submitted to the laboratory for testing and upload to CODIS.

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[2] Augenstein, S. (2017). Hidden in prison: 7 states have thousands of inmates not in DNA databases. *Forensic Magazine*. https://forensicresources.org/articles/hidden-in-prison-7-states-have-thousands-of-inmates-not-in-dna-databases/

[3] As of fiscal year 2020 (FY2020), BJA administers the DNA CEBR program.

[4] Lindstrom, J. D. (2012). *A more efficient means to collect & process reference DNA samples* (NIJ Cooperative Agreement 2009-DN-BX-K160). U.S. Department of Justice, National Institute of Justice. www.ncjrs.gov/pdffiles1/nij/grants/237764.pdf

A focus of BJA's SAKI program is enhancing collection agencies' capacity to create a census of uncollected lawfully owed DNA samples, followed by collecting and tracking those samples. Recently published research[5, 6] and this study's findings both indicate that the disparity caused by failing to upload lawfully owed DNA samples to CODIS does not occur in laboratories alone; rather, this disparity is a result of complex factors associated with sample identification and collection, and the interpretation of corresponding statutes.

SAKI Metrics for Lawfully Owed DNA Samples as of September 2020

- 105,626 samples identified
- 6,353 samples collected
- 5,988 samples submitted for testing
- 4,423 profiles uploaded to CODIS
- 116 CODIS hits
- 55 CODIS hits to crimes other than sexual assault

SAKI: Addressing the Collection and Tracking of Lawfully Owed DNA Samples[7]

The SAKI program has a specific purpose area designated for lawfully owed DNA. In fiscal year 2016 (FY2016), the Cuyahoga County Prosecutor's Office (Ohio) received SAKI funding specifically to address the tracking, collection, and testing of lawfully owed DNA samples; Cuyahoga County was the first jurisdiction to receive SAKI funding under this purpose area.

In FY2017, the Nevada Office of the Attorney General/Las Vegas Metropolitan Police Department followed suit in receiving funding related to lawfully owed DNA. In FY2018, four additional jurisdictions—County of Washington (Oregon); State Attorney's Office, 4th Judicial Circuit (Florida); Charlotte-Mecklenburg Police Department (North Carolina); and West Virginia Division of Justice and Community Services—received funding, followed in FY2019 by the Washington State Attorney General and the Texas Department of Public Safety.

This funding requires each SAKI grantee to complete a census of lawfully owed DNA samples, which is the first attempt to identify the magnitude of this problem on a national level. The expectation is that the numbers will continue to rise as these grantees complete their censuses and as additional grantees enter the SAKI program.

Scenarios That Typically Result in Not Collecting a Lawfully Owed DNA Sample:

- Changes in DNA collection statutes or qualifying offenses (1) are not retroactive or (2) have limiting stipulations.
- Collection occurs at the time of prison release instead of at the time of incarceration.
- Offender did not go through typical intake admission or refused collection.
- Offender is deceased.

Overview of Possible Reasons Contributing to Lawfully Owed DNA Samples Not Being Collected

The September 2020 data snapshot shows that a substantial disparity exists between the number of samples that needs to be collected and the number of samples that has

[5] Lovell, R., Butcher, F., & Flannery, D. (2016). *Cuyahoga County Sexual Assault Kit (SAK) Pilot Project: Report on serial and one-time sexual offenders.* Case Western Reserve University Begun Center for Violence Prevention Research and Education https://case.edu/socialwork/begun/sites/case.edu.begun/files/2019-02/Completing%20a%20Census_CWRU_FINAL.pdf

[6] Lovell, R., & Klingenstein, J. (2019). *Outcomes from efforts to swab offenders who lawfully "owe" DNA in Cuyahoga County.* Case Western Reserve University Begun Center for Violence Prevention Research and Education. https://case.edu/socialwork/begun/sites/case.edu.begun/files/2019-02/Swabbing_Outcomes_CWRU_FINAL.pdf

[7] This section highlights a subset of SAKI grantees that have received funding specifically for efforts related to lawfully owed DNA. In the last 6 years, 71 grantees have received SAKI funding. In 2015, 20 state and local jurisdictions were selected as SAKI sites; BJA funded 12 additional jurisdictions in 2016, 9 additional jurisdictions in 2017, 13 additional jurisdictions in 2018, 10 additional jurisdictions in 2019, and 7 additional jurisdictions in 2020—for a 6-year total of 71 grantees. For more information, visit www.sakitta.org/sakisites.

been collected. Undoubtedly, some of this difference is due to the time required to locate and collect samples from individuals. In addition, efficient tracking systems (i.e., those that clearly identify individuals who have provided a sample versus those who still owe a sample) are lacking, adding complexity to the issue. However, a continuing challenge for collection of lawfully owed DNA samples may arise from legislation that is not specific enough in guidance about

- when samples should be collected,
- who should collect the samples,
- how to address collection for retroactive changes in the legislation, and
- what the course of action is if it is determined that collection is refused or being attempted after an individual is no longer incarcerated.

In some states, the legislation specifies that if the sample was not collected while the individual was incarcerated, then the individual is not required to provide a sample after release. If a court order cannot be obtained in these instances, a sample might be collected only if the individual volunteers to do so. Compounding the confusion, collecting a lawfully owed DNA sample may not be required retroactively while the individual is incarcerated. Some statutes do specify a retroactive date in addition to the date the law went into effect. This type of legislation—having both a "from this point forward" and "retroactive to this date" approach—is more comprehensive; however, only approximately half of the states currently have this type of legislation. Even with this approach, challenges exist in tracking and identifying incarcerated individuals who still owe a sample, which means the statute is not always upheld.[8]

[8] Wade, L. (2019). *Notes from the field: Expanding the DNA database to solve cold cases*. National Institute of Justice. https://nij.ojp.gov/topics/articles/notes-field-expanding-dna-database-solve-cold-cases

Case Study: Cuyahoga County Prosecutor's Office (Ohio)[5]

After two high-profile cases, Cuyahoga County recognized a systemic problem of not collecting and/or not entering offenders' lawfully owed DNA samples into CODIS.

Under the SAKI program, Cuyahoga County and their research partners from the Begun Center for Violence Prevention Research and Education at Case Western Reserve University are collaborating to (1) identify and collect lawfully owed DNA samples and (2) conduct research about how missing samples negatively impact the criminal justice system, including CODIS hits.[5, 6] This collaborative research project clearly defines the current progress and limitations to address lawfully owed DNA in Cuyahoga County.

Cuyahoga County's census contains over 15,000 individuals confirmed to owe DNA samples. As of January 2019, approximately 10% of those individuals have been tested and entered into CODIS. Of these, approximately 4.2% returned CODIS forensic hits. Following are key research metrics related to these forensic hits:

- The forensic hits were "cold" hits approximately 75% of the time, meaning the individual was not previously a suspect.
- The hits were to different crime types—including sexual assaults (~41%), burglary (~20%), and homicides (~6%).
- The hits resulted in opening cold case investigations (~60%)—of which approximately 40% resulted in ongoing investigations and roughly 18% led to prosecutions.
- The forensic hits equally confirmed the identity of a suspect (~12.7%) or excluded an individual as a suspect (~12.7%).

As the remaining samples in the census are tested and uploaded into CODIS, Cuyahoga County estimates that—based on existing data—they will receive an additional 582 forensic hits. The Cuyahoga County SAKI program clearly demonstrates that when CODIS is regularly updated with forensic DNA evidence and DNA from lawfully owed samples, the database has the capability to be an important investigative tool for solving cases—including cold case sexual assaults, homicides, and other crimes.

Cuyahoga County's High-Profile Cases

Anthony Sowell—The decomposing bodies of 11 women were discovered at his home in 2009.

- ► He served 15 years for rape; however, a DNA sample was not collected.
- ► His sample was not in CODIS.

Larry McGowan—His "unknown" DNA profile linked him to three rapes and one homicide.

- ► He spent a decade in prison.
- ► He was identified when his sample was taken for a 2012 rape that occurred 2 weeks after his release from prison.

Cuyahoga County Lawfully Owed DNA Case Study

1997 Sexual Assault of a 17-Year-Old Female

- ► The sexual assault kit was tested with SAKI funding.
- ► The unknown DNA profile was uploaded to CODIS.
- ► A 2017 John Doe indictment was filed on the DNA profile.

Antonio Huffman

- ► **2012**: He was arrested and charged for felonious assault; his DNA should have been collected, but it was not.
- ► **2015**: He was arrested and charged for illegal possession of a firearm; his DNA should have been collected, but it was not.
- ► **2017**: Authorities collected his DNA as part of his probation; his DNA was matched to the 1997 sexual assault above.

Study Overview

This study seeks to identify factors that may result in potential barriers related to collecting, tracking, and processing DNA samples from arrestees and convicted offenders. Additionally, this study helps to identify successful policies and highlight recommendations—as well as key considerations—for improving the efficiency and processing of lawfully owed DNA samples.

Grouping of Lawfully Owed DNA Legislative Categories

The Rape, Abuse & Incest National Network (RAINN) produced a comprehensive database[9] containing lawfully owed DNA legislation. RAINN used that information to assemble relative legislative information for each U.S. state. The states were then grouped by the categories listed in **Table 1**.

The responsibility for collecting arrestees' or convicted offenders' lawfully owed DNA samples falls to departments within law enforcement; the exception is Alabama, where the Department of Forensic Sciences has the responsibility of collecting these samples. Nationally, crime laboratories are responsible for the data management associated with tracking the receipt of and processing results of samples—as well as processing, analyzing, and entering these samples into CODIS.

Table 1. Legislative Categories for Lawfully Owed DNA Samples

Type of Mandated Collection by State*	
Convicted Offender Only	Delaware, Georgia, Hawaii, Idaho, Iowa, Kentucky, Maine, Massachusetts, Montana, Nebraska, New Hampshire, New York, Oregon, Pennsylvania, Vermont, Washington, West Virginia, Wyoming (18)
Convicted Offender and Arrestee	Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Florida, Illinois, Indiana, Kansas, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, Nevada, New Jersey, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Wisconsin (32)
Timing of Arrestee Sample Collection by State*¥	
At Booking	Alabama, Alaska, Arizona, Arkansas, California, Florida, Kansas, Louisiana, Mississippi, Missouri, Nevada, New Mexico, North Carolina, North Dakota, Ohio, Rhode Island, South Carolina, South Dakota, Texas (19)
At Booking—Processed *After* Preliminary or Grand Jury Hearing	Colorado, Indiana, Oklahoma, Utah, Wisconsin (5)
At Arraignment	Arkansas, North Dakota, Texas (3)
Prior to Release	Connecticut, Nevada, New Jersey, Tennessee, Virginia (5)
After Issuing a Warrant	Michigan (1)
After Issuing a Warrant—Processed *After* Arraignment	Maryland (1)
After Preliminary Hearing	Illinois, Minnesota, North Carolina, Ohio, Tennessee, Virginia (6)
After Grand Jury Hearing	Illinois, South Carolina, Texas (3)

*Final counts appear in parentheses.
¥ States listed in multiple collection time categories have legislation that provides for multiple collection points.

[9] Lawfully Owed DNA. (2020, March). https://apps.rainn.org/policy/compare/lawfully-owed-dna.cfm

Study Design

Our study design involved pairing sites together based on timing for the arrestee sample collection because this category had the most significant differences that have the potential to impact the effective collection of these samples. **Table 2** describes this design.

Table 2. Study Pairing Design Based on Sample Collection Time

Timing for Arrestee Sample Collection	Number of Sites Requested	Number of Sites That Participated
At Booking	4	1
At Booking, Processed After Grand Jury Hearing	2	1
At Booking, Processed After Preliminary Hearing	2	2
Prior to Release	2	1

Interviews

We contacted state and local agencies from these 10 sites to recruit interviewees from state crime laboratories, state law enforcement agencies, and other criminal justice agencies. Many agencies we contacted felt that they were unable to participate in this study due to other obligations. The team continued to reach out to additional agencies in the hopes of obtaining all pairings. In total, five agencies participated. The participating agencies provided current policies or SOPs for review before the interview stage. The agencies received interview discussion questions in advance to ensure effective conversations with the relevant stakeholders. The interviews explored roles and responsibilities, as well as policy and practice associated with the collection, processing, and data management of both convicted offender and arrestee lawfully owed DNA samples. The sidebar shows the interview discussion topics and **Appendix A** contains the interview questions.

Interview Discussion Topics

- Level of involvement in the creation of legislation
- Tracking, communication, and prioritization processes
- Impact and value of training
- Policies for submission and processing of samples
- Policies and practices that the agency identified as successful
- Areas of improvement identified by agency

Participating Agencies

Our assessment was limited to the local and state agencies that were willing to participate. Unfortunately, several legislative categories could not be explored with criminal justice representatives. For the legislative categories in which there was participation, we interviewed representatives from law enforcement agencies responsible for sample collection, representatives from state crime laboratories responsible for testing and uploading samples to CODIS, and—in some instances—representatives from the court system. In summary, we interviewed representatives from district attorney's offices, crime laboratories, and law enforcement or corrections agencies.

Summary of Findings from Interviews and Policy Review

The policies and SOPs provided, combined with interviewing criminal justice representatives, helped identify several opportunities for improving strategies.

The following topics were common themes for all participating agencies. Although these qualitative responses could not be quantified, they still provide significant insight for agency response to legislation pertaining to lawfully owed DNA samples, and these responses may likely represent areas of improvement on a national level.

Having a Seat at the Table: Agency Representation Prior to Drafting Legislation

During interviews, three out of five agencies mentioned that stakeholders from collection agencies or crime laboratories did not have representation or the opportunity to participate in discussions that led to the crafting of lawfully owed DNA legislation. Only two laboratory agencies participated in working group discussions prior to legislation being drafted. These laboratory representatives indicated that discussing workflow issues and crafting solutions prior to legislation being written gave laboratories the opportunity to be successful and avoid backlogs of samples. All interviewees from agencies that did not have representation prior to legislation being drafted spoke substantially about how valuable this participation is for laboratories. Having representation from key agencies that have workflows impacted by the legislation allows these agencies to be in a proactive, rather than reactive, mode and therefore reduces the number of systemic issues encountered.

Tracking Lawfully Owed DNA Samples Poses a Substantial Challenge for Collection Agencies

In general, interviews revealed that the five collection agencies essentially do not track lawfully owed DNA samples. The actual collection process differs for convicted offender and arrestee samples. As arrestees are brought in for processing, the collection agency verifies that the charged offense meets the criteria for DNA sample collection. For agencies that share an information system with the laboratory, the next step is to check a criminal history software system to see if a DNA sample is on file. An on-file DNA sample means the individual already has a DNA sample in CODIS. If the criminal history software system indicates that a sample is not on file, a sample should be taken. Samples obtained in this manner are typically not tracked within a corrections or law enforcement system and a manifest does not accompany the samples when they are submitted to the crime laboratory. Not tracking this sample collection information leads to the possibility of samples (1) not being effectively collected or (2) lost prior to submission for testing.

The process for convicted offenders differs slightly. For agencies that have legislation that mentions that the sample should be obtained upon conviction for a qualifying offense, the DNA sample *may* be taken at court or upon processing at the correctional facility. As individuals move from one correctional facility to another, a DNA sample *may* be taken at the new location. However, tracking or documentation to help determine if a lawfully owed DNA sample was previously taken typically does not exist.

Furthermore, correctional facility representatives mentioned during their interviews that steps are not usually taken to verify that convicted offenders' DNA samples are already on file or already in CODIS. There appears to be multiple reasons for this, such as not having access to the information system or criminal history. If access is available, then the correctional facility may not have a workflow that emphasizes this step. This workflow gap—combined with not having an information system for tracking convicted offenders' DNA samples that agency representatives have collected at multiple possible steps and/or locations—creates a situation in which it is unclear if required DNA samples have been taken. In addition, because the previously mentioned processes for potentially obtaining a DNA sample occur in traditional points of entry or movement within the criminal justice system, individuals who enter the criminal justice system through nonstandard processes—such as admission through an infirmary or a mental facility—may be missed completely.

The inability to consistently track lawfully owed samples raises serious concerns about the ability to collect samples in an effective manner from convicted individuals who (1) refuse to provide a sample, (2) enter the criminal justice

system through nontraditional entry points, (3) are transferred to different locations while incarcerated, or (4) owe a sample based on retroactive application or modification of a statute. All of these situations are exceptions to the standard process; therefore, samples are oftentimes presumed to be collected at some prior stage. Without a tracking system to verify if collection occurred previously—combined with confusion about who is responsible for collecting samples—individuals who owe samples are often missed in these exceptional scenarios. In situations in which statutes require collection prior to release only, individuals have already been released by the time testing has been completed; therefore, a CODIS hit that occurs after release creates additional complications for holding these individuals accountable.

Implementing the following steps will help ensure that lawfully owed DNA samples are collected and submitted to crime laboratories:

- Creating statutes that clearly define who is responsible for collecting lawfully owed DNA samples
- Supporting the provision of resources needed to track those samples and have this information available to all collection agencies
- Incorporating a collection verification step into the workflow process.

This strategy is relatively simple in theory but significantly more challenging to implement across thousands of collection facilities that have different technological capacities. Possible intermediate solutions could be (1) ensuring collection agencies have access to information that indicates if a sample is already on file—and therefore in CODIS—and (2) improving interagency communication leading up to the implementation of sample tracking on some level. For example, at least one laboratory revealed during interviews that they have access to their state's Department of Corrections data about who is incarcerated. This information is verified against lawfully owed DNA processed sample information, and the laboratory sends a monthly report to the Department of Corrections indicating who still needs to submit a DNA sample.

Addressing Duplicate Samples via Laboratory Strategies

Not verifying sample collection through effective tracking also results in some agencies acting on a policy of, "If in doubt, collect." This process reduces the chances of a lawfully owed sample being missed in the system; however, this approach leads to a significant number of duplicate samples being submitted to crime laboratories. Additionally, duplicate samples may arise because a previously submitted sample is in the processing stage and information available to the collection agency may not have been updated before the next sample collection.

The crime laboratories we spoke to receive thousands of duplicate samples, which adds an extra burden to an already strained system. However, some laboratories view this duplication as an opportunity for quality assurance and quality control. In this case, the duplicate samples are identified, set aside, and run as a separate batch; the resulting profiles are then verified against the previously obtained profiles as a quality control indicator. Considering that a laboratory may receive hundreds of duplicate samples, processing these samples as an internal quality control indicator may help identify potential opportunities to improve quality for both the collection agency and the laboratory.

Submitting a Sample Manifest as a Key Consideration for Accurate Sample Processing

Based on this assessment, tracking samples submitted to crime laboratories is highly effective. However, not submitting a manifest that summarizes the samples waiting to be tested raises the concern that samples may be missed prior to the laboratory receiving them. Samples are typically shipped or dropped off at the laboratory. Without a manifest, the laboratory cannot verify the exact number of samples that they should receive. During

interviews, the laboratory representatives emphasized that they would welcome a manifest for submitted samples because it would assist with identifying duplicate samples and ensuring all intended samples have been received.

Using an Appointed Laboratory Liaison to Improve Interagency Communication

During many of our interviews, individuals mentioned interagency communication—specifically between the laboratory and the collection agency; much of this feedback highlighted an opportunity to improve interagency communication. Examples of communication gaps can occur when at least one of the following steps is missed:

- Verifying information from samples,
- Addressing failed samples,
- Ensuring the laboratories have received samples, and
- Addressing general laboratory feedback about submitted samples.

For instance, one collection agency mentioned that having some positive feedback would greatly improve employees' morale; however, the laboratory consistently provides negative feedback. Improving communication was a goal that representatives mentioned in all interviews, though accomplishing this goal presents a challenge because of jurisdictional size, the number of collection agencies involved, personnel turnover, and other factors. One potential solution includes improving web-based access to SOPs, points of contact, training information, and other forms of general information. An interviewee shared one particularly successful approach that involved creating a laboratory liaison role that was responsible for interacting with all collection agencies. Having a designated point of contact who engaged with the collection agencies, provided training and supplemental information, and answered questions has—for the interviewee's agency—substantially improved the relationship and communication flow between the laboratory and collection agency.

Communicating Is Critical to Resolving Failed Samples

Communicating with the collection agency is critical to addressing a sample that fails to produce a CODIS-eligible DNA profile because a new sample needs to be collected, submitted, and tested in a timely manner. Addressing issues with arrestee samples is particularly time sensitive. Laboratory representatives informed us that notifications about failed samples typically involve mailing letters to the individuals who collected the original samples. Few communications about failed samples are conducted by email, phone, or other electronic means. If an information system or a criminal history is available, it does not contain information about submitted samples that do not produce CODIS-eligible DNA profiles.

When asked how collection agency representatives responded to the need to recollect samples, interviewees explained that the process is much simpler for convicted offenders because their location is known. However, arrestee samples could be obtained only if the individuals are still in custody.

Training Is Valued

In general, all collection agencies receive some level of training about collecting lawfully owed DNA samples. Collection agencies have reference resources available and have designated people, typically supervisors, who are available for questions.

Interviewees from collection agencies explained that their laboratories consistently provide training information about conducting proper collection techniques, filling out laboratory paperwork, and submitting samples to the

laboratories. Within laboratories, training about the tracking and processing of lawfully owed samples is comprehensive and aligns with accreditation expectations. All of the interviewees value training and emphasized the importance of sustainable, relevant training.

Collecting Lawfully Owed DNA Samples in a Retroactive Manner Has Weak Procedural Support

Legislation about collecting lawfully owed DNA samples differs in many aspects across the nation; however, various states could be grouped into several general categories based on convicted offender and arrestee legislation, the time at which collection occurs, and the job role responsible for collecting samples.

The processes discussed during interviews pertain to collecting samples from individuals entering the system as of (1) the date the legislation passed or (2) the legislation's future start date. Retroactively collecting lawfully owed DNA samples appears to be problematic, even if the statute clearly defines a date that occurs prior to implementing legislation. Retroactive collection does not occur due to lack of resources, the inability to identify individuals owing samples, or other reasons. In general, our findings suggest that the processes could benefit from discussions about retroactive collection strategies. Processes that have been implemented to address incoming convicted offenders and arrestees were the only processes that interviewees discussed in detail.

Concluding Recommendations

The following recommendations have been identified based on information in this report.

Recommendation 1: Create a process for effective communication and tracking of lawfully owed DNA samples.

Interview findings clearly show that crime laboratories have efficient tracking systems in place for processing lawfully owed DNA samples. Most collection agencies, however, typically do not have an efficient tracking system in place. The inability to verify and track lawfully owed DNA samples—especially for convicted offender DNA sample results—is a systemic failure to populate CODIS effectively. Not populating CODIS also creates a lack of accountability for criminal activity, including violent crimes.

Additionally, there is little systematic communication between collection agencies and crime laboratories about tracking lawfully owed DNA samples from collection through upload. These disconnects in communication and tracking result in the laboratory not being aware of the total number of collected samples compared to the total number of samples received for testing. Currently, few quality assurance/quality control processes exist to ensure that all lawfully owed DNA samples are (1) collected and (2) submitted to—as well as received by—crime laboratories. Without such processes, several opportunities exist for errors. For example, samples may not to be collected—and if they are collected, the possibility exists for them to be lost and not tested.

To avoid losing samples prior to submission, the collection agency should provide a manifest of the lawfully owed DNA samples submitted to the crime laboratory. The crime laboratory can use the manifest to verify that they receive the correct samples and then move the samples into the testing process. Alternatively, a possible solution would be to use a shared tracking system that can easily identify and compare collected samples to samples that the crime laboratory received and processed. Such a system could also address duplicate samples or failed samples that need to be recollected in a much more time-efficient manner.

Collection agencies have a critical need for an effective system that identifies and tracks lawfully owed DNA samples, especially samples from convicted offenders. Implementing a system like this presents significant challenges.

However, if statutes could provide more effective support for such a system, then the ability to populate CODIS accurately would improve and would undoubtedly support the criminal justice system by resolving more cases.

This study clearly identifies multiple systemic issues that exist with the collection of lawfully owed DNA samples and provides examples to demonstrate that additional cases can be resolved when such samples are collected and tested. The impact of effectively collecting, tracking, and testing lawfully owed DNA samples should not be undervalued.

Recommendation 2: Allow collection agency and crime laboratory personnel to participate in discussions about collecting and processing lawfully owed DNA samples.

Four out of five interviewees said that they have not had discussions with key stakeholders about legislation for the collection of lawfully owed DNA samples. These four agencies all agreed that having representation from collection agencies and crime laboratories would benefit legislative discussions. Inviting these key stakeholders to the table would provide an opportunity to strategize workflows and processes associated with sample collection, tracking, and testing.

In only one example during our study did such discussions allow for crime laboratory representation. In that case, the crime laboratory proactively addressed possible workflow modifications, identified solutions to challenges, and ensured they had enough available resources to meet the demand before the legislation became effective. Proactively including the crime laboratory led interviewees to determine that their respective agency's response to the legislation created a smoother, more efficient process. Unfortunately, representation from the crime laboratory or the collection agency is missing in most situations. Moving forward, collection agencies and crime laboratories should be included in discussions about resolving issues related to collecting and tracking lawfully owed DNA samples effectively.

Recommendation 3: Appoint a crime laboratory liaison as a primary point of contact for collection agencies.

As the dedicated point of contact, the liaison helps to address questions from collection agencies and provide clear, consistent communication. This role may also ensure effective training for collection agencies regarding the collection and submission of lawfully owed DNA samples.

Interviewees stated that having a crime laboratory liaison streamlined issues with submission, duplicate samples, and failed samples. Some crime laboratory representatives believe that the increased efficiency observed with addressing duplicate, missing, and failed samples—as well as the benefit of having a dedicated liaison to address general administrative issues associated with sample submission—resulted in an overall cost savings and increased processing efficiency for the laboratory. Therefore, interviewees highly recommended that their crime laboratory peers create such a position.

Conclusion

This study identified relevant issues associated with the identification, collection, and submission of lawfully owed DNA samples. Effectively addressing these samples is a complex process that requires coordination across law enforcement and corrections, the crime laboratory, and the court system. Not populating CODIS with these samples limits investigative leads and hinders the criminal justice system by increasing the probability that perpetrators will not face accountability for their crimes. Although these findings are preliminary and based on a handful of participating agencies, the previously mentioned recommendations demonstrate possible starting points for improving the overall process. This report demonstrates the need for approaches that recognize the importance of ensuring that these samples—especially convicted offender samples—are collected and submitted efficiently.

Appendix A:
Lawfully Owed DNA Study

Purpose Statement for Interviews

- Have interviewers introduce themselves.
- Describe the study's purpose and focus.
- Explain the Forensic Technology Center of Excellence (FTCoE) mission and the landscape report's overall goals, which include providing recommendations and best practices for the development of policies and practices in response to lawfully owed DNA legislation.

  Sample wording:

  As part of this goal, the FTCoE requests [AGENCY NAME]'s voluntary participation in this study. This multidisciplinary review is not an audit or inspection. This review evaluates U.S.-based agencies' policies and practices related to the collection, tracking, and processing of current arrestee and convicted offender DNA—also referred to as *lawfully owed DNA*.

  When complete, a final landscape report will provide leadership with timely information, highlight good practices, identify opportunities for improvement, and provide recommendations.

  Today's discussion is the first phase of this review process. Feel free to ask the interviewers any questions.

Phone Interviews with Agency Representatives

Questions for Data/Database Managing Agency

Interviewers: Date:
Name:
Position:
Rank:
Total years of experience:

1. What is your agency's involvement in the creation/execution of arrestee and post-conviction DNA legislation?

2. What are the key agencies that participate in arrestee and post-conviction DNA legislation?

3. What is your agency's process for handling and processing arrestee and post-conviction DNA data? (This includes the collection and tracking of such data.)
    a. Does your agency have specific procedures or policies that you follow when processing/managing these types of DNA data?
        i. Who is responsible for each of the following?
            1. Collection:
            2. Tracking:
            3. Processing:

4. What is your agency's communication process with the collecting agency?
    a. Are you involved in the physical collection of these samples?
        i. If so, are you involved in submitting these samples for testing?
    b. Are you involved in tracking these samples?
    c. Are testing results and uploads to the Combined DNA Index System (CODIS) communicated to the collection agency?
        i. If so, how is this information communicated?

5. Does your agency have a submission, prioritization, or maintenance policy for arrestee and post-conviction DNA data?

6. What specialized training does your agency offer for handling arrestee and post-conviction DNA data?

7. What specialized training does your agency offer for tracking these samples?

8. What types of internal resources does your agency have to accomplish these tasks?

9. If your agency is responsible for collection, what types of resources are needed for (a) collection and (b) tracking?

10. What types of external support does your agency have to accomplish the tasks discussed today?

11. In your opinion, which areas of the policies we discussed need improvement?

12. In your opinion, which areas of the policies we discussed are successful?

Questions for Sample Collection Agency

Interviewers: Date:
Name:
Position:
Rank:
Total years of experience:

1. What is your agency's involvement in the creation/execution of arrestee and post-conviction DNA legislation?

2. What key agencies are responsible for, or have participated in, developing arrestee and post-conviction DNA legislation?

3. What is your agency's process for handling arrestee and post-conviction DNA collection?
    a. Does your agency have specific procedures or policies pertaining to collecting arrestee and/or post-conviction DNA samples?

4. What is your agency's communication process with the data management agency?
    a. Are you involved in the data maintenance of these samples?
    b. Are collection rates communicated to this agency?
        i. If so, how is this information communicated?

5. Does your agency have a submission or prioritization policy for submitting arrestee and post-conviction DNA for testing?
    a. If so, how is this information communicated? To whom is it communicated?

6. How many samples do you collect and/or expunge monthly?
    a. Does the monthly collected amount meet the demand?

7. What specialized training does your agency offer for the collection and handling of arrestee and post-conviction DNA samples?

8. What types of internal support or resources does your agency have to accomplish the tasks discussed today?

9. What types of external support or resources does your agency have to accomplish the tasks discussed today?

10. In your opinion, which of the policies we discussed need improvement?

11. In your opinion, which of the policies we discussed are successful?

Questions for Law Enforcement Agency/Corrections Personnel

Interviewers: Date:
Name:
Position:
Rank:
Total years of experience:

1. What are your job duties when collecting arrestee and post-conviction DNA samples?
    a. At what point do you become involved in the criminal justice system?
    b. How are collection directives/requests submitted to your office?
    c. Does your office have specific procedures or policies that you follow when collecting arrestee and/or post-conviction DNA samples?
    d. Does your collection policy include protocols for responding outside of business hours?

2. Are there dedicated individuals responsible for the collection of these samples?
    a. If yes, are performance metrics associated with this role/activity?

3. What types of training and education are available for collecting DNA samples?
    a. How often do you receive training?
    b. How often are the trainings updated?

4. What is the sample tracking management process?
    a. What is your estimated monthly collection?
    b. How are the samples stored and shipped to the laboratory?
        i. Are there manifests associated with the samples?
        ii. Is there a minimum number of samples needed to ship to the laboratory?
    c. How are samples tracked?
        i. Who has access to this information?
        ii. Are periodic reviews done to identify delayed collections?

5. Do you communicate with other disciplines outside of your agency about lawfully owed DNA collection?

6. What types of internal support or resources would be helpful to accomplish the tasks discussed today?

7. What types of external support or resources would be helpful to accomplish the tasks discussed today?

8. Are there areas in the policies we discussed that you feel need improvement?

9. Are there areas in the policies we discussed that you feel are successful?

Questions for Laboratory Personnel

Interviewers: Date:
Name:
Position:
Rank:
Total years of experience:

1. What is your laboratory's process for handling and processing arrestee and post-conviction DNA samples?

2. What is your laboratory's communication process with the law enforcement agency (i.e., the arresting agency), corrections, and courts?
    a. Do you communicate with any of these agencies about lawfully owed samples?
    b. Are you involved in collecting these samples?
    c. Are testing results and uploads communicated to any of these agencies?
        i. If so, how is this information communicated?

3. Does your laboratory have a prioritization policy for testing arrestee and post-conviction DNA samples? Is there a tracking system in place?

4. Is there any training you can recommend to law enforcement agencies, corrections, and/or courts about the collection, tracking, submission, and/or processing of arrestee and post-conviction DNA samples?

5. What types of internal support or resources would be helpful to accomplish the tasks discussed today?

6. What types of external support or resources would be helpful to accomplish the tasks discussed today?

7. In your opinion, which policies that we discussed need improvement?

8. In your opinion, which policies that we discussed are successful?

Questions for Courts Personnel

Interviewers: Date:
Name:
Position:
Rank:
Total years of experience:

1. What is your role in the collection, processing, and/or expungement of arrestee and/or post-conviction DNA samples?
    a. At what point in the judicial process do you become involved in the collection/expungement process?
    b. How are collection/expungement directives/requests submitted to your office?
    c. What specific procedures or policies do you follow when collecting/expunging arrestee and/or post-conviction DNA samples?

2. Does your office have a specialized policy for sample collection?
    a. If yes, is there a dedicated person for this task?
    b. What type of training does this person receive?

3. What type of specialized training have you received to perform collection/expungement?
    a. Does your office, in conjunction with the arresting agency, provide training related to the collection/expungement of these samples?

4. How many samples do you collect and/or expunge monthly?

5. How do you communicate with the arresting agency about collecting/expunging these samples?
    a. Are there submission standards or requirements for these samples?

6. What types of internal support or resources would be helpful to accomplish the tasks discussed today?

7. What types of external support or resources would be helpful to accomplish the tasks discussed today?

8. In your opinion, which policies that we discussed need improvement?

9. In your opinion, which policies that we discussed are successful?

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The NIJ Forensic Technology Center of Excellence

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Information provided herein is intended to be objective and is based on data collected during primary and secondary research efforts available at the time this report was written. Any perceived value judgments may be based on the merits of device features and developer services as they apply to and benefit the law enforcement and forensic communities. The information provided herein is intended to provide a snapshot of current alternate light source developers and a high-level summary of available devices; it is not intended as an exhaustive product summary. Features or capabilities of additional instruments or developers identified outside of this landscape may be compared with these instrument features and service offerings to aid in the information-gathering or decision-making processes. Experts, stakeholders, and practitioners offered insight related to the use of alternate light sources for law enforcement agencies.

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