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Author: Dan Cantillon, Kathy Kopiec, Heather Clawson

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Evaluation of the Impact of the Forensic Casework DNA Backlog Reduction Program

Submitted to:

NIJ

Prepared by:

ICF International
9300 Lee Highway
Fairfax, VA 22031

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The participation and support of numerous criminal justice professionals throughout the country made this study possible. We wish to thank the hundreds of public forensic DNA laboratories, law enforcement agencies, and prosecutor offices who took the time to respond to detailed surveys about their agency policies and practices. Their cooperation with this study speaks to their professionalism and recognition of the need for government attention to the DNA forensic casework backlog.

We also wish to express our gratitude to the forensic DNA laboratory personnel, law enforcement agents, and prosecutors from the eight case study sites who contributed their time and valuable input. Case study sites were:

- Miami-Dade Police Crime Laboratory Bureau
- Minnesota Bureau of Criminal Apprehension Forensic Science Service
- Pennsylvania State Bureau of Forensic Services
- Philadelphia Police Forensic Science Bureau
- Phoenix Forensic Crime Laboratory
- St. Louis Metropolitan Police Department Crime Laboratory
- Virginia Department of Forensic Science
- Washington State Patrol Forensic Laboratory Services

Authors

Dan Cantillon, ICF International

Kathy Kopiec, ICF International

Heather Clawson, ICF International

Executive Summary

There has been a paucity of empirical research on the extent of casework DNA backlog and factors associated with the backlog. However, the few studies that have been conducted have shown considerable backlogs, both at law enforcement agencies and at DNA crime labs (Lovrich et al., 2004; Peterson & Hickman, 2005). In response, the National Institute of Justice in the U.S. Department of Justice, Office of Justice programs, has provided substantial Federal funds since 2000 to combat the growing backlog and general increased use of DNA evidence in the criminal justice system. This report focuses on the impact of one of these Federal funding mechanisms, the forensic casework DNA backlog reduction program from 2002 through 2005.

The evaluation of the forensic casework DNA backlog reduction program used a multi-method, multi-source research design to assess and understand how casework funding has assisted labs in their ability to address the two main intended program outcomes, which were to: 1) reduce the number of unanalyzed no-suspect cases; and 2) use the Combined DNA Index System (CODIS) effectively to solve no-suspect crimes having DNA evidence. The evaluation investigated what agencies have been doing to address the sizeable DNA backlog; specifically, what policies, procedures, and practices have been implemented to better use DNA evidence in criminal investigations and prosecutions, and how agencies have worked collaboratively to reduce the current casework backlog. Another objective of the evaluation was to assess how the increased use of DNA evidence has affected criminal justice agencies; thus, law enforcement agencies, DNA crime labs, and prosecutor agencies were surveyed. Case studies also were conducted in eight jurisdictions to provide context to survey findings and to gain a deeper understanding of each agency's operating environment, challenges, and promising practices in using DNA evidence to investigate, identify, prosecute, and convict individuals guilty of crimes.

Summary of Report Findings

Survey and case study data found that forensic casework DNA backlog continued to be a serious and significant issue for DNA crime labs. DNA backlog expanded considerably from 2002 to 2005, despite continued funding from forensic casework and other Federal grants. Survey data revealed that the median total DNA casework backlog for State labs was 249 in 2002 and increased to 451 by 2005. While backlog has grown, survey data also revealed that considerable progress had been made on increasing use of CODIS effectively, the second goal of the casework evaluation. In fact, use of CODIS to identify suspects increased exponentially from 2002 to 2005. In 2002, the median number of forensic and offender hits reported by State labs was 35, which increased to 180 by 2005. During this time period, forensic hits increased by 100 percent, while offender hits increased by 448 percent.

Results also demonstrated that the increased use of DNA evidence has substantially affected agency policies, procedures, and practices and increased collaborative activities and efforts in order to minimize, as much as possible, DNA testing demands on crime labs. Survey data revealed that agencies agreed they collaborated

effectively, and all case study site jurisdictions reported increased communication, collaboration, and satisfaction with the way agencies worked together over the last several years. These interactions, whether pre-submission calls, conferences, or limitations of evidence, appear to be increasingly formalized and used to address backlog issues.

The overarching question, is, why has casework DNA backlog continued to increase over the course of the casework initiative? There is no simple answer as a confluence of factors is involved. First, DNA submissions have continued to increase annually and, reportedly, by substantial amounts. Twenty percent of State labs and over 30 percent of local labs reported that DNA submissions had increased over 100 percent from 2002 to 2005. Staffing shortages at DNA crime labs were highlighted during case study site visits, and survey data revealed that the top three identified lab needs, across State and local labs, all involved staffing and related issues. To a large extent, this study's findings corroborate prior research that found there was a sizeable backlog and that most labs were understaffed and under-resourced to adequately address the backlog. While Federal funding has been extremely valuable, it has not been nearly large enough to offset lab needs (Lovrich et al., 2004). For instance, 40 percent of labs reported that, without Federal assistance, they would not have the capacity to process all violent crime DNA requests within 90 days by 2009; for nonviolent crime, this percentage increased to approximately 60 percent of all labs.

Newer challenges also are presenting themselves to DNA crime labs and the criminal justice community. Many of the current DNA submissions involve crimes for which DNA would not have been submitted in the past, or certainly not in the numbers that are currently being submitted for nonviolent crimes such as auto theft, theft, and vehicular breaking and entering. According to case study jurisdictions, in a way, labs have become victims of their own success. As State and national Combined DNA Index System searches result in more hits, publicity and education surrounding such positive outcomes prompts more DNA submissions. The increased number of hits, especially cold case hits, already has overburdened many law enforcement agencies that do not have the personnel to adequately pursue these cases.

Overall, the casework program evaluation found that labs are making progress addressing backlog and have instituted a number of policies, procedures, and practices to increase their ability to deal with the increasing numbers of DNA submissions. Many of the activities and efforts undertaken under the casework program have increased lab capacity, decreased turnaround time, and generally improved lab performance. However, there are no short-term solutions to the DNA casework backlog and numerous challenges remain to be addressed fully.

Evaluation of the Impact of the Forensic Casework DNA Backlog Reduction Program

Introduction

The use of DNA evidence in criminal investigations has increased exponentially over the past decade. Beginning with The DNA Identification Act of 1994 (P.L. 103-322), Congress has provided for the standardization and quality control of DNA forensic laboratories and funding for State and local law enforcement agencies to improve DNA testing capabilities. The act also enabled the creation of the Federal Bureau of Investigation's Combined DNA Index System (CODIS), a distributed database with three hierarchical levels (or tiers)—local (LDIS), State (SDIS), and national (NDIS). The tiered approach allows local and State agencies to operate their databases according to their specific legislative or legal requirements.

States also have introduced considerable amounts of DNA-related legislation over the last decade, which has significantly affected DNA crime labs. In 2002, only 22 States required the collection of DNA samples from all convicted felons while the number of such States increased to 35 by 2004. As of August 2007, 45 States' DNA databases included all felony convictions as qualifying offenses, 34 States included certain misdemeanors as qualifying offenses, and 11 States expanded DNA testing to include arrestees for all or some (violent) criminal offenses (DNAResource.com). As more States require the collection of DNA samples from all convicted felons, and as States allow samples to be collected for additional classifications of crimes, more evidence will be collected. The new requirements for convicted offender and arrestee DNA collection will further burden a system that currently has an extensive backlog for both convicted offender and casework samples.

In terms of casework DNA, research has demonstrated a considerable backlog at both law enforcement agencies that are still in possession of biological evidence and at forensic crime labs. Research has shown that there is an estimated 500,000 backlog of DNA evidence with police (Lovrich et al., 2004) and a backlog of approximately 49,000 at crime labs (Peterson & Hickman, 2005).

Another critical issue affecting casework backlog is that more DNA evidence is being submitted by law enforcement every year. Many of these submissions are for crimes for which DNA was not submitted in the past, including burglary and other nonviolent crimes. In fact, a recent Bureau of Justice Statistics (BJS) report about DNA submissions in 2002 revealed that labs received over 60,000 requests for DNA analysis (Peterson & Hickman, 2005). While increased DNA submissions for nonviolent crimes detrimentally affects attempts to

reduce backlog, early indications suggest that agencies have been successful in obtaining an increased number of hits or matches based on these submissions and many of these hits occur for more serious crimes (Zedlewski & Murphy, 2006).

Moreover, even when DNA evidence is limited by lab policies based on type of crime, prosecutors often ask labs to “go back” and analyze more samples because of concern about issues defense attorneys may raise for dispute at trial. Lawyers are under tremendous pressure from judges and juries in regard to the expected amount and quality of physical evidence, making it more difficult to obtain convictions without DNA evidence. While there has been little empirical investigation on the increased pressure prosecutors feel to present DNA evidence (i.e., “CSI effect”), anecdotal reports indicate that this has further burdened under-resourced labs already dealing with a substantial backlog.

Technological advances also are contributing to the increasing amount of DNA evidence submitted for testing. Current technologies allow for analysis of DNA that was inconceivable in the past. For example, in addition to semen and blood, substances such as teeth, bone, saliva, hair, and even sweat now can be analyzed for DNA. Also, advances in testing technologies now enable testing of extremely small and degraded DNA specimens. Early DNA testing methods in the 1980s required samples the size of a quarter, whereas current methods analyze nanograms (Houck, 2006). As expanding legislation and DNA technological advancements change the way police, prosecutors, and crime labs carry out their work, administrators and policy-makers face both opportunities DNA offers for improved crime control, as well as challenges, including increased need for validation and staff training, and the potential for greater backlog.

In 2003, the National Institute of Justice (NIJ) commissioned an independent study to examine the major dimensions of the DNA casework backlog problem. Researchers found that the primary reasons for backlog included: DNA evidence was not submitted to labs; testing was not requested by prosecution; labs were unable to produce timely results; State and local crime laboratories were overworked, understaffed, and insufficiently funded; and Federal funding for DNA analysis was important but limited (Lovrich et al., 2004).

Many labs have attempted to address their DNA backlog by outsourcing to private labs: 41 percent of publicly funded labs surveyed reported outsourcing one or more types of forensic services in 2002 and the majority of these requests (91%) were DNA related (Peterson & Hickman, 2005). Most of the outsourced work involved convicted offender cases due to changes in State legislation and relative cost of outsourcing convicted offender, compared to casework, DNA. For instance, a BJS census of publicly funded crime labs found that the median cost per outsourced request was nearly \$1,200 for casework, but just \$30 for offender samples. However, outsourcing also can be extremely time consuming in terms of front-end preparation as well as back-end review required to upload results to CODIS.

Despite the numerous identified challenges, benefits derived from DNA evidence have been well documented and are compelling. Studies show that forensic DNA databases can identify repeat offenders and help law enforcement solve crimes and prevent additional crimes (Zedlewski & Murphy, 2006). DNA evidence also helps conserve public resources through the consolidation of trials or by the offer of plea negotiations (Lovrich et al., 2004) and reduces costs associated with the investigative process. Further, DNA

evidence can substantiate the innocence of suspected offenders. In this manner, DNA testing serves as a “check and balance” on investigative practices; when errors are brought to the attention of the judicial process, investigative and prosecutorial practices can be reviewed, and if necessary, modified (Jones, 2004). In fact, to date, the Innocence Project has documented over 200 post-conviction DNA exonerations in the United States and 15 of these individuals were serving time on death row (Innocence Project, 2007). Of the approximately 200 exonerations, new suspects have been identified in 77 cases; thus, DNA is a powerful tool to free the innocent as well as identify and convict the guilty.

While not as broad as the initial assessment of DNA backlog commissioned by NIJ in 2003, the current study assessed the levels of forensic casework DNA backlog between the years 2002 and 2005. Specifically, how are labs addressing previously identified challenges (Lovrich et al., 2004), and what are the current challenges? The current study also attempted to identify promising practices related to crime labs’ use of forensic casework DNA backlog reduction funds to decrease no-suspect backlog, increase lab capacity and throughput, and address casework backlog in general.

President’s DNA Initiative

Building upon earlier legislation, such as the 2000 DNA Backlog Elimination Act, in March 2003, the President announced a 5-year, more than \$1 billion initiative, *Advancing Justice Through DNA Technology*. The initiative had several interrelated goals:

- Eliminate the backlog of unanalyzed DNA samples and biological evidence for the most serious violent offenses (rape, homicide, kidnapping).
- Improve crime laboratory capacities to analyze DNA samples in a timely fashion.
- Stimulate research and develop new DNA technologies and advances in all forensic sciences areas.
- Develop training and provide assistance about the collection and use of DNA evidence to a wide variety of criminal justice professionals.
- Ensure that DNA technology is used to its full potential to solve missing persons cases and identify human remains.
- Protect the innocent.

As part of the President’s DNA initiative, Congress has appropriated funding for several different but interconnected aspects of DNA-related work: forensic casework DNA backlog reduction, DNA research and development, enhancing DNA laboratory capacity, convicted offender DNA backlog reduction, and solving cold cases with DNA evidence. The majority of public DNA crime labs have received multiple types of Federal grants under this initiative, and therefore it is not fully possible to isolate the impact of one grant funding mechanism (forensic casework DNA backlog reduction) from the others (lab capacity enhancement). Improvements in one area are interwoven with improvements in another area. For example, as new technologies are developed and new equipment used (lab capacity enhancement), samples can be tested in a more timely fashion, which will contribute to casework backlog reduction. The current study focused on examining the impacts of the forensic casework DNA backlog reduction program over the years 2002–2005;

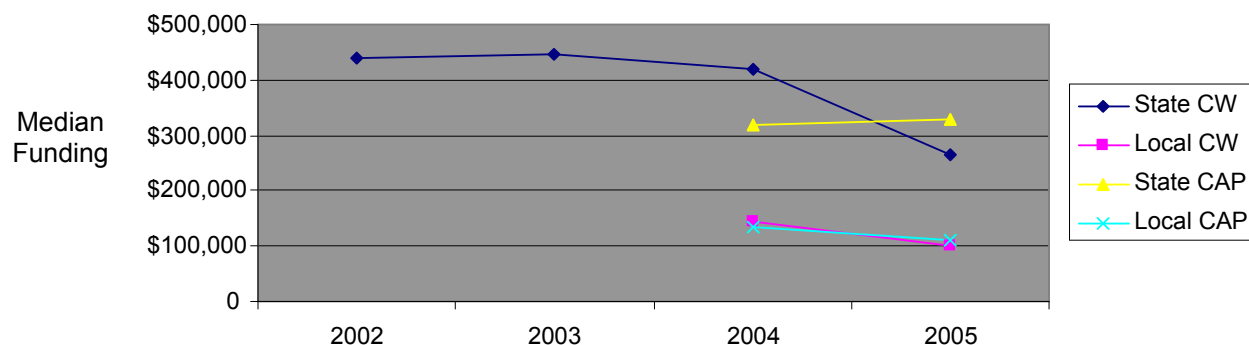
but ultimately, changes evident in policies, practices, and backlog are likely to stem from the multiple programs under the umbrella of the President's DNA initiative and unique efforts guided by State and local labs. This is particularly true for the forensic casework DNA backlog reduction program as the first years of the program (2002 and 2003) included funding for lab equipment that later fell under the auspices of a separate lab capacity enhancement grant.

Forensic Casework DNA Backlog Reduction Program. The forensic casework DNA backlog reduction program (originally labeled no-suspect casework backlog reduction) is administered by NIJ in the U.S. Department of Justice, Office of Justice Programs. The program's overall goal is to reduce the backlog of casework samples obtained from crime scenes, victims, and suspects. More specifically, the two main intended outcomes for the forensic casework program were to: 1) reduce the number of unanalyzed *no-suspect* cases; and 2) use CODIS effectively to solve no-suspect crimes having DNA evidence. Other intended purposes were to increase collaboration among all involved agencies and increase States' DNA testing infrastructure.

Funding. State and local governments with existing accredited crime laboratories that conduct DNA analysis were eligible for funding. The funds were to be used specifically to analyze backlogged forensic DNA casework samples from sexual assaults, homicides, and kidnappings, whether the samples were in government-owned laboratories or outsourced to accredited fee-for-service vendors. Funds also could be used to conduct post-conviction DNA testing pursuant to a court order. Other permissible areas for which labs could use funds included overtime for relevant samples (no-suspect homicide, sexual assault, and kidnapping), contract employees to work relevant cases, transferring samples, supplies, and lab renovation.

There was some variation from year to year in how these Federal funds could be used. Additionally, labs needed to apply as a consortium in 2002 and 2003 through one State point of contact, but could apply directly for funds after these years. Thus, while it appears that only State labs received funding in 2002 and 2003, they often distributed funds to local labs throughout the State. Figure 1 shows median funding by type of grant from 2002 to 2005.

Figure 1. Median Funding for Casework Backlog Reduction (CW) and Lab Capacity Enhancement (CAP) Grants for State and Local Labs 2002–2005



Current Study

ICF International conducted a comprehensive assessment of the forensic casework DNA backlog reduction program for the years 2002–2005. Evaluation activities included analysis of progress report data and surveys of law enforcement, prosecutor, and crime lab personnel. ICF also conducted eight diagnostic case studies to explore in greater depth promising and effective practices of four local labs and four State labs. Research questions (see lists that follow) focused on program impacts on intended outcomes, as well as on DNA-processes, and a general assessment of how increased use of DNA evidence has affected agency policies, procedures, and practices. This report summarizes findings from this assessment.

Forensic Casework Program Impacts on Intended Outcomes

- Did the forensic casework DNA backlog reduction program help labs reduce casework DNA backlog?
- Was the number of unanalyzed no-suspect cases reduced?
- Have labs been using CODIS effectively to solve no-suspect crimes having DNA evidence?
- Has communication and collaboration across agencies involving DNA evidence increased? If so, how has this collaboration facilitated forensic casework DNA backlog reduction?

Forensic Casework Program Impacts on DNA-Related Processes

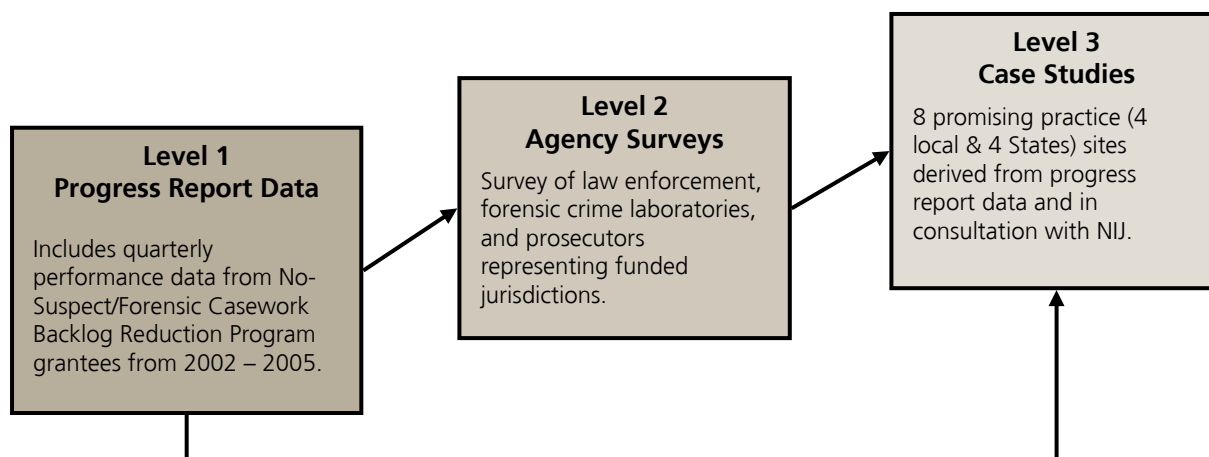
- What are the challenges or barriers to DNA effectiveness and backlog reduction (e.g., lack of training/knowledge, poor coordination of efforts across agencies, and resistance to new technologies)?
- How have changes in State legislation (e.g., DNA databanks, statute of limitations) affected the use of DNA evidence?

- How has the number of forensic and offender hits or matches (SDIS/NDIS) increased as the number of offenders in the database has grown?
- What evidence can be assembled toward identifying promising practices in forensic casework DNA backlog reduction?

Impact of Increased Use of DNA Evidence on Agency Policies, Procedures, and Practices

Law Enforcement Agencies
<ul style="list-style-type: none"> ■ What factors influence whether an investigator will identify, collect, and submit DNA evidence? ■ Are law enforcement personnel adequately trained in DNA collection and submission? ■ How does the availability of DNA evidence change the investigative process of law enforcement for homicides and sexual assaults? For other types of crime? How has it changed agency practice in general? ■ How is forensic DNA viewed by law enforcement? ■ How does law enforcement work with other agencies on cases involving DNA evidence? What are the challenges and benefits to these interactions?
DNA Crime Laboratories
<ul style="list-style-type: none"> ■ What are the lab’s policies/criteria for accepting DNA samples (e.g., what crimes will it accept? Does there have to be a suspect?)? How have these policies/criteria changed over time? ■ How are DNA samples submitted to the lab? What is the screening and analysis process for DNA samples? ■ What implications have changes in DNA legislation had on forensic crime laboratories in terms of capacity, throughput, and backlog? ■ What type(s) of training is provided to crime lab personnel? What type(s) of training do crime labs provide to user agencies? ■ How do crime lab personnel work with other agencies on cases involving DNA evidence (e.g., protocols, MOUs)? What are the challenges and benefits to these interactions?
Prosecutor Agencies
<ul style="list-style-type: none"> ■ What are the implications of DNA evidence for prosecutors (e.g., increased caseloads, use of John Doe indictments)? How has DNA evidence changed agency policy? ■ How does the availability of DNA evidence affect prosecutorial decision-making and process? ■ Is there a relationship between the presence of DNA evidence in a case and the number of plea negotiations? What are the implications for the criminal justice system? ■ What are the challenges faced by prosecutors in presenting DNA evidence to jurors? ■ How do prosecutors work with other agencies on cases involving DNA evidence (e.g., protocols, MOUs)? What are the challenges and benefits to these interactions?

Figure 2. Integrated Multilevel Evaluation Design



Evaluation Design and Methodology. The multilevel evaluation design, like the focus of the study, is intentionally integrated so data and findings from one level, or component of the evaluation, can inform and be informed by another (see Figure 2). Level 1 of the evaluation, progress report data, provided information regarding how labs used funds to increase capacity and decrease backlog, as well as intermittent data on numbers of no-suspect cases and labs' ability to address this backlog. However, the study covered only the first years of the grant when conversion from a paper to an electronic progress reporting system occurred; thus, this data source was limited for evaluation purposes. Progress report data, however, were extremely valuable in helping to create and develop the second component, level 2, of the evaluation—agency surveys.

Agency surveys addressed limitations of the extant progress report data and allowed for the collection of DNA-related information for each agency. In particular, surveys of law enforcement agencies, crime labs, and prosecutor agencies provided important information about organizational policies, procedures, and practices that facilitated an assessment of the impact of DNA evidence on organizations themselves (e.g., perceptions of DNA evidence as an “investigative” tool, redefining the role of the law enforcement investigator, changes in decision-making for prosecutors), changes in agency policy and practice, and the impact of these changes on DNA backlog and other outcomes.

Level 3, the diagnostic case studies, provided an effective approach for gathering more detailed information and accounts of the evolution of DNA evidence across agencies, examining how changes affected each agency separately and as agencies of the criminal justice system, and an opportunity to understand the local context and its impact on how labs addressed DNA backlog. Case study site visits were conducted at eight labs—four county or municipal labs and four State labs. In consultation with NIJ, case study labs were identified by reviewing progress reports and crime lab surveys. The goal was to identify different types of labs (State/local), with different levels of crime, and in diverse geographic settings to obtain generalizable information.

During site visits, interviews were conducted with lab directors, DNA supervisors, DNA analysts and technicians, crime scene unit personnel, law enforcement investigators, and prosecutors. While one-to-one interviews were conducted with crime lab directors and supervisors, group interviews were conducted with DNA analysts, law enforcement investigators, and prosecutors. This enabled a broader understanding of the various roles and responsibilities of DNA analysts and user agencies. For instance, some DNA analysts were contract workers and solely focused on no-suspect violent crime backlogged cases, while others worked a number of different types of cases, validated equipment, and spent more time reviewing cases. For police and prosecutors, group interviews were arranged by the crime lab and were conducted with staff that had regular interaction with the lab, usually those involved in specialized units such as homicide and sexual assault. By conducting these interviews in group settings, multiple perspectives were gained from each of the main user agencies.

Organization of Report. This report is organized into five sections. The first three sections present data from the agency surveys, along with case study information obtained through both individual and group interviews. Across agencies, the report presents data related to four main areas addressed by both surveys

and interviews: general agency information (i.e., demographics), agency-specific information related to DNA, DNA training issues, and communication/collaboration with other agencies. Survey results are supplemented by qualitative information culled from individual and group interviews to provide context to survey findings and specific examples of what crime labs, police, and prosecutors are doing to address DNA casework backlog. The fourth section of the report summarizes challenges and promising practices related to forensic casework DNA backlog reduction. The report concludes with a discussion of key findings.

Law Enforcement Agency Survey and Interview Findings

Survey Description. The law enforcement agency (LEA) survey on DNA was designed jointly by ICF and the Police Executive Research Forum to determine policies, procedures, and practices in collecting and processing DNA evidence and using such evidence in investigations. Data were collected from 235 LEAs. The survey contained four main sections: general agency demographics/information; agency-specific information regarding DNA (e.g., collection, perception of utility of DNA evidence); training; and collaboration/communication with other agencies related to DNA. Appendix A provides detailed information regarding sampling methodology as well as a copy of the survey with overall summary statistics (percentages, medians, means). Where applicable, summarized excerpts from interviews conducted with crime scene units and police investigative personnel are included to highlight LEA activities for the collection and use of DNA evidence in investigations.

I. General Agency Information and Demographics

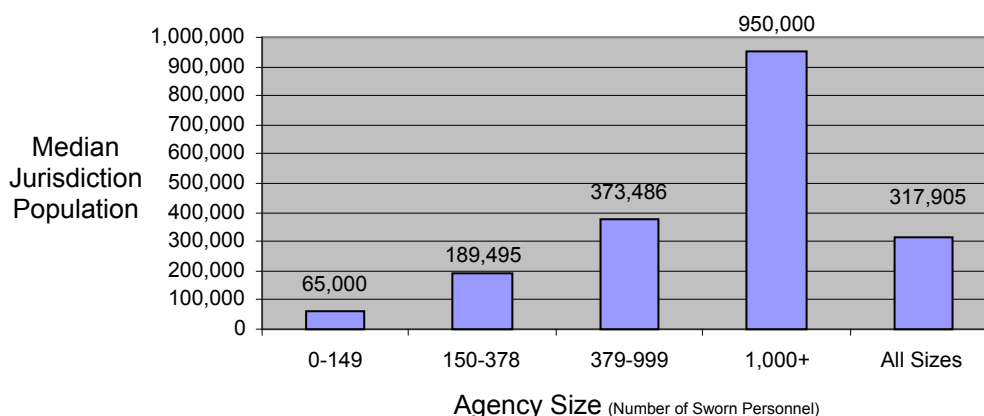
Using a list of all public DNA labs across the county, agencies were selected based on their proximity to the DNA lab. Up to three agencies, either located in the same county as the DNA lab or in the county closest to it, were selected for each DNA lab. Additionally, all State LEAs with a DNA lab in the State were selected. These agencies were purposely identified to obtain information from agencies with the most interaction with crime labs and resulted in an oversampling of larger LEAs. To assess if there were agency differences related to DNA issues by size of agency, LEAs were categorized by number of sworn personnel, which resulted in four meaningful groupings based on agency size (see Table 1).

Table 1. Number of Sworn Personnel

Number of Sworn Personnel	Number and Percent of LEA Agencies
0-149	34 (15%)
150-378	70 (30%)
379-999	68 (29%)
1,000 or more	60 (26%)

The service populations of respondent agency jurisdictions ranged from 10,500 to 36,457,549 residents. The median service population by number of sworn personnel is presented in Figure 3. The smallest LEA grouping resulted in average jurisdictions of 65,000 residents while the largest served, on average, populations with just fewer than one million residents (950,000).

Figure 3. Median Population of LEA Jurisdiction



II. DNA and Law Enforcement Agencies: Policies, Procedures, and Practices

DNA and types of crime. To assess the perceived amount of DNA evidence collected by LEAs, surveys asked respondents to quantify the amount of DNA evidence collected by type of crime in one of five categories from zero percent to 76–100 percent. These data represent estimates by LEAs on the percentage of cases containing DNA evidence. As noted earlier, larger LEAs were overrepresented. As expected, a greater percentage of DNA was identified and collected at homicide and sexual assault crime scenes compared to other violent crime scenes and scenes of nonviolent crimes such as burglary (see Table 2). For example, 33 percent of respondents reported that 76–100 percent of their homicide cases involved DNA evidence, whereas only 2 percent of respondents reported that 76–100 percent of their robbery cases involved DNA evidence.

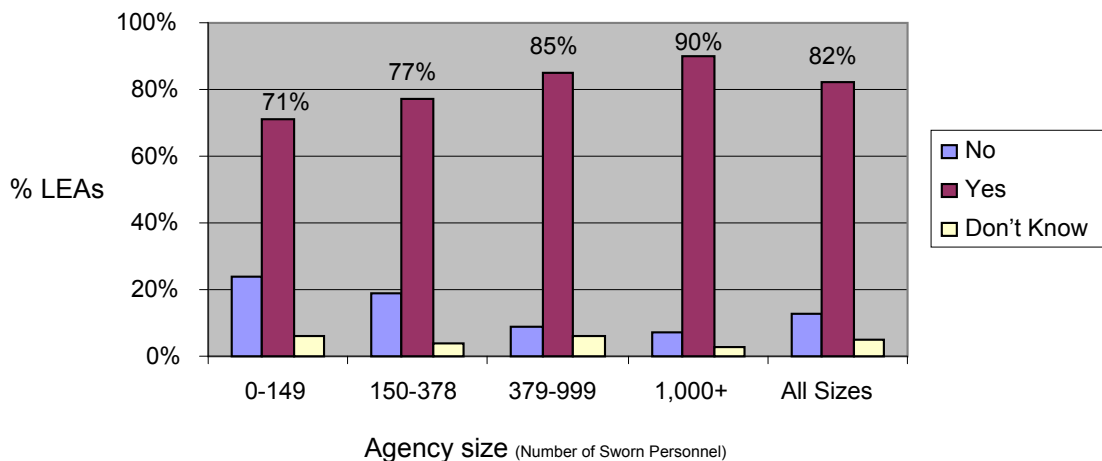
Table 2. Percent of LEAs and Proportion of 2005 Cases that Involved DNA Evidence

Type of Crime	Proportion of Respondents' Cases				
	0%	1 – 25%	26 – 50%	51 – 75%	76 – 100%
Homicide	7%	26%	16%	18%	33%
Sexual Assault	3%	18%	18%	29%	33%
Robbery	9%	63%	20%	6%	2%
Other Violent Crimes	11%	61%	22%	5%	1%
Non-violent Crime	22%	66%	10%	1%	<1%

- Overall, 51 percent of LEAs estimated that 51–100 percent of homicide cases involved DNA evidence, and 62 percent of LEAs estimated that 51–100 percent of sexual assault cases used DNA evidence.
- Thirty-three percent of LEAS estimated that 76–100 percent of both sexual assault and homicide cases used biological evidence (DNA).

Written policies and procedures for collection, preservation, and retention of DNA evidence. The majority of LEA survey respondents reported that their jurisdiction had established written procedures for the collection, preservation, and retention of biological crime scene evidence. Agencies with more sworn personnel were more likely to report having established written procedures (see Figure 4).

Figure 4. Percent of LEAs with Written Procedures for DNA Collection, Preservation, and Retention



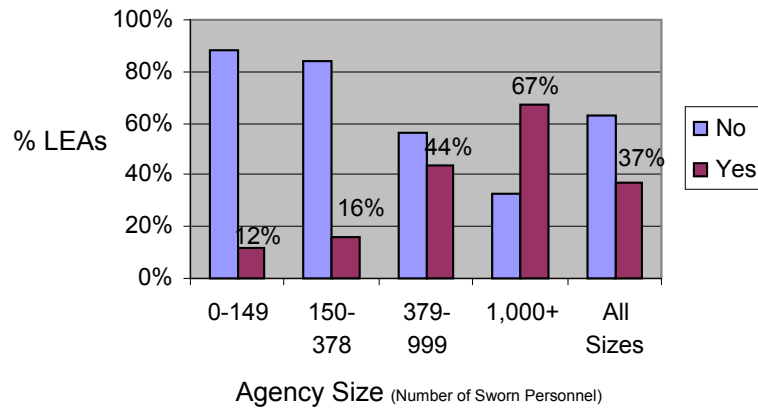
Case Study Highlights

- ✓ Some case study sites reported they had used standards for collection methods developed by the Commission for Accreditation of Law Enforcement Agencies.
- ✓ Crime scene staff reported there was usually a 1- to 2-week training course and the rest of training occurred “on-the-job” or via external agencies. At one case study site, law enforcement personnel reported they were developing a written training manual. Another site stated they used a department field guide in addition to the State crime lab’s written guidelines.

DNA and cold cases. Thirty-seven percent of the law enforcement survey respondents said their agency had a specified DNA cold case unit (see Figure 5). This finding was similar to a previous survey of LEAs which found an overall percentage of LEAs with cold case squads to be 23 percent; larger LEAs reported cold case squads in 39 percent of their agencies (Lovrich et al., 2004). Current findings demonstrated that this trend continues as smaller agencies were less likely to report having a specified cold case unit than large agencies.

- Cold case units tended to be very small: the majority (75%) had three or fewer staff members assigned to the unit.

Figure 5. Percent of LEAs with Specified DNA Cold Case Units

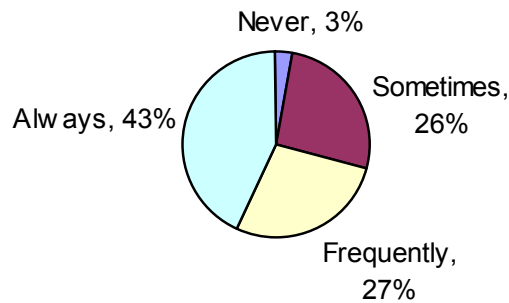


Case Study Highlights

- ✓ Interviews with law enforcement personnel highlighted the need for more resources to address cold hit investigations. Several interviewees said it would be beneficial to have a unit designated exclusively to cold hits.
- ✓ Two sites reported they had over 1,000 cold cases to be handled at any given time. Investigators at one site reported they could not keep up with cold case hits from the crime lab. While the lab received grant money for cold cases, they reported law enforcement did not and did not have the personnel to follow up adequately in a timely manner.
- ✓ In sites without designated cold case units, interviewees reported that cases were followed up on their own time, which usually meant overtime given current caseloads.

Figure 6 displays the frequency in which cold hits reportedly were investigated.

Figure 6. Frequency of Cold Hit Investigations

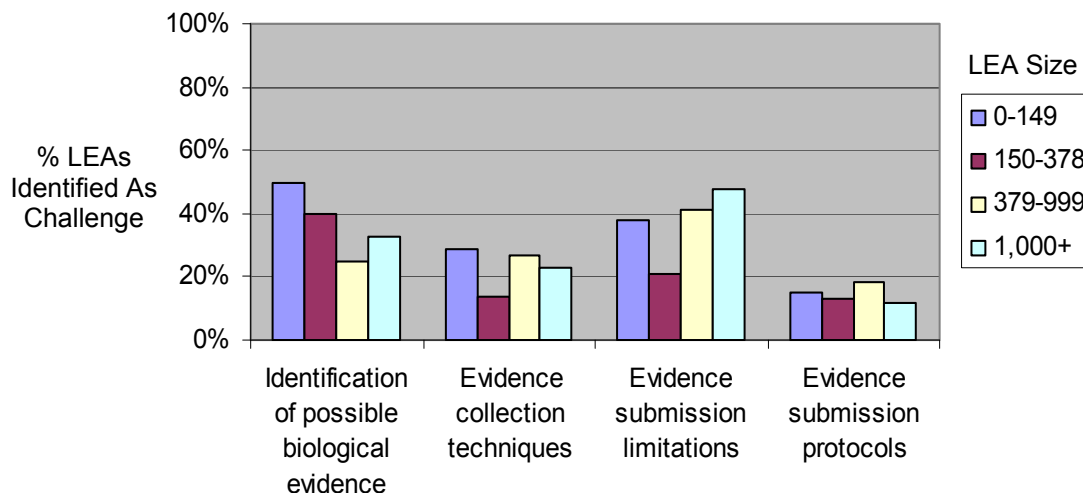


Factors that Facilitate Investigation of Cold Hits from DNA Evidence

- Type of crime (62%)
- Necessary personnel exist to work on the case (58%)
- Strong supportive evidence exists in addition to DNA evidence (50%)

Challenges in collection and submission of DNA evidence. In terms of collecting evidence, about one-third of all survey respondents agreed that the identification of possible biological evidence was a challenge. In addition, about one-third agreed that evidence submission limitations were a challenge. Submission limitations refer to policies DNA labs have instituted to reduce the amount of DNA evidence submitted, at least initially, in order to avoid being inundated with crime scene evidence. There was some variation across agency sizes in the frequency in which respondents agreed that an issue was a challenge (see Figure 7). Respondents from the smallest agencies were more likely to say that the identification of biological evidence was a challenge. Respondents from the largest agencies were more likely to report evidence submission limitations were a challenge.

Figure 7. Challenges in Collection and Submission of DNA Evidence



Case Study Highlights

- ✓ During interviews, LEA personnel noted some challenges related to contamination and cross-contamination of DNA evidence.
- ✓ One LEA noted it was in the process of creating a multi-jurisdictional evidence school for seven jurisdictions to increase standardization of submitted evidence.
- ✓ Several interviewees identified slow turnaround time, due to the backlog of cases, as the main challenge in the collection and submission of samples for DNA testing. Disagreement about what evidence should be tested was mentioned by a few investigators, which was indirectly related to the backlog and the fact that various agencies—crime labs, law enforcement, and prosecution—have competing interests, to a certain degree. Crime labs want to avoid unnecessary testing, and investigators, and perhaps to a greater extent prosecutors, want to ensure they have everything necessary to support their case.

Other common themes regarding the collection and submission of DNA evidence across sites included:

- Decisions are made on a case-by-case basis and therefore it is not possible to generalize.
- Anything that can be considered evidence is collected, even if it will not all be submitted to the lab for analysis.
- Violent crimes are more likely than nonviolent crimes to result in the collection and submission of DNA, but it also depends on the type of weapon used.
- LEA personnel routinely meet and/or talk with crime lab staff prior to evidence submission to determine what is most probative, what will be tested first, and in some cases, whether to send evidence to a public or private lab.
- Interviewees generally are encouraged by the crime lab to limit the number of evidence submissions per case, but any existing guidelines are flexible and depend on the facts of the case.

Police perceptions of DNA evidence. Respondents were asked to provide police perceptions about the usefulness of DNA in terms of identifying a suspect and clearing and prosecuting cases, as well as general impacts on police investigative procedures on a scale from strongly disagree (1) to strongly agree (5). Survey respondents reported viewing DNA as a useful scientific tool that has changed police work; responses ranged from a low rating of 4.41 to 4.83, reflecting rather strong agreement with each item. There were no differences across the size of agencies in perceptions of DNA. Table 3 displays mean ratings on the usefulness and benefits of DNA evidence.

Table 3. LEA Perceptions of DNA Evidence

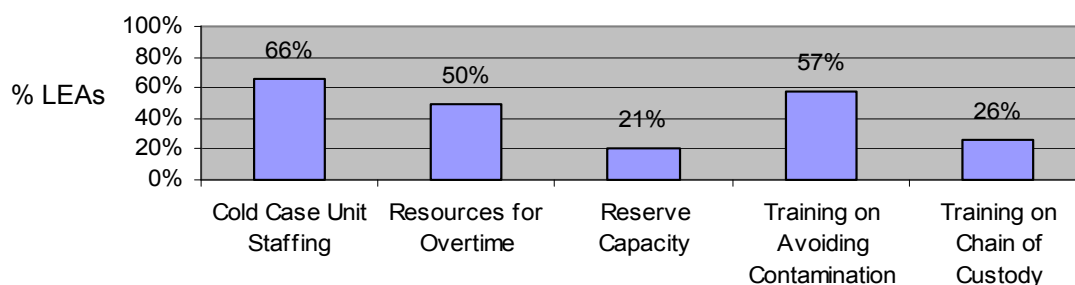
To what extent do officers and detectives in your agency agree with the following: (1=Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly Agree)	Mean Rating
DNA is a useful tool for identifying suspects in homicide and sexual assault cases.	4.83
DNA is a useful tool for closing homicide and sexual assault cases.	4.70
DNA is a useful tool for prosecuting suspects in homicide and sexual assault cases.	4.80
Law enforcement understands the benefits of DNA evidence in homicide and sexual assault cases.	4.71
DNA testing is an accurate scientific process in homicide and sexual assault cases.	4.75
DNA testing will influence an officer's point of view of suspects in homicide and sexual assault cases.	4.41
DNA evidence has changed police work in homicide and sexual assault cases.	4.67

Case Study Highlights

- ✓ Investigators reported that DNA evidence has dramatically changed and enhanced the investigative process and that it is an effective tool for law enforcement. Some view it as more powerful (compelling to juries) and revolutionary than fingerprint evidence.
- ✓ Investigators discussed how advances in DNA analysis have increased their options for collecting evidence.
- ✓ DNA has markedly changed the investigative process in terms of cold cases, because new evidence continuously comes in and enables re-examination of old cases. Thus, DNA evidence has substantially increased investigators' workloads, both by expanding the number of cases that can be re-investigated and by adding steps to the investigative process (e.g., collection of reference samples to verify DNA once a hit is found).

Needed resources for DNA-related work. LEA survey respondents were asked to identify the resources that law enforcement lacked for DNA-related work, based on their experiences at their agency. Figure 8 shows the percentage of respondents who endorsed each of the survey options.

Figure 8. Percent of LEAs Reporting DNA Resource Issues



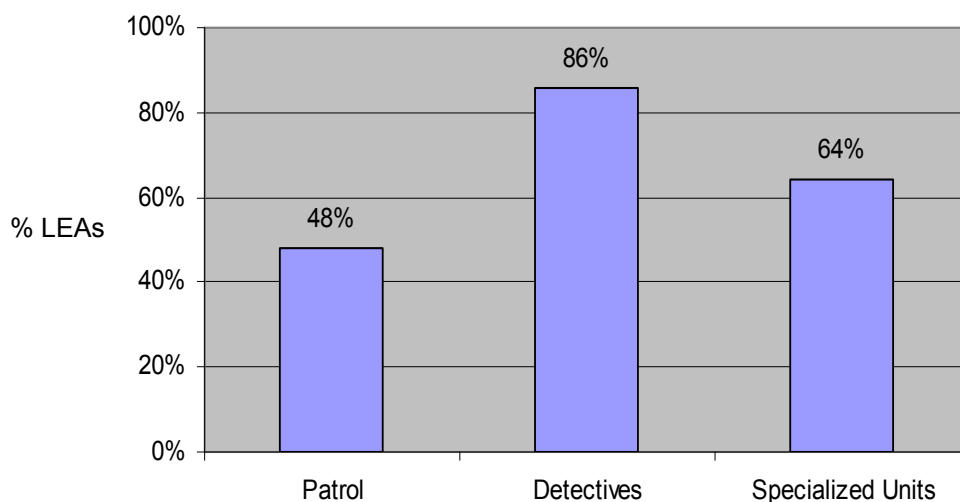
Case Study Highlights

- ✓ Among the most pressing needs identified by LEAs was more personnel in cold case units and overtime funds for agencies without cold case units. The majority of investigators across sites acknowledged these were crucial needs in law enforcement.

III. DNA-related Training

Training on DNA received by law enforcement. Two-thirds of all respondents reported their LEA provided training on collection and submission of DNA evidence. There were no trends in training provision according to agency size so overall percentages are reported. As expected, DNA training was more commonly provided to detectives and specialized units than to patrol staff (see Figure 9).

Figure 9. Types of Personnel Trained on Collection and Submission of DNA



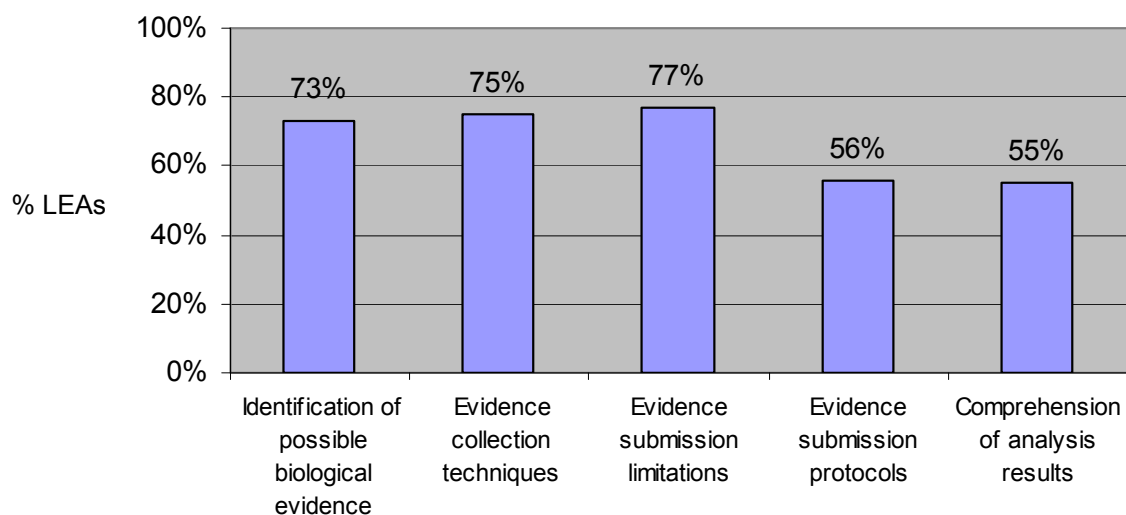
- Of the 48% of respondents who reported that patrol staff have been trained on DNA, the median percentage of patrol staff who have been trained was 50%.
- Of the 86% of respondents who reported that detective staff have been trained on DNA, the median percentage of detectives at the agency who have been trained was 90%.
- Of the 64% of respondents who reported that specialized units have been trained, the median percentage of specialized units trained was 100%.

Training needed by law enforcement on DNA. Eighty-two percent of all respondents reported (endorsed) that more training was needed on DNA. There were no differences among different size agencies. Figure 10 shows the percent of respondents who reported specific types of additional training that were needed (multiple responses were possible).

The survey also found that:

- Eighty percent agreed there was a need for cross-training police and crime lab staff in their jurisdiction.
- Eighty-one percent agreed there was a need for cross-training police and prosecutors in their jurisdiction.

Figure 10. Percent of LEAs Reporting DNA-Related Training Needs



IV. Communication and Collaboration

Collaboration ratings with crime labs and prosecutors. Perceptions on collaboration were assessed by asking law enforcement survey respondents to rate the extent to which they agreed with a variety of statements about working with other agencies (crime labs, prosecutors, and victims/victim advocates). Average ratings from law enforcement survey respondents are shown in Table 4. Higher values indicate greater levels of communication and collaboration. There were no differences in perceptions of collaboration across LEA size other than that the smallest agencies were more likely to report they regularly communicated DNA results to victims than agencies with 1,000 or more personnel. Overall, police were in agreement that they collaborated effectively with crime labs on cases involving DNA collection (4.12), were satisfied with the way crime lab personnel handled cases involving DNA (3.85), and used a formal protocol when working with crime labs (4.00). There was less agreement that there was a formal protocol when working with prosecutors on DNA evidentiary issues.

Table 4. Perceptions on Collaboration

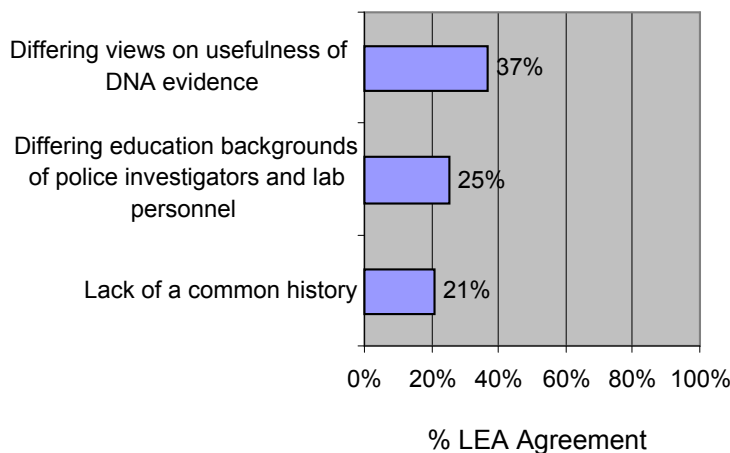
To what extent does your agency agree with the following statements: (1=Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly Agree)	Mean Rating
Our agency and crime lab personnel collaborate effectively on cases involving DNA collection.	4.12
Our agency is satisfied with the way public DNA labs conduct basic processes of DNA analysis.	3.87
Crime labs notify our agency when they do not, or are not able to, test specimens.	4.12
There is formal protocol for working with crime labs on DNA evidentiary issues.	4.00
Overall, our agency is satisfied with the way crime lab personnel handle our cases involving DNA collection.	3.85
Our agency and prosecutorial staff collaborate effectively on cases involving DNA collection.	4.02
There is formal protocol for working with prosecutors on DNA evidentiary issues.	3.25
Prosecutors notify our agency when they decide to prosecute cases involving DNA.	3.92
Overall, our agency is satisfied with the way prosecutorial staff handle our cases involving DNA collection.	4.00
Collaboration Between Law Enforcement and Victims/Victim Advocates	
Our agency regularly communicates the results of DNA analysis promptly to the victims of these cases (where applicable).	3.60
Our agency maintains frequent contact with victim advocates.	4.00

Case Study Highlights

- ✓ Most of the investigators reported having ongoing, consistent communication with crime lab staff, and reported that crime lab staff were receptive and responsive to law enforcement requests.
- ✓ One site reported regularly holding meetings between law enforcement and crime lab staff to discuss current DNA-related issues and challenges. This improved communication a great deal.
- ✓ A couple of sites described challenges in communication with lab staff in the past that had improved over time, either due to changes in crime lab leadership or changes in procedures. Overall, interviewees reported having good to excellent relationships with crime lab staff.

Challenges to collaboration. Law enforcement survey respondents' most commonly perceived challenges in collaborating with crime labs included differing views on usefulness of DNA evidence (37%), differing educational backgrounds (25%), and lack of a common history (21%) (see Figure 11).

Figure 11. Three Most Frequently Reported Challenges by LEAs in Collaborating with Crime Labs



V. LEA Survey Summary

LEA survey data were collected from 235 agencies. Agencies were categorized by number of sworn personnel to assess if DNA policies, procedures, and practices differed by size of agency and larger agencies were overrepresented in the sample. Overall, there were few substantive differences related to DNA by size of agency. Agencies with more personnel were more likely to have established written procedures for collection, preservation, and retention of DNA evidence. In terms of challenges in collection and submission of DNA evidence, smaller agencies reported that identification of biological evidence was their main challenge, while larger agencies reported evidence submission limitations to be their main challenge. Not surprisingly, larger agencies were more likely to have a cold case unit. There were no differences regarding police perceptions of DNA evidence by agency size, and police personnel reported strong agreement that DNA evidence was useful in identification of suspects and closing homicide and sexual assault cases. Law enforcement reported generally high levels of communication and collaboration with crime labs regarding DNA evidence. LEAs reported receiving adequate amounts of training but also expressed a need for additional training. In particular, agencies reported they could benefit from training on evidence submission limitations, evidence collection techniques, and identification of possible biological evidence.

DNA Crime Lab Agency Survey and Interview Findings

Survey Description. The DNA crime lab agency survey was designed jointly by ICF and Gordon Thomas Honeywell to determine policies, procedures, and practices related to DNA collection, analysis, and reporting to appropriate agencies. Similar to the law enforcement survey, there were four main sections: agency demographics; agency-specific information regarding DNA; DNA-related training; and communication/collaboration with user agencies related to DNA evidence. Excluding Federal labs, surveys were sent to all public DNA crime labs (N=130). Data were collected from 107 labs for an overall response rate of 82 percent. Forty-six State labs and 61 local labs responded to survey requests. All city, county, and regional labs are referred to as local labs in this report. Seven labs were excluded from analyses because they did **not** receive any casework funding from 2002 to 2005, the timeframe for this evaluation. This included two State labs and five local labs being removed for an analysis sample size of 100. Appendix A includes detailed information regarding sampling methodology as well as a copy of both the State lab survey and local lab survey with overall summary statistics (means, medians, percentages). In addition to survey findings, qualitative data from case study site visits highlight the numerous policies, procedures, and practices implemented by labs to address DNA backlog.

I. General Agency Information and Demographics

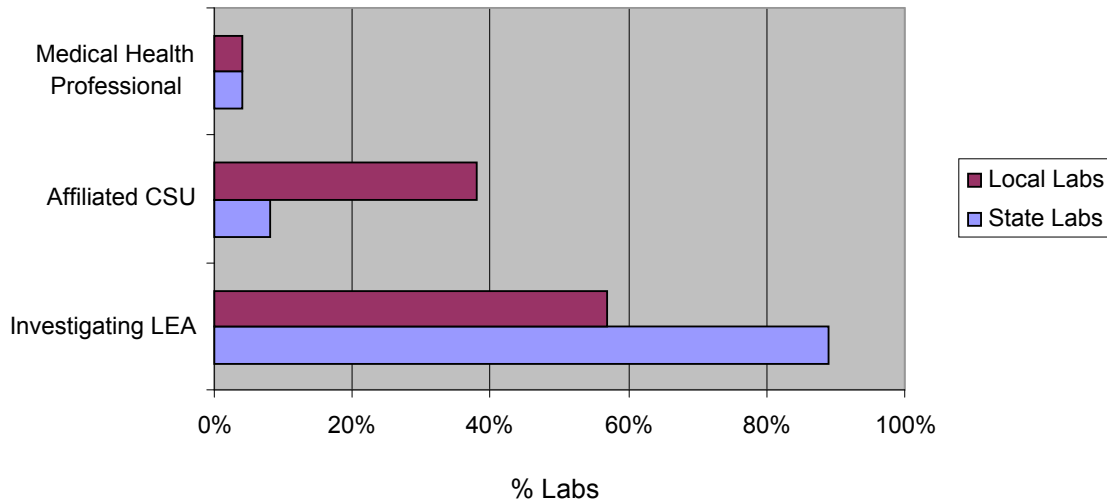
Labs were categorized as either State or local (municipal, county, regional). Descriptive statistics are provided in Table 5. Given the extreme variation across both State and local labs in terms of population served and caseload, medians are presented since they are a better estimate of average values when such variation exists. On average, State labs served 400 LEAs with a range from 50 to 2,000 agencies. Local labs served a range of 1 to 200 LEAs and averaged 21. Similarly, State labs reported serving considerably more prosecutor agencies (n=57) compared to local labs (n=1). These differences represented the differences in the mission of State labs, which serve State police and all LEAs that do not have a county or municipal lab, compared to local labs, which can serve as few as one police agency and one prosecutor agency.

Table 5. DNA Crime Lab Demographics

Lab Type	Median Population Served	Range of LEAs Served	Median LEAs Served	Range of Prosecutor Agencies Served	Median Prosecutor Agencies Served
State	4,800,000	50–2,000	400	9–300	57
Local	965,000	1–200	21	1–42	1

In terms of which agency collects the majority of biological evidence, both lab types reported the investigating LEA to be the primary collector. However, local labs were more likely than State labs to report that a crime scene unit directly associated with the lab was the primary agency responsible for DNA collection and submission (38% versus 8%) (see Figure 12).

Figure 12. Primary DNA Evidence Collector



II. DNA Crime Labs: Policies, Procedures, and Practices

No-suspect related policies. Figure 13 and Figure 14 display lab notification policies related to no-suspect DNA cases. Figure 13 shows the points in time when labs notify submitting agencies about DNA processing and analysis for no-suspect homicide and sexual assault cases. For these cases, over 80 percent of labs notify agencies when DNA analysis is complete, while over half also notify labs if DNA evidence is found in the submitted sample and when the DNA profile is uploaded to the database. In terms of the other response category, a number of labs indicated that the final report sent to the submitting agency covered all categories and additional follow-up occurred if subsequent searches found a case-to-case hit (forensic) or case-to-offender hit (offender). Labs stated that lab reports and notifications also were sent to prosecution agencies. Some labs reported they verbally informed submitting personnel at any point if requested.

Figure 13. Lab Notification Policies: No-suspect Homicide and Sexual Assault Cases

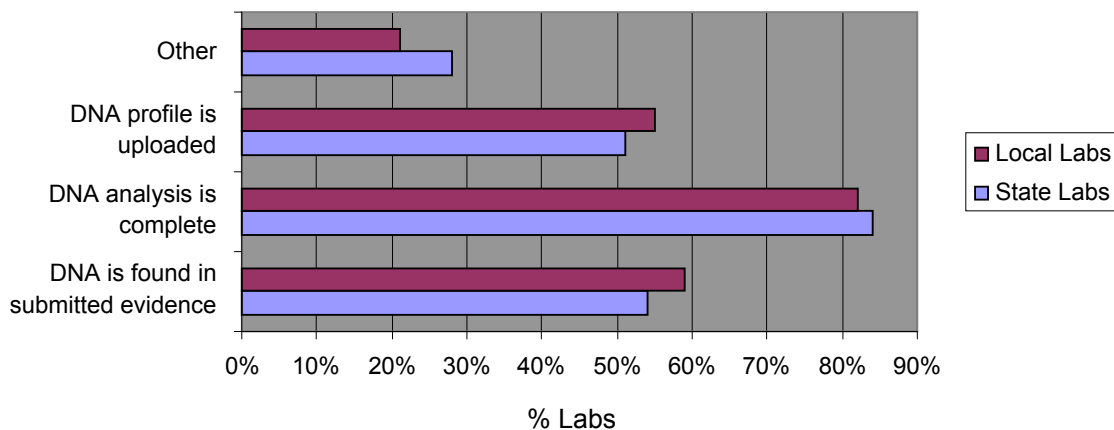
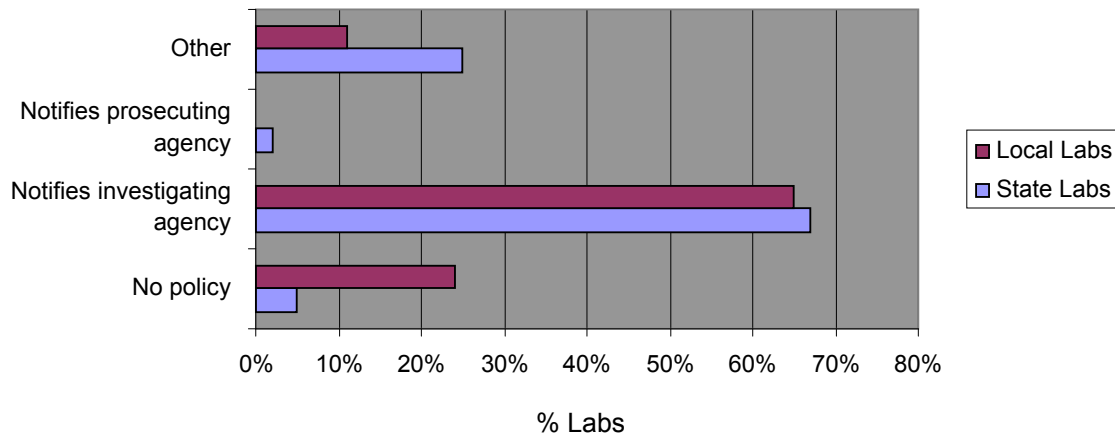


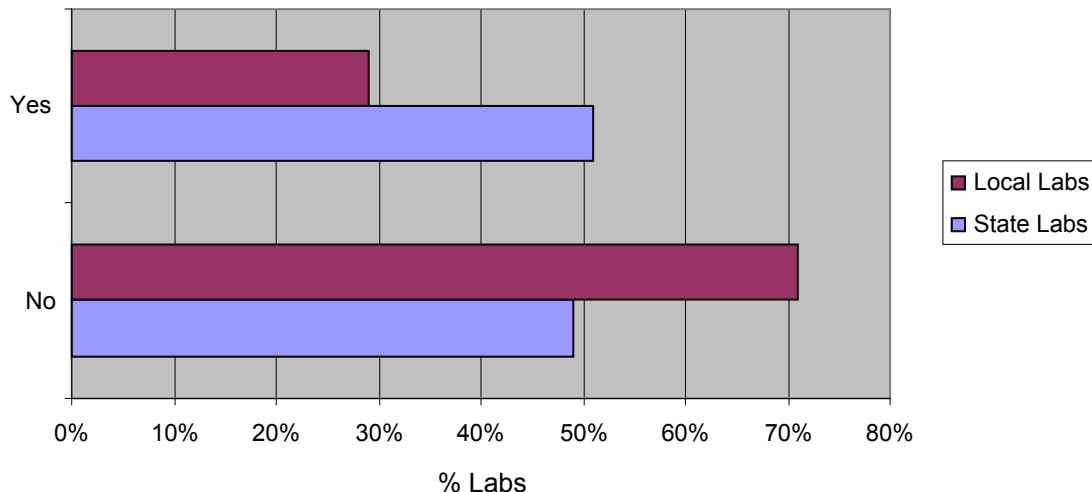
Figure 14 displays labs notification policies when DNA evidence from no-suspect cases is not analyzed or uploaded. Over 60 percent of both State and local labs notify submitting agencies if analysis is either not conducted or if no upload occurs. A number of State labs selected “other” and indicated that lab reports were always issued to investigating agencies, which document whether DNA was found, analyzed, and uploaded.

Figure 14. Percent of Labs That Notify Investigating Agency If Evidence is Not Analyzed or No Upload Occurs in a No-Suspect DNA Case



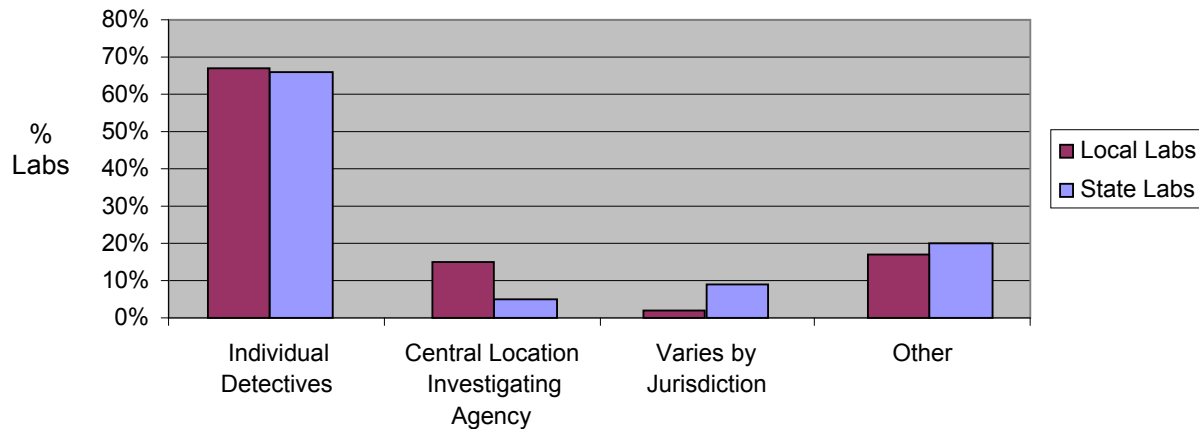
Limiting submitted evidence (excluding a probative review) for no-suspect homicide and sexual assault cases. The study explored whether, outside of a probative review process, labs had any policies limiting evidence submission in no-suspect homicide and sexual assault cases. Figure 15 displays the percentage of State and local labs that limit the amount of samples submitted. Twenty-nine percent of local labs and 51 percent of State labs have instituted policies limiting the amount of DNA samples submitted in no-suspect homicide and sexual assault cases.

Figure 15. Percent of Labs Limiting DNA Evidence Submissions for No-Suspect Homicide and Sexual Assault Cases



CODIS hit policies and protocols. As shown in Figure 16, in terms of State and local lab hit policies (both forensic and offender), nearly 70 percent reported results directly to the individual detectives. Forensic hits or matches refer to a DNA match between crime scenes; for instance, if the same DNA was found at a number of burglary crime scenes. Offender hits or matches refer to DNA left at a crime scene that matches DNA of an offender in the databank. A few labs reported results to a central investigating agency, and some noted that it varied by jurisdiction.

Figure 16. Protocol for Reporting Forensic and Offender CODIS Hits

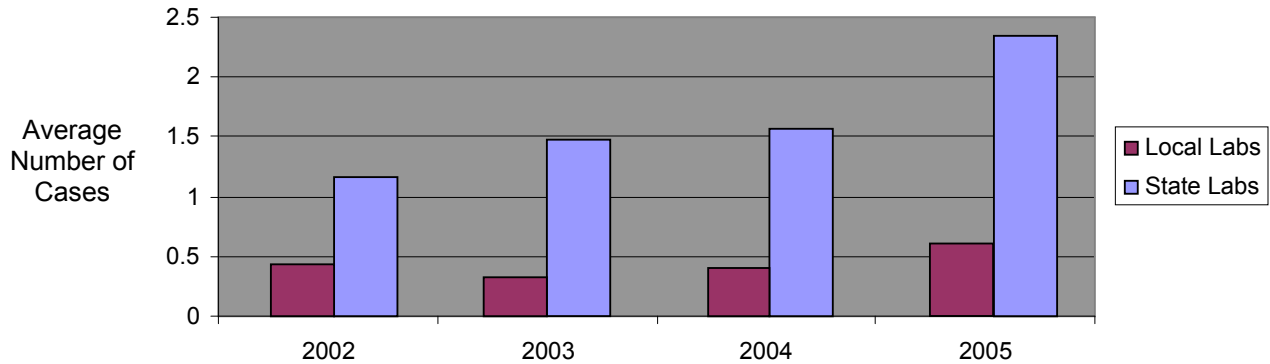


Case Study Highlights

- ✓ A few case study sites had established points of contact in the lab, police, and prosecutor offices, which helped reduce the personnel (analysts, detectives) involved in tracking follow-up and improved communication and tracking of hits. Sites found this method to be very successful.
- ✓ Two sites were actively engaging prosecutor offices to help facilitate follow-up after hits.

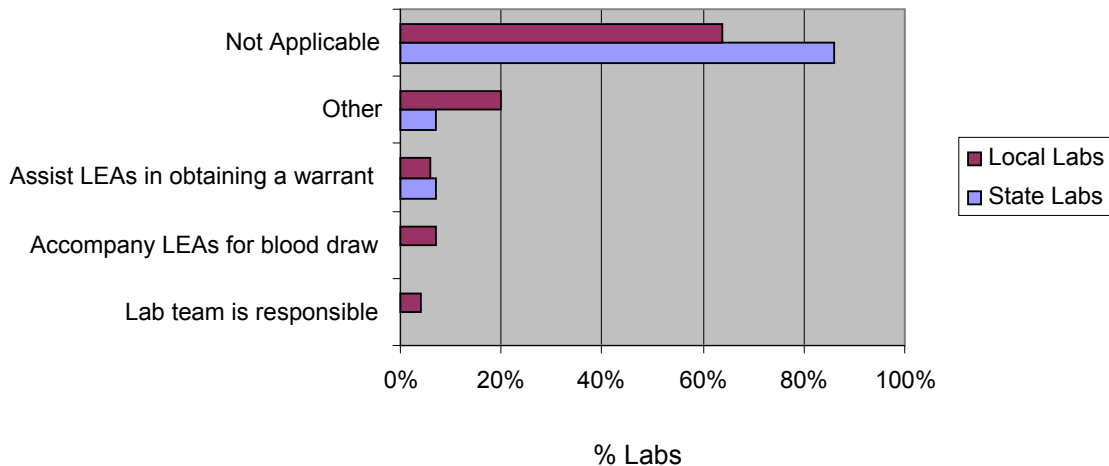
Post-conviction DNA testing. One of the overarching goals of the President’s DNA initiative was to increase access to post-conviction DNA testing. Figure 17 displays the average number of post-conviction DNA testing cases per year for State and local labs examined in the study. State labs ranged between zero to 31 cases while local labs ranged from zero to four cases per year. While relatively low, the number of requests for post-conviction DNA increased from 2002 to 2005.

Figure 17. Average Number of Post-Conviction DNA Testing Cases 2002–2005



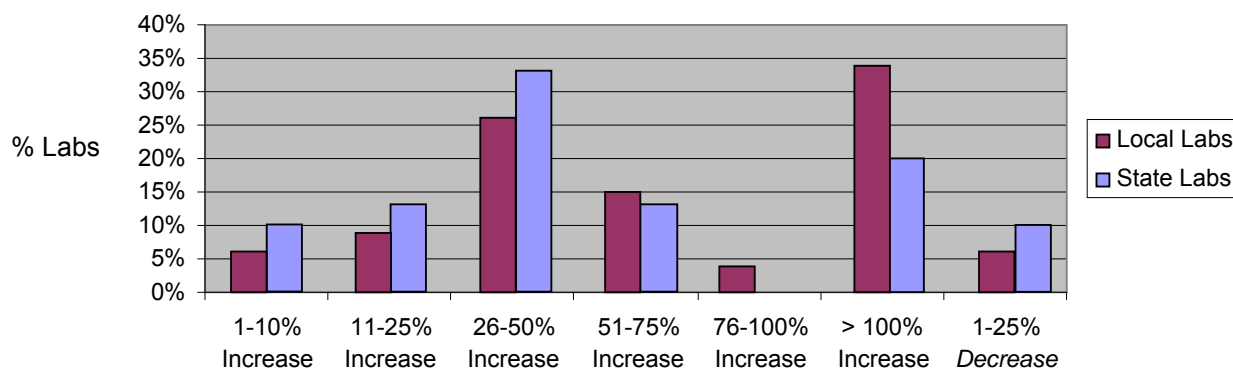
Reference sample policies. As shown in Figure 18, local labs participated more with the collection of reference samples, highlighting the different roles and responsibilities of local labs and labs that serve an entire State. Additionally, the majority of both types of lab play a support role in possibly providing kits and/or DNA collection training for the investigating agency.

Figure 18. Percent of State and Local Labs That Assist in Reference Sample Collection



DNA submissions. Between 2002 and 2005, labs reported substantial increases in the amount of DNA evidence submitted. In fact, approximately 65 percent of State labs and 80 percent of local labs reported increased submissions of at least 26 percent. Almost 35 percent of local labs reported greater than 100 percent increase in DNA submissions over this time period, and only 10 percent or less of State and local labs reported minor decreases in DNA submissions (see figure 19).

Figure 19. Percentage Increase/Decrease in DNA Submissions for 2002–2005



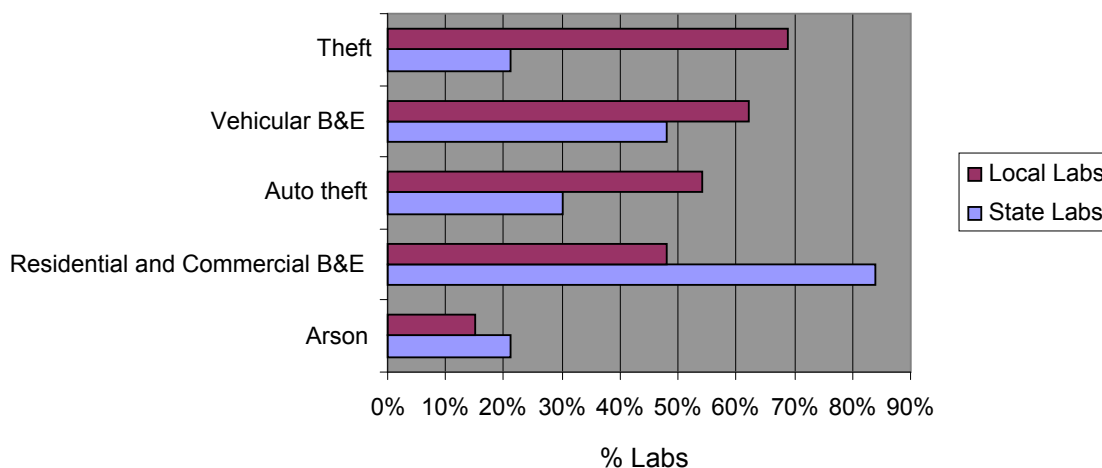
Case Study Highlights

- ✓ Seven of eight case study labs reported increased DNA submissions from 2002 to 2005. One lab reported a 2 percent decrease and attributed this to a policy excluding touch evidence without a written request from the prosecutor.
- ✓ All case study labs reported they received DNA evidence from crimes for which DNA was not submitted just a few years earlier.

Nonviolent DNA submissions. In terms of nonviolent DNA submissions, the surveys asked labs to identify the top three offenses, excluding burglary, for which DNA was submitted (see Figure 20). For State labs, the top three nonviolent offenses for which DNA was submitted were residential and commercial breaking and entering, vehicular breaking and entering, and auto theft. The top three for local labs were theft, vehicular breaking and entering, and auto theft. Also, 10–20 percent of labs identified arson as one of the top three.

- Survey results also indicated that 80–90 percent of labs accepted and analyzed DNA from burglary cases; however, many of the labs visited stated these cases were low priority and would not be processed until analysis of more serious and high-profile cases could be completed.

Figure 20. Top 3 Nonviolent DNA Submission, Excluding Burglary

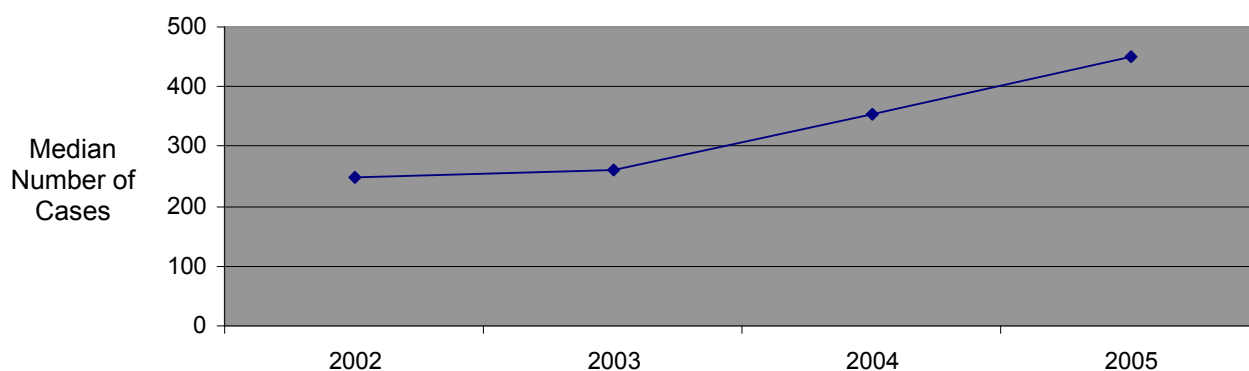


Case Study Highlights

- ✓ One case study lab reported it received many submissions for burglary and auto theft, and in general was receiving more vehicle-related requests.
- ✓ Several of the labs reported receiving a lot of touch evidence, which can be problematic because of messy mixtures (i.e., several sources of DNA are involved)
- ✓ Two case study labs reported they would not conduct analyses for property crimes unless there was a significant impact on the community (e.g., serial school vandalisms).

Backlog. Total backlog data were requested for 2002 through 2005 as well as by type of crime (i.e., homicide, sexual assault, other violent, burglary, other). The majority of labs were not able to quantify backlog for specific crimes so only total backlog is presented. Also, for total DNA backlog, the response rate for local labs was inadequate and is not presented due to generalizability concerns. However, State labs had an adequate response rate to the item on total casework backlog (66%) and data are presented. To reduce the impact of outliers on average backlog values, a conservative approach was utilized: labs with backlog values 2.5 times greater than the mean were excluded. This resulted in excluding one to three labs each year. As Figure 21 shows, backlog increased substantially from 2002 to 2005. While there was a minimal increase from 2002 to 2003, there was a substantial increase in each of the next 2 years. Overall, from 2002 to 2005, median total DNA backlog at State labs increased by 81 percent.

Figure 21. Median Number of Backlogged DNA Cases in State Labs 2002-2005



Case Study Highlights

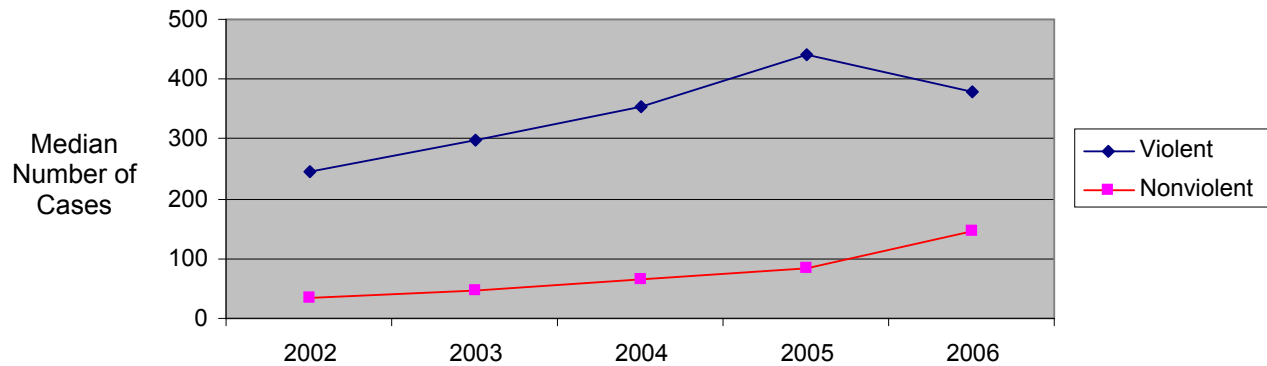
- ✓ While case study labs reported that capacity had increased and turnaround time had decreased, they continued to encounter, and face the challenge of adequately addressing, backlog issues.
- ✓ One case study lab reported a 30 percent decrease in total DNA backlog in 2005 compared to the prior year. Many of the other labs were confident they soon would make progress in reducing backlog, due to their interrelated efforts over the last several years.

Backlog by violent and nonviolent crime subsample. During site visits, all but one case study lab reported that DNA submissions by nonviolent crime had increased significantly over the last several years. Since total backlog also increased, an important research question concerned whether DNA backlog was influenced, at least partially, by increased submissions for nonviolent crime. Since the study had limited data on individual types of crime that could have been aggregated into violent and nonviolent categories, a subsample of 15 State labs were contacted with requests for DNA backlog data by type of crime (violent/nonviolent) for 2002 through 2006. Thus, we were also able to collect backlog data for one additional year compared to data from the survey, which just assessed 2002 through 2005. Seven labs provided data; results are shown in Figure 22. Given that these data represent a subsample of State labs, and the response rate was only 47 percent, findings must be interpreted with caution.

The trend for violent crime backlog was similar to total DNA backlog from 2002 to 2005. However, from 2005 to 2006, labs reported a decrease in DNA backlog for violent crime. This trend supported some of the interview findings from labs that reported they had begun to make progress on reducing backlog after several years of using funds to increase contract staffing and their capacity to process DNA evidence. For nonviolent DNA backlog, there was an increase from 2002 to 2005 and then a somewhat notable increase in 2006. While these data were not from a representative sample, the trends they suggested supported interview findings that more requests have been made recently for nonviolent crimes and may be at least partially responsible for backlog during these years. The subsample data also supported site visit reports that

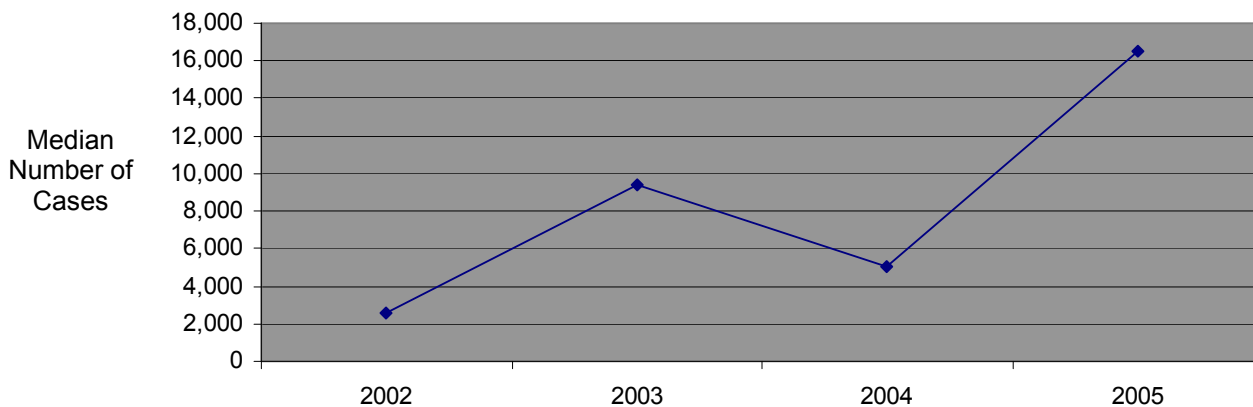
labs were making progress toward addressing backlog and overall declines, at least for violent crime, may occur in the near future.

Figure 22. Median Number of Violent and Nonviolent Backlogged DNA Cases in State Labs 2002–2006



Convicted offender backlog. As shown in Figure 23, there was a substantial increase in convicted offender backlog from 2002 to 2003 and from 2004 to 2005. These significant increases likely reflected the impact of State legislation requiring collection of DNA from convicted felony offenders. Additionally, there were some issues related to outsourcing convicted offender samples to private labs during these years, which also may have accounted for the spikes in backlog numbers instead of a consistent increase. During these years, a number of States increased the number of felonies for which DNA collection was required and some States required collecting DNA from certain felony arrestees. The overall trend across States was to increase the number of offenses for which DNA collection was required.

Figure 23. Median Number of Backlogged Convicted Offender Samples 2002–2005

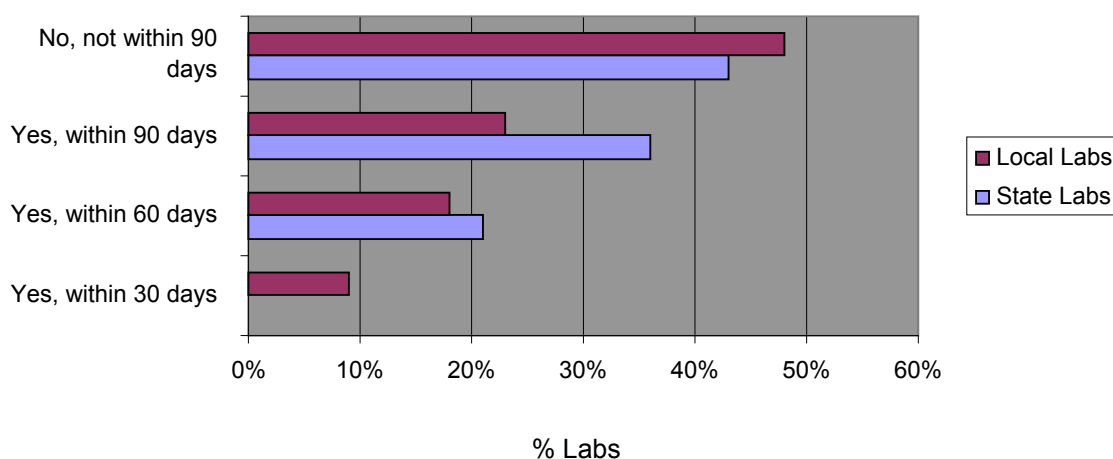


Case Study Highlights

- ✓ An unintended consequence of expanding the DNA database to include more offenders was the considerable increase in State lab workload. During site visits, some State labs noted the need to dedicate additional resources to processing the convicted offender samples that have increased the casework backlog, which had a negative impact on the ability to process casework DNA.
- ✓ Even when samples were outsourced, labs reported considerable impact on casework backlog. For instance, one site reported receiving thousands of outsourced convicted offender samples at once, which then called for re-assigning casework staff to complete the data review required of outsourced convicted offender samples before uploading to CODIS is permitted.
- ✓ One case study lab reported cross-training all forensic scientists to have more flexibility in assigning staff to where backlog was worse at the time. Staff at this lab reported the cross-training had been extremely helpful in addressing both casework and offender backlog.

Capacity to address DNA requests for violent crimes by 2009. For violent crimes, over 40 percent of all labs did not anticipate having the capacity to address all samples within 90 days without Federal assistance (see Figure 24). The majority of the remaining respondents reported they would not have the capacity to complete results within 30 days, which is the generally accepted definition for when a case is considered backlogged. Overall, 91 percent of all labs reported they would not be able to process all violent crime DNA requests within 30 days by 2009 without Federal funding.

Figure 24. Without Federal Assistance, Capacity to Process Reasonable Requests (Violent Crime)

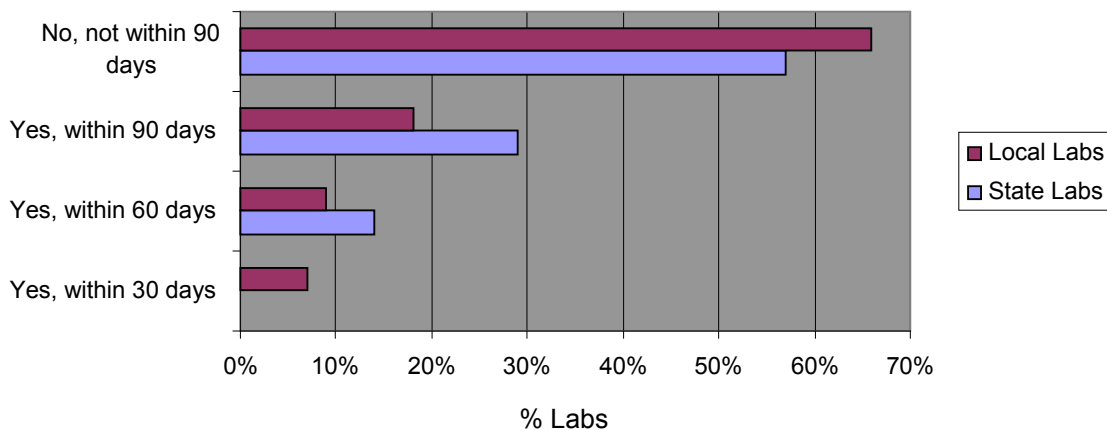


Case Study Highlights

- ✓ All case study labs reported that casework backlog reduction funding was extremely helpful in addressing no-suspect violent backlog. Without funding, all labs expressed concern about capacity and ability to affect backlog. While the majority of case study labs reported that backlog was increasing or remaining constant, they reported that backlog would be significantly worse without Federal funding.

Capacity to address DNA requests for *nonviolent* crimes by 2009. For nonviolent crimes, over half of all State labs and two-thirds of local labs reported that, without Federal assistance, they would not have the capacity to complete analyses within 90 days. The majority of the remaining respondents reported they would not be able to conduct analyses within 30 days. For nonviolent DNA requests, 93 percent of labs felt they would not be able to process requests within 30 days by 2009 without Federal assistance.

Figure 25. Without Federal Assistance, Capacity to Process Reasonable Requests (Nonviolent Crime)

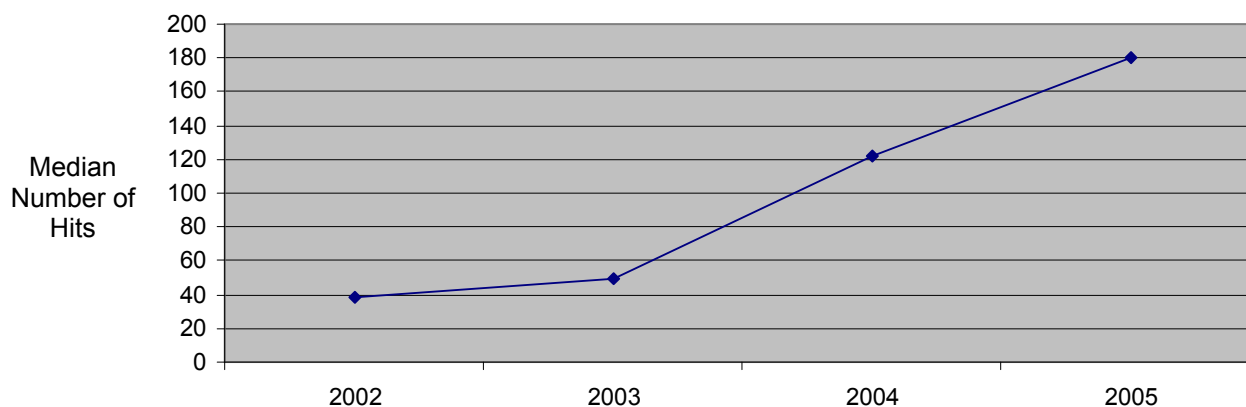


Case Study Highlights

- ✓ A challenge noted by the overwhelming majority of labs was the restriction of not being able to provide overtime funding or contract work to employees for no-suspect, *nonviolent* cases. Many of these labs stated they would benefit if this restriction were lifted.

Hits. The median number of forensic and offender CODIS hits or matches exponentially increased from 2002 to 2005 (see Figure 26). While local labs were queried about annual LDIS hits or matches, response rates were low and they were asked to only report hits that would not have been recorded at the State level; thus, only data on State labs is presented. In 2002, the median number of forensic and offender hits was 38, which increased to 180 by 2005, or a 374 percent increase. Forensic hits or matches increased by 100 percent between 2002 and 2005, while offender hits increased by 448 percent.

Figure 26. Median Number of Forensic and Offender Hits in State Labs 2002-2005

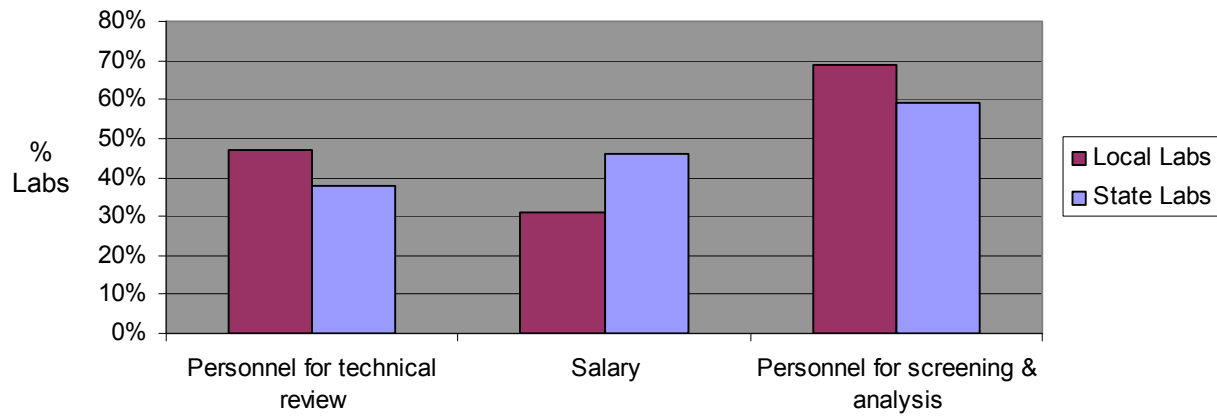


Case Study Highlights

- ✓ All case study labs reported substantial increases in the number of hits they obtained over the years covered in the evaluation. One case study lab reported that, after very little progress during the first decade of participation in CODIS, the number of hits had increased dramatically.
- ✓ One case study lab reported over 1,700 hits since it had been a part of CODIS, and another lab reported close to 2,800 hits between 2002 and 2005.
- ✓ Several sites noted that nonviolent crime DNA resulted in a significant number of offender hits, many to violent crimes.
- ✓ As the number of offenders in SDIS and NDIS has grown, the number of hits or matches has increased correspondingly. To provide some context, in April 2003, the number of offender DNA profiles in NDIS was reported to be 1,312,854 with 54,895 forensic profiles. In January 2005, there were 2,072, 513 convicted offender profiles and 96,473 forensic profiles in NDIS.

Lab needs. Labs were asked to identify needs from a list of options that included construction/lease of building, personnel issues, equipment, robotics, expert systems, laboratory information management systems (LIMS), salary, training, and storage. While local and State labs differed somewhat across all items, they identified the same top three needs, shown in Figure 27. For all labs, personnel for screening and analysis represented the top identified need, followed by personnel for technical review, then salary issues (adjustments/increases).

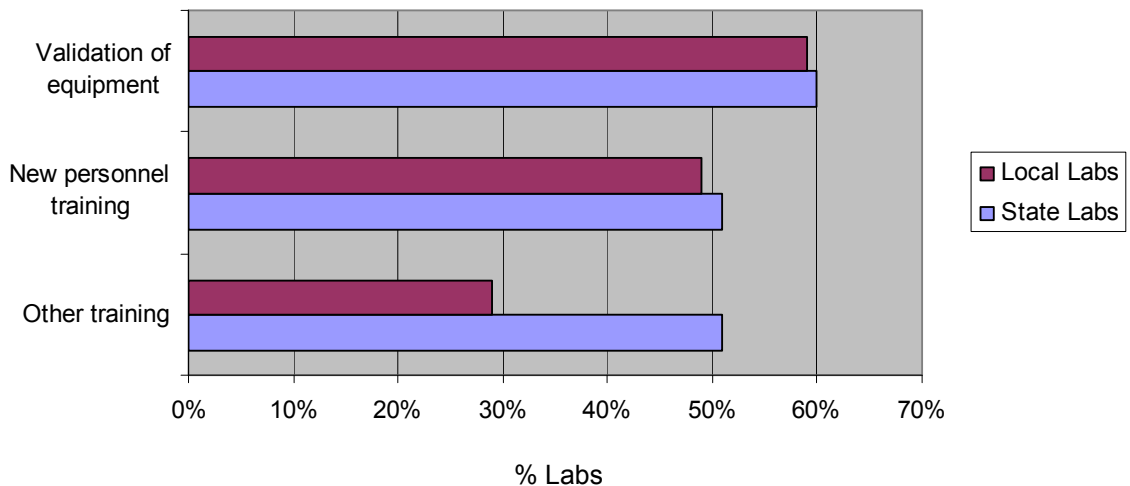
Figure 27. Top 3 Identified Lab Needs



III. DNA-related Training

Lab Training. Casework funding was used by 80 percent of State labs and 88 percent of local labs to validate equipment, for new personnel training, or to conduct other types of training. On average, from 2002 to 2005, State labs trained 17 analysts in one of these three categories for approximately 117 hours per analyst. Local labs trained an average of 6 analysts an average of 100 hours per analyst. Figure 28 shows the percentage of labs that used funds for validation of equipment, new personnel training, and a general other training category.

Figure 28. Type of Lab Training

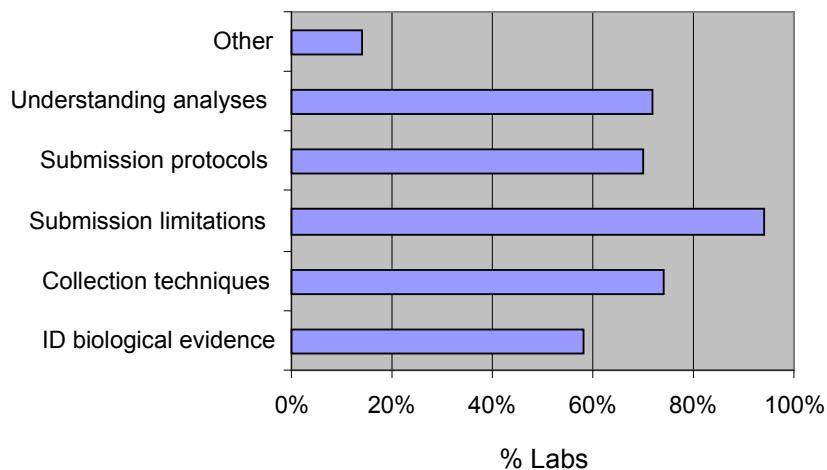


Case Study Highlights

- ✓ In terms of staff recruitment and training, all case study sites noted they had a good relationship with a local university, which provided not only interns but the majority of new staff.
- ✓ During site visits, several of the labs were in the process of validating equipment and protocols for new equipment and systems. The validation process took a considerable amount of time before new equipment and processes were operational.
- ✓ In at least half of the case study sites, there had been a substantial increase in staff working on DNA over the last several years as well as an increase in formalization and standardization of training. Many of the sites were training classes of 3–6 analysts rather than 1 or 2 individuals at a time.
- ✓ Due to the cost of training new staff, two sites noted they had a policy requiring staff to work for the lab for at least 2–3 years post-training.

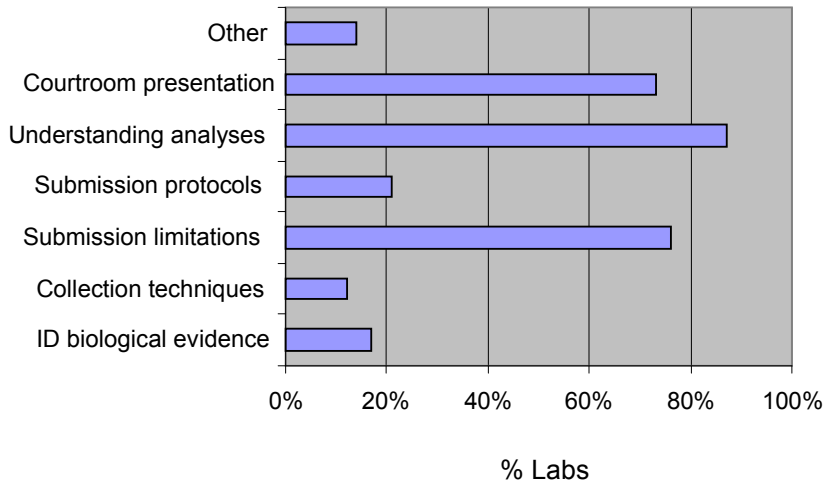
Perceived LEA training needs. Labs were asked to identify areas where additional training for law enforcement was needed. Since there were few differences between State and local labs, overall percentages are provided in Figure 29. As perceived by labs, the biggest need was additional training on submission limitations (94%), followed by collection techniques (74%), understanding analyses (72%), and submission protocols (70%).

Figure 29. Percent of Labs Needing Additional Training by Area



Perceived prosecutor agency training needs. Labs felt the top three areas for additional training in prosecutor agencies were understanding analyses (87%), submission limitations (76%), and courtroom presentation (73%) (see Figure 30). For prosecutors, other training mentioned by labs included courtroom preparation with analysts, help with John Doe warrants, and increased understanding of STR typing.

Figure 30. Percent of Lab Agreement That Prosecutor Agencies Need Additional Training by Area



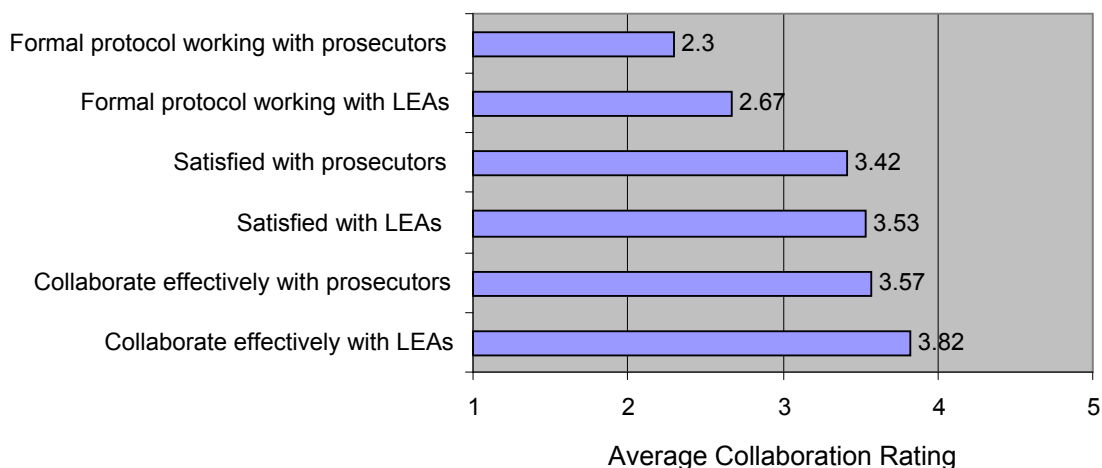
Case Study Highlights

- ✓ One case study lab conducts a “forensic academy” where law enforcement personnel participate in 8–9 weeks of education in crime scene technology. Two to three-day refresher training is provided to graduates annually. This training has resulted in a higher quality of evidence submission.
- ✓ All labs reported that most training is conducted informally by communicating with and educating user agencies throughout the process of submitting DNA for screening and analysis. In other words, a lot of training is conducted by informal communications with user agencies about individual cases being analyzed at the lab, particularly with new staff hired due to turnover.

IV. Communication and Collaboration

Collaboration with law enforcement and prosecutors. Labs were asked to rate their degree of communication and collaboration (protocols, satisfaction, and effective collaboration) with user agencies on a scale from strongly disagree (1) to strongly agree (5), with higher ratings indicating a greater degree of communication and collaboration with the agency. As Figure 31 displays, labs were relatively positive regarding their ratings of effective collaboration and satisfaction with both types of agencies. Ratings were lower and between disagreement and neutral for their assessment of formal protocols when working with user agencies. Additionally, ratings for law enforcement were higher than for prosecutors in relation to effective collaboration, satisfaction, and formal protocols, possibly reflecting the greater levels of interaction required with LEAs.

Figure 31. Crime Labs: Average Collaboration Ratings with User Agencies

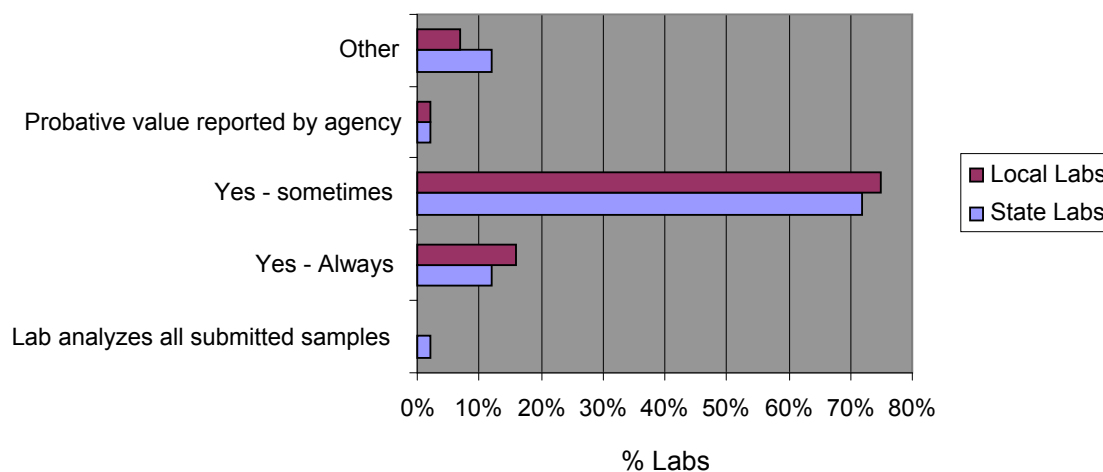


Case Study Highlights

- ✓ Three case study sites established points of contact or liaisons (lab supervisors), who follow up with police and prosecutors to track case progress.
- ✓ Use of technology, including simple methods such as e-mail to more complex database interfaces, has aided communication greatly within and between agencies.
- ✓ One site instituted a communication policy specifying that if analysts do not hear back from detectives after two e-mails, the supervisor is copied on the third e-mail.
- ✓ Some sites had overarching collaborative bodies, which helped identify cross-agency issues related to communication and collaboration as DNA evidence was used at various phases of the criminal justice system.
- ✓ One lab reported not being informed when cases were dropped; they continued working on them, which negatively affected backlog when different cases could have had priority.

Pre-submission meetings. Local and state labs reported similar polices regarding collaborating prior to screening or DNA analysis (pre-submission conferences). The majority of State labs (72%) and local labs (75%) reported they *sometimes* discuss probative value with the submitting agency, and a notable minority of State (12%) and local labs (16%) reported they *always* discuss probative value prior to analysis (see Figure 32). Twenty-five percent of State labs and 30 percent of local labs reported that these conferences were formalized meetings with written lab guidelines.

Figure 32. Percent of Labs Reporting Collaboration Prior to Analysis to Determine Probative Value



Case Study Highlights

- ✓ Many case study labs discussed how their policies on pre-submission conferences and no-suspect cases had evolved over the last several years. The most consistent policy labs instituted was limiting sample submissions to 5–10 samples per case, at least initially, during the pre-submission conference. The exact number of samples depended on the type of crime; for example, more samples were allowed to be submitted in homicides compared to other violent crimes. While these policies ultimately were enforced in general, all labs noted there was flexibility as each case was different.
- ✓ With a triage system implemented at one case study lab, a no-suspect triple homicide with over 1,200 pieces of evidence was reduced to the 12 most probative, which significantly improved turnaround time.
- ✓ All labs stated they would analyze additional samples if no DNA was found or if requested by law enforcement or prosecutors.

V. DNA Crime Lab Agency Survey Summary

Survey data were collected from 107 DNA crime labs for an 82 percent response rate. Seven labs were removed from the study prior to analyses because they did not receive forensic casework DNA backlog reduction funding, which produced an analysis sample of 100 labs. State labs typically served LEAs throughout a state that did not have a municipal or county lab; thus, they served considerably more law enforcement and prosecution agencies. Local labs typically served a city, county, or region within the State and dealt with substantially fewer user agencies, often just one. Despite these differences, both types of labs had similar policies, procedures, and practices related to DNA evidence. For instance, notification policies in both types of labs were similar in regard to no-suspect DNA cases. However, State labs limited evidence more often in no-suspect homicide and sexual assault cases compared to local labs (51% versus 29%).

Survey data also revealed substantial increases in DNA submission from 2002 to 2005; in fact, 20 percent of State labs and more than 30 percent of local labs reported an increase of 100 percent or greater. In terms of nonviolent crime DNA submissions, excluding burglary, both State and local labs reported that auto theft and vehicular breaking and entering were among the top three.

State labs reported a substantial increase from 2002 to 2005 in their DNA backlog. In 2002, the median backlog at State labs was 249, which increased to 451 by 2005. Follow-up backlog data with a small subsample of State labs showed a decrease in violent crime DNA backlog between 2005 and 2006; however, results also showed an increase in nonviolent DNA backlog between 2005 and 2006. Convicted offender backlog also spiked on two occasions from 2002 to 2005 and was over 16,000 at the end of 2005. The number of hits or matches reported during this time period increased exponentially; while the median number of hits was only 38 in 2002, by 2005 this number increased to 180. Both local and State labs reported they did not have the capacity to address violent and nonviolent crime DNA requests within 90 days by 2009 without continued Federal assistance.

State and local labs reported their biggest needs were for personnel for screening and analysis as well as technical review; they also cited salary issues. Ninety-four percent of labs felt that law enforcement needed more training in submission limitations, and 74 percent felt law enforcement could benefit from more training in DNA collection techniques. Labs also felt that prosecutors could use more training in understanding DNA analyses (87%), submission limitations (76%) and courtroom presentation (73%). Labs reported relatively strong collaboration and satisfaction with both user agencies, although ratings were somewhat higher for law enforcement. Additionally, labs had lower agreement with having formal protocols for working with law enforcement and prosecutors on DNA evidentiary issues. Overall, labs reported extensive communication and collaboration with law enforcement and prosecutors in determining the probative value of evidence.

Prosecutor Agency Survey and Interview Findings

Survey description. The prosecutor agency survey on DNA evidentiary issues was designed jointly by ICF and American Prosecutors Research Institute to determine the impact of DNA evidence on prosecutor policies, procedures, and practices regarding DNA. The survey contained four main sections: agency demographics; agency-specific information regarding DNA; training; and communication and collaboration with other agencies related to DNA. The survey was mailed to 181 prosecutor's offices throughout the United States. A total of 116 prosecutors responded (64% response rate). Detailed information regarding sampling methodology, as well as a copy of the survey with overall summary statistics (medians, means, percentages), is included in Appendix A. Where applicable, summarized excerpts from interviews conducted with prosecutors are included to highlight activities related to the use of DNA evidence in prosecution.

I. General Agency Information and Demographics

The prosecutor survey sample consisted primarily of county prosecutors (72%), followed by judicial circuit or district prosecutors (24%). There were only a few city or State prosecutors in the sample (4%). The population of the jurisdiction served by respondents' offices ranged from 4,009–9,329,989 residents. To assess differences related to DNA issues by size of the prosecutor's office jurisdiction, population sizes were organized into three categories (see Table 6).¹

Table 6. Prosecutor's Office Jurisdiction - Population Served

Population	Percent of Prosecutor's Offices
Less than 250,000	26%
250,000–999,999	54%
1,000,000 or more	20%

Type of crime lab used. Most respondents reported using more than one type of crime lab, but they tended to use one type the majority of the time (see Table 7). Prosecutors from the smallest jurisdictions were the only ones to report using private labs. Prosecutors from the largest jurisdiction were more likely to use county labs. Among all survey respondents, State labs were the most common primary lab used.

Table 7. Primary Type of Crime Lab Used by Prosecutor's Office Size

Forensic Laboratory Used Most Often	Less than 250,000	250,000–999,999	1,000,000 or more	Total
Police lab	4%	23%	24%	19%
State lab	84%	54%	19%	54%
Private lab	8%	0	0	2%
County lab	4%	20%	57%	24% ²

II. DNA and Prosecutor Agencies: Policies, Procedures, and Practices

DNA and types of crime. For most types of crime, the largest proportion of respondents reported that 1–25 percent of their cases in 2005 included DNA evidence (see Table 8). Few prosecutors said that 76–100 percent of their homicide or sexual assault cases involved DNA evidence. Also, very few prosecutors said that more than 25 percent of their burglary cases included DNA evidence (3%). There were no statistically significant differences among jurisdiction sizes in the percent of prosecutors' cases involving DNA evidence.

¹ Population categories correspond to those used in the BJS 2005 census of prosecutors in State courts.

² Does not total 100 percent due to rounding.

Table 8. Criminal Indictments in 2005 That Included DNA Evidence

Type of Crime	Proportion of Respondents' Cases				
	0%	1 – 25%	26 – 50%	51 – 75%	76 – 100%
Homicide	5%	60%	15%	14%	6%
Sexual Assault	0	45%	26%	22%	7%
Other Violent Crimes	4%	78%	13%	2%	2%
Burglary	26%	71%	2%	1%	0
Other Property Crimes	47%	50%	2%	0	0

Case Study Highlights

- ✓ One case study site had a written policy that any submissions of touch evidence must be accompanied by a letter from the district attorney explaining the rationale for why they were requesting that the evidence be tested.
- ✓ Another standard policy in one case study site was that all felony cases must be screened through the State attorney's office. The investigator must meet with the prosecutor to determine what was necessary to move the case forward and what evidence would be needed for a trial.

Written procedures for evidence collection, preservation, and retention. Nearly half of survey respondents reported their jurisdictions had written procedures for the collection, preservation, and retention of crime scene evidence (see Table 9). There was a trend for respondents from larger jurisdictions to be more likely to report that they had written procedures for preservation and retention of evidence.

Table 9. Written Procedures for Collection, Preservation, and Retention of Biological Evidence

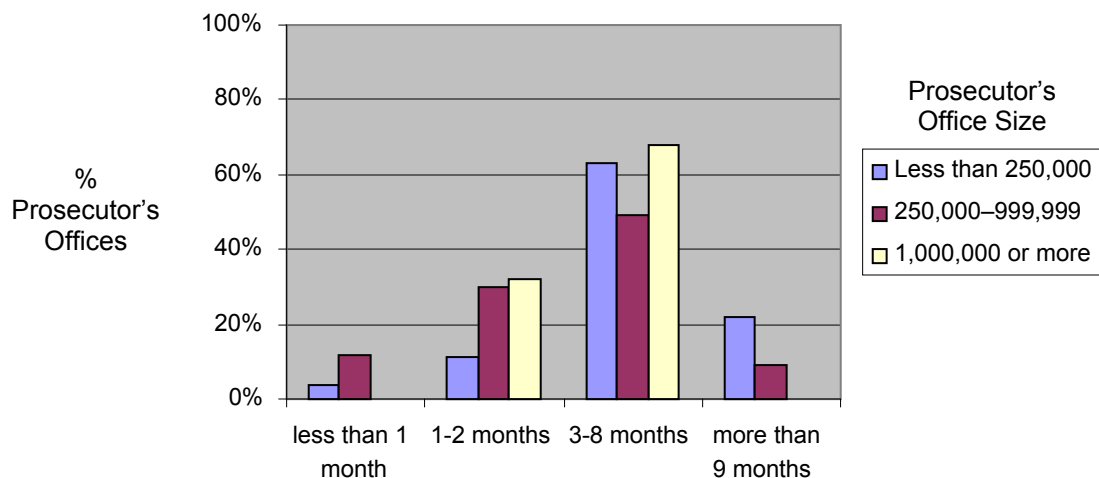
Jurisdiction has established written procedures for:	Yes	No	Unsure
Collection of biological crime scene evidence	44%	28%	28%
Preservation of crime scene evidence	47%	27%	26%
Retention of biological crime scene evidence	47%	27%	25% ³

DNA turnaround time. Survey respondents reported that private labs provided more timely DNA testing results than public labs. Seventy-nine percent of respondents reported it took less than 2 months to receive testing results from private labs, whereas 34 percent of respondents reported it took less than 2 months to receive results from public labs.

There were no differences across population sizes in the length of time it took to receive lab results from private labs, but there was a significant difference ($p < .05$) across population sizes for public labs; respondents from jurisdictions with less than 250,000 residents were more likely to report it took more than 9 months to receive public lab results. However, caution should be taken in interpreting findings as the item did not specify by crime type, an important consideration because a long delay for analysis results can have different implications for violent compared to nonviolent crimes.

³ Does not equal 100 percent due to rounding.

Figure 33. Average Length of Time to Receive DNA Results by Prosecutor's Office Size (Public Crime Labs)



Case Study Highlights

- ✓ All sites reported a backlog in DNA casework, although a number of prosecutors also reported that turnaround time had been reduced.
- ✓ The backlog had been improving at some of the sites; at other sites, prosecutors perceived the backlog to have remained fairly constant.
- ✓ Prosecutors across all case study sites reported that labs were very good at reprioritizing testing for cases coming to trial.
- ✓ Speedy trial laws made the backlog a more important issue.
- ✓ If a case had to be outsourced due to the backlog, bringing in the analyst as an expert witness was reported to be very costly.
- ✓ One prosecutor noted that the crime lab backlog had the biggest impact on victims who were waiting to learn if there was enough evidence to press charges.

Impact of backlog on case practices. Delays in receiving DNA results resulted in a continuance, adjournment, or “dismiss and rebring” for some survey respondents. Overall, prosecutor agencies reported such delays most often occurred in 1–25 percent of cases (see Figure 34 and Figure 35). Respondents from the smallest jurisdictions had higher percentages of their homicide and sexual assault cases result in these situations than those from the larger jurisdictions.

Figure 34. Percent of Homicide Cases Requiring Continuance, Adjournment, or Dismiss and Rebring Due to Delay in Receiving DNA Results by Prosecutor’s Office Size

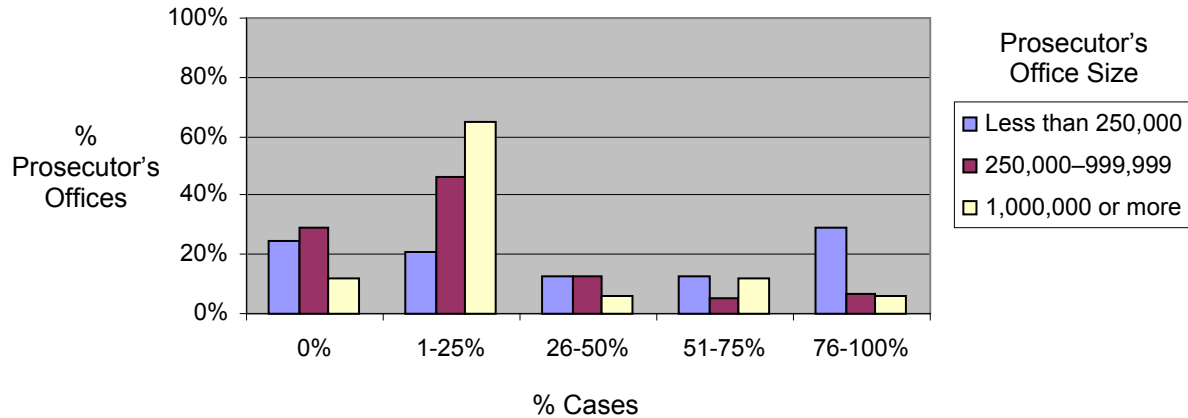
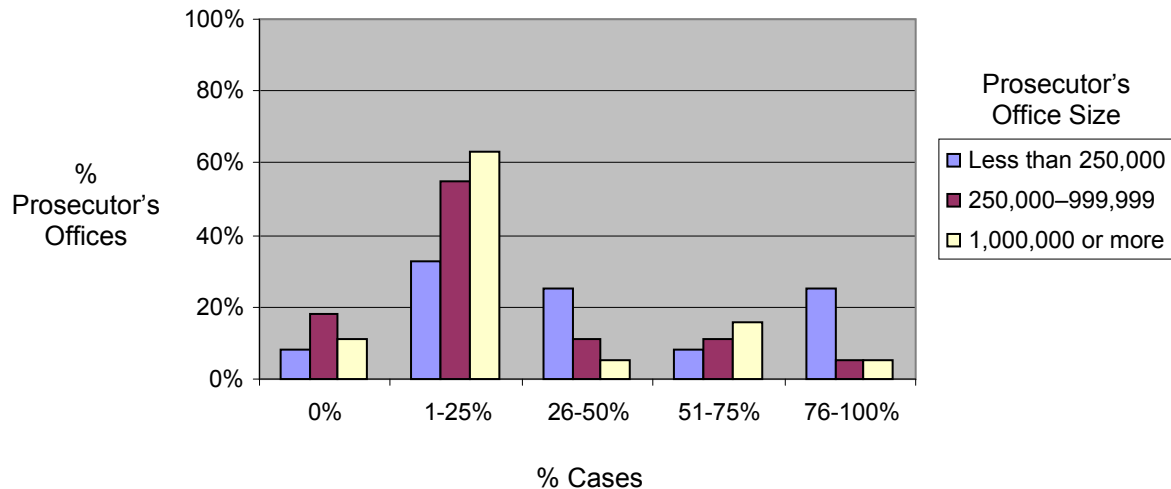
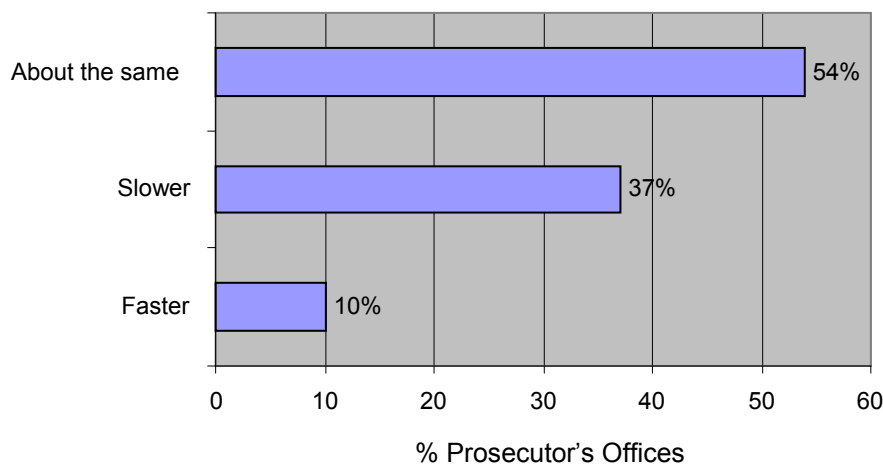


Figure 35. Percent of Sexual Assault Cases Requiring Continuance, Adjournment, or Dismiss and Rebring Due to Delay in Receiving DNA Results by Prosecutor’s Office Size



State legislation’s impact on backlog. A large majority (83%) of survey respondents reported their State had enacted legislation on DNA databases. Most respondents reported that the legislation either had no effect on sample processing time or it slowed down processing time (see Figure 36).

Figure 36. Effect of State Database Legislation on Sample Processing Time



DNA's impact on prosecutorial decision-making. Survey respondents reported they were more likely to file charges when there was DNA evidence and cases were more likely to be pled as charged, as opposed to a reduced charge (see Table 10). Few respondents reported that cases with DNA evidence result in a plea to a reduced charge or are more likely to go to trial.

Table 10. DNA's Impact on Case

When a case involves DNA evidence:	Percent Who Agree
The office is more likely to file charges on a case.	81%
The office is more likely to consider a plea to a reduced charge.	5%
The case is more likely to be pled as charged.	75%
The case is more likely to go to trial.	7%

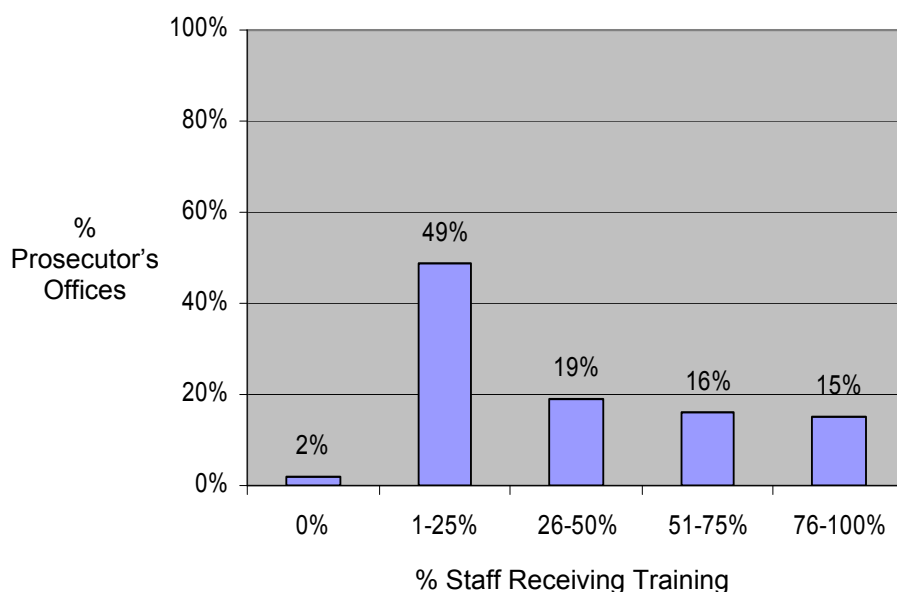
Case Study Highlights

- ✓ Findings from prosecutor interviews were consistent with the survey data in that interviewees reported that defendants were more likely to accept harsher or more appropriate/just pleas in the face of DNA evidence compared to cases in which this evidence was lacking. However, several prosecutors also said they were more likely to take a case to trial and refuse any plea if there was solid DNA evidence, unlike most of the survey respondents.
- ✓ DNA has increased the cases, both current and cold, on which prosecutors can file charges.
- ✓ Juries now expect DNA evidence in all cases (the CSI effect), which affects prosecutor requests for evidence to be tested.

III. DNA-related Training

Overall, 76 percent of agencies reported that more DNA training was needed for prosecutors in their office. As Figure 37 displays, approximately half of agencies reported that 1-25 percent of staff had received training since 2002, while half of all prosecutors reported that 26 percent or more of staff had received training. Only 2 percent of responding agencies stated that no prosecutors in their office received DNA training. It is important to note that not all prosecutors necessarily need DNA training, but primarily those who prosecute homicide and sexual assault cases.

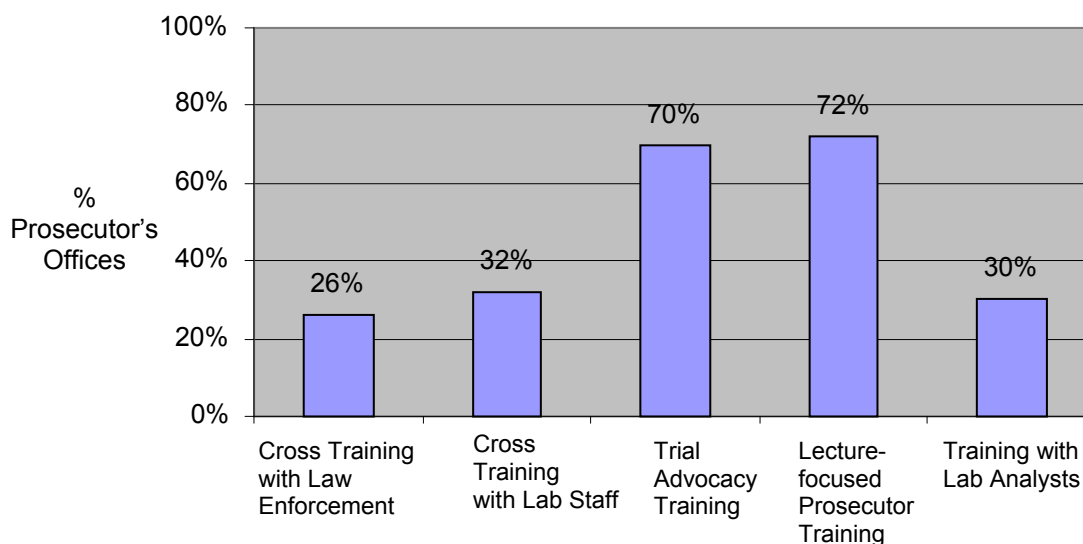
Figure 37. Percent of Attorneys Who Have Received Specialized Training on DNA Evidence Since 2002



Prosecutors from survey respondents' offices received a variety of types of training on DNA; the most commonly reported were lecture-focused prosecutor training and trial advocacy training (see Figure 38).

- Additionally, 32 percent of respondents reported that they had an internal mentoring or training program for DNA case development in their office. Larger jurisdictions reported more informal mentoring than smaller agencies.
- Also, 27 percent of respondents reported that their State lab analysts provided formalized mentoring to the prosecutors in their office.

Figure 38. Types of DNA Training Received by Prosecutors



Case Study Highlights

- ✓ Prosecutors who were interviewed had differing opinions on training needs and availability. Some believed that prosecutors in their offices who worked on cases involving DNA were sufficiently trained through national conferences and State and regional crime lab trainings. Others reported that while training was available nationally, the prosecutor's office lacked the necessary resources to send people, and the local crime lab did not have the resources to provide the prosecutor's office with on-site training.
- ✓ Training needs and availability appeared to depend on the resources of the local crime lab and the State and local courts.

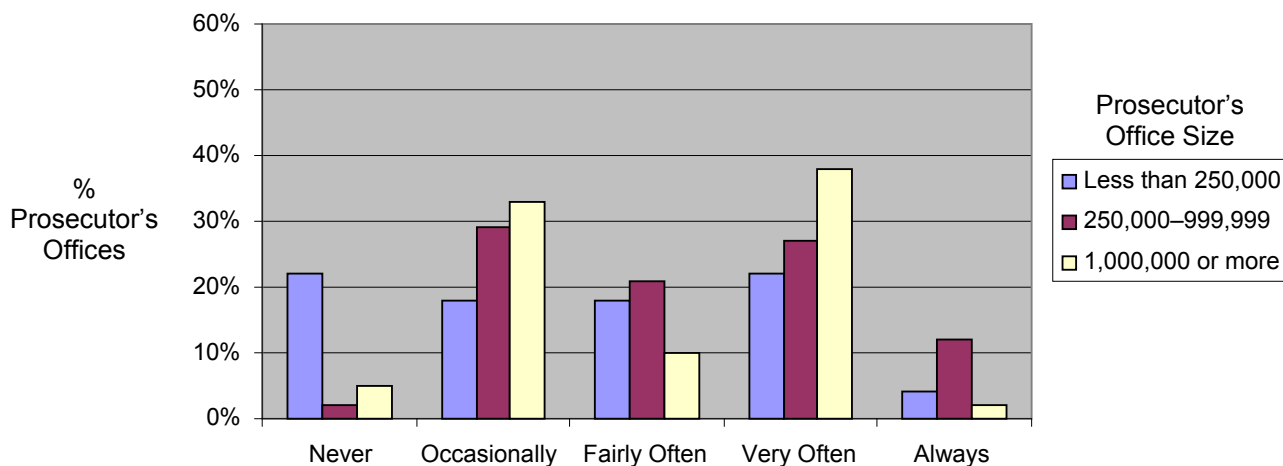
IV. Communication and Collaboration

Communication with crime lab staff: Prioritization of evidence. About one-third of prosecutor survey respondents reported that their office had a protocol for the prioritization of evidence. A majority of respondents reported that both the prosecutor's office and the crime lab set the criteria for prioritization of evidence.

Communication with crime lab staff: Case outcomes. More than a third of all survey respondents reported they occasionally or never communicated the results of a case to the crime lab (see Figure 39). Survey respondents from the largest jurisdictions tended to be more likely to communicate case results very often to the crime lab, and respondents from the smallest jurisdictions were more likely to report that they never communicated case outcomes to the crime lab.

- Survey data also revealed that 51 percent of survey respondents reported that their office had a protocol for communication with the lab when a case was settled prior to testing.

Figure 39. Frequency of Prosecutor’s Communication of Case Outcome to Crime Lab



Case Study Highlights

- ✓ Findings from case study sites were consistent with the survey data. Several prosecutors reported that prosecutors met with or spoke to law enforcement and the crime lab for pre-submission conferences, at which time they prioritize evidence testing together, especially for homicides and all other severe or high-profile cases.
- ✓ Some prosecutors said they regularly discussed evidence submission with crime lab staff prior to submission to review what was probative. Several interviewees said they always met with crime lab staff prior to important trials to review evidence and testimony.
- ✓ Other sites identified informal standard procedures or protocols. In one site, prosecutors went to the crime scene for all homicide cases.

Challenges in collaborating with other disciplines. The only two challenges to collaboration with law enforcement and/or crime labs that were acknowledged by a sizable proportion of survey respondents were law enforcement’s delay in sending samples to labs for analysis and the crime lab’s backlog (see Table 11). Respondents from the largest jurisdictions were also more likely to agree that a lack of law enforcement training in the collection of DNA evidence was a challenge.

Table 11. Collaboration Challenges

Challenges	Percent Agree
Law Enforcement Challenges	
Delay in sending samples to labs for analysis	48%
Lack of training in the collection of DNA evidence	25%
Quality testimony in court proceedings	13%
Evidence Retention by:	
Crime lab	10%
Law enforcement	28%
Crime Lab Challenges	
Sample consumption without notification to prosecutor's office	5%
Backlog	85%
Access to new technology	29%
Lack of lab accreditation	6%
Analysts' failure of proficiency tests	6%
Lab error (e.g., false positive/negative reporting)	3%

Case Study Highlights

- ✓ Prosecutors at several case study sites reported that the backlog and resulting delay in receiving results was the biggest challenge.
- ✓ Turnover among forensic scientists could leave prosecutors without an expert witness at trial unless another scientist re-analyzed the DNA sample.
- ✓ Communication could be a challenge at times. For example, one prosecutor reported that there were times when the crime lab decided, on its own, to stop testing evidence submitted in a case, assuming what they had was sufficient. The prosecutor did not learn that some of the evidence was not tested until the final lab report was received. Submitting follow-up requests for testing non-tested evidence that was crucial to proving the case could result in a 3- or 4-week delay in preparing evidence ready for trial.
- ✓ The majority of prosecutors stressed that the communication between their office and the crime lab was very good, with improvement in communication over the past several years, and they believed they were collaborating very well.

Challenges faced by prosecutors in presenting DNA evidence to jurors. Most of the survey respondents agreed that the CSI effect was a challenge in presenting DNA evidence to jurors. Jurors' lack of trust in the science of DNA analysis did not appear to be an issue, according to survey respondents. However, jurors' lack of trust in the system's *collection and processing* of DNA was more frequently cited as a challenge (see Table 12).

Table 12. Challenges in Presenting DNA Evidence to Jurors

Challenge	Percent of Prosecutor's Offices
CSI effect	90%
Jury trust in the science of DNA	14%
Jury trust in the system's collection of DNA	38%
Jury trust in system's use of DNA databases	8%

Case Study Highlights

- ✓ Prosecutors from two of the sites reported that they started addressing CSI effect issues during jury selection by questioning candidates about the television shows they watched and asking if they could distinguish reality from fiction, for example. They felt proactively addressing the CSI effect was extremely helpful.
- ✓ A few prosecutors mentioned that when a case did not involve DNA, it was still very helpful to have crime lab staff as expert witnesses to testify as to why there was no DNA evidence. This helped combat what some prosecutors reported as the tendency for jurors to expect to see DNA evidence in all cases.
- ✓ Some prosecutors described cases they felt they lost, even though they suspected the defendant was guilty, because there was no DNA evidence.

V. Prosecutor Agency Survey Summary

Survey data were collected from representatives of 116 prosecutor agencies (64% response rate). Agencies were categorized by jurisdiction size to investigate if there were differences in policies, procedures, and practices by size of agency in relation to DNA evidence. State labs were the most common type of lab used by prosecutors, although prosecutors from the largest jurisdictions were more likely to use county labs. In terms of criminal indictments in 2005, 20 percent of prosecutors reported that 51–100 percent of homicide cases contained DNA evidence, and 29 percent of prosecutor offices reported that 51–100 percent of sexual assault cases contained DNA evidence. Prosecutors reported that compared to public labs, private labs were more successful in analyzing evidence within 2 months; however, prior research indicated that many jurisdictions do not have the financial resources to outsource to private labs (Lovrich et al., 2004).

Prosecutors from the smallest jurisdictions (less than 250,000 population) reported they were significantly more likely than larger jurisdictions to wait 9 months or longer for DNA results; this resulted in more continuances, adjournments, and dismiss and rebring case events for these prosecutors compared to those from larger jurisdictions. Overall, prosecutors were much more likely to file charges and plead cases as charged when DNA evidence was involved. Prosecutors have been trained on DNA-related issues, with 72 percent attending lecture-focused training and 70 percent participating in trial advocacy training. Prosecutors reported the CSI effect was a major challenge, and DNA issues during trial now had more to do with the system's collection, processing, and analyzing of DNA versus a focus on the scientific aspects, as there had been a decade ago. Interestingly, compared to smaller agencies, larger prosecution agencies more often communicated case results to the crime lab. The biggest challenges to collaboration reported by prosecutors were backlog, for collaboration with the lab, and delay in sending samples to labs, for collaboration with the police.

Challenges and Promising Practices in Forensic Casework DNA Backlog Reduction

Overall, according to State lab estimates, forensic casework DNA backlog has substantially increased from 2002 to 2005. Despite considerable Federal funding for forensic casework backlog reduction (and other grant vehicles such as lab capacity enhancement), and increases in State and local funding, labs have encountered numerous difficulties in adequately addressing backlog. However, this does not mean that considerable progress has not been made; indeed, survey data and case studies indicated that violent, no-suspect backlogged cases are being addressed, lab capacity and throughput have improved significantly, and turnaround time has been reduced. Challenges that have been highlighted in past research continue, such as the need for more personnel (Lovrich et. al, 2004; NIJ, 2006), and newer challenges have been introduced as DNA knowledge, technology, and use have expanded. The following sections discuss these challenges along with promising practices that DNA crime labs, police, and prosecutors have implemented to address DNA casework backlog identified during case study site visits.

I. Increased DNA Submissions: Challenges and Promising Practices

One of the most common themes that emerged from the crime lab survey and case study site visits was the year-to-year increases in requests for DNA analysis. Technological advances and a general increase in DNA education and popularity have resulted in an increasing number of criminal cases being submitted for DNA analysis. While the increased use of DNA evidence to convict those guilty of crimes is an obvious benefit to police, victims of crime, and general community safety, the inundation of such evidence has exacerbated pre-existing backlog issues at crime labs.

According to case study labs, not only has the number of submitted cases increased, but also the number of samples per case has increased. Additionally, a growing number of cases that traditionally have not been considered candidates for DNA analysis, such as arson, auto theft, theft, and breaking and entering, now are being submitted for testing.

This issue is not limited to new criminal cases. With new DNA technologies, cold cases are being re-analyzed or perhaps analyzed for the first time. Cold case hits result in more follow-up DNA analyses (confirmation samples, reference samples), reports, and other work for labs as well as police and prosecutors (Pratt et al., 2006). To deal with this increased demand, crime labs, along with law enforcement and prosecutors, have instituted a number of policies, procedures, and practices to adequately deal with rising caseloads by limiting the number of DNA requests, whenever possible, and prioritizing their most important cases.

All the case study sites reported they are attempting to limit the number of DNA submissions, with varying levels of success, and in multiple ways. First and foremost, labs are increasing the frequency of pre-submission calls and pre-submission conferences. At pre-submission conferences, crime lab personnel meet with investigators and prosecutors to identify and discuss the most probative evidence. Collaborative decisions are made to analyze the most probative evidence first while the other biological evidence is

retained for possible future testing. If testing of the initially identified probative evidence does not meet law enforcement or prosecutor needs, lab analysts can resume testing on the next set of most probative evidence. This prioritization can substantially reduce demands on crime labs, particularly with cases such as homicides that can involve dozens to hundreds of samples.

While conferences typically are used for cases with substantial amounts of evidence, pre-submission calls and discussions also are being used increasingly for other cases with potential DNA evidence. These discussions help to further limit requests and demands on overburdened crime labs. While such policies and procedures have been in existence for a number of years, case study labs reported they are used increasingly and there is more buy-in from law enforcement and prosecutors about how these policies and procedures benefit each agency.

Labs also reported other policies and procedures that resulted in more efficient processing and analysis of DNA evidence. For instance, with adequate training and support, one lab reported success in training forensic nurse examiners in methods that helped screening and processing of DNA evidence in sexual assault cases. In fact, this lab reported that it reduced time prepping for analysis from a day to a couple of hours. Additionally, the increased use of calls, conferences, and education related to DNA submission limitations has resulted in greater communication throughout the entire DNA collection and analysis process, resulting in a better understanding of the length of time it actually takes to conduct DNA analysis.

Promising Practices

- ✓ Pre-submission calls
- ✓ Pre-submission conferences
- ✓ Increased formalization and implementation of policies related to limitation of evidence
- ✓ Implementation of procedures to increase processing of DNA evidence, such as training forensic nurse examiners to stain slides in sexual assault kits
- ✓ Increased communication throughout DNA process

II. Lab Procedures, Processes, and Capacity: Challenges and Promising Practices

Case study labs have instituted various procedures and processes that have increased capacity and reduced turnaround time, enabling them to begin making progress on reducing the casework DNA backlog. For example, almost all of the case study labs have separated serological analysis and DNA analysis, resulting in more efficient processing of DNA requests. This separation of roles and responsibilities also allows labs to have new personnel trained and working cases much sooner than waiting for new staff to undergo both serology and DNA training. While some analysts and lab management prefer having the same individual performing serology and DNA analysis, analysts and supervisory staff were in agreement that this is a more

efficient process. Additionally, one of the case study labs has used an automatic stainer in serology to help address backlog. The automatic stainer standardizes the staining process and saves hours of technician or analyst time.

A number of case study labs have implemented robotics and expert systems to address backlog, while almost all others were in the process of, or had plans to do so, in the near future. However, implementation and validation of new equipment, processes, and procedures takes a considerable number of months and takes personnel away from other functions, such as casework. Some case study labs also reported concerns about validating and training personnel to use robotics and expert systems, as well as difficulty in choosing which equipment and systems to purchase. Once validated though, case study labs reported increased capacity and throughput and a reduction in case review time. Purchasing other needed lab equipment and technologies, including new computers, implementing LIMS and CODIS workstations on analyst desks, and IT enhancements, also assisted labs in addressing backlog.

Some of the case study labs used forensic casework funds, when available, for lab renovation which, while usually relatively small in dollar amounts, resulted in considerable gains in utilization of lab space and productivity. Many DNA crime labs are housed in older buildings, which were not created for 21st century forensic science technologies; thus, such renovations significantly affected lab functions and capacity, resulting in a greater ability to address the DNA casework backlog. For instance, funding allowed for the expansion of instrumentation into non-analytic areas and increased analysis work areas. One site used renovation funding to create more workspace and then leveraged State funding to hire six additional forensic scientists. Without the lab renovation, there would not have been adequate space to hire the additional personnel. Also, three of the case study labs reported substantial benefits from having internal information technology specialists to reduce down time and assist with equipment validation, LIMS issues, and other general lab equipment issues.

Promising Practices

- ✓ Having staff dedicated to serology and DNA analysis
- ✓ Lab renovation to increase workspace, capacity, and productivity
- ✓ Employing automatic stainers in serology
- ✓ Purchase (and implementation/validation) of robotics and expert systems
- ✓ Employing internal (not agency-wide) IT specialists

III. Staffing and Training: Challenges and Promising Practices

According to survey results, the top three lab needs directly involved staffing-related issues. This finding is not surprising as the need for increased personnel in DNA crime labs has been highlighted previously as one of the major issues facing labs (Lovrich et al., 2004). In fact, the most recent (2002) census of publicly funded crime labs estimated a 79 percent increase in full-time DNA employees was needed to achieve a 30-

day turnaround time on all DNA requests for that year (Peterson & Hickman, 2005). Personnel for screening and analysis was the most frequently identified need, with personnel for technical review second and salary adjustment, another staffing-related need, rated third.

Casework funding provided opportunities for labs to hire contract analysts, as well as allocate overtime monies for staff to work on no-suspect cases. Case study labs indicated that both of these items were integral to their ability to deal with unanalyzed no-suspect backlog. The evaluation also found many similarities across labs in terms of current efforts to recruit, hire, and train more staff. The majority of case study labs were hiring significant numbers of new staff through local, State, and casework funding sources. However, common challenges were encountered in attempts to increase staffing to address backlog.

First, staff recruitment requires a considerable amount of effort and time. Recruitment and hiring, which include background investigations of candidates, often delay labs for up to a year until they are able to recruit, interview, and hire new personnel. Another common theme that emerged was the increased number of personnel being hired and trained, resulting in classes of new analysts. While one or two analysts might have been hired in the past, many of the case study sites were hiring three to seven new personnel at a time. While this substantial increase in staffing ultimately will lead to more successful efforts to reduce backlog, there is considerable time from initial recruitment efforts until an analyst is fully functional within the lab setting.

Training forensic scientists is an enormous endeavor, taking anywhere from 1 to 2 full years until they are fully trained. In the meantime, staff with more experience are responsible for training new staff and reviewing their work, thereby reducing the number of experienced staff available to work on and review current DNA cases. In fact, increasing staffing initially may increase backlog as senior staff are pulled away from casework analyses and review due to training demands. Thus, while adding personnel ultimately will help labs substantially reduce backlog, there may be considerable time until labs see notable reductions in casework backlog.

For new forensic scientists, serology training usually takes 3–6 months, while DNA analysis training lasts considerably longer, 9 months to a year or more. Labs reported success in training new forensic scientists in serology first and having them screen DNA cases while also being trained in DNA analysis. In this manner, labs were able to assign new staff quickly to working cases, addressing one of the bottlenecks in the DNA collection and analysis process—the backlog in DNA screening. Some of the case study labs believed this separation of roles and responsibilities also helped analysts increase expertise in these areas.

Promising Practices

- ✓ Hiring contract workers and paying staff overtime to work no-suspect cases
- ✓ Good relationships with local universities provided labs with interns and the majority of new personnel
- ✓ Increased formalization and standardization of forensic scientist training
- ✓ Training new personnel in serology to assign them to screening DNA cases while they also are being trained in DNA analysis
- ✓ Providing staff external training opportunities through NIJ resources, vendors, and conferences

IV. Communication and Collaboration: Challenges and Promising Practices

One of the objectives of forensic casework DNA backlog reduction funding, and an overarching objective of the President's DNA initiative, was to improve communication and collaboration across agencies for DNA cases. Survey findings indicated that law enforcement, crime labs, and prosecutors maintained good working relationships that included communication and collaboration. During site visits, one challenge frequently noted by lab staff was difficulty reaching investigators to discuss a case. Given the different work shifts required of many in law enforcement, this is to be expected on occasion. Overall, during site visits, personnel across all agencies reported good communication and effective collaboration. Personnel from all agencies also reported that communication and collaboration had improved over the last several years.

Case study sites reported a number of policy and procedural changes that have improved overall communication and collaboration among agencies. In a couple of the case study sites, prosecutors are required to attend homicide and other major crime scenes. This policy provides prosecutor input and perspective on what evidence is most probative and increases efficiency of the investigation team, as warrants can be submitted quicker and attorneys can provide other legal advice. The same attorney is responsible throughout the investigation and being at the crime scene can give a perspective that can help in court.

Some case study sites established collaborative bodies that guided implementation of DNA policy and procedural changes across agencies to improve communication and collaboration and, ultimately, case outcomes. For instance, one site reported that, by working through this collaborative body, improvements were made in sexual assault evidence kits. These collaborative bodies also reviewed problematic cases to identify challenges and lessons learned to improve future work.

Many of the case study sites reported establishing communication protocols. For instance, a few case study sites established points of contact at each agency and DNA-related information and requests were

channeled back and forth between them. This reduced the number of personnel interacting, making communication across agencies less difficult. Case-related information also could be tracked and documented better.

Using e-mail to communicate with investigators was highlighted as a significant improvement to communication, particularly in jurisdictions where police and lab personnel worked for the same overall agency and easily could locate e-mail addresses and contact information on a shared network. One lab implemented a communication/e-mail policy instructing analysts to copy the investigator's supervisor on their third e-mail if there was no reply to two earlier attempts. Another lab reported that having access to police reports vastly improved communication as they could pull up the case file to learn specifics of the case or updates, which increases their understanding and subsequent identification/processing of the most probative evidence.

Additionally, respondents reported that training often resulted in improved communication and collaboration. For instance, several case study sites noted recent procedures such as ride-along programs, in which analysts traveled with law enforcement personnel to crime scenes, resulting in a better understanding of each other's roles, responsibilities, and expertise. In fact, any training, particularly cross-agency training, also should be viewed as a relationship building exercise for agencies to increase connection and trust. Such exercises not only increase agency expertise but also result in more effective collaboration across agencies.

Promising Practices

- ✓ Prosecutors attending major crime scenes
- ✓ Overarching collaborative DNA bodies
- ✓ Agency points of contact and other formalized communication protocols
- ✓ Using technology to facilitate communication; for example, using management information systems to obtain crime lab results and report law enforcement findings
- ✓ Cross-agency training

Conclusion

Forensic casework DNA backlog reduction funding was provided to address the sizeable backlog of DNA evidence in crime labs. Survey data revealed that DNA backlog continued to increase from 2002 to 2005; however, survey and case study data also identified a number of contextual factors related to this continued backlog. For instance, 80 percent of local labs reported DNA submissions increased 26 percent or more from 2002 to 2005. In fact, almost 35 percent of local labs reported an increase of 100 percent or higher. State labs also reported substantial increases in DNA submissions—65 percent of State labs reported DNA submissions increased 26 percent or more. All case study labs reported that increased DNA submissions negatively affect their ability to reduce casework DNA backlog. Labs responded to increased submissions in a

number of ways, usually by limiting amounts (and sometimes types) of evidence and through increased use of pre-submission calls and conferences. State labs were inundated with convicted offender samples during this time period (2002–2005), which also affected their ability to address casework backlog.

Adequate staffing continues to be a significant crime lab challenge in DNA backlog reduction efforts. While more staff is needed, the evaluation found significant efforts underway to address staffing shortages and the challenges they present. Recruiting, hiring, and training DNA staff takes considerable time and efforts to address backlog through improved staffing likely will not generate any impact until 2 or 3 years after initial attempts, assuming there is no turnover. Yet, turnover also continues to be a significant issue; critical competencies and experience cannot be replaced quickly and surveys revealed that salary for adequately trained forensic scientists is not commensurate with their skills.

Related to staffing, labs increasingly have implemented organizational and management strategies to improve lab efficiency in processing and testing DNA evidence, using process mapping, efficiency forums, and business project management practices (NIJ, 2008). In fact, one case study lab was conducting a process improvement exercise during the site visit. Given overwhelming resource needs and insufficient State and local budgets, labs continue to operate understaffed, at least compared to the number of requests for services. Thus, many labs have instituted their own organizational and management improvement efforts and processes to increase efficiency in prioritizing, screening, and analyzing DNA. Such efforts help identify inefficiencies as evidence advances through lab processes.

For instance, backlogs or bottlenecks, each presenting unique challenges, exist at multiple points throughout the DNA collection and analysis process. Sometimes there is a delay in sending DNA evidence to the lab. Many of the participating case study labs noted their largest bottleneck was in serology, where cases are screened for possible biological evidence. Some labs noted their backlog was concentrated in DNA analysis. More frequently, labs reported bottlenecks or backlogs occurred in the peer and technical review stages. Almost all case study labs reported bottlenecks in more than one of the DNA processing stages; thus, changes in lab management, structure, and operations that reduce operational inefficiencies in any and multiple stages of the DNA process can facilitate an eventual reduction in backlog.

Similar to the considerable timeframe involved in staffing, other backlog reduction activities and efforts take significant time to implement fully and appropriately. For instance, all new lab equipment, processes, and procedures take substantial amounts of time to implement and validate prior to use in casework analysis, and staff must be removed from casework analysis to complete it, negatively affecting backlog reduction efforts. In fact, almost all the case study labs were still in the process of validating some of the equipment they had purchased or procedures they were implementing.

Numerous other contextual variables affected backlog reduction efforts. For instance, all labs noted they had increased their quality assurance standards and protocols. Although these stricter standards affected turnaround time and backlog efforts, lab staff felt they were essential to the integrity of the lab and DNA analysis results. Moreover, interviews with prosecutors revealed that, while the science of DNA no longer is being challenged in courtrooms, other components of the DNA process are, such as chain of custody issues

and possible contamination in collection, screening, processing, and analyzing. Thus, increased formalization and standardization of DNA collection, screening, and analysis procedures are warranted, even if they reduce turnaround time.

The second main intended outcome of the forensic casework DNA backlog reduction program was to use CODIS effectively to solve no-suspect crimes. This outcome has been accomplished and effective use of CODIS will only continue to expand. While mandated DNA collection may have affected lab backlog, it also greatly expanded the pool of available offender profiles against which no-suspect cases could be matched. The number of CODIS hits increased exponentially between 2002 and 2005. In fact, the median number of hits increased from 38 in 2002 to 180 in 2005, a 374 percent increase. Case study labs all reported great success in further using CODIS to solve crimes. As the database expands with convicted offenders, and in some cases arrestees, the number of hits solving no-suspect crimes and confirming suspects in other cases also will continue to grow. In addition, labs reported increases in case-to-case hits (forensic hits). As the database grows, so too will success connecting multiple no-suspect cases to known individuals once their DNA is uploaded to CODIS.

Another major objective of DNA casework funding was to increase effective communication and collaboration practices across agencies. Case study site visits found that communication and collaboration processes and protocols improved substantially during the evaluation period. The amount, frequency, and quality of communication and collaboration vastly improved. While specific communication and collaboration processes differ between State and local labs, increased use of pre-submission calls and conferences and ongoing contact with investigators and prosecutors were reported by all case study sites and supported by survey data.

The overall impact of increased communication and collaboration seems to result from a number of factors, in many of which Federal funding has played an instrumental role. While DNA backlog persists, labs' ability to handle increasing amounts of evidence and reduce turnaround time has increased the role and utility of DNA evidence in both violent and nonviolent cases. The substantial increase in the number of hits to solve current cases has reverberated throughout user agencies. The increased use and role of DNA evidence in cold cases has led to dramatic results. Annual increases in submission of DNA evidence are testimony to this fundamental change in criminal justice agencies; as interviewees at site visits often commented, success brings more submissions. It also has facilitated group decision-making about the best ways to deal with limited resources through probative reviews and other policies for limiting evidence so labs are not overwhelmed.

In sum, the forensic casework DNA backlog reduction program was successful in meeting many of its intended outcomes, objectives, and goals. While the overall backlog may not have been reduced due to the changing importance and utilization of DNA, case study labs reported that Federal funding has greatly assisted their efforts in addressing casework backlog.

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Appendix 1: Method and Agency Surveys

1. Police
2. Labs
3. Prosecutors

Method

Survey Development

All surveys were developed in collaboration with subcontracting agencies.¹ The Office of Research and Evaluation and Office of Science and Technology also provided input into survey development. As much as possible, surveys asked parallel questions across agencies to obtain comparable data. Questions focused on four main areas: general agency information and demographics, agency-specific information pertaining to DNA evidence, DNA-related training, and communication and collaboration across agencies. All surveys were pilot tested with agencies (5–8 agencies) of various sizes and their feedback was used to improve each of the surveys.

Paper versions of the surveys were mailed to agencies 2–3 times throughout the data collection period and faxed to agencies if requested. Additionally, the law enforcement and prosecutor surveys were available through a password-protected website. Crime lab surveys were also available in writable pdf versions and were e-mailed to all public DNA crime labs twice. Extensive follow-up was conducted (mailings, e-mails, faxes, and phone calls) to obtain the highest response rate possible, particularly for DNA crime labs since these agencies were the main focus of the study. The Police Executive Research Forum provided follow-up activities for the law enforcement agency survey and the American Prosecutors Research Institute provided follow-up activities for the prosecutor agency survey. ICF International and Gordon Thomas Honeywell staff followed-up with DNA crime labs.

Sample and Procedures

Law enforcement agencies. From a list of all DNA labs across the country, law enforcement agencies were selected based upon their proximity to the DNA lab. Up to three agencies, located either in the same county as the DNA lab or in the county closest to it, were selected to correspond to each DNA lab. Additionally, all State law enforcement agencies with a DNA lab in the State were selected. This selection process resulted in an oversampling of larger agencies; however, these agencies also had the most frequent contact and interaction with DNA labs. Also, all surveys and letters were sent directly to the agency executive to respect chain of command, and the letter requested that the survey

¹ ICF International developed the law enforcement agency survey with the Police Executive Research Forum, prosecutor survey with the American Prosecutors Research Institute, and DNA crime lab survey with Gordon Thomas Honeywell.

not be delegated to the crime lab to prevent duplicate responses from crime labs that were surveyed separately. The law enforcement survey on DNA issues was sent to 345 agencies. Twenty-five were deemed out of scope, 18 agencies indicated that they did not collect DNA evidence, and six agencies were listed twice, reducing the sample to 320 agencies; 235 surveys were completed for a response rate of 73 percent.

Prosecutor agencies. Using a list of all forensic casework backlog reduction grantees, prosecution agencies responsible for those jurisdictions were targeted. An additional random sample of prosecution agencies was targeted using a two step process. First, the number of DNA labs was determined for each state and used to calculate the number of prosecution agencies from each state to be included in the sample. Second, using the Bureau of Justice Statistics census dataset, prosecution agencies were sorted based on population served and number of felony cases closed. Agencies with the largest population and volume of cases were then randomly selected for each state. This resulted in a sample size of 181 prosecutor's offices. A total of 131 offices responded to the survey, of which 14 refused to participate and 1 office did not handle DNA cases, for a final response rate of 64 percent response rate.

DNA crime lab agencies. Surveys were sent to all public DNA crime labs, excluding Federal labs. Labs were categorized as State labs if they were State agencies and local labs if they were city, county, or regional labs. Surveys differed slightly as some questions (e.g., convicted offender database) applied only to State labs. Of the 130 labs, surveys were returned from 107, resulting in an 82 percent response rate. Using a database provided by NIJ, labs that did not receive forensic casework DNA backlog reduction funding between 2002 and 2005 were deleted from the study prior to analyses. Two State labs and five local labs were deleted for an analysis sample size of 100.

Survey Instruments

Descriptive statistics are provided for each of the three types of agency surveys. Dashes (--) indicate that there was an inadequate response rate to the item, which was defined as less than 60 percent.



Law Enforcement Survey on DNA Issues

I. General Agency Information

The purpose of this section is to gain an understanding of the characteristics of your agency. This information will assist in determining whether certain characteristics shared among similar law enforcement agencies impact needs regarding DNA work.

1. Please provide some details about the structure of your agency:

<u>Agency Structure</u>	<u>Total</u>
Number of facilities that permanently house personnel	
Number of other types of locations (please specify):	
Population of jurisdiction	
Service population of agency jurisdiction	

2. Please provide a few characteristics on your actual agency staffing:

<u>Actual Agency Staff (excluding correctional personnel)</u>	<u>Total</u>
Number of Sworn Personnel (including supervisors)	
Number of Non-Sworn Personnel (including supervisors)	
Number of Sworn Investigative Staff (e.g., detectives, etc.)	
Number of Non-Sworn Investigative Staff (e.g., crime analysts, etc.)	

3. Please provide a few characteristics on total agency workload from January 1, 2005 through December 31, 2005:

<u>Agency Workload (January 1 through December 31, 2005)</u>	<u>Total</u>
Number of Dispatched Calls for Service	
Number of Incident/Offense Reports	
Number of Total Reported Uniform Crime Report (UCR) Arrests	
Number of Field Interviews/Stop Contacts	

4. What percentage of your agency's cases from January 1 through December 31, 2005 involve(d) DNA evidence? Please mark the response that most closely approximates the percentage for each type of crime.

	<u>0%</u>	<u>1-25%</u>	<u>26-50%</u>	<u>51-75%</u>	<u>76-100%</u>
Homicide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sexual Assault	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Robbery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other violent crime	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-violent crime	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



ID NUMBER

Law Enforcement Survey on DNA Issues

II. Training

5. Aside from training provided at the academy, does your agency provide any training on the collection and/or submission of DNA evidence?

- No (skip to Question 7)
- Yes, collection
- Yes, submission
- Yes, both collection AND submission

→ 5a. If YES, which groups of personnel in your agency have been trained *and* approximately what percentage of each group has been trained?

- | | <u>...been trained?</u> | |
|----------------------------|-----------------------------|------------------------------|
| a. Patrol | <input type="checkbox"/> No | <input type="checkbox"/> Yes |
| b. Detectives | <input type="checkbox"/> No | <input type="checkbox"/> Yes |
| c. Specialized units | <input type="checkbox"/> No | <input type="checkbox"/> Yes |
| d. Other (please specify): | <input type="checkbox"/> No | <input type="checkbox"/> Yes |

6. What is the source of funding for DNA-related training in your agency? Please indicate the percentage for each potential funding source.

Your agency funding...	Local gov't. funding...	State gov't. funding...	Federal gov't. funding...
0%	0%	0%	0%
1-10%	1-10%	1-10%	1-10%
11-20%	11-20%	11-20%	11-20%
21-30%	21-30%	21-30%	21-30%
31-40%	31-40%	31-40%	31-40%
41-50%	41-50%	41-50%	41-50%
51-60%	51-60%	51-60%	51-60%
61-70%	61-70%	61-70%	61-70%
71-80%	71-80%	71-80%	71-80%
81-90%	81-90%	81-90%	81-90%
91-100%	91-100%	91-100%	91-100%

7. Which of the following statements is most accurate concerning your agency's current level of DNA-related training? Please mark only one response.

- More training is needed
- Less training is needed
- Current level of training is sufficient
- No DNA-related training is needed



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Law Enforcement Survey on DNA Issues

8. What types of training do specialized law enforcement units in your agency need in terms of DNA-related work? Please mark all that apply.

- Identification of possible biological evidence
- Evidence collection techniques
- Evidence submission limitations (understanding probative value)
- Evidence submission protocols
- Comprehension of analysis results
- Other (please explain briefly):

No additional training is needed

9. Is there a need for DNA-related cross-training for *police and prosecutors* in your jurisdiction?

- No
- Yes

10. Is there a need for DNA-related cross-training for *police and crime lab staff* in your jurisdiction?

- No
- Yes

III. Funding/Resource Issues

11. Does your agency receive any DNA funding from the Federal Government?

No (skip to Question 13)

Yes → 11a. If YES, please indicate the amount of funding received, by year, from the following Federal grants.

	No Suspect (now Casework Backlog)	DNA Capacity Enhancement	Convicted Offender	Cold Case
2002	\$	\$	\$	\$
2003	\$	\$	\$	\$
2004	\$	\$	\$	\$
2005	\$	\$	\$	\$

12. How is DNA funding being used by your agency? Please mark all that apply.

- Overtime for officers working on DNA cases
- Equipment purchase
- Training
- Other (please specify):



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13. Based upon the experience of your agency, what resources is law enforcement lacking in terms of DNA-related work? Please mark all that apply.

- Cold case unit staffing
- Resources for overtime
- Reserve capacity
- Training for patrol/first responders on precautions to take to avoid contamination
- Training for chain of custody
- Other (please specify):

14. How is DNA analysis funded in your jurisdiction? Please mark the appropriate box(es) and provide the approximate percentage of cost.

- Our agency
- Local crime labs
- Other local entity
- State
- Federal
- Other (please specify):

IV. Collaboration Issues

To what extent does your agency agree with the following statements? *Please use the following response categories: SD=Strongly disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly agree, DK=Don't know.*

Collaboration Item	SD	D	N	A	SA	DK
15. Our agency and <u>crime lab personnel</u> collaborate effectively on cases involving DNA collection.						
16. Our agency and <u>prosecutorial staff</u> collaborate effectively on cases involving DNA collection.						
17. Overall, our agency is satisfied with the way <u>crime lab personnel</u> handle our cases involving DNA collection.						
18. Overall, our agency is satisfied with the way <u>prosecutorial staff</u> handle our cases involving DNA collection.						
19. Our agency is satisfied with the way public DNA labs conduct the basic processes of DNA analysis.						
20. There is formal protocol for working with <u>crime labs</u> on DNA evidentiary issues.						
21. There is formal protocol for working with <u>prosecutors</u> on DNA evidentiary issues.						

↳ Question continues on the next page.



POLICE EXECUTIVE
RESEARCH FORUM

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ID NUMBER

Law Enforcement Survey on DNA Issues

↳ Question CONTINUED from previous page...

To what extent does your agency agree with the following statements? *Please use the following response categories: SD=Strongly disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly agree, DK=Don't know.*

Collaboration Item	SD	D	N	A	SA	DK
22. Prosecutors notify our agency when they decide to prosecute cases involving DNA.						
23. Crime labs notify our agency when they do not, or are not able to, test specimens.						
24. Our agency regularly communicates the results of DNA analysis promptly to the victims of these cases (where applicable).						
25. Our agency maintains frequent contact with victim advocates.						
26. What are the <u>best practices</u> in the collaboration between police and <u>prosecutors</u> on DNA evidentiary issues in your jurisdiction? Please mark all that apply.						
Extensive collaboration between police and prosecutors from the outset of the investigation						
Careful supervision of police investigators and prosecutors by experienced supervisors						
Use of an inter-agency work group to solve communications problems						
Regular interaction between police and prosecutors involving two-way information sharing						
Regular interaction between police and prosecutors involving shared decision-making on difficult cases						
Use of technology to enhance collaboration						
Development of written protocols to enhance collaboration						
Joint training for police investigators and prosecutors						
Other (please briefly explain):						
27. What are the <u>key challenges</u> and barriers in working with <u>prosecutors</u> on DNA evidentiary issues in your jurisdiction? Please mark all that apply .						
Lack of a common history						
History of poor relations						
Absence of careful supervision of police investigators and prosecutors by experienced supervisors						
Interagency rivalry						
Differing education backgrounds of police investigators and prosecutors						
Differing views on usefulness of DNA evidence						
Other (please explain briefly):						



POLICE EXECUTIVE
RESEARCH FORUM

Law Enforcement Survey on DNA Issues

28. What are the best practices in the collaboration between police and DNA labs in your jurisdiction? Please mark all that apply.

- Extensive collaboration between police and lab personnel from the outset of the investigation
- Careful supervision of police investigators and lab personnel by experienced supervisors
- Use of an interagency work group to solve communications problems
- Regular interaction between police and lab personnel involving two-way information sharing
- Regular interaction between police and lab personnel involving shared decision-making on difficult cases
- Use of technology to enhance collaboration
- Development of written protocols to enhance collaboration
- Joint training for police investigators and lab personnel
- Other (please briefly explain):

29. What are the key challenges and barriers in working with DNA labs on DNA evidentiary issues in your jurisdiction? Please mark all that apply.

- Lack of a common history
- History of poor relations
- Absence of careful supervision of police investigators and lab personnel by experienced supervisors
- Interagency rivalry
- Differing education backgrounds of police investigators and lab personnel
- Differing views on usefulness of DNA evidence
- Other (please explain briefly):

V. Law Enforcement

To what extent do the majority of patrol officers and detectives from your agency agree with the following statements? *Please use the following response categories:* SD=Strongly disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly agree, DK=Don't know.

SD D N A SA DK

- 30. DNA is a useful tool for identifying suspects in homicide and sexual assault cases.
- 31. DNA is a useful tool for closing homicide and sexual assault cases.
- 32. DNA is a useful tool for prosecuting suspects in homicide and sexual assault cases.
- 33. Law enforcement understands the benefits of DNA evidence in homicide and sexual assault cases.



POLICE EXECUTIVE
RESEARCH FORUM

Law Enforcement Survey on DNA Issues

↳ Question CONTINUED from previous page...

To what extent do the majority of patrol officers and detectives from your agency agree with the following statements? *Please use the following response categories: SD=Strongly disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly agree, DK=Don't know.*

SD D N A SA DK

- 34. DNA testing is an accurate scientific process in homicide and sexual assault cases.
- 35. DNA testing results will influence an officer's point of view of suspects in homicide and sexual assault cases.
- 36. DNA evidence has changed police work in homicide and sexual assault cases.
- 37. For what percent of cases is the collection of DNA evidence a factor in closing the case? Please indicate the percentage for each type of crime listed below.

Homicide	Sexual Assault	Robberty	Other violent crime	Non-violent crime
up to 20%	up to 20%	up to 20%	up to 20%	up to 20%
21-40%	21-40%	21-40%	21-40%	21-40%
41-60%	41-60%	41-60%	41-60%	41-60%
61-80%	61-80%	61-80%	61-80%	61-80%
81-100%	81-100%	81-100%	81-100%	81-100%

- 38. Are you aware of any arrests by your agency within the past year that have resulted directly from DNA testing?
No
Yes
- 39. Please indicate the typical percentage of DNA evidence that is collected for each type of crime listed below.

- Homicide
- Sexual assault
- Robberty
- Other violent crime
- Non-violent crime
- Other (please specify):

VI. The Process of DNA Collection

- 40. Regardless of whether or not your state has any applicable state statutes, has your jurisdiction established written procedures for the collection, preservation, and retention of biological crime scene evidence?
No
Yes
Don't know



Law Enforcement Survey on DNA Issues

41. What factors influence whether or not your agency will collect DNA evidence? Please mark all that apply.

- Seriousness of the crime
- Lack of other strong supporting evidence in addition to DNA evidence
- Presence of strong supporting evidence in addition to DNA evidence
- Media attention surrounding the case
- Political pressure
- Necessary financial resources exist to collect DNA evidence
- Necessary personnel exist to collect DNA evidence
- Strong interest exists among one or more investigators
- Other (please explain briefly):

42. What factors influence whether or not your agency will submit DNA evidence to a crime lab? Please mark all that apply.

- Seriousness of the crime
- Lack of other strong supporting evidence in addition to DNA evidence
- Presence of strong supporting evidence in addition to DNA evidence
- Media attention surrounding the case
- Political pressure
- Necessary financial resources exist to test DNA evidence
- Necessary personnel exist to test DNA evidence
- Strong interest exists among one or more investigators
- Other (please explain briefly):

43. Which of the following problems does your agency have in collecting DNA evidence? Please mark all that apply.

- Identification of possible biological evidence
- Evidence collection techniques
- Evidence submission limitations (understanding probative value)
- Evidence submission protocols
- Other (please explain briefly):



POLICE EXECUTIVE
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Law Enforcement Survey on DNA Issues

44. Is there a backlog in the labs your agency uses to test your DNA evidence?

No

Yes

45. After sending evidence to a *public* lab, what is the average length of time it takes for your agency to receive DNA results?

7 days or fewer

3-4 months

8-14 days

5-6 months

15-29 days

More than 6 months

1-2 months

NA - this agency does not utilize any public labs

46. After sending evidence to a *private* lab, what is the average length of time it takes for your agency to receive DNA results?

7 days or fewer

3-4 months

8-14 days

5-6 months

15-29 days

More than 6 months

1-2 months

NA - this agency does not utilize any private labs

47. What factors, in your experience, influence the time it takes for a lab to process DNA evidence? Please mark all that apply.

High profile case

Availability of financial resources
(e.g., sending to a state vs. private lab)

Type of crime

Need of lab to outsource sample

Statute of limitations

Suspect/no suspect

Trial date

Other (please specify):

NA (e.g., lab returns results according to a regular schedule)

48. Does your agency have a specified DNA/cold-case unit?

No (skip to Question 52)

Yes

49. How many sworn and non-sworn personnel are assigned to the DNA/cold-case unit?

1

6-7

2-3

8-9

4-5

10 or more



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ID NUMBER

Law Enforcement Survey on DNA Issues

50. How frequently does your agency investigate cold hits from DNA evidence?

Never Sometimes Frequently Always

51. What factors facilitate the investigation of cold case hits from DNA evidence? Please mark all that apply.

Strong supporting evidence exists in addition to DNA evidence

Media attention surrounding the case

Political pressure

Necessary financial resources exist to work on the case

Necessary personnel exist to work on the case

Strong interest exists among one or more investigators

Type of crime

Other (please explain briefly):

52. What factors inhibit the investigation of cold case hits from DNA evidence? Please mark all that apply.

Lack of strong supporting evidence exists in addition to DNA evidence

Media attention surrounding the case

Political pressure

Necessary financial resources exist to work on the case

Necessary personnel exist to work on the case

Strong interest exists among one or more investigators

Type of crime

Other (please explain briefly):

53. What resources does your agency need to be able to adequately respond to cold case hits? Please mark all that apply.

Increase in the number of available personnel

Increase in grant funding for overtime

Training on how to respond to cold case hits

Increase in financial resources

Increase in the number of trained personnel

Development of a cold case unit within your agency

Other (please explain briefly):



Draft

POLICIES & PROCEDURES

5. Has your state enacted legislation on DNA databases?

- Yes No

5a. Has your state enacted a database for specific enumerated offenses?

- Yes No

If yes, for which offenses? (Please check all that apply)

- Homicide Sexual assault
 Other violent Burglary
 All felony arrestees Other: _____

5b. Has your state's DNA database legislation resulted in:?

- More resources to outsource sample processing
 More resources made available to your state lab for sample processing
 All of the above
 None of the above
 Other, please specify: _____

5c. How has your state's DNA database legislation affected sample processing times?

- Faster Slower About the same

6. Regardless of whether or not your state has any applicable state statutes, has your jurisdiction established written procedures for the following:

- Collection of biological crime scene evidence..... Yes No Unsure
 Preservation of crime scene evidence..... Yes No Unsure
 Retention of biological crime scene evidence..... Yes No Unsure

If you answered yes to any of the above, then please answer the following question. If not, then skip to question #7.

6a. When were the procedures established?

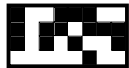
- Within the past 2 years 3 - 5 years ago 6 - 8 years ago 9 - 10 years ago More than 10 years ago

7. Please rate your degree of agreement with the following statements:

When a case involves DNA evidence...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. The office is more likely to file charges on the case.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. The office is more likely to consider a plea to a reduced charge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. The case is more likely to be pled as charged.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. The case is more likely to go to trial.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. After sending evidence to a public lab, what is the average length of time it takes to receive DNA results?

- Less than a week 3 - 4 months
 8 -14 days 5 - 6 months
 15 - 30 days 7 - 8 months
 1 - 2 months More than 9 months



Draft

9. If your office sends evidence to a private lab, then answer the following question. If not, then skip to question #10.

9a. After sending evidence to a private lab, what is the average length of time it takes to receive DNA results?

- Less than a week
- 8 -14 days
- 15 - 30 days
- 1 - 2 months
- 3 - 4 months
- 5 - 6 months
- 7 - 8 months
- More than 9 months

10. What factors, based on your experience, influence the time it takes to process DNA evidence and please indicate the time allotted (in days) for each factor?

	Allocated Time
a. High Profile	a. _____
b. Availability of financial resources (e.g. sending to state lab vs. private lab)	b. _____
c. Type of crime	c. _____
d. Need of lab to outsource sample	d. _____
e. Statute of limitation	e. _____
f. Suspect/No suspect	f. _____
g. Trial date	g. _____
h. Other (please specify): _____	h. _____
i. Other (please specify); _____	i. _____

11. When sending evidence to be analyzed at a lab, please indicate the level of priority the evidence is sent based on the type of crime? (1 = low priority to 5 = high priority)

- | | |
|--|--|
| <input type="checkbox"/> Homicide | <input type="checkbox"/> Burglary |
| <input type="checkbox"/> Sexual Assault | <input type="checkbox"/> Other, please specify _____ |
| <input type="checkbox"/> Other violent crime | <input type="checkbox"/> Other, please specify _____ |

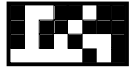
12. At what point in time do you classify a case as a "cold case?"

12a. For cold cases, how many new DNA hits have been used to identify suspects from Jan. 1, 2005 - Dec 31, 2005?

13. For new cases with unknown suspects, how many DNA hits have resulted in the identification of a suspect from Jan. 1, 2005 - Dec. 31, 2005?

14. What priority level for testing evidence is assigned for post - conviction cases?

- High priority
- Medium priority
- Low priority



Draft

15. What percentage of cases have required a "continuance" or "adjournment" or "dismiss and rebring" (depending on your jurisdiction) after charging but prior to trial because there was a delay in receiving DNA results from a lab?

	0%	1 - 25%	26 - 50%	51 - 75%	76 - 100%
Homicide	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sexual Assault	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other violent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Burglary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. Please specify the primary labs that your office used from January 1, 2005 to December 31, 2005.

- a. _____
- b. _____
- c. _____

TRAINING

17. Since 2002, of the attorneys handling DNA cases in your office, approximately what percentage have received specialized training in DNA evidence?

- 0% 1-25% 26-50% 51-75% 76-100%

18. Please answer the following questions if DNA-related training was received. Indicate the types of DNA-related training they received. Please indicate all that apply.

- Scientific Legal application/procedural Other: _____

Please answer the following question if legal application/procedural training was received, if not, then continue to question #20.

19. Please indicate the types of procedural training received.

- Cross-training with law enforcement
- Cross-training with lab analysts
- Trial advocacy training
- Lecture-focused prosecutor based training
- Training with lab analysts

20. Who provides DNA-related training for prosecutors in your office? (Choose all that apply.)

- University Faculty
- National Advocacy Center
- American Prosecutors Research Institute
- Crime Lab
- Other, please specify: _____

21. What is the source of funding for DNA-related training in your agency? (Please indicate the appropriate percentage for each source.)

Your office:

- 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Local:

- 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

State:

- 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Federal:

- 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%



Draft

22. Do you believe your office needs (or prosecutors in your office need) DNA - related training?
(Please indicate only one.)

- More training is needed Less training is needed Current levels are sufficient No training is needed

23. What types of training do attorneys in your office need in terms of DNA - related work?

- APRI National Advocacy Center (NAC) Other, please specify: _____

FUNDING/RESOURCES

24. Does your office receive any federal funding to reopen DNA evidence related cases?

- Yes No

25. Regarding DNA evidence related cases, does your office prioritize the use of federal funding for:
(Please mark all that apply.)

- Cold cases Backlog Processing DNA Post conviction

26. Within your office, how are federal DNA funds allocated in terms of processing DNA evidence-related cases?
(Please mark the approximate percentage for EACH of the following categories.) Due to large amounts of missing data, findings are not reported.

	0%	1 - 25%	26 - 50%	51 - 75%	76 - 100%
a. Personnel					
b. Equipment					
c. Training					
d. Expert Testimony					
e. Storage & Preservation					

27. What is the average cost per case of analyst interpretation and consulting on DNA evidence?

- \$0 - \$500 \$501 - \$1,000 \$1,001 - \$2,000 More than \$2,000

COMMUNICATION

28. What are the challenges faced by prosecutors in your office in presenting DNA evidence to jurors?

- CSI effect
 Jury trust in the science of DNA
 Jury trust in the system's collection of DNA
 Jury trust in system's use of DNA databases

29. In general, how knowledgeable do you believe judges to be about DNA evidence?

- Very knowledgeable Somewhat knowledgeable Not very knowledgeable

30. Does your office have an internal mentoring or training program for DNA case development?

- Yes No Unsure

31. Are victims or families notified of DNA report results?

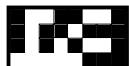
- Always Very Often Fairly Often Occasionally Never

31a. When are they notified?

- During investigation phase During pre-trial phase

31b. Who notifies the victims or families?

- Prosecutor Victim advocate Law enforcement



Draft

32. Do prosecutors notify law enforcement of the outcome of the case?
 Always Very Often Fairly Often Occasionally Never

33. Does your office have a protocol for the communication with the lab when a case is settled prior to testing being completed?

Yes No Unsure

If you answered YES, then please answer the following question. If not, then continue to question #34.

33a. What is the time period for communication?

34. Do you communicate the results of the case back to the crime lab?
 Always Very Often Fairly Often Occasionally Never

If you answered YES, then please answer the following question. If not, then please continue to question #35.

34a. Generally, when does this notification occur?

35. How often does the lab communicate with prosecutors regarding sample consumption?
 Very regularly Regularly Not regularly

36. Do your state lab analysts provide any formalized mentoring to the prosecutors in your office?
 Yes No

If you answered YES, then please answer the following question. If not, then please continue to question #37.

36a. By what means does it take place?

Telephone E-mail Prosecutor visit to state lab Analyst visit to prosecutor's office

37. Who makes the decision to outsource sample processing within your office?
 By the lab By the prosecutor Jointly

If you answered BY THE LAB, then please answer the following questions. If not, then continue to question 38.

37a. Are you consulted before the sample is outsourced?

Yes No Unsure

37b. Are you notified?

Yes No Unsure

38. Does your office have a protocol for the prioritization of evidence? Yes No Unsure

39. Is there communication of priority to lab for evidence typing? Yes No Unsure

If you answered YES, then please answer the following question. If not, then you have completed the survey.

39a. Who sets the criteria for prioritization of evidence typing?

Prosecutor's office Lab Both

SURVEY OF STATE DNA LABORATORIES

Approximate size of population served: _____

Approximate number of law enforcement agencies served: _____

Approximate number of prosecutor agencies served: _____

TRAINING

1. In the past 48 months, for which of the following groups did the crime laboratory conduct or otherwise participate in formal DNA training? Please check all that apply, and include how many times these trainings are conducted per year.

<input type="checkbox"/> None	# Per Year
<input type="checkbox"/> Law Enforcement	_____
<input type="checkbox"/> Prosecutors	_____
<input type="checkbox"/> Judiciary	_____
<input type="checkbox"/> Public Defenders, or other defense attorneys	_____
<input type="checkbox"/> Victim Advocates	_____
<input type="checkbox"/> SANE / SART personnel	_____
<input type="checkbox"/> Other (please describe) _____	_____

2. Has the crime laboratory ever conducted or otherwise participated in DNA training for other criminal justice professionals? Please check all that apply.

<input type="checkbox"/> None	<input type="checkbox"/> Public Defenders, or other defense attorneys
<input type="checkbox"/> Law Enforcement	<input type="checkbox"/> Victim Advocates
<input type="checkbox"/> Prosecutors	<input type="checkbox"/> SANE / SART personnel
<input type="checkbox"/> Judiciary	
<input type="checkbox"/> Other (please describe) _____	

3. On average, what type of additional DNA evidence training is needed by **law enforcement** agencies served by your laboratory? Please check all that apply.

<input type="checkbox"/> Identification of possible biological evidence
<input type="checkbox"/> Evidence collection techniques
<input type="checkbox"/> Evidence submission limitations (understanding probative value)
<input type="checkbox"/> Evidence submission protocols
<input type="checkbox"/> Understanding of analysis results
<input type="checkbox"/> Other (please explain) _____

4. On average, what type of additional DNA evidence training is needed by **prosecutor** offices served by your laboratory? Please check all that apply.

- Identification of possible biological evidence
- Evidence collection techniques
- Evidence submission limitations (understanding probative value)
- Evidence submission protocols
- Understanding of analysis results
- Courtroom presentation
- Other (please explain) _____

5. What agencies collect biological evidence for submission to the laboratory? Please also indicate the type of agency from which the majority of collected biological evidence is submitted by using a “1” in front of that agency (all other contributing agencies may be marked with an “x”).

- Crime scene unit directly associated with the laboratory
- Investigating law enforcement agency
- Investigating prosecutor’s office
- Medical health professionals (such as SANE’s or emergency room personnel)
- Other _____

6. On average, what improvements are needed in **law enforcement’s** submission of biological evidence for DNA analysis? Note: This question goes to quality and probative value, and not laboratory’s ability to process requests. (Please select one response for each crime category.)

	IMPROVEMENT NOT NEEDED	TOO MUCH EVIDENCE SUBMITTED	TOO LITTLE EVIDENCE SUBMITTED	EVIDENCE NOT COLLECTED/ SUBMITTED
HOMICIDE				
SEX ASSAULT				
OTHER VIOLENT				
BURGLARY				

7. Does your laboratory have additional training requirements for DNA analysts beyond those generally required throughout the country (such as for accreditation or through FBI DNA QA Guidelines)?

- NO
- YES (please describe) _____

8. For federal grants received in fiscal year 2002 through fiscal year 2005, has the laboratory used federal money to attain DNA training for crime lab personnel or equipment validation (or are there plans to do so with currently earmarked funds)?

NO YES

IF YES:

For how many analysts? _____ Approximate hours per analyst? _____

Please indicate the type of training planned

- Validation on new equipment or techniques
 New personnel training
 Other _____

COLLABORATION / COMMUNICATION

9. To what extent does your laboratory agree with the following statements? *Use the following response categories: SD= Strongly disagree, D= Disagree, N= Neither agree nor disagree, A= Agree, SA= Strongly agree.*

<i>Please circle one response for each question</i>					
a. Our agency and most <u>law enforcement staff</u> collaborate effectively on cases involving DNA evidence.	SA	A	N	D	SD
b. Our agency and most <u>prosecutorial staff</u> collaborate effectively on cases involving DNA evidence.	SA	A	N	D	SD
c. Overall, our agency is generally satisfied with the way <u>law enforcement</u> handles cases involving DNA evidence.	SA	A	N	D	SD
d. Overall, our agency is generally satisfied with the way <u>prosecutorial staff</u> handle cases involving DNA evidence.	SA	A	N	D	SD
e. There is a formal protocol for working with <u>prosecutors</u> on DNA evidentiary issues.	SA	A	N	D	SD
f. There is a formal protocol for working with <u>law enforcement</u> on DNA evidentiary issues.	SA	A	N	D	SD

CODIS HITS

10. What is the protocol for reporting offender and forensic hits made on the database? (For NDIS hits, this question applies only when the forensic sample originated in your state's jurisdiction.)

- Reported directly to individual detectives
 Reported to a central location at investigating agency
 Varies by jurisdiction
 Other _____

11. Are prosecutors ever notified of offender hits? (For NDIS hits, this question applies only when the forensic sample originated in your state's jurisdiction.)

- NO
 YES (please describe) _____

12. Please report your annual CODIS hits and the number of reference samples submitted for confirmation of offender hits to cases analyzed at your laboratory. Count reference samples for the year in which sample was submitted, regardless of when the hit occurred.

	Forensic hits	Offender hits	Reference samples
2002			
2003			
2004			
2005			

13. Does the laboratory ever assist in the collection of the reference samples?

- Not applicable
 Laboratory team is responsible for collection
 Assist law enforcement in obtaining a warrant
 Accompany law enforcement for swabbing or blood draw
 Other (please describe) _____

14. When a reference sample is not submitted for a reported CODIS hit, does the laboratory have a policy of follow-up with the investigating agency?

- NO
 YES (please describe) _____

15. Other than through submittal of reference samples, does the laboratory receive any of the following notifications (on a routine basis): (check all that apply, and indicate the system)

- No further notification
- | | Automated System | Manual System |
|---|--------------------------|--------------------------|
| <input type="checkbox"/> Investigation is proceeding | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Warrant for arrest has been issued | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Charges have been filed | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Trial date is set | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Disposition of case | <input type="checkbox"/> | <input type="checkbox"/> |

16. When a reference sample is not submitted or if there is no further investigation, is the laboratory notified?

NO

YES Please check below an estimate of the frequency:

1% to 10% of the time 26% to 50% of the time 76% to 100% of the time
 11% to 25% of the time 51% to 75% of the time

If the laboratory is notified, please check the most common reasons reported?

Does not apply

Reasons not reported

Victim not cooperative

Offender cannot be found

Other (please describe) _____

Offender determined to not be a possible suspect

Crime is no longer prosecutable (statute of limitations lapsed)

17. For no-suspect DNA cases involving sex assault or homicide, please indicate if the investigating agency is notified by the crime laboratory at any of the following points.

Notified if DNA is found in submitted evidence

Notified when DNA profile is uploaded

Notified when DNA analysis is complete

Other _____

18. What is the laboratory's notification policy if evidence is not analyzed or no upload occurs in a no-suspect DNA case?

No policy for notification

Laboratory notifies the investigating agency

Laboratory notifies the prosecutor agency

Laboratory notifies the victim advocacy office

Other _____

Laboratory notifies the victim directly

Laboratory provides a process for victims to request notification

OPERATIONS

General Backlogs

19. Please provide annual “backlog” numbers for the following types of DNA cases and offender samples, *as of the end of each year* (December 31). “Backlog” is defined to mean any unreported case/sample in the laboratory’s possession for more than 30 days.

DNA Cases

	2002	2003	2004	2005
TOTAL				
Homicide				
Sex Assault				
Other Violent				
Burglary				
Other				

If you are unable to provide a breakdown by category, please just supply the overall annual totals.

Offender Samples

	2002	2003	2004	2005
TOTAL				

Offender Samples

20. What are the largest obstacles to outsourcing offender samples? Check all that apply.

<input type="checkbox"/> Timeliness of analysis results	<input type="checkbox"/> Poor quality of private laboratory work
<input type="checkbox"/> Front-end sample preparation	<input type="checkbox"/> Private laboratory analysis fees
<input type="checkbox"/> Back-end sample review	<input type="checkbox"/> No perceived obstacles
<input type="checkbox"/> Other _____	

21. Will the DNA laboratory have capacity to process all statutorily required offender samples by 2009, **without federal assistance**? (Assume no statutory changes, unless such changes are already scheduled.)

<input type="checkbox"/> YES. Laboratory should be able to upload all offender samples within 30 days
<input type="checkbox"/> YES. Laboratory should be able to upload all offender samples within 60 days
<input type="checkbox"/> YES. Laboratory should be able to upload all offender samples within 90 days
<input type="checkbox"/> NO. Laboratory will not have capacity for offender samples without building a backlog of more than 90 days

22. Please provide the following numbers regarding your convicted offender program. (“Offender samples” includes any arrestee samples as specified in state statute.)

	# OF OFFENDER SAMPLES ANALYZED BY PRIVATE LAB	# OF UPLOADABLE OFFENDER PROFILES FROM PRIVATE LAB	% OF FEDERAL DOLLAR SHARE FOR PRIVATE LAB ANALYSIS	# OF OFFENDER SAMPLES ANALYZED BY STATE LAB	# OF UPLOADABLE OFFENDER PROFILES FROM STATE LAB	% OF FEDERAL DOLLAR SHARE FOR STATE LAB ANALYSIS
2002						
2003						
2004						
2005						

Casework

23. Of the following types of cases submitted to the **crime laboratory (not just DNA section)**, please provide numbers as to how many were assigned for DNA screening and/or analysis?

	NO SUSPECT HOMICIDE		KNOWN SUSPECT HOMICIDE		NO SUSPECT SEX ASSAULT		KNOWN SUSPECT SEX ASSAULT	
	TOTAL SUBMITTED	DNA SCREENING / ANALYSIS	TOTAL SUBMITTED	DNA SCREENING / ANALYSIS	TOTAL SUBMITTED	DNA SCREENING / ANALYSIS	TOTAL SUBMITTED	DNA SCREENING / ANALYSIS
2002								
2003								
2004								
2005								

24. For biological evidence from non-violent crimes submitted to your lab for possible DNA analysis, please select the **top three types** of cases these requests represent, *excluding burglary*.

- | | |
|--|---|
| <input type="checkbox"/> Arson | <input type="checkbox"/> Auto theft |
| <input type="checkbox"/> Drug possession | <input type="checkbox"/> Breaking and entering (residential and commercial) |
| <input type="checkbox"/> Drug manufacture / distribution | <input type="checkbox"/> Breaking and entering (vehicular) |
| <input type="checkbox"/> Theft (including petty larceny) | |
| <input type="checkbox"/> Other _____ | |

25. For 2002 through 2005, describe the approximate increase (or decrease) in criminal cases submitted for DNA analysis. Please select the most approximate percentage and indicate increase or decrease.

	Increase	Decrease
1% to 10%	<input type="checkbox"/>	<input type="checkbox"/>
11% to 25%	<input type="checkbox"/>	<input type="checkbox"/>
26% to 50%	<input type="checkbox"/>	<input type="checkbox"/>
51% to 75%	<input type="checkbox"/>	<input type="checkbox"/>
76% to 100%	<input type="checkbox"/>	<input type="checkbox"/>
101% or more	<input type="checkbox"/>	<input type="checkbox"/>

26. Does your laboratory anticipate having capacity to process all reasonable requests for **violent crime** cases by 2009, **without federal assistance**? (For both named suspect and no-suspect cases.)

- YES. Laboratory will have analysis completed **within 30 days of receipt**
- YES. Laboratory will have analysis completed **within 60 days of receipt**
- YES. Laboratory will have analysis completed **within 90 days of receipt**
- NO. Laboratory will not have capacity for all violent crime cases submitted without building a backlog of more than 90 days

27. Does your laboratory anticipate having capacity to process all reasonable requests for **non-violent crime** cases by 2009, **without federal assistance**? (For both named suspect and no-suspect cases.)

- YES. Laboratory will have analysis completed **within 30 days of receipt**
- YES. Laboratory will have analysis completed **within 60 days of receipt**
- YES. Laboratory will have analysis completed **within 90 days of receipt**
- NO. Laboratory will not have capacity for all non-violent crime cases submitted without building a backlog of more than 90 days

28. Have laboratory policies for the types of evidence accepted for DNA analysis changed since 2002?

- NO
- YES Please describe of the most significant changes: _____

29. Does laboratory accept **and analyze** all reasonable requests for burglary cases for DNA analysis on a routine basis?

- NO
 YES

If "no", what criteria must be met for analysis? _____

30. Does laboratory collaborate with law enforcement agencies or prosecutors prior to screening and/or DNA analysis to determine probative value?

- NO – Lab analyzes all submitted samples until a profile is generated
 YES – (please select most accurate description, or supply your own)
 Probative value is always discussed with submitting agency and agreement as to which pieces will be tested
 Probative value is sometimes discussed with submitting agency and agreement as to which pieces will be tested
 Probative value is reported by agency and laboratory makes determination on what will be tested
 Other _____

If YES

Is this a formalized process existing in written laboratory guidance or other policy?

- YES NO

31. Excluding a probative value review, does the laboratory otherwise limit the **amount** of samples submitted for no-suspect homicide and sex assault cases? Please describe any limitations.

- Lab does not limit evidence
 Lab limits evidence (please describe – be specific) _____

32. For all cases requiring DNA analysis or screening, what is the percentage requested for analysis by law enforcement, and what percentage by prosecutors?

- Unknown
 % submitted by law enforcement % submitted by prosecutors

33. Please provide details as to how your laboratory's capacity has increased or decreased since 2002 through 2005.

% increase OR
 % decrease
 in screened samples OR provide raw figures for 2002_____ and 2005 _____

% increase OR
 % decrease
 in analyzed samples OR provide raw figures for 2002_____ and 2005 _____

% increase OR
 % decrease
 in outsourced samples OR provide raw figures for 2002_____ and 2005 _____

If you have multiple laboratories in your system (not including independent local labs), please use an average. If there is an aberration or gross difference at one (or more) of these laboratories, please omit that laboratory from the average, and explain below:

34. Of all forensic DNA cases completed in a year, what percentage was completed by private laboratories for the years specified below?

	2002	2003	2004	2005
Violent, no suspect cases				
Non-violent, no-suspect cases				
Violent, known suspect cases				
Non-violent, known suspect cases				

35. What are the largest obstacles to outsourcing DNA casework? Please check all that apply.

- No perceived obstacles
- Timeliness of analysis results
- Front-end sample preparation
- Back-end sample review
- Private laboratory analysis fees
- Other_____
- Poor quality of private laboratory work
- Communication regarding analysis of probative evidence
- Private laboratory expert witness expenses

36. If laboratory outsources forensic DNA cases for analysis (either to private lab or FBI), what is criteria for selecting cases? (select all that apply).

- Mitochondrial DNA cases Non-violent no-suspect case, as in-house capacity warrants
 Criminal paternity DNA cases Cases with high public profile (significant media attention)
 Cases with expedited court dates Violent, no-suspect case, as in-house capacity warrants
 Other _____

37. Please provide the following numbers regarding your forensic DNA casework, and the approximate percentage **financed directly by federal funds**. (Use *NA* if federal funds were not used in a given year.)

	PRIVATE LAB ANALYSIS			STATE LAB ANALYSIS		
	# OF FORENSIC SAMPLES	# OF UPLOADABLE PROFILES	% OF FEDERAL DOLLAR SHARE	# OF FORENSIC SAMPLES	# OF UPLOADABLE PROFILES	% OF FEDERAL DOLLAR SHARE
2002						
2003						
2004						
2005						

38. If your state has outsourced forensic casework using both federal and state and/or local funds, is there a difference in criteria used for selecting outsourced cases?

- No. Cases are selected using similar criteria
 Yes. Please explain _____

Post Conviction

39. How many post conviction DNA testing cases has your lab received for the following years?

- 2002 2004
 2003 2005

40. In terms of queues for DNA screening and analysis, how are post conviction cases prioritized? (If your lab has not received a post conviction case, please provide your best educated guess.)

- Work begins immediately – ahead of other cases
 Case is put in line behind other cases prioritized for court dates
 Case is put in line behind other suspect cases
 Case is put in line behind all other cases
 Other (please describe) _____

FUNDING / RESOURCE ISSUES

41. Is there a dedicated funding source (such as a fee) for your laboratory’s DNA program? If so, for the most recently completed fiscal year please answer the questions listed in the chart below.

Dedicated Funding Source YES NO

Description of funding source	
Amount \$ Collected	
% of Offender Samples Funded	

42. Over the past three years, approximately what percentage of the DNA budget has come from local funding? State funding? Federal funding?

	0%-10%	11%-25%	25%-50%	50%-75%	75%-100%
Local					
State					
Federal					

43. For categories reported in Question 42 (local, state, federal monies), please provide information regarding how the funds are spent.

	FEDERAL	STATE	LOCAL
% on Casework Outsourcing			
% on Offender Outsourcing			
% on Salaries			
% on New Hires			
% on Overtime			
% on Contract Workers			
% on Training			
% on Accreditation Preparation			
% on Equipment			
% on Construction / Renovation / Lease			
% on Salaries			

44. What are the greatest needs for your laboratory's DNA section? Please check all that apply, and rate your top 3 (with 1 being the greatest need).

- | | |
|---|---|
| <input type="checkbox"/> Reagents | <input type="checkbox"/> Personnel for technical review |
| <input type="checkbox"/> Robotics | <input type="checkbox"/> Personnel for data upload / entry |
| <input type="checkbox"/> Equipment | <input type="checkbox"/> Salary adjustments (i.e., pay increases) |
| <input type="checkbox"/> Construction / Lease | <input type="checkbox"/> LIMS or other automated systems |
| <input type="checkbox"/> Storage | <input type="checkbox"/> Expert Systems Software |
| <input type="checkbox"/> Personnel for screening and analysis | <input type="checkbox"/> Other software |
| <input type="checkbox"/> Training | |
| <input type="checkbox"/> Other _____ | |

45. If your laboratory has received federal funding since 2002, *other than from the NIJ DNA grant programs* (such as an earmark supported by another Dept. of Justice bureau), to support your DNA section, please provide the name (including the year), amount received and objective of each grant.

NAME	AMOUNT	OBJECTIVE
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

46. Once federal funds have been awarded to your agency, are there additional state processes for appropriating the money which significantly delays your access to the funds? (Assuming all federal conditions to begin draw-down of funds have been met.)

- NO. Money becomes directly available to the agency.
- YES. Additional processes must be completed (check all which apply)
- Money must be reappropriated in the annual state budget
- Money must be reappropriated in the annual local budget
- State procurement process (please provide specific information as to delays)
- _____
- Other (please explain) _____
- _____

47. What have been the biggest challenges in working with federal grants? (Check all that apply and rank your top 3, with 1 being the most significant challenge).

- | | |
|--|---|
| <input type="checkbox"/> Timeliness of awards | <input type="checkbox"/> Communications with federal agency offices |
| <input type="checkbox"/> Flexibility to change purpose | <input type="checkbox"/> NEPA Special Conditions |
| <input type="checkbox"/> Insufficient amount of time to spend award | <input type="checkbox"/> Other Special Conditions |
| <input type="checkbox"/> Grant audit and reporting requirements | |
| <input type="checkbox"/> Inability to use grants for non-violent cases | |
| <input type="checkbox"/> Other _____ | |
-

SURVEY OF LOCAL DNA LABORATORIES

Approximate size of population served: Median = 965,000

Approximate number of law enforcement agencies served: Median = 21; Range 1-200

Approximate number of prosecutor agencies served: Median = 1; Range = 1-42

TRAINING

1. In the past 48 months, for which of the following groups did the crime laboratory conduct or otherwise participate in formal DNA training? Please check all that apply, and include how many times these trainings are conducted per year.

<input type="checkbox"/> %		# Per Year
<input type="checkbox"/> 6%	None	--
<input type="checkbox"/> 92%	Law Enforcement	5.4
<input type="checkbox"/> 62%	Prosecutors	2.5
<input type="checkbox"/> 14%	Judiciary	--
<input type="checkbox"/> 19%	Public Defenders, or other defense attorneys	--
<input type="checkbox"/> 21%	Victim Advocates	--
<input type="checkbox"/> 71%	SANE / SART personnel	2.6
<input type="checkbox"/> 19%	Other (please describe) _____	--

2. Has the crime laboratory ever conducted or otherwise participated in DNA training for other criminal justice professionals? Please check all that apply.

<input type="checkbox"/> 6%	None	<input type="checkbox"/> --	Public Defenders, or other defense attorneys
<input type="checkbox"/> --	Law Enforcement	<input type="checkbox"/> --	Victim Advocates
<input type="checkbox"/> --	Prosecutors	<input type="checkbox"/> --	SANE / SART personnel
<input type="checkbox"/> --	Judiciary	<input type="checkbox"/> --	Other (please describe) _____

3. On average, what type of additional DNA evidence training is needed by **law enforcement** agencies served by your laboratory? (Check all that apply.)

<input type="checkbox"/> 55%	Identification of possible biological evidence
<input type="checkbox"/> 73%	Evidence collection techniques
<input type="checkbox"/> 93%	Evidence submission limitations (understanding probative value)
<input type="checkbox"/> 69%	Evidence submission protocols
<input type="checkbox"/> 71%	Understanding of analysis results
<input type="checkbox"/> 18%	Other (please briefly explain) _____

4. On average, what type of additional DNA evidence training is needed by **prosecutor** office served by your laboratory? (Check all that apply.)

- 14% Identification of possible biological evidence
- 13% Evidence collection techniques
- 76% Evidence submission limitations (understanding probative value)
- 26% Evidence submission protocols
- 89% Understanding of analysis results
- 75% Courtroom presentation
- 16% Other (please briefly explain) _____

5. What agencies collect biological evidence for submission to the laboratory? Please also indicate the type of agency from which the majority of collected biological evidence is submitted by using a “1” in front of that agency (all other contributing agencies may be marked with an “x”).

- 38% Crime scene unit directly associated with the laboratory
- 57% Investigating law enforcement agency
- 0% Investigating prosecutor’s office
- 4% Medical health professionals (such as SANE’s or emergency room personnel)
- 0% Other _____

6. On average, what improvements are needed in **law enforcement’s** submission of biological evidence for DNA analysis? Note: This question goes to quality and probative value, and not laboratory’s ability to process requests. (Please select one response for each crime category.)

	IMPROVEMENT NOT NEEDED	TOO MUCH EVIDENCE SUBMITTED	TOO LITTLE EVIDENCE SUBMITTED	EVIDENCE NOT COLLECTED/ SUBMITTED
HOMICIDE	16%	78%	2%	4%
SEX ASSAULT	65%	28%	2%	6%
OTHER VIOLENT	44%	40%	12%	4%
BURGLARY	38%	25%	19%	19%

7. Does your laboratory have additional training requirements for DNA analysts beyond those generally required throughout the country (such as for accreditation or through FBI DNA QA guidelines)?

- 77% NO
- 23% YES (please provide a brief description) _____

8. For federal grants received in fiscal year 2002 through fiscal year 2005, has the laboratory used federal money to attain DNA training for crime lab personnel or equipment validation (or are there plans to do so with currently earmarked funds)?

13% NO 88% YES

IF YES:

For how many analysts? 6 Approximate hours per analyst? 100

Please indicate the type of training planned

59% Validation on new equipment or techniques

49% New personnel training

29% Other _____

COLLABORATION / COMMUNICATION

9. To what extent does your laboratory agree with the following statements? *Use the following response categories: SD= Strongly disagree, D= Disagree, N= Neither agree nor disagree, A= Agree, SA= Strongly agree.*

<i>Please check one response for each question</i>					
a. Our agency and most <u>law enforcement agencies</u> in our jurisdiction collaborate effectively on cases involving DNA evidence.	SA 10%	A 66%	N 13%	D 9%	SD 2%
b. Our agency and most <u>prosecutorial staff</u> in our jurisdiction collaborate effectively on cases involving DNA evidence.	SA 9%	A 51%	N 18%	D 20%	SD 2%
c. Overall, our agency is satisfied with the way <u>law enforcement</u> handles cases involving DNA evidence.	SA 4%	A 62%	N 20%	D 15%	SD 0%
d. Overall, our agency is satisfied with the way <u>prosecutorial staff</u> handle cases involving DNA evidence.	SA 2%	A 51%	N 29%	D 16%	SD 2%
e. There is a formal protocol for working with <u>prosecutors</u> on DNA evidentiary issues.	SA 4%	A 11%	N 11%	D 47%	SD 27%
f. There is a formal protocol for working with <u>law enforcement</u> on DNA evidentiary issues.	SA 9%	A 22%	N 13%	D 35%	SD 22%

CODIS HITS

10. What is the protocol for reporting hits on your local DNA database (LDIS)? (This question applies only for those hits that are made *locally* and not at the state level.)

67% Reported directly to individual detectives

15% Reported to a central location at investigating agency

2% Varies by jurisdiction

17% Other _____

11. Are prosecutors ever notified of LDIS hits? (This question applies only for those hits that are made *locally* and not at the state level.)

- 42% NO
- 59% YES (please describe)

12. Please report your annual LDIS hits – report only those hits that would **not** have been recorded at the state level. Also please provide the number of reference samples submitted for confirmation of offender hits to cases analyzed at your laboratory. Count reference samples for the year in which sample was submitted, regardless of when the hit occurred.

	LDIS Forensic hits	LDIS Offender hits*	Reference samples
2002	--	--	--
2003	--	--	--
2004	--	--	--
2005	--	--	--

*For local laboratories, “Offender hits” applies only for those laboratories with suspect indexes, independent of the state system.

13. Does the laboratory ever assist in the collection of the reference samples?

- 64% Not applicable
- 4% Laboratory team is responsible for collection
- 6% Assist law enforcement in obtaining a warrant
- 7% Accompany law enforcement for swabbing or blood draw
- 20% Other (please describe) _____

14. When a reference sample is not submitted for a reported offender hit, does the laboratory have a policy of follow-up with the investigating agency?

- 69% NO
- 31% YES (please describe)

15. Other than through submittal of reference samples, does the laboratory receive notification (on a routine basis) at any of the following points: (check all that apply, and indicate the system)

- 56% No further notification
- | | Automated System | Manual System |
|---|--------------------------|--------------------------|
| <input type="checkbox"/> 46% Investigation is proceeding | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> 21% Warrant for arrest has been issued | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> 33% Charges have been filed | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> 88% Trial date is set | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> 50% Disposition of case | <input type="checkbox"/> | <input type="checkbox"/> |

16. When a reference sample is not submitted or if the case is not further investigated, is the laboratory notified?

42% NO

58% YES Please check below an estimate of the frequency:

52% 1% to 10% of the time 19% 26% to 50% of the time 13% 76% to 100% of the time

16% 11% to 25% of the time 0% 51% to 75% of the time

If the laboratory is notified, please check the most common reasons reported?

97% Does not apply

16% Reasons not reported

19% Offender determined to not be a possible suspect

45% Offender cannot be found

19% Crime is no longer prosecutable (statute of limitations lapsed)

61% Victim does not want to press charges

45% Other (please describe) _____

17. For no-suspect DNA cases involving sex assault or homicide, please indicate if the investigating agency is notified by the crime laboratory at any of the following points.

59% Notified if DNA is found in submitted evidence

82% Notified when DNA analysis is complete

55% Notified when DNA profile is uploaded

21% Other _____

18. What is the laboratory's notification policy if evidence is not analyzed or no upload occurs in a no-suspect DNA case?

24% No laboratory policy for notification

0% Laboratory provides a process for victims to request notification

65% Laboratory notifies the investigating agency

0% Laboratory notifies victim advocacy office

0% Laboratory notifies the victim directly

11% Other _____

OPERATIONS

General Backlogs

19. Please provide annual “backlog” numbers for the following types of DNA cases, *as of the end of each year* (December 30). “Backlog” is defined to mean any unreported case/sample in the laboratory’s possession for more than 30 days.

	2002	2003	2004	2005
TOTAL	--	--	--	--
Homicide	--	--	--	--
Sex crimes	--	--	--	--
Other violent	--	--	--	--
Burglary	--	--	--	--
Other	--	--	--	--

Casework

20. Of the following types of cases submitted to the **crime laboratory (not just DNA section)**, please provide numbers as to how many were queued for DNA screening and/or analysis?

	NO SUSPECT HOMICIDE		KNOWN SUSPECT HOMICIDE		NO SUSPECT SEX ASSAULT		KNOWN SUSPECT SEX ASSAULT	
	TOTAL SUBMITTED	DNA SCREENING / ANALYSIS	TOTAL SUBMITTED	DNA SCREENING / ANALYSIS	TOTAL SUBMITTED	DNA SCREENING / ANALYSIS	TOTAL SUBMITTED	DNA SCREENING / ANALYSIS
2002	--	--	--	--	--	--	--	--
2003	--	--	--	--	--	--	--	--
2004	--	--	--	--	--	--	--	--
2005	--	--	--	--	--	--	--	--

21. For biological evidence from non-violent crimes submitted to your lab for possible DNA analysis, please select the **top three types** of cases these requests represent, *excluding burglary*.

- | | | | |
|------------------------------|---------------------------------|------------------------------|--|
| <input type="checkbox"/> 15% | Arson | <input type="checkbox"/> 69% | Theft (including petty larceny) |
| <input type="checkbox"/> 54% | Auto theft | <input type="checkbox"/> 48% | Breaking and entering (residential and commercial) |
| <input type="checkbox"/> 2% | Drug possession | <input type="checkbox"/> 62% | Breaking and entering (vehicular) |
| <input type="checkbox"/> 4% | Drug manufacture / distribution | | |
| <input type="checkbox"/> 25% | Other _____ | | |

22. For 2002 through 2005, what has been the approximate increase (or decrease) in criminal cases submitted for DNA analysis? Please select the most approximate percentage and indicate increase or decrease.

	Increase	Decrease
1% to 10%	<input type="text" value="6%"/>	<input type="text" value="6%"/>
11% to 25%	<input type="text" value="9%"/>	<input type="text" value="0%"/>
26% to 50%	<input type="text" value="26%"/>	<input type="text" value="0%"/>
51% to 75%	<input type="text" value="15%"/>	<input type="text" value="0%"/>
76% to 100%	<input type="text" value="4%"/>	<input type="text" value="0%"/>
101% or more	<input type="text" value="34%"/>	<input type="text" value="0%"/>

23. Does your laboratory anticipate having capacity to process all reasonable requests for **violent crime** cases by 2009, **without federal assistance**? (For both named suspect and no-suspect cases.)

- YES. Laboratory will have analysis completed **within 30 days of receipt**
- YES. Laboratory will have analysis completed **within 60 days of receipt**
- YES. Laboratory will have analysis completed **within 90 days of receipt**
- NO. Laboratory will not have capacity for all violent crime cases submitted without building a backlog of more than 90 days

24. Does your laboratory anticipate having capacity to process all reasonable requests for **non-violent crime** cases by 2009, **without federal assistance**? (For both named suspect and no-suspect cases.)

- YES. Laboratory will have analysis completed **within 30 days of receipt**
- YES. Laboratory will have analysis completed **within 60 days of receipt**
- YES. Laboratory will have analysis completed **within 90 days of receipt**
- NO. Laboratory will not have capacity for all non-violent crime cases submitted without building a backlog of more than 90 days

25. Have laboratory policies for the types of evidence accepted for DNA analysis changed since 2002?

- NO
 - YES Please provide a brief description of the most significant changes: _____
-

26. Does laboratory accept **and analyze** burglary cases for DNA analysis on a routine basis?

18% NO

82% YES

If "no", what criteria that must for analysis? _____

27. Does laboratory collaborate with law enforcement agencies or prosecutors prior to screening and/or DNA analysis to determine probative value?

0% NO

100% YES (please select most accurate description, or supply your own)

16% Probative value is always discussed with submitting agency and agreement as to which pieces will be tested

75% Probative value is sometimes discussed with submitting agency and agreement as to which pieces will be tested

2% Probative value is reported by agency and laboratory makes determination on what will be tested

7% Other _____

If YES

Is this a formalized process existing in written laboratory guidance or other policy?

30% YES 70% NO

28. Excluding a probative value review, does the laboratory otherwise limit the **amount** of samples submitted for no-suspect homicide and rape cases? Please describe any limitations.

71% Lab does not limit evidence

29% Lab limits evidence (please describe – be specific) _____

29. For all cases requiring DNA analysis or screening, what is the percentage submitted by law enforcement vs. prosecutors?

0% Unknown

95% % submitted by law enforcement

5% % submitted by prosecutors

30. Please provide details as to how your laboratory's capacity has increased or decreased since 2002 through 2005.

- % increase
- % decrease
in screened samples OR provide raw figures for 2002 ___ and 2005 ___
- % increase
- % decrease
in analyzed samples OR provide raw figures for 2002 ___ and 2005 ___
- % increase
- % decrease
in outsourced samples OR provide raw figures for 2002 ___ and 2005 ___

31. Of all forensic DNA cases completed in a year, what percentage was completed by private laboratories for the years specified below?

	2002	2003	2004	2005
Violent, no suspect cases	--	--	--	19%
Non-violent, no-suspect cases	--	--	--	--
Violent, known suspect cases	--	--	--	--
Non-violent, known suspect cases	--	--	--	--

32. What are the largest obstacles to outsourcing DNA casework? Please check all that apply.

- 8% No perceived obstacles
- 21% Timeliness of analysis results
- 49% Front-end sample preparation
- 66% Back-end sample review
- 36% Private laboratory analysis fees
- 26% Other _____
- 28% Private laboratory expert witness expenses
- 26% Poor quality of private laboratory work
- 17% Communication regarding analysis of probative evidence

33. If laboratory outsources forensic DNA cases for analysis (either to private lab or FBI), what is criteria for selecting cases? (select all that apply)

- 72% Mitochondrial DNA cases
- 21% Criminal paternity DNA cases
- 11% Cases with expedited court dates
- 30% Violent, no-suspect case, as in-house capacity warrants
- 25% Other _____
- 28% Non-violent no-suspect case, as in-house capacity warrants
- 2% Cases with high public profile (significant media attention)

34. Please provide the following numbers regarding your forensic DNA casework, and the approximate percentage financed directly by federal funds, state funds and local funds.

	PRIVATE LAB ANALYSIS				LOCAL LAB ANALYSIS			
	# OF FORENSIC SAMPLES	% OF FEDERAL SHARE	% OF STATE SHARE	% OF LOCAL SHARE	# OF FORENSIC SAMPLES	% OF FEDERAL SHARE	% OF STATE SHARE	% OF LOCAL SHARE
2002	--	--	--	--	--	--	--	--
2003	--	--	--	--	--	--	--	--
2004	--	--	--	--	--	--	--	--
2005	--	--	--	--	--	--	--	--

35. If your laboratory has outsourced forensic casework using both federal and state and/or local funds, is there a difference in criteria used for selecting outsourced cases?

No. Cases are selected using similar criteria

Yes. Please explain

Post Conviction

36. How many post conviction DNA testing cases has your lab received for the following years?

2002

2004

2003

2005

37. In terms of queues for DNA screening and analysis, how are post conviction cases prioritized? (If your lab has not received a post conviction case, please provide your best educated guess.)

18% Work begins immediately – ahead of other cases

56% Case is put in line behind other cases prioritized for court dates

0% Case is put in line behind other suspect cases

2% Case is put in line behind all other cases

24% Other (please describe) _____

FUNDING / RESOURCE ISSUES

38. Does your state and/or local government have a dedicated funding source (such as a fee) for your laboratory’s DNA program? If so, for the most recently completed fiscal year please answer the questions listed in the chart below.

Funding Mechanism 7% YES 93% NO

Description of funding source	--
Amount \$ Collected	--
% of Casework Samples Funded	--

39. Over the past three years, approximately what percentage of your DNA budget has come from local funding? State funding? Federal funding?

	0%-10%	11%-25%	25%-50%	50%-75%	75%-100%
Local	2%	2%	4%	30%	61%
State	--	--	--	--	--
Federal	42%	27%	20%	9%	2%

40. For categories reported in Question 39 (local, state, federal monies), please provide information regarding how the funds are spent.

	FEDERAL	STATE	LOCAL
% on Casework Outsourcing	--	--	--
% on Salaries	--	--	--
% on New Hires	--	--	--
% on Overtime	--	--	--
% on Contract Workers	--	--	--
% on Training	--	--	--
% on Accreditation Preparation	--	--	--
% on Equipment	--	--	--
% on Construction / Renovation / Lease	--	--	--
% on Supplies	--	--	--

41. What are the greatest needs for your laboratory's DNA section? Please check all that apply, and rate your top 5 (with 1 being the greatest need).

- | | | | |
|------------------------------|----------------------|------------------------------|--|
| <input type="checkbox"/> 26% | Reagents | <input type="checkbox"/> 69% | Personnel for screening and analysis |
| <input type="checkbox"/> 8% | Robotics | <input type="checkbox"/> 47% | Personnel for technical review |
| <input type="checkbox"/> 15% | Equipment | <input type="checkbox"/> 6% | Personnel for data upload / entry |
| <input type="checkbox"/> 27% | Construction / Lease | <input type="checkbox"/> 31% | Salary adjustments (i.e., pay increases) |
| <input type="checkbox"/> 6% | Storage | <input type="checkbox"/> 12% | LIMS or other automated systems |
| <input type="checkbox"/> 13% | Training | <input type="checkbox"/> 2% | Expert Systems Software |
| | | <input type="checkbox"/> 2% | Other Software |
| <input type="checkbox"/> 14% | Other _____ | | |

If your laboratory has received federal funding since 2002, *other than from the NIJ DNA grant programs* (such as an earmark supported by another Dept. of Justice bureau), to support your DNA section, please provide the name (including the year), amount received and objective of each grant.

NAME	AMOUNT	OBJECTIVE
--	--	--
--	--	--
--	--	--
--	--	--
--	--	--

42. Once federal funds have been awarded to your agency, are there additional state and/or local processes for appropriating the money which significantly delays your access to the funds? (Assuming all federal conditions to begin draw-down of funds have been met.)

- 19% NO. Money becomes directly available to the agency.
- 81% YES. Additional processes must be completed (check all which apply)
- 7% Money must be reappropriated in the annual state budget
 - 38% Money must be reappropriated in the annual local budget
 - 21% Money must be reappropriated in a special amendment to the state/local budget
 - 60% Local / State procurement process (please provide specific information as to delays) _____
 - 29% Other (please explain) _____

43. What have been the biggest challenges in working with federal grants? (Check all that apply and rank your top 3, with 1 being the most significant challenge).

- | | | | |
|------------------------------|--|------------------------------|---|
| <input type="checkbox"/> 24% | Timeliness of awards | <input type="checkbox"/> 36% | Inability to use grants for non-violent cases |
| <input type="checkbox"/> 22% | Flexibility to change purpose | <input type="checkbox"/> 21% | Communications with federal agency offices |
| <input type="checkbox"/> 45% | Insufficient time to spend award | <input type="checkbox"/> 49% | NEPA Special Conditions |
| <input type="checkbox"/> 37% | Grant audit and reporting requirements | <input type="checkbox"/> 6% | Other Special Conditions |
| <input type="checkbox"/> 20% | Other _____ | | |

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Appendix 2: DNA Backlog by Uniform Crime Report Level

DNA Backlog by Lab Uniform Crime Report Level

Uniform Crime Report (UCR) Data

The FBI's UCR program provides crime statistics submitted by city, county, State, tribal, and Federal law enforcement agencies across the country. The UCR program collects data on known offenses and persons arrested by law enforcement agencies nationwide. Offenses include murder, non-negligent manslaughter, forcible rape, robbery, aggravated assault, burglary, larceny-theft, motor vehicle theft, and arson. The UCR program limits the reporting of offenses to crimes most likely to be reported and occur with significant frequency to provide a sufficient foundation for comparison. The FBI uses this submitted information to compile and present annual crime statistics by State, county, and Metropolitan Statistical Area.

What constitutes violent crime?

To be consistent with UCR program definitions, the term "violent crime" in this report means five specific offenses: murder, non-negligent manslaughter, forcible rape, robbery, and aggravated assault.

Computing County UCR Data

Although State and city UCR data were obtained directly from 2003 jurisdiction-specific tables, county data were not readily available in the same format. However, to the study obtained 2003 county crime data by contacting the UCR program office. According to UCR guidelines, we computed county UCR levels; that is, we added totals for the five violent crimes, divided by the total population of the county, and multiplied that number by 100,000.

Data Limitations

Since not all law enforcement agencies provided complete data, it was necessary for the FBI to estimate crime at the Metropolitan Statistical Area, State, and national levels. For agencies that did not report data, the same proportional crime volumes based on the crime statistics of similar areas within a State were assigned. In the estimation process, factors taken into consideration are the size of an agency, type of jurisdiction, and geographic location. Additionally, the UCR program website cautions users not to rely on UCR data as a measurement of law enforcement effectiveness, emphasizing that crime is a sociological phenomenon and influenced by a variety of factors.

To correspond violent crime rates with regional labs required more extensive calculation, as these labs served more than one city or county but not an entire State. The study sample included two regional labs that received casework funding, Northeastern Illinois Regional Crime Lab and Miami Valley Regional Crime Lab. Through telephone inquiries and comprehensive web searches, we identified exactly which jurisdictions of the State were served by Miami Valley’s lab (see Table A2-1). The crime volume for the areas served by the Northeastern Illinois Regional Crime Lab was more challenging to determine. We were unable to confirm exactly which counties were served by the lab. Therefore, by comparing census data and UCR data from communities similar to those served by the lab, a low crime level designation was given. Another issue with Illinois crime data was that, according to the 2003 UCR, the State of Illinois was unable to provide complete 2003 offense figures in accordance with UCR guidelines. Thus, we also needed to estimate UCR crime volume for DuPage County, Illinois. Census data were used to impute a crime level designation; in this case, DuPage County and Fairfax County had similar demographics (population, median income, race, geographical size), and we imputed Fairfax’s UCR designation for DuPage County.

Table A2-1. Violent Crime Index and Population Size of Jurisdictions Served by Miami Valley Regional Crime Lab

Miami Valley Regional Crime Lab		
County	Violent Crime Index 2003	Population 2003
Clark	454	143,310
Greene	111	150,155
Montgomery	435	492,425
Preble	105	41,802
Butler	381	317,058
Warren	50	175,073
Miami	92	99,713
Shelby	18	28,225
Clinton	46	41,142

UCR Data and DNA Backlog

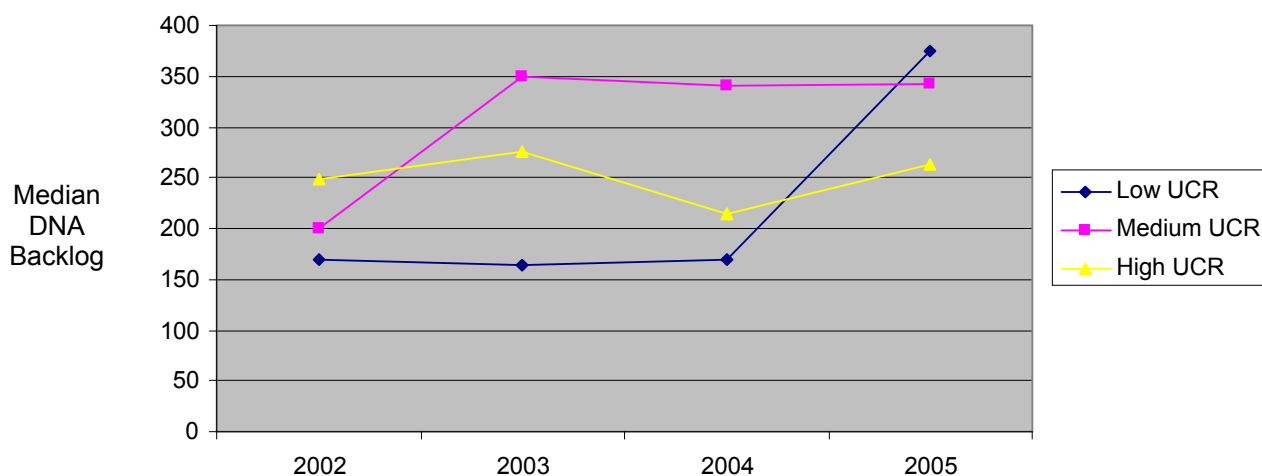
As part of the evaluation of the forensic casework DNA backlog reduction program, ICF assessed how differences in violent crime rates might affect a lab’s backlog. Due to data limitations, we investigated labs by whether they served the entire State or specific localities such as cities, counties, or regions (local labs). However, State or local designations did not capture or describe the various levels of crime and subsequent numbers of DNA submissions to each of the labs. Additionally, starting in 2004, lab

funding was based on UCR data; thus, such categorization was better suited to estimate impacts of forensic casework funding.

UCR Crime Level Designation

UCR data for 2003 were used to categorize each of the labs as serving a low crime jurisdiction, medium crime jurisdiction, or high crime jurisdiction. Violent crime rates are calculated per 100,000 residents. Given the limited sample size, cut-off points for labs were drawn to have similar sample sizes in each category: 34 percent of labs were categorized as serving low crime jurisdictions, which translated into violent crime rates between 0 and 355 per 100,000 residents, 34 percent of labs were categorized as serving medium crime jurisdictions (violent crime rate between 356 and 625 per 100,000 residents), and 32 percent of labs were categorized as serving high crime jurisdictions with violent crime rates that fell between 626 and 2,020 per 100,000 residents). Since this categorization included both State and local labs (local lab data were not reported in the main section of the report due to an inadequate response rate), the response rate was reduced and limitations of the analysis must be considered in interpretation of the data. The response rate for low, medium, and high UCR labs was 54 percent, 50 percent, and 40 percent respectively. Thus, these results should be interpreted with caution as they may not be generalizable or accurately depict backlog trends by UCR levels.

Figure A2-1. Median DNA Backlog by Lab UCR Level



As Figure A2-1 displays, high UCR median lab backlog levels increased, slightly decreased, and then increased in 2005 roughly to 2002 backlog levels (around 250). Medium UCR labs median backlog increased substantially between 2002 and 2003 and then remained approximately the same until 2005 (approximately 350). Low UCR labs had relatively small

median DNA backlogs in 2002 (170) and remained the same until 2004, after which they increased substantially to a little over 375 in 2005.

Overall, high UCR labs remained at approximately 2002 median backlog levels, although they witnessed an increase from 2004 to 2005; medium UCR labs increased in 2003 and remained at those levels and even slightly decreased to 2005; and low UCR labs saw a substantial increase in DNA backlog, which occurred from 2004 to 2005. Considering forensic casework program funding was guided by crime rates in 2004 and 2005, this finding could indicate that program funds were having an impact, at least in labs receiving higher levels of funding. However, this may be an anomaly due to the high levels of missing data and not truly representative of typical low, medium, and high UCR labs. Additional research should track how backlog differs by lab UCR designation. Moreover, future research should assess if lab UCR designation (low/medium/high) is associated with different levels of DNA submissions (in terms of both violent and nonviolent crime) and DNA backlog (violent/nonviolent).

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Appendix 3: Data Profile Template

DNA Crime Lab Profiles

1. Overview

- Name of lab: _____
- Area and census population data: _____
- Number of law enforcement agencies served: _____
- Number of prosecutor agencies served: _____

2. Organizational Structure

- Number of labs (for State): _____
 - CODIS site: _____
 - Organizational structure (# analysts, # supervisors): _____
 - Include information about any new hires
-
-

3. Funding

- Funding amount: _____

4. Training for Lab Staff and Law Enforcement Agencies

- Funds used for training/validation: _____

- Insert number of analysts and number of hours [Item #8 on State survey]: _____

- New personnel training description: _____

- External training if noted: _____
- The main training of law enforcement agencies and prosecutors occurs informally and involves discussions regarding evidence submission with cases: _____

5. DNA Summary

Cases Received. Describe percent increase or decrease in DNA submissions from 2002-2005 as well as follow-up data request.

Hits. Response to item #12 – forensic and offender hits. Follow-up data.

Casework Backlog. Survey item #19 and follow-up data request if they provided us with more data.

Convicted Offender Backlog. For State labs only.

Lab Needs. Three highest rated lab needs [#44].

6. DNA Procedures

■ Description of unique features from site visit: _____

■ Note top 3 nonviolent DNA submissions: _____

■ Describe policy for limiting submissions: _____

■ Key examples from site visit – training, no-suspect, lab improvement efforts, regarding communication/collaboration, pre-subs, unique LEA and prosecutor information:

■ Number of post-conviction DNA requests: _____

7. Summary

■ Brief summary from site visit focusing on how they used casework program funds to address backlog. Discuss lessons learned, promising practices, and challenges:

Miami-Dade Police Crime Laboratory Bureau

1. Overview

- The Miami-Dade Police Department (MDPD) Crime Laboratory serves the greater unincorporated Dade County area and 35 of the incorporated municipalities, which also includes the city of Miami and the city of Miami Beach. The most current census estimates the total population of this area to be approximately 2.4 million. The lab serves approximately 35 law enforcement agencies and one prosecutor agency.

2. Organizational Structure

- The MDPD Crime Lab has one Bureau Commander (Lab Director) and three Section Laboratory Managers. There were 17 individuals working in the DNA section of the lab at the time of the site visit, however there is capacity for 26. Several individuals were expected to complete training in the Fall of 2007.

3. Funding

- From 2002-2005, MDPD received \$673,706 in casework funding and \$861,710 in lab capacity enhancement funding.

4. Training for Lab Staff & Law Enforcement Agencies

- Federal funds were used for equipment and training. From 2002 – 2005, approximately 16 analysts were trained on the operation of new equipment or software for approximately 40 hours each.
- Training for new hires is generally a two-year process and begins with serology training. After six months, new hires start DNA training. Training is described as mostly “hands-on” and includes lectures on theory, making reagents, calibrating, evidence handling, and writing reports.
- Given the number of recent new hires, the lab has focused on streamlining and formalizing training procedures.
- All analysts on staff are required to attend at least eight hours training per year. The types of training staff mentioned attending were trainings at the National Forensic Science Technology Center (NFSTC) and attendance at American Academy of Forensic Sciences (AAFS) meetings. At the time of the site visit, several staff were attending Bode Technology’s Annual Advanced DNA Technical Workshop.

- Each analyst undergoes proficiency testing twice a year.
- Crime lab staff have provided trainings to police, prosecutors, and judges as well.

5. DNA Profile

Case Submissions. From 2002-2005, the number of cases submitted for DNA testing has increased by 30% (from 2,036 – 2,641). The increase in submissions is believed to be due to an increase in property crime submissions and a general increase in knowledge regarding DNA. Miami received two post conviction DNA requests in 2005.

Hits. The MDPD crime lab's hit rate across all types of crime was reported to be about 30%. In 2002, MDPD had 130 hits and 330 in 2005, a 154% increase (n=514 in 2006). At the time of the site visit, MDPD reportedly had 1,700 hits since they have been a part of CODIS.

Backlog. No specific numbers were provided on DNA backlog. Lab staff reported that one of the main reasons for the current backlog is the combination of staff turnover and the length of time it takes to replace analysts (due to a prolonged hiring process and lengthy training period). Turnaround time has been reduced markedly due to improvements in quantitating procedures, but the primary hold up is in the review process. Reviews are conducted by senior analysts, several of whom have left in the last three years. There currently are plans to increase the number of staff qualified to review cases and it is hoped that the implementation of expert systems will also help reduce the review backlog.

Lab Needs. The top five needs identified by the lab included robotics, personnel for screening and analysis, personnel for technical review, LIMs or other automated system, and expert systems software. MDPD crime lab staff perceives the prohibition on using federal funds to analyze or outsource property crime cases as a key hindrance to their backlog reduction efforts.

6. DNA Procedures

- Excluding burglary, the top three sources of non-violent DNA were reported to be auto theft, breaking and entering (residential and commercial), and breaking and entering (vehicular).
- Miami-Dade limits the number of samples initially submitted for DNA analysis and decisions are made on a case by case basis.
- Serology and DNA analyses are currently conducted by two separate analysts and this has increased efficiency.
- Marshall University has conducted some analyses for the crime lab at no cost, easing the lab's backlog of property crime cases.

- Lab staff have identified one or two specific individuals within the prosecutors' office and police departments that they can go to maintain communication across agencies (DNA liaisons).

7. Summary

- MDPD crime lab's backlog of DNA cases differs depending on the stage of the DNA analysis process. There is a minimal backlog in screening of new submissions but a larger backlog in the review stage. Federal funds have reportedly contributed to a much faster turnaround time due to renovation, new equipment, and increased staffing. Staff turnover and consequent staff shortages due to delays in replacing those who leave is viewed as a primary reason the lab is backlogged on casework.

Minnesota Bureau of Criminal Apprehension Forensic Science Service

1. Overview

- The Minnesota Bureau of Criminal Apprehension (BCA) Forensic Science Service, under the Minnesota Department of Public Safety, identifies and compares physical evidence for approximately 400 law enforcement agencies in Minnesota. The BCA consists of two labs and the census estimate for the state population in 2006 was 5,167,101.

2. Organizational Structure

- The BCA Forensic Science Service Biology Section has both a nuclear DNA section and a mitochondrial (Mito) DNA section. At the St. Paul lab, there are two biology supervisors, 10 – 12 scientists that work on casework, and five convicted offender staff.
- According to interviewees, staffing has decreased over the last 5 years as the lab has lost several positions.
- This lab is unique from other case study sites because it is one of the four regional Mito-labs that has partnered with the FBI. It was fully equipped by the FBI Laboratory to offer free Mito-DNA analysis. The lab accepts requests for Mito-DNA analysis from law enforcement agencies in the area the lab serves and takes referrals from the FBI. The FBI ensures that the analyses meet quality standards mandated by Congress as well as pays for staff salaries, supplies, and travel for testimony in court.

3. Funding

- From 2002-2005, Minnesota received \$720,668 in casework funding and \$262,524 in lab capacity enhancement funding.

4. Training for Lab Staff

- BCA used federal funds to train crime lab personnel and for equipment validation. From 2002 – 2005, approximately 20 analysts validated new equipment for sixteen hours each.
- Training for new hires depends on the level at which staff are hired. All new staff members start out as trainees and are required to take a competency test at 6 months.

- With grant funding, the lab has been able to send scientists to regional meetings and specialized trainings. These trainings allow staff to learn new techniques and see what may be implemented in the lab. It was reported that this would not be possible without the federal money.
- The BCA lab also has an unpaid internship program that attracts college students from all over the Midwest. Many of the current forensic scientists and supervisors/administrators originally started as interns.

5. DNA Profile

Cases Received. From 2002 – 2005, the number of cases submitted for DNA testing has reportedly increased by 11-25%. The BCA caseload has continued to increase as agencies have learned about its improved capabilities (e.g., testing smaller samples). The lab reported receiving cases and evidence that it had not in the past (e.g., touch DNA).

Backlog. Since 2002, the backlog has increased. The backlog increased when the Mito-DNA lab opened, as some of the analysts transferred to that section, resulting in a few months without any DNA analysis. Also, moving to the new lab in 2004 increased the backlog because of setbacks created by the process of moving itself, in addition to having to revalidate all instrumentation. At the time of the site visit, staff reported a two month DNA backlog, but there is no backlog for screening for violent crimes. Lab personnel noted that the lab would be much further behind without grant funding.

Hits. The number of offender hits in 2002 was 29. Hits have substantially increased every year from 2002 through 2005. For instance, in 2005 they had 124 offender hits, a 324% increase from 2002.

Lab Needs. The top three needs identified by the lab included salary adjustments (i.e., pay increases), expert systems software, and personnel for screening and analysis.

6. DNA Procedures

- Excluding burglary, the top three sources of non-violent DNA were reported to be theft (including petty larceny), auto theft, and weapons possession.
- There are no formalized protocols for collaboration with investigators or prosecutors and interactions are dictated by each case.
- The lab generally does not analyze samples from property crimes or gun swabs unless there is a known offender. Also, they do not analyze touch evidence for vandalism, burglary, or automotive theft unless investigators/prosecutors can identify valid reasons to do so.

- The BCA's Crime Scene Response Team has a mobile unit that can be dispatched to any local jurisdiction in the state of Minnesota as some rural jurisdictions may not be thoroughly equipped to process complex crime scenes. During 2006, the Crime Scene Team responded to 60 requests for assistance.

7. Summary

- Lab staff reported that federal funding has enabled them to improve their turnaround time by two months and to make up for lost time when they moved to a new lab. Difficulties in addressing backlog were reported to be due to the fact that "success breeds more samples" in terms of increased submissions, as well as an increase in cases that must be re-analyzed. Staff turnover, difficulty hiring people for temporary casework positions, and lengthy training time for new hires were cited as additional factors that impacted backlog.

Pennsylvania State Bureau of Forensic Services

1. Overview

- The Bureau of Forensic Services (BFS), under the auspices of the Pennsylvania State police (PSP), is responsible for analyzing forensic evidence for all State police and municipalities in the State of Pennsylvania, except for Allegheny County and Philadelphia, which have their own local labs. According to the last census, Pennsylvania's population is approximately 12 million and the lab serves approximately 1,600 law enforcement and 67 prosecutor agencies.

2. Organizational Structure

- There are six regional forensic labs throughout the State and two DNA labs – a small lab in Bethlehem that serves the Eastern part of the State and a larger DNA lab in Greensburg. The lab in Greensburg is also the CODIS State repository site.
- The Bethlehem DNA lab has four DNA analysts while the Greensburg DNA lab has 17 DNA analysts. There are also two evidence technicians at each DNA lab. There are three DNA supervisors in Greensburg (Casework, Database, and Validation/QC/Automation) and one supervisor in Bethlehem. The State lab system has benefited from the hiring of seven new DNA analysts (6 in Greenburg, 1 in Bethlehem) and two chemistry technicians in the last couple of years. Some of these positions were initially funded by a Coverdell grant but were later picked up by PSP by “borrowing” from other divisions within the department.

3. Funding

- Since 2002, under funding from the President's DNA initiative, PA received approximately \$530,000 in casework funding and \$1,468,666 in lab capacity enhancement funding.

4. Training for Lab Staff & Law Enforcement Agencies

- PA used federal funds to train crime lab personnel and for equipment validation. From 2002 – 2005, approximately three analysts were trained on validation of new equipment for 125 hours each, and 13 analysts were cross-trained on use of new instruments for approximately 130 hours each.
- New personnel undergo traditional forensic scientist training that includes reviewing manuals and SOPs, lectures, quizzes, tests, extensive mentoring and review of work, mock-ups and mock trials. PA also utilizes a buddy system for new hires so they have an additional person to go to with questions beside their supervisor.

- PA has sent analysts to be trained at Marshall University; AAFS and regional forensic meetings (e.g., Mid-Atlantic Association of Forensic Science); and vendor conferences (e.g., Promega symposium on human identity).
- PA often brings in outside experts to conduct training on-site. With federal funds, PA now has a dedicated training room.
- The main “training” of LEAs and prosecutors occurs informally and involves discussions regarding evidence submission with cases.

5. DNA Profile

Cases Received. PA’s DNA case submissions have approximately doubled in the last several years. In 2002, the lab received 645 DNA submissions and in 2005 the lab received 1,221 (n=1,492 in 2006). Lab staff reported a large increase in submissions for burglary and severe drug possession cases. Pennsylvania received one request for post-conviction DNA testing in 2005.

Hits. In 2002, PA had 51 hits which increased to 213 in 2005 (n=300 in 2006). At the time of the site visit, the PA lab reported an average of two hits per day.

Casework Backlog. PA’s backlog remained at around 70 cases from 2001 to 2003 and jumped significantly in 2004 to 170 cases when new State legislation required the collection of DNA from all felons. In 2006 the backlog was 133 cases. Recent capacity enhancements due to robotics (i.e., ABI 3230XL) are enabling them to process many more samples at once, such that their average turn around time for casework is reportedly two to four weeks.

Convicted Offender Backlog. In 2004, the backlog for CO was 2,164 and this jumped to 53,170 in 2005 due to convicted all-felons legislation.

Lab Needs. Pennsylvania top five reported labs needs were personnel for screening and analysis, salary adjustments, construction/lease, training, and equipment.

6. DNA Procedures

- The Pennsylvania lab system (PA) is unique from other labs that were visited in that serological analysis is conducted at each of the regional labs prior to the sample being sent to Bethlehem or Greensburg for DNA analysis.
- 80,000 convicted offender samples were outsourced through a convicted offender grant.
- Excluding burglary, the top three non-violent DNA cases were reported to be drug possession, theft (including petty larceny) and breaking and entering (residential and commercial).

- PA is currently running a pilot program in one area of the state in an attempt to have all local law enforcement agencies use the same LIMS system to increase efficiency and standardization.
- PA has a long history of limiting sample submissions (since 1992). They have a policy of limiting initial analysis, for lesser offenses, to the two most probative items plus reference samples. For homicides, they limit items on a case-by-case basis.
- Batch processing – scientists work together to fill well plates for CO samples and batching of small no-suspect cases.
- Enzyme typing. Staff reported that enzyme typing allows staff to screen large samples so the lab can identify most probative evidence and conduct initial analyses on these samples.
- PA also has a formal meeting between DNA and serologists once a year to discuss any relevant issues. Extensive contact via phone and e-mail occurs throughout the year with serologists. DNA analysts reportedly do not communicate directly with law enforcement, but do so primarily through the serologist.

7. Summary

- Lab staff report that without federal funding, the DNA lab backlog would be unmanageable. Staff report that they have particularly benefited from funding for overtime and new technology. Federal funding has increased lab capacity but legislation requiring DNA from all convicted felons enacted in 2004 resulted in a drastic increase in submissions. Other major factors working against casework backlog reduction include staff shortages (due to turnover as well as staff time used in validating new technology), an increase in submissions for non-violent crime, and an increase in the number of hits received, each which require re-analysis, and therefore create more work.

Philadelphia Police Forensic Science Bureau

1. Overview

- The Philadelphia Forensic Science Bureau, under the auspices of the Philadelphia Police Department, is responsible for conducting analysis of forensic evidence for the city of Philadelphia. According to the last census, Philadelphia's population is roughly 1.5 million. The lab serves one law enforcement agency and one prosecutor agency.

2. Organizational Structure

- The Philadelphia DNA lab is led by the Director and Deputy Director of the Forensic Science Bureau, and DNA Technical Supervisors. At the time of the site visit, the lab employed 10 Forensic Scientists (three of whom were in training) and one chemical technician. One Forensic Scientist functions as the CODIS Administrator and another is the quality review coordinator as well as the training coordinator. The lab began increasing staff a few years ago and is currently looking to fill more positions.

3. Funding

- Philadelphia's crime lab received \$1,427,116 in casework funding and \$1,013,484 in lab capacity enhancement funding from 2002-2005.

4. Training for Lab Staff and Law Enforcement Agencies

- Training for new hires involves traditional "hands-on" training with a standard operating procedures manual, observation, and mentoring. New hires must work on three mock cases (one sexual assault, one blood evidence case, and one homicide) with associated exams, report writing, and mock trials.
- All DNA analysts are required to attend training once a year. These trainings often occur at annual meetings, such as the American Academy of Forensic Science and regional forensic meetings (e.g., Mid-Atlantic Association of Forensic Science). Each analyst undergoes proficiency training twice a year.
- Philadelphia tailored the federal users manual for user agencies.
- The main "training" of LEA's and prosecutors occurs informally and involves discussions regarding evidence submission and probative value.

5. DNA Profile

Case Submissions. Lab staff reported a marked increase in submissions over the past several years. The increase has been primarily in violent crimes samples and they are seeing

more submissions of “touch evidence” due to past success. From 2002 to 2005, the number of cases submitted for DNA testing has increased by 11%. Philadelphia received one post conviction DNA test request in 2005. Philadelphia reported that there has not been a marked increase in non-violent DNA requests.

Hits. Philadelphia crime lab reported 39 hits in 2006, up from 14 in 2005.

Backlog. Staff reported that the main reason for their current backlog is that they have several staff members in training, reviewing cases that were outsourced, and/or validating new equipment, which takes time away from casework. It was also reported that the backlog was most severe in serology. From 2002 – 2005 the backlog has increased 226%. There were 1,027 backlogged cases in 2002 and 3,350 cases in 2005.

Lab needs. The top five needs identified by the lab included personnel for screening and analysis, personnel for technical review, personnel for data upload/entry, LIMS or other automated system, and storage.

6. DNA Procedures

- The Philadelphia lab reported that DNA evidence from burglaries is generally not collected/ submitted to the lab for analysis.
- The Philadelphia lab separates serological analysis from DNA testing.
- Philadelphia used federal funds to outsource 12,040 cases.
- Lab staff reported that they have a policy of limiting the number of samples they will test, but there is no set number and all decisions are made on a case-by-case basis.
- DNA analysts, police officers from the Special Victims and Homicide Units, and District Attorneys meet together monthly to discuss relevant issues.
- All “rape with no suspect” cases are assigned to one individual, which results in greater efficiency.
- Philadelphia recently instituted a ride along program where forensic scientists travel to crime scenes with law enforcement staff.
- Pennsylvania requires collection of DNA from all convicted felons.

7. Summary

- Lab staff reported that without federal funding, the DNA lab backlog would be far worse than it is currently. The increase in submissions, staffing challenges and consequent lack of resources to simultaneously review outsourced cases, validate new equipment, train new staff, and do casework are key factors in the labs continued backlog.

Phoenix Forensic Crime Laboratory

1. Overview

- The Phoenix Forensic Crime Laboratory, under the auspices of the Phoenix Police Department, is responsible for conducting analysis of forensic evidence for the city of Phoenix. The 2006 census estimates the population of Phoenix is 1,512,986. The Phoenix lab serves one law enforcement agency and one prosecutor agency.

2. Organizational Structure

- The Forensic Biology department is one of the largest departments in the crime lab, employing 15 staff members when fully staffed. At the time of the site visit, the department included five screeners, five analysts and two section supervisors. One analyst is dedicated to reviewing outsourced samples, quality assurance, and entering samples into CODIS.
- At the time of the site visit (April 2007), Phoenix was preparing to move into a new state of the art crime lab facility.

3. Funding

- From 2002-2005, Phoenix received \$2,526,746 in casework funding and \$414,447 in lab capacity enhancement funding.

4. Training for Lab Staff & Law Enforcement Agencies

- Federal funds were used for training crime lab personnel and for equipment validation. From 2002 – 2005, approximately seven analysts were trained for approximately 160 hours each on either validation of new equipment/techniques or new personnel training.
- New forensic scientists are trained in traditional “hands-on” procedures, which includes reading literature, reviewing SOPs, learning techniques, and analyzing mock samples via a mentoring process with a senior scientist.
- Forensic scientists reported conducting a number of trainings for local law enforcement on evidence collection, retention, and preservation as well as conducting numerous training for SANE staff.
- All Forensic Scientists (DNA analysts) on staff are required to complete some type of training once a year. The training may be a continuing education course, a conference, or training with an expert brought in-house.

5. DNA Profile

Case Submissions. Phoenix's DNA case submissions have increased approximately 25% from 2002 – 2005: In 2002, the lab received 1, 670 DNA submissions and in 2005 the lab received 2,099 (n=2194 in 2006). Staff noted a definite increase for burglary and vehicle related requests (e.g., auto theft). However, Phoenix also reported substantial increases in the number of screened and analyzed samples during this timeframe as well.

Hits. The Phoenix lab reported 20 forensic and offender hits in 2002 and a total of 255 hits in 2005, a remarkable increase.

Casework Backlog. The backlog has increased exponentially between 2002 – 2005. The backlog was further impacted in 2006 when the lab was dealing with two very high profile serial homicide cases, which resulted in thousands of items of evidence. Lab staff stated that the backlog is most concentrated in screening.

Lab Needs. The top five needs identified by the lab included personnel for screening and analysis, personnel for technical review, salary adjustments, expert systems software, and robotics. Some staff members also reported that there is resistance to the full utilization of new technology.

6. DNA Procedures

- Excluding burglary, the top three sources of non-violent DNA were reported to be auto theft, breaking and entering (residential and commercial), and breaking and entering (vehicular).
- Casework funds have been used for contract positions and overtime to work on no-suspect cases. Without funds, staff felt they would not have been able to work on no-suspect cases.
- Lab personnel developed a new evidence collection box for law enforcement to use at crime scenes.
- Phoenix has instituted a homicide triage policy and case evaluation policy to identify the best items to be processed and reduce the number of submitted samples.
- The lab is currently undergoing process mapping to increase workflow, throughput and efficiency.
- Phoenix has aggressively sought out grant funding and outsourcing of cases. One lesson learned is to establish a good working relationship and enforce strict QA/QC procedures up-front with outside vendors to reduce back-end problems and re-working of samples.
- Lab personnel have trained FNEs, Forensic Nurse Examiners, to stain slides from vaginal swabs. This essentially pre-screens the slides, which then can be verified and proceed directly to DNA analysis, reducing a process that could take as long as a day to a couple of hours.

7. Summary

- Stakeholders reported that casework funding to address DNA backlog was extremely helpful, particularly given the large increase in the number of submissions. Federal funds have paid for outsourcing, workstations, major equipment, such as expert systems, and training on how to operate the equipment. It was also reported that without the grant funds, the lab could not have worked cold cases and old no-suspect cases.

St. Louis Metropolitan Police Department Crime Laboratory

1. Overview

- The St. Louis crime lab, under the auspices of the St. Louis Metropolitan Police Department, is responsible for conducting analysis of forensic evidence for the city of St. Louis. The approximate size of the population served is 340,000. The lab serves one law enforcement agency and one prosecutor's office.

2. Organizational Structure

- The lab reported major increases in staffing recently, including internally funded positions in addition to casework contracted positions. At the time of the site visit, the DNA biology unit had approximately ten full time employees, including one technical leader and one supervisor.

3. Funding

- From 2002-2005, the St. Louis Metropolitan Police Department received approximately \$158,943 in casework funding and \$144,333 in lab capacity enhancement funding.

4. Training for Lab Staff and Law Enforcement Agencies

- St. Louis has used federal funds received from 2002 to 2005 for training of lab personnel. Approximately 10 analysts have been trained and/or validated new equipment for more than 40 hours each.
- The St. Louis crime lab has utilized funds to send staff to seminar-related trainings. All staff members in the DNA unit have been sent to at least one outside training. Additionally, there is a six month in-house training program for new hires.
- Lab staff recently began going on ride-alongs with ETU (Evidence Technician Unit) personnel and this has helped improve collaboration.
- Lab staff provide formal training to prosecutors approximately once a year.

5. DNA Profile

Cases Received. St. Louis's DNA case submissions have increased by 8% from 2002 – 2005. In 2002, there were 12,060 cases received and in 2005, there were 13,063 (n=16,360 in 2006). It was reported that the number of cases submitted for DNA analysis

has increased dramatically although the actual number of submitted samples per case has decreased, due to the recently instituted Best Evidence Policy. DNA analysts are also receiving evidence from property crimes and burglaries as well as other serious crimes that they haven't normally analyzed in the past. Evidence is coming in faster than the lab can turn it around because law enforcement is increasingly reliant on DNA evidence. The lab received one request for post-conviction DNA testing in 2005.

Hits. The number of hits reported by SLPD has increased dramatically over the last several years. It was reported that about half of their hits come from property crime and burglaries and half from violent crime. In 2002, there were 33 CODIS hits while this increased to 118 in 2005, a 258% increase. For 2006, SLPD reported 332 hits.

Casework Backlog. The St. Louis crime lab reported that their backlog reduced 33% from 2005 to 2006. The lab's biggest backlogs of DNA evidence are in robberies and burglaries as they are a lower priority than more violent crime. Interestingly, the lab has had a number of hits from burglary cases, with some cases tying several burglaries to one person. The bottleneck, in terms of casework, was reportedly due to the peer review required of all reports prior to technical review and dissemination. Currently only one individual is available to conduct the reviews.

Lab Needs. The top five needs identified by the lab included reagents, personnel for screening and analysis, personnel for technical review, salary adjustments, and equipment.

6. DNA Procedures

- A Best Evidence Policy was recently instituted in the lab, in which only the best DNA sources per case are analyzed. Typically, lab staff asks the ETU to identify the five most probative pieces of evidence to analyze, and final determination is made through phone/email communications with the investigator. The policy has resulted in a decrease of sample submissions per case. However, many of the cases that have been worked under the new best evidence policy had not yet been to court at the time of the site visit, so it remains to be learned if the policy is effective.
- The crime lab's computer system is linked with that of investigators through a specific program that enables DNA analysts to directly access investigators' reports. Investigators also have a comparable system, whereby they can access results from the crime lab. Police and crime lab staff reported that this has substantially improved communication and coordination.
- St. Louis does not have a specified cold case unit or personnel; each respective unit handles its cold case activity. Law enforcement felt that this may be a good area for future federal DNA funding as SLPD is now overwhelmed with all the cold case hits that have occurred this year.

7. Summary

- Lab staff reported that federal funding has been instrumental in increasing their capacity and hence decreasing turnaround time. Staff reported that they have particularly benefited from funding for independent contractors and equipment. Factors working against casework backlog reduction include an increase in submissions for all cases, but particularly for non-violent crime, and an increase in the number of hits received, which require re-analysis, and therefore create more work.

Virginia Department of Forensic Science

1. Overview

- The Virginia Department of Forensic Science (DFS) serves all state and local law enforcement agencies in Virginia, which includes approximately 247 police departments and 124 sheriff organizations. DFS provides comprehensive forensic laboratory services to over 130 prosecutor agencies in the Commonwealth. The approximate size of the population served is 7.5 million.

2. Organizational Structure

- DFS has four labs, a Northern, Eastern, Western, and Central Lab, the latter of which is the focus of this summary. The Central lab is located in Richmond, Virginia. The organizational structure consists of the Central Lab Director, Section Chief, Section Supervisors, Group Supervisors, and Examiners. At the time of the site visit, there were 23 forensic scientists, five DNA databank staff, and five support staff.

3. Funding

- Virginia has received \$1,865,893 in casework funding and \$1,053,020 in lab capacity enhancement funding from 2002-2005.

4. Training for Lab Staff & Law Enforcement Agencies

- DFS used federal funds for training. From 2002 – 2005, approximately two analysts were trained for about 1,560 hours each.
- New hires receive nine months of training through the Virginia Institute of Forensic Science and Medicine (VIFSM). The Institute was initially funded by Patricia Cornwell and ongoing funding for trainees is provided by the Commonwealth of VA with the stipulation that those trained must work in VA for a certain period of time upon completion. Thus, DFS has been able to leverage state funds for training through VIFSM and then hire these newly trained individuals as grant funded examiners.
- Trainees receive training on DNA and serology, including mock trial court testimony. All examiners are required to obtain a certain amount of continuing education each year and must pass proficiency exams twice a year on methods and protocols.
- Training is also provided to police officers through a nine week school on crime scene technology three times a year for around 36 officers. Follow-up training (3-4 days annually) is also subsequently provided to the officers.

- DFS staff also provides training to investigators and prosecutors through the Virginia Institute of Forensic Science and Medicine as well as other venues, for example Commonwealth Attorney meetings.

5. DNA Profile

Cases Received. Increasing amounts and types of evidence have been submitted over the past several years. The lab was overburdened with submissions of touch evidence, which did not yield definitive results; therefore, DFS instituted a policy stipulating that it will not accept any touch evidence for property crimes without a written request from the prosecutor's office specifying the reasons the evidence should be tested. Overall, the lab receives around 4,000 cases per year. Virginia was one of the few labs who reported a decrease in submissions from 2002-2005. From 2004 to 2005, there was an 11 percent decrease in submissions, which the lab felt was due to their touch evidence policy. The lab received 31 requests for post conviction DNA testing in 2005.

Hits. The number of CODIS hits has substantially increased over the years. From 2002 through 2005, hits increased by 73%, from 501 – 866. Please see website for more details (<http://www.dfs.virginia.gov/>).

Backlog. Staff reported the DNA backlog has reduced considerably over the last several years. Survey data revealed that the backlog decreased by 31% from 2002 to 2005, from 1,752 cases in 2002 to 1,213 cases in 2005. According to several interviewees, DFS has made significant gains in terms of controlling backlog, however it was also noted that new quality control policies have slowed down DNA analysis. Convicted offender backlog has also substantially decreased.

Lab Needs. The top five needs identified by the lab include reagents, equipment, personnel for screening and analysis, LIMs or other automated system, and expert systems.

6. DNA Procedures

- Excluding burglary, the top three sources of non-violent DNA were reported to be theft (including petty larceny), breaking and entering (residential and commercial), and breaking and entering (vehicular).
- Virginia attempts to limit the number of samples submitted to seven, and a letter from a Commonwealth attorney is needed to test DNA evidence for property crimes involving touch evidence. While this is general policy, decisions are made on a case by case basis.
- DFS has worked to ensure that all four state crime labs have uniform protocols and has implemented quality assurance procedures to ensure that cases are handled consistently across labs.
- Starting in 2003, Virginia required DNA samples from all arrestees of violent felonies.

7. Summary

- The backlog at DFS has not been eliminated but has been markedly reduced over the past several years. Lab staff report that without the grant funded examiners, the backlog would be much greater. Grant funded examiners work on the intensive cases so that non-grant scientists can complete the breaking & entering cases, for example. Turnaround time has been reduced through automation, but report writing and peer review/quality assurance procedures remain time consuming. Federal funds have been extremely helpful and have been used for training, contract positions, increasing automation, and purchasing of equipment. Crime lab staff also attribute their success to fiscal support from the state.

Washington State Patrol Forensic Laboratory Services

1. Overview

- Washington State has six crime labs across the state. The Crime Laboratory Division is under the auspices of the Washington State Patrol (WSP), Forensic Laboratory Services Bureau. The census population estimate for Washington for 2006 is 6,395,798 residents. The labs provide forensic services to over 300 law enforcement agencies within Washington State. This summary focuses on the crime lab at the bureau headquarters located in Seattle.

2. Organizational Structure

- WSP lab staff report having undergone a great deal of growth in recent years, including building three new labs in the last six years. At the time of the site visit, a total of 40 staff were funded by the State. Ten new DNA positions will be available in the next several years, so WSP is extensively recruiting on a national basis.
- In Seattle, there are 15 staff members and turnover has been minimal. However, it was reported that those who left had a lot of experience. The Seattle lab expanded in 2004, moving from the Public Safety Department downtown to its location at the time of the site visit (also in Seattle). At the time of the site visit, there was one vacant screener position, but they had someone in training who would eventually be doing casework. It is an occasional practice to loan positions to other parts of the state when needed.

3. Funding

- From 2002-2005, Washington State received approximately \$1.8 million in casework funding and \$1.3 million in lab capacity enhancement funding.

4. Training for Lab Staff & Law Enforcement Agencies

- Federal funds were used for training of crime lab personnel. From 2002 – 2005, approximately six analysts were trained for 80 hours each.
- Training in serology takes approximately three months. It involves reading literature and reviewing the lab manual, learning techniques, analyzing mock samples, and mentoring. The DNA phase of training takes approximately nine months. Training is provided in-house by experienced lab staff in the traditional “hands-on” methods for forensic scientists.
- WSP attempts to provide as much external training as possible for lab staff. The lab has sent some staff to NFSTC training, paid for by NIJ. Another analyst reported receiving

training from the California Criminalistics Institute. All lab staff attended training given by the American Academy of Forensic Sciences in Seattle. Some analysts also reported receiving required statistics training from outside and found it very applicable to their work. Also, one interviewee reported attending Expert Witness training.

- WSP has an internship program, through Eastern Washington University's Forensic program, which they have found to be very beneficial.
- WSP is required to provide training to Seattle and Spokane police department CSI teams.
- WSP has also done an entire series of trainings for prosecutors and lab staff participate in annual prosecutor conferences.

5. DNA Profile

Case Submissions. From 2002-2005, the number of cases submitted for DNA testing has increased by 51-75%. The increase in submissions includes an increase in the number of samples submitted per case and an expansion in the type of evidence submitted (i.e., touch evidence). Also, there has been a large increase in the state population. The lab received three post-conviction DNA testing cases in 2005

Hits. Lab staff reported an average of 8-10 hits per month statewide during the case study site visit in the summer of 2007. This is a sizable increase from the first ten years of the database. For instance, the number of hits increased by 188% from 2002 to 2005, from 34 cases to 98 cases.

Backlog. The backlog at the WSP has reportedly grown steadily from 2002 to 2005. There were 1,982 backlogged cases in 2002 and 3,429 cases in 2005, which is an increase of 73%. Staff reported that the majority of backlog is for sexual assault cases (60%); however, a recent grant in 2006 from WASPC dedicated to sexual assault cases will assist in addressing this backlog. Additionally, DNA staff will increase by at least 10 positions in the next couple of years which will also help address backlog. The bottleneck was reportedly due to a screening backlog and review backlog.

Lab Needs. The top five needs identified by the lab included salary adjustments (i.e., pay increases), IT specialist for DNA computer systems, expert systems software, robotics, and personnel for screening and analysis.

6. DNA Procedures

- Excluding burglary, the top three sources of non-violent DNA were reported to be arson, drug possession, and drug manufacture/distribution.
- The most probative evidence is prioritized on a case-by-case basis.

- Staff felt that were it not for the equipment they acquired through federal grants, the backlog would be much higher. Some noted that it has been a challenge for WSP to take advantage of new equipment and technology because the lab does not have the resources for validation.
- The lab generally will only test evidence for a property crime if the crime has had a large impact on the community. For example, a case in which vandals broke into a school, causing thousands of dollars in damages.

7. Summary

- The backlog at the WSP has reportedly grown over the years, but lab staff believe it would have grown far more rapidly without federal funding for casework backlog reduction, new equipment, computers and software, and personnel. Lack of staff resources is a key factor preventing significant backlog reduction. WSP staff noted their difficulty recruiting and retaining experienced DNA analysts due to the numerous hi-tech positions available in the area that offer significantly higher salaries than the state.

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Appendix 4: Top 3 Challenges with Grants

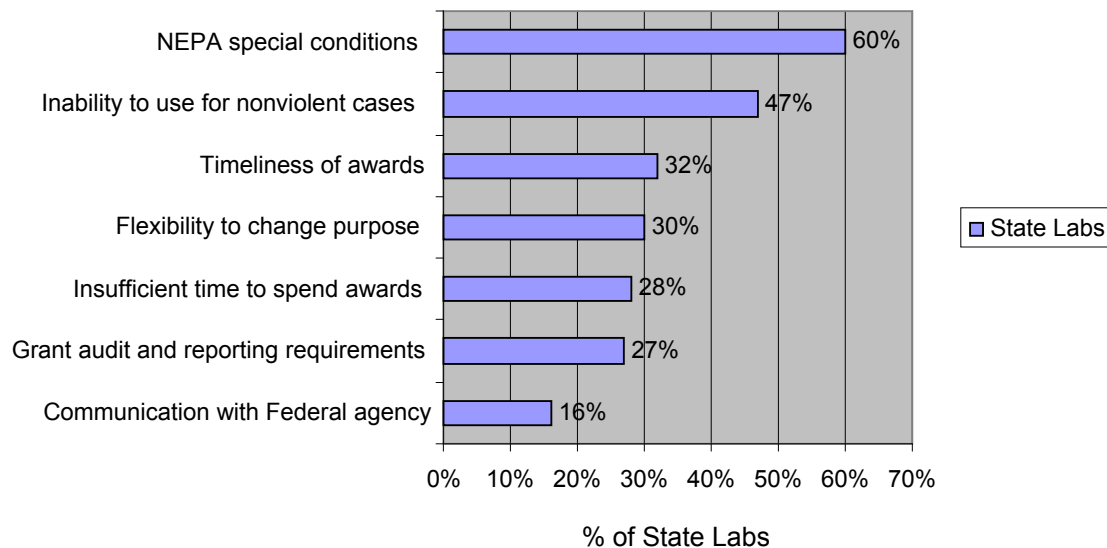
Top 3 Challenges with Grants

DNA crime lab surveys asked respondents to identify their top three challenges with Federal grants from a list of seven items. The following section provides details on how these challenges were rated for respondents from state labs, followed by respondents from local labs, and concludes with a brief discussion of responses for state and local labs combined.

State Labs

As shown in Figure A4-1, the majority of State labs identified National Environmental Policy Act (NEPA) special conditions as one of the top three challenges. Inability to use casework DNA backlog reduction funding for nonviolent cases was endorsed as a top challenge by close to half of state lab respondents. Similar percentages of respondents reported that timeliness of awards, flexibility to change purpose, insufficient time to spend awards, and grant auditing requirements were among the top three challenges. Communication with Federal agency offices was the least identified challenge.

Figure A4-1. Percent of State Labs Identifying Top Three Challenges with Federal Grants

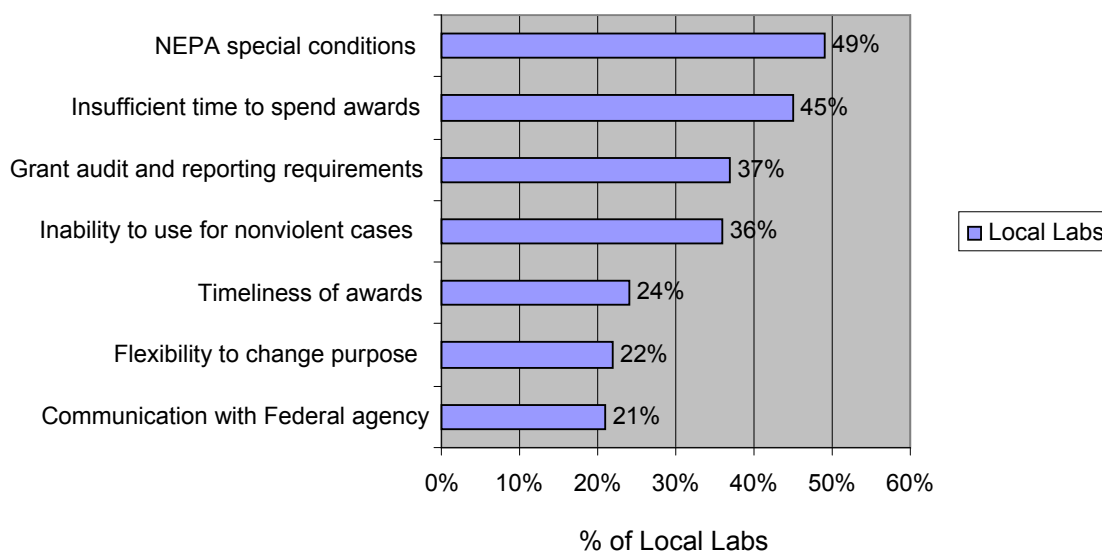


Local Labs

Of the seven challenges offered in the survey, local lab responses were organized into three groupings. As shown in Figure A4-2, NEPA special conditions was the challenge cited

most often, while insufficient time to spend awards was the second most frequently mentioned challenge. The next challenge grouping included grant audit and reporting requirements and inability to use casework funds for nonviolent backlogged DNA cases. Timeliness of awards, flexibility to change purpose, and communication with Federal agency offices were the challenges less frequently cited by local labs.

Figure A4-2. Percent of Local Labs Identifying Top Three Challenges with Federal Grants



State and Local Labs

NEPA special conditions and inability to use casework funding for backlogged nonviolent cases were cited as challenges by a large percentage of both State and local labs. These two challenges were also the two most prevalent issues verbalized by lab personnel during case study site visits. Insufficient time to spend awards and grant auditing requirements were the next most frequently endorsed challenges. However, this was at least partially due to the fact that there were more local labs (n=56) than State labs (n=44).

There were some differences between State and local lab respondents' ratings of challenges that may reflect their different roles, responsibilities, and capacities. For instance, grant audit and reporting requirements may be more burdensome for local labs, which may have fewer employees and/or older LIMS than State labs. Nonetheless, overall ratings suggest that any policies and procedural changes that address NEPA special conditions, time to spend awards, reporting requirements, and flexibility to use funds for nonviolent backlogged cases have the potential to benefit both State and local labs.

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