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August 2010

NIJ Controlled Substances Case Processing Study

Final Report

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Contents

| Section | Page |
|---|-------------|
| Study Abstract | SA-1 |
| Executive Summary | ES-1 |
| 1. Introduction | 1-1 |
| 1.1 Study Background | 1-1 |
| 1.2 Study Objectives | 1-3 |
| 2. Background and Overview | 2-1 |
| 2.1 Impact of Drug Evidence on Forensic Backlogs | 2-1 |
| 2.2 Challenges of Drug Evidence | 2-4 |
| 2.3 Roles of Law Enforcement, Prosecutors, and Laboratories in Processing Drug Cases | 2-5 |
| 2.4 Legal Factors in Drug Cases | 2-7 |
| 2.4.1 Background: The Sixth Amendment and the Confrontation Clause | 2-7 |
| 2.4.2 Melendez-Diaz v. Massachusetts | 2-8 |
| 2.4.3 Briscoe v. Virginia | 2-9 |
| 3. Research Methods | 3-1 |
| 3.1 Development of Interview Guides | 3-1 |
| 3.2 Site Selection Process | 3-2 |
| 3.3 Site Visits and Administering the Interviews | 3-2 |
| 3.4 Analyzing and Reporting the Findings | 3-3 |
| 4. Results | 4-1 |
| 4.1 Law Enforcement: Investigating and Processing Drug Evidence | 4-1 |
| 4.1.1 Collection and Use of Drug Evidence | 4-1 |
| 4.1.2 Presumptive Field Tests | 4-2 |
| 4.1.3 Procedures for Processing and Submitting Evidence to Crime Laboratories | 4-4 |
| 4.1.4 Evidence Tracking Systems | 4-5 |
| 4.1.5 Evidence Destruction and Storage | 4-5 |
| 4.1.6 Law Enforcement Communication and Coordination | 4-6 |

| | | |
|-----------|--|------------|
| 4.2 | Forensic Laboratories: Procedures for Receiving and Analyzing Drug Evidence | 4-7 |
| 4.2.1 | Case Acceptance Policies | 4-7 |
| 4.2.2 | Receiving, Tracking, Analyzing, and Reporting Evidence | 4-12 |
| 4.2.3 | Testifying in Court | 4-13 |
| 4.2.4 | Managing/Eliminating Backlogs and Finding Case Processing Efficiencies | 4-16 |
| 4.2.5 | Interagency Communication and Coordination | 4-19 |
| 4.3 | Prosecution: Use of Forensic Evidence in Charging by Prosecutors | 4-19 |
| 4.3.1 | Case Prioritization and Charging Decisions | 4-20 |
| 4.3.2 | Field Tests and Plea Agreements..... | 4-20 |
| 4.3.3 | Use of Drug Analysis Results in Trial | 4-20 |
| 4.3.4 | Prosecutor Communication and Coordination | 4-21 |
| 5. | Conclusion | 5-1 |
| 5.1 | Study Implications and Recommendations | 5-1 |
| 5.1.1 | Recommendation 1: Define, Implement, and Enforce Laboratory Submission Policies..... | 5-1 |
| 5.1.2 | Recommendation 2: Promote Regular Two-Way Communication | 5-2 |
| 5.1.3 | Recommendation 3: Implement Case Tracking or Case Reporting System to Improve Cross-Agency Information Sharing | 5-2 |
| 5.1.4 | Recommendation 4: Improve Training across All Three Criminal Justice Stakeholders | 5-2 |
| 5.1.5 | Recommendation 5: Improve and Increase Judicial Resources | 5-3 |
| 5.1.6 | Recommendation 6: Implement Solutions that Allow Laboratories to Catch-Up on Their Backlogs..... | 5-4 |
| 5.1.7 | Recommendation 7: Dedicate Federal Funding Sources to Non-DNA Laboratory Functions | 5-5 |
| 5.1.8 | Recommendation 8: Improve Testimony Efficiency | 5-5 |
| 5.1.9 | Recommendation 9: Provide Better Guidance to Law Enforcement Agencies on Drug Evidence Destruction | 5-6 |
| 5.2 | Study Limitations | 5-6 |
| 5.3 | Conclusions | 5-6 |
| 6. | References | 6-1 |

Appendixes

| | | |
|---|--|-----|
| A | Overview of Legal Procedures | A-1 |
| B | Stakeholder Interview Guide: Forensic Laboratory Staff | B-1 |
| C | Stakeholder Interview Guide: Law Enforcement..... | C-1 |
| D | Stakeholder Interview Guide: Prosecutors | D-1 |

Figures

| Number | | Page |
|---------------|--|-------------|
| 1-1 | Summary of Data Collection Topics | 1-4 |
| 2-1 | Drug Caseload per Laboratory and per Examiner, 1982–2002 | 2-3 |
| 4-1 | Drug Cases In One Selected Jurisdiction, 2000–2009..... | 4-9 |
| 4-2 | Drug Cases Completed In One Selected Jurisdiction, 2000–2009 | 4-9 |
| 4-3 | Average Drug Case Turnaround In One Selected Jurisdiction, 2000–2009 | 4-10 |

Table

| Number | Page |
|--|-------------|
| 2-1 Changes in Crime Laboratories and Drug Processing, 1982–2002 | 2-2 |

STUDY ABSTRACT

The processing and analysis of controlled substance evidence accounts for a significant proportion of the work performed by forensic crime laboratories. Crime laboratories are faced with ever-increasing caseloads and demands for prompt analytical information, and the impact of drug chemistry analysis on laboratory backlogs has been largely overlooked.

RTI International was funded by the National Institute of Justice (NIJ) to conduct the Controlled Substances Case Processing Study. The primary objectives of the study were to (1) gain an improved understanding of how controlled substances cases are processed, from the point of collection (law enforcement) through analysis (forensic laboratories) to subsequent criminal justice processes (prosecution), including factors that influence decision making at different stages in the process; (2) describe the role that controlled substances evidence plays in charging decisions by prosecutors, pretrial plea negotiations, and post-trial convictions; and (3) gather descriptive information from a range of U.S. jurisdictions that could be used to identify problems and develop systemic solutions to case backlogs and other inefficiencies in these forensic systems.

Data were collected from a purposive sample of 10 jurisdictions, which represented a wide variation of different law enforcement and laboratory arrangements within state and local systems. Other selection criteria included jurisdiction size, rural or urban location, and differences in legal processes. Site visits to each of the selected jurisdictions were typically conducted over a 2-day period using semistructured interviews. Basic metrics associated with case processing statistics were also collected. Overall, a total of 38 agencies and 60 respondents were interviewed.

The findings from this study demonstrate that jurisdictions vary considerably in terms of how they process and analyze controlled substance evidence. Laboratory drug analysis results were not often used (or required) as part of the charging process; in many jurisdictions the charging decisions were tied to the field test result and not to the presence of a confirmatory analysis result. In only one jurisdiction did the prosecutor require that the confirmatory analysis be conducted before the grand jury process (and before any plea negotiation discussions). However, although laboratory analysis was not required for plea negotiations in most sites, some still submitted all drug evidence directly to the laboratory regardless of whether it would ultimately be needed.

In terms of barriers and challenges identified, from a laboratory perspective, there is an acute need for more uniform procedures and processes for submitting and analyzing drug evidence, including prioritization based on factors such as case seriousness. From a law enforcement perspective, the findings suggest that more systematic policies and resources need to be in place for evidence retention and storage. Improved communication was

identified as an area of need by all the sites; however, some sites had more effective cross-agency communication than others.

A key for improving coordination was the presence of effective laboratory submission guidelines. In three jurisdictions, the implementation of a case submission policy was attributed to significant reductions in both the number of controlled substance cases pending analysis and the time to turn around cases. Case tracking systems that promote information sharing and monitoring across the different stages of the process were also highly effective. For example, a limited number of sites reported that prosecutors proactively provided information on cases resolved either by plea bargaining or dismissal—cases that, study participants estimated, represented 50–75% of the drug case “backlog.”

EXECUTIVE SUMMARY

Introduction

The processing and analysis of controlled substance evidence accounts for a significant proportion of the work performed by forensic crime laboratories. To support criminal investigations and prosecutions, drug analysis must be rapid, precise, and cost-effective. Crime laboratories are faced with ever-increasing caseloads and demands for prompt analytical information by the courts, and the impact of drug chemistry analysis on laboratory backlogs has been largely overlooked.

There are two principal challenges for effectively processing controlled substance evidence. The first concern is the large volume of drug cases that flow through state and local jurisdictions each year. In the United States in 2008, there were more than 1.7 million state and local arrests for drug-related offenses (FBI, 2009). Controlled substance cases represent about half of all requests for analysis to state and local crime laboratories, outnumbering requests for other functions such as DNA, ballistics, and latent prints (Peterson & Hickman, 2005). The second challenge is that the controlled substances evidence process involves multiple agencies (i.e., law enforcement, forensic laboratories, and prosecutors) with varying policies and procedures and, in many cases, different organizational structures. As a result, potential barriers to successful case processing must be addressed both within and between each stage of processing (i.e., collection, analysis, investigation, and adjudication)

The Controlled Substances Case Processing Study was funded by the National Institute of Justice (NIJ) to describe the flow of controlled substances evidence through each stage of the criminal justice system, including the procedures and criteria for submitting, analyzing, and prosecuting controlled substances evidence. Specific objectives of the study included

- gaining an improved understanding of how controlled substances cases are processed, from the point of collection (law enforcement) through analysis (forensic laboratories) to subsequent criminal justice processes (prosecution), including factors that influence decision making at different stages in the process;
- describing the role that controlled substances evidence plays in charging decisions by prosecutors, pretrial plea negotiations, and posttrial convictions; and
- gathering descriptive information from a range of U.S. jurisdictions that could be used to identify problems and develop systemic solutions to case backlogs and other inefficiencies in these forensic systems.

Research Design and Methods

Data were collected from a purposive sample of 10 jurisdictions identified by RTI International project staff and subject matter experts. The 10 selected sites represented a

wide variation in laboratory arrangements within local and state systems. Other selection criteria included jurisdiction size, rural or urban location, and differences in legal processes. Basic metrics associated with case processing statistics were also collected. Sites where an external consultant could help assist with the site visits were also part of the selection process. Once sites were determined, they were approved by NIJ.

Site visits to each of the selected jurisdictions lasted approximately 2 days. One-hour-long, semistructured, qualitative interviews were conducted with 60 respondents from a total of 38 agencies, with a range from 3 respondents at one site to 11 interviews at two sites. These agencies included state police agencies, state forensic laboratories (which were part of the state police agency), municipal police departments, county sheriff's departments, and prosecutors' offices (i.e., district attorneys' offices, county attorneys' offices, or county solicitors' officers). In some instances, the law enforcement respondents were part of a regional or state task force. The questionnaires were developed by RTI project staff, with input from consultants in law enforcement and forensics (see Appendixes B–D for these instruments). A different interview questionnaire was developed for law enforcement, forensic laboratory, and prosecutorial staff.

Site team members conferred on the draft interview notes before finalizing them. The finalized interview notes from each site were analyzed for this report. A constant comparative coding method was employed (Glaser, 1965), and the findings were then summarized by the type of agency in the findings section of this report. A draft of the final report was sent to all agencies that participated in the study for final review and comment.

Study Findings

One of the objectives was to gain an improved understanding for decision making at different stages in the process. Summarized below are the major findings.

Field Testing Is Common and Typically Sufficient for Charging a Suspect. In terms of the initial identification of drugs seized, law enforcement agencies in all 10 of the sites reported that their officers used field tests as part of the agency's standard operating procedures (SOPs). Law enforcement respondents reported a range of purposes for field tests, including obtaining and justifying search warrants, establishing probable cause, and providing indications of whether the substance in question is illegal. With the exception of one jurisdiction, the field test results were considered as sufficient evidence for the plea negotiation and grand jury processes; in that one site, the prosecutor's office required that confirmatory laboratory results be used for the grand jury process. Yet despite the use of field testing, there were mixed protocols across sites in terms of when law enforcement submitted the drug evidence for testing. Law enforcement agencies in four of the sites submitted all drug evidence seized as part of an arrest to the laboratory.

All Drug Evidence Is Expected to Be Tested for Trial. Prosecutors in all the jurisdictions required that a laboratory-based test be conducted on drug evidence for trial. Furthermore, a common theme of prosecutors interviewed was that forensic evidence has increased the burden of proof from “beyond a reasonable doubt” to “beyond any doubt.” Juries expect to see more evidence tested, and defense attorneys question why certain items were not tested. Thus, in many jurisdictions, prosecutors have responded by encouraging the submission of all available items to the laboratory. In addition, according to three sites, latent fingerprint evidence and touch DNA is increasingly collected for laboratory analysis in response to both prosecutors’ requests and jury members’ expectations that this evidence may be presented in court, even though all interviewees acknowledged that latent prints were rarely recovered from packaging material.

Drug Evidence and Drug Case Backlogs. All of the sites acknowledged some level of self-defined laboratory backlogs in drug evidence cases. However, two sites reported that their crime laboratories’ drug case backlogs were problematic in terms of significantly impacting the turnaround time for drug cases. Factors contributing to laboratory backlogs included (1) the volume of controlled-substances cases; (2) poor communication among laboratories, law enforcement, and prosecuting attorneys about the status of cases, resulting in unnecessary laboratory testing or needless travel to court; (3) a lack of staff and resources to complete the work; and (4) the “CSI effect” (in other words, the constant presentation of forensic evidence on television shows that has resulted in juries and prosecutors to expect that all evidence must be analyzed and that these analyses can be done instantaneously). In all instances, the laboratory respondents felt that the backlogs could be reduced with greater cooperation from police and prosecutors.

Evidence Storage and Destruction Is a Critical Concern for Law Enforcement. Respondents, especially those in law enforcement, considered evidence storage and destruction to be a critical issue of importance. In most jurisdictions, evidence is stored in a secure location within the law enforcement agency. In light of concerns about destroying any DNA evidence and the sheer volume of all cases that are processed in a given year, evidence destruction can be a contentious issue and a substantial burden for law enforcement agencies. Law enforcement respondents particularly expressed the need for greater involvement and guidance from prosecutors and the court system in helping them minimize the problems associated with drug evidence storage.

Cross-Agency Communication Can Reduce Backlogs. Improved communication was identified as an area of need at all of the sites; however, some sites had more success in cross-agency communication than others. Case tracking systems that promote information sharing and monitoring through the different stages of the process were highly effective. Three sites had integrated, evidence tracking systems in place that allowed the status of drug evidence to be tracked, most often from law enforcement agency to the forensic

laboratory. However, two of these three sites reported that, even though their laboratory system was networked and integrated with the submitting agencies, not all of the law enforcement agencies used the system for submitting cases. While benefits associated with evidence tracking systems included efficiency and time savings because of improved communication from prosecutors, it is important to note that while prosecutors had access to these systems and could track the status of cases and print laboratory reports, they were typically “passive” users and did not actively enter information in themselves. A common limitation across the sites was that prosecutors did not proactively provide information on cases resolved either by plea bargaining or dismissal—cases that, study participants estimated, represented 50–75% of the drug case “backlog.”

Case Acceptance Policies Have Improved Case Processing. Five forensic laboratories have established case acceptance policies and have used them to standardize the types of evidence submitted and to address some of the problems of evidence backlogs. In three of these jurisdictions respondents credited the implementation of a case submission policy with significant reductions in both the number of controlled substance cases pending analysis and the turnaround time for drug cases. . In those jurisdictions, the impact on the drug case backlogs has been profound. In one site, pending requests fell from more than 9,000 in June 2006 to approximately 850 by October 2009. The turnaround time for drug cases decreased from 69 days to 14 days during this same period.

The Melendez-Diaz v. Massachusetts Supreme Court Decision Has Had Varying Effects. The study sought to conduct a preliminary assessment of the effects of the recently decided case of *Melendez-Diaz v. Massachusetts*, which determined that affidavits reporting the results of forensic analysis of drug evidence were “testimonial” and therefore invoke the defendant’s rights of confrontation under the Sixth Amendment. The outcome of *Melendez-Diaz* was that, in some states, the prosecution could be required to present the findings of forensic examiners through live testimony at trial. Our study’s findings demonstrate that, overall, the law has not had a major impact on new subpoenas for forensic staff to testify at trial. However, forensic laboratory staff in one state did report substantial increases in the number of subpoenas served to its analysts.

Study Implications

The results of this study suggest improvements that touch all three stages of the criminal justice system.

1. **Define, Implement, and Enforce Laboratory Submission Policies.** Laboratories demonstrate a need for more uniform procedures and processes for submitting and analyzing drug evidence, including prioritizing on the basis of such factors as case seriousness. Forensic laboratories, especially at the state but also at the local level, should also implement effective laboratory submission guidelines that establish clear rules outlining what evidence will be accepted for analysis. These rules are most

effective when they are developed based on research regarding the types of cases that would benefit most from testing—for example, deciding that the highest-statute exhibits within a case are most likely be used by prosecutors and should therefore receive the highest priority for processing. The study found clear support for significant reductions in laboratory case workload and turnaround time for drug chemistry cases after the implementation of laboratory acceptance policies. Laboratories should write the initial draft of such policies, then consult with submitting agencies, prosecutors, and defense attorneys before finalizing them. All stakeholders should have regular opportunities to reconsider the policies and offer suggestions for revisions.

2. **Promote Regular Multi-Channel Communication.** In all parts of the criminal justice system, respondents identified a critical need for improved coordination of forensic analysis, both within law enforcement agencies themselves and among police agencies, forensic laboratories, and prosecutor’s offices. Coordination could include dedicated case management staff for case management, laboratory submission guidelines, and case tracking systems that promote information sharing among criminal justice entities. Frequent, routine communication between submitting law enforcement agencies, laboratories, and prosecutors is essential to promoting both efficient and effective use of drug evidence. Prosecutor communication with laboratories, in particular, was identified as an area for improvement by all of the sites, although in some instances the need was much greater than in others. Prosecutors rarely contacted laboratories to provide updates on drug cases and, in most instances, did not have a standard practice of informing laboratories of cases by a plea bargain or dismissal.
3. **Implement Case Tracking Systems to Improve Information Sharing.** All jurisdictions should implement (or, in the cases in which systems already exist, provide electronic access to) cross-agency information sharing systems that include their partnering agencies—laboratory staff, prosecutors, and submitting police agency personnel. One of the essential factors for success is the development of a single case identifier used to track evidence in multiple agencies. Short-term approaches to improved case reporting include Web-based laboratory information management systems that provide a secure means for online communication and timely updates on laboratory case results (including the abilities to print laboratory reports remotely and to access electronic laboratory result litigation packets), and the promotion and use of court-based systems that provide updates on cases.
4. **Improve Interagency Training for All Three Criminal Justice Stakeholders.** A better understanding of the responsibilities and roles for all criminal justice actors is critical to improving case processing. For instance, law enforcement personnel and laboratory staff would benefit from learning more about the judicial system process (i.e., how suspects are charged, how plea negotiations are conducted). Prosecutors and laboratory respondents both noted that law enforcement may especially benefit from training sessions on the benefits and goals of forensic evidence, along with jurisdiction guidelines for prioritizing drug cases for analysis. Laboratory staff said that law enforcement officers and prosecutors should hear about the reasons for and importance of particular submission policies. This training could be part of the police academy curriculum and could also be reinforced in Web-based refresher courses or through other media. For their part, law enforcement respondents thought that prosecutors and laboratory staff need to be educated regarding the risks associated with their jobs and what a delay in laboratory results might mean for their investigative work.

5. **Improve and Increase Judicial Resources.** Although this report focused primarily on the controlled-substances case backlogs in laboratories, RTI found that court dockets were also backlogged. For example, the prosecutor in one jurisdiction noted that a substantial backlog of drug cases was attributed to limited grand jury time. Although drug courts were designed to alleviate the heavy burden of controlled-substances cases on the court system, these measures have minimal impact on the system when only a small number of defendants are admitted to the drug court program each year. In light of these findings, a natural recommendation is to increase judicial resources so that court systems can support more grand juries, expand existing drug court programs, and explore other ways to expedite the processing of these cases.
6. **Implement Solutions That Allow Laboratories to Catch up on Their Backlogs.** Although no one solution fits all laboratory backlog situations, a number of strategies highlighted by the 10 sites bear mention as potential mitigating solutions. Sites agreed that reducing a backlog at the laboratory was challenging in the absence of additional staff, funding, and equipment. Jurisdiction that have been able to effectively reduce drug evidence backlogs, for example by temporarily outsourcing cases, by increasing staffing levels, or by implementing new case acceptance policies, have had more success over time in keeping drug evidence backlogs under control. Another effective example for backlog reduction was the use of coordinating laboratory staff who have dedicated time to manage court subpoenas and testimony, monitor evidence submissions to ensure quality, communicate with submitting officers to resolve troublesome issues, and weed out cases that are terminated by a guilty plea or dismissal. Ideally, these positions would serve as a communications hub for all three agencies.
7. **Dedicate Federal Funding Sources to Non-DNA Laboratory Functions.** In recent years, federal funding for forensics has been earmarked for DNA equipment and training, even though most cases submitted to the laboratories include controlled substance evidence. Broadening the funding streams could allow some of the forensic spending to support whatever equipment is needed, regardless of whether it helps with DNA identification. Such spending could also support temporary staff positions that would allow particular laboratories to make concerted efforts to reduce backlogs. While drug chemistries have not been particularly criticized for the validity of the technologies and methods used, the significant funding to DNA has allowed DNA to become the standard to which everything else is now compared. Even established physical science disciplines such as drug chemistries need funding to continue to refine and improve the fundamental science of the discipline as well as improve backlogs.
8. **Improve Testimony Efficiency.** The *Melendez-Diaz* and *Briscoe v. Virginia* Supreme Court decisions do not appear to have had significant impacts on most of the jurisdictions interviewed. Nevertheless, the Supreme Court's conservative interpretation of the Constitution's confrontation clause—and the likely patchwork of state decisions addressing the components of these decisions that are still undefined—will complicate national efforts to reduce testimony loads. At the national level, efforts to ensure adequate processing and communication capacity for trial-bound cases will be more effective than efforts to mitigate testimony loads for cases that do go to trial. Although better technologies such as video testimony may aid some jurisdictions in reducing testimony loads, others may find such testimony inadmissible. Helping jurisdictions to develop the best cases and provide the best evidence for those cases with good coordination of resources to support the trial, in

contrast, will be more effective in improving conditions in light of the current interpretations of the confrontation clause. There are mechanisms for the coordination of testimony that can increase efficiency in the use of laboratory personnel and the prosecution of cases (e.g., enhancing victim-witness coordination units so that they can ensure the efficient use of an analyst's time for expert witness testimony).

9. **Provide Better Guidance to Law Enforcement Agencies on Drug Evidence Destruction.** Across the jurisdictions studied, law enforcement agencies were responsible for storing evidence, whereas the courts or prosecution were responsible for providing orders to destroy it. The consensus was that evidence rooms tended to get cleaned out when the amount of evidence had reached an overwhelming level. In some jurisdictions, policies stated that particular evidence could not be destroyed (e.g., if the case was taken over by the federal prosecutor), so law enforcement agencies were forced to store it in perpetuity. Such policies need to be addressed among the active stakeholders. For controlled substances cases in particular, the federal laboratory policy of photographing all of the evidence and storing only a sample of it may be one alternative for jurisdictions to consider. A passive policy that allows for evidence destruction after a certain period of time after a trial or case dismissal could be another way to alleviate this problem. This issue seems common enough to warrant increased coordination and communication among the courts, prosecutors, and law enforcement.

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1. INTRODUCTION

1.1 Study Background

The collection and analysis of physical evidence is central to controlled substances cases. To adequately support criminal investigations and prosecutions, drug analysis must be rapid, accurate, and cost-effective (Mennell & Shaw, 2006; Soni, 1994). Yet as the demand for forensic analysis has increased across the country, there is a critical need to identify the most effective and cost efficient procedures for how agencies collect, submit, analyze, and use drug evidence. This is especially true considering the tremendous volume of drug cases moving through the U.S. criminal justice system.

In 2008, there were more than 1.7 million state and local arrests for drug-related offenses in the U.S. (FBI, 2009). According to the National Forensic Laboratory Information System (NFLIS), state and local forensic laboratories analyzed more than an estimated 1.3 million drug cases in 2008 (U.S. Department of Justice, Drug Enforcement Administration (DEA) 2009). National surveys of state and local crime laboratories have demonstrated that controlled substance cases represent about half of requests for analysis, far outnumbering requests for other functions such as DNA, ballistics, and latent prints (Peterson & Hickman, 2005).

The process of building a drug case from arrest through adjudication involves a series of decision stages. The life cycle of controlled substances evidence begins with the law enforcement agency that collects evidence from the crime scene (Horvath, 1996; Ribaux, Walsh, & Margot, 2006). Drug evidence can be obtained under a variety of circumstances, including drugs seized as the result of an investigation, drugs purchased during an undercover drug buy, and drugs discovered during traffic stops. Law enforcement agencies have varying criteria for selecting cases to be submitted for analysis. For instance, agencies may not submit evidence if the case has been resolved due to plea bargaining.

Forensic laboratories are in the middle of the evidence process and are tasked with analyzing suspected drug material obtained by law enforcement in order to chemically identify the substance. Part of the difficulty in establishing more standardized solutions for crime laboratories is that they vary considerably in (1) the jurisdictions they serve and their organizational placement (e.g., some are located within law enforcement agencies), (2) their drug analysis caseload sizes, (3) the chemical analysis procedures they conduct, and (4) their budget and staffing resources (Peterson & Hickman, 2005; Weimer et al., 2005). Additional complexities exist in the procedures used by forensic laboratories for determining which cases will be analyzed and when these tests occur relative to discussions with prosecutors. Decisions about which and how many drug items (also referred to as individual exhibits or specimens) to test also complicate the process. Deciding which drug items to test in a given case may require communication between the forensic laboratory,

the prosecutor, and law enforcement to determine which drug item (or exhibit) will provide the “best” result in terms of conviction and sentencing.

A great deal of variation exists in prosecutors’ use of drug evidence as well. Prosecutors use the evidentiary information during the court process to confirm the drug’s identity and to document certain characteristics of the evidence, such as total weight and drug purity which can be a central factor in what charges are filed in a case. Processing drug cases for prosecutors can be complicated, and the requirements for evidence can vary from one prosecutor’s office to another. For example, criteria differ for the type of analysis required for plea agreements (some prosecutors will accept field testing as sufficient evidence, whereas others require confirmatory analysis before moving forward on a case).

Prosecutors may also face the potential exclusion of exhibits due to procedural rules or other matters of law, leading them to prefer entering into negotiations and pretrial hearings with as much analyzed evidence as possible. Yet, while plea agreements satisfy the needs of both the prosecution and defense and save the costs of holding a full trial, the use of forensic laboratory resources to analyze cases that are handled through plea negotiations is an ongoing issue that requires closer examination. Having sufficient evidence gives the prosecution leverage to negotiate with a suspect but the laboratory may not have the resources to provide this level of support.

One of the key challenges is that the controlled substances evidence process involves multiple agencies (i.e., law enforcement, forensic laboratories, and prosecutors) with varying policies and procedures and, in many cases, different organizational structures. As a result, potential barriers to successful case processing must be addressed not only at each stage (i.e., collection, analysis, investigation, and adjudication) but also in the communications that are exchanged between each of these stages.

As drug cases move through the system, difficulties can arise from differences in the fundamental “work units” managed by each of the stakeholders in evidence processing. Law enforcement may view and manage items by the associated case number or by the accused suspect’s name. The laboratory, which may have to analyze multiple pieces of evidence per case, might manage the workflow on a per sample basis or per analysis basis. Alternatively, prosecutors tend to view the process from the basis of charges which may combine evidence from multiple defendants or may combine or separate charges and pieces of evidence for reasons that best suit the prosecution of the charges. In addition, each agency may have their own criteria for “success” and be focused on efficiencies and resource savings within their own purview. This type of mindset can make it more difficult to achieve the larger collective goals associated with system-level cost efficiencies, reduced case backlogs, and decreased turnaround times, all of which must be accomplished while maintaining high analytical standards for accuracy and consistency.

1.2 Study Objectives

The NIJ-funded Controlled Substances Case Processing Study represented an important opportunity to obtain information on the use of controlled substances evidence, including the criteria for moving drug cases from one stage of the justice system to the next as well as the procedures for submitting and analyzing drug evidence. One of the study's principal objectives was to identify system-level factors that result in improved efficiencies for processing drug evidence, as well as practices that have reduced case backlogs and maximized coordination among law enforcement, laboratory, and prosecutorial personnel.

To better understand and document these issues, RTI conducted a descriptive analysis of the use and attrition of controlled substances evidence through evidence collection, analysis, investigation, and case adjudication. Jurisdictional studies were conducted in 10 selected sites across the United States to provide a detailed understanding of all phases of the process. A range of sites were included in the study, including sites from 10 different states and with varying regional locations, agency sizes and resources, and differing structures in terms of the intersection between state, municipal and county agencies.

Our approach focused on the use of drug evidence within different components of the criminal justice system in the United States, involving state and local forensic laboratories and their associated law enforcement agencies and prosecutors' offices. This ensured that information was collected not only on agency-specific policies and procedures but also on jurisdiction-level approaches for processing, analyzing, and using drug evidence.

This study's objectives included:

- gaining an improved understanding of how controlled substances cases are processed, from the point of collection (law enforcement) to analysis (forensic laboratories) to subsequent criminal justice processes (prosecution) including factors that influence decision making at different stages in the process;
- describing the role that controlled substances evidence results play in charging decisions by prosecutors, pretrial plea negotiations, and posttrial convictions;
- gathering descriptive information from a range of U.S. jurisdictions that could be used to identify problems and develop systemic solutions to case backlogs and other inefficiencies in these forensic systems.

Figure 1-1 presents an overview of the core data collection topics addressed during the study. In this report, "case" is used to refer to the submission unit to the laboratory with "exhibits" being individual pieces of evidence within that case. This is commensurate with how the law enforcement agencies and laboratories in all of the selected sites viewed their active dockets.

Figure 1-1. Summary of Data Collection Topics

General

- Methods of communication and coordination between the agencies
- Systems in place for tracking cases through each agency
- Barriers and challenges for each agency
- Steps taken for solving problems encountered by each agency
- Recommendations to reduce controlled substance evidence backlog

Law Enforcement

- Number of drug cases compared with the number of cases submitted to laboratory
- Procedures for collecting, processing, tracking and storing drug-related evidence (e.g., evidence collection; chain of custody)
- Field test procedures and practices (e.g., location of test, types of drugs tested, criteria for field testing for a specific drug, extent to which negative and positive tests are sent to laboratory)
- How drug evidence is used to assist investigations, including providing drug-related intelligence and proof
- Criteria, procedures, and decision making involved in submitting evidence to laboratories
- Criteria, procedures, and decision making involved in asking the laboratory to work a specific case
- Prioritization of cases for submission
- Policies for involving the prosecutor's office in a case

Laboratory

- Number of drug cases or drug exhibits annually
- Average number of days between case receipt and case reporting
- Number of agencies served
- Process for selecting and prioritizing cases for analysis
- Extent to which agencies served by the laboratory use field tests for drug screening
- Factors contributing to backlogs, if there is a backlog
- Procedures for tracking drug-related evidence, including laboratory information systems (LIMS) and degree of communication of jurisdictional agencies with the LIMS
- Efficiency implementations or major procedural changes in recent history (i.e., 3 years)
- Policies for prioritizing controlled substances submissions (if all cases are accepted)
- Proportion of cases that are confirmatory analyses from field tests
- Policies for identifying non-controlled substances
- Policies and procedures for weighing evidence and conducting purity analyses
- Proportion of cases that is outsourced

Prosecutor

- The extent to which controlled substances affect the decision to charge a defendant
- The point at which the prosecutor is involved (before or after laboratory submission)
- The point at which—and the circumstances under which—the prosecutor asks for confirmatory analyses when field testing is used
- The extent to which the prosecutor goes to trial with field test results only
- The proportion of field-tested cases that result in a court case, guilty plea, or plea bargain
- The level of confidence in the accuracy of the field test results
- The extent to which confirmatory analyses are requested of the laboratories after a field test has been performed
- The extent to which the evidence from field tests and laboratory analyses affects pretrial negotiations
- The extent to which evidence affects posttrial convictions

2. BACKGROUND AND OVERVIEW

This section reviews the impact of drug evidence on forensic backlogs; the challenges associated with drug evidence; the roles of law enforcement agencies, forensic laboratories, and prosecutors in drug cases; and the legal background, including the Confrontation Clause, *Melendez-Diaz v. Massachusetts* (2009), *Briscoe v. Commonwealth of Virginia* (2010), and questions that these decisions have left unanswered.

Across the United States, state and local approaches to criminal justice procedures vary significantly and the federal courts follow unique procedures of their own. However, most jurisdictions have at least some elements of their criminal justice processes in common, especially in felony cases. Appendix A provides a detailed overview of how cases are processed through the criminal justice system, from the beginning of a criminal investigation to the verdict and appeals process.

2.1 Impact of Drug Evidence on Forensic Backlogs

Requests for the analysis of drug evidence constitute approximately half of the total volume of forensic requests submitted to crime laboratories annually in the United States (Peterson & Hickman, 2005; Durose, 2008). Stated differently, the nation's approximately 390 public crime laboratories receive more than 1 million drug-related requests per year. Although drug evidence accounts for the largest share of forensic workload (compared with toxicology, latent prints, DNA analysis, and other requests), the process of identifying controlled substances is not as time-consuming as other forensic functions. This more expedient disposition is reflected in the actual processing of approximately 800 controlled substances requests per examiner year (Peterson & Hickman, 2005; Durose, 2008). As a result of this high processing capability relative to other areas of forensic services, laboratories are able to process about 80% of the total accumulated controlled substances analysis requests in a year. However, nationwide, laboratories still have a net backlog of about 220,000 requests, comprising roughly half of the total yearend backlog in all areas of forensic services. This backlog suggests that the nation's forensic laboratories are in need of at least 275 examiners to process controlled substances alone.

Although the statistics on annual drug submissions and backlog may appear high, the story these data tell is not new. Drugs have composed a substantial share—if not the largest share—of laboratory work for quite some time. Increased drug submissions to laboratories were observed by researchers about 40 years ago (Benson, Stacy, & Worley, 1970; Parker and Gurgin, 1972). Peterson, Mihajlovic, and Gilliland noted, "It is not unusual for more than 50% of all cases handled by a laboratory to be controlled substance related" (1984, p. 174). Data from that same study show that in Chicago, controlled substances made up 55% of the total cases submitted to the crime laboratory in 1979. Comparable figures from

other cities in the same study include Oakland, California (48%), Peoria, Illinois (60%), and Kansas City, Missouri (30%).

Interestingly, throughout the 1970s, researchers were noting that laboratories were being *underutilized* relative to the amount of evidence that could potentially have been collected and submitted (Benson et al., 1970; Parker and Gurgin, 1972; Parker & Peterson, 1972; Peterson, 1974). In 1982, a census of all crime laboratories found that drugs represented 41% of the caseload (ranging from 32% in municipal laboratories to 55% in federal laboratories), which is approximately 460,500 cases (Peterson, Mihajlovic, and Bedrosian 1985). Contemporary discussions seem to focus on potential *overutilization* of laboratories or on limited laboratory resources in the face of increased submissions (Durose, 2008).

Drug evidence accounts for approximately half of a modern laboratory workload (and backlog). The volume of drug submissions has increased about 180%, from nearly half a million cases in 1982 to nearly 1.3 million submissions annually by 2002 (see Table 2-1). At the same time, the number of laboratories increased 10% (from 319 laboratories enumerated in 1982 to 351 in 2002), and forensics employment increased 88% (from about 3,000 examiners in 1982 to about 5,650 in 2002), however, the number of laboratories analyzing controlled substances remained stable during this period (93 percent in 1982 versus 90 percent in 1990).

Table 2-1. Changes in Crime Laboratories and Drug Processing, 1982–2002

| | 1982 ^a | 2002 ^b | Percentage Change |
|--|-------------------|-------------------|-------------------|
| Total cases ^c | 1,123,149 | 2,706,785 | 141 |
| Drug cases ^c | 460,491 | 1,291,488 | 180 |
| Examiners | 3,010 | 5,651 | 88 |
| Laboratories | 319 | 351 | 10 |
| Percentage of laboratories analyzing drugs | 93 | 90 | -3 |

^a Peterson et al. (1985).

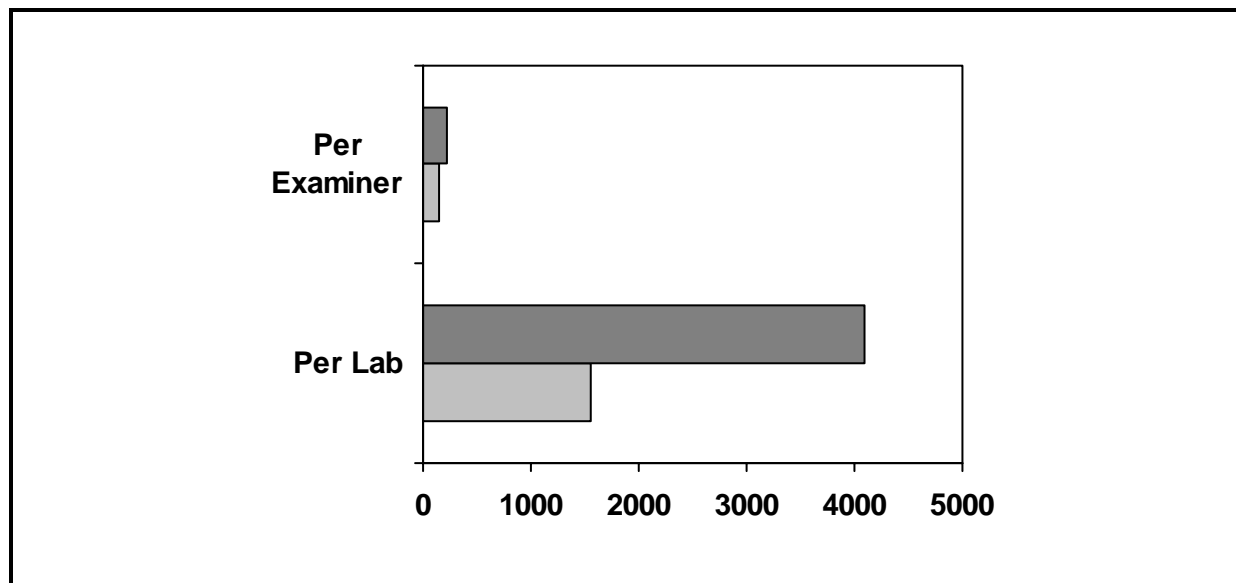
^b Peterson & Hickman (2005).

^c Cases listed for 2002 represent new requests received that year. One case may include multiple requests for forensic services. There were 2,695,269 total cases in 2002, but detail by category of forensic service is available only for requests.

Collectively, these data point to the conclusion that, although drug evidence has remained fairly constant as a proportion of total laboratory caseload (41% in 1982 v. 48% in 2002), because of increases in the volume of submissions with lagging increases in laboratory resources, drug evidence requests (and other forensic requests) are becoming increasing burdens on crime laboratories. Annual drug evidence submissions increased from an overall

1,550 per laboratory in 1982 (460,491 submissions to 297 laboratories) to over 4,000 in 2002 (1,291,488 / 316; Figure 2-1). Per examiner, the increase was from about 150 cases per examiner in 1982 (460,491 / 3,010) to nearly 230 in 2002 (1,291,488 / 5,651; these examiner figures include all laboratories and all examiners regardless of specialty and may therefore be somewhat conservative). Given that the average number of cases a controlled substances examiner completes annually is 800 cases, this increase represents nearly 30% of an examiner's time.

Figure 2-1. Drug Caseload per Laboratory and per Examiner, 1982–2002



One potential reason for the increased number of requests in forensic services is dubbed the “CSI effect.” The constant presentation of forensic evidence on television has led to an expectation that all cases contain forensic evidence (Caruso, 2006). Juries—and, to a degree, prosecutors and judges—have come to expect almost instantaneous scientific analysis. Some laboratory directors have reported that the law enforcement agencies they serve are submitting a range of evidence to forensic laboratories that they have no intention of ever using in court (Caruso, 2006). Optimally, all exhibits collected would be tested; then prosecution has all available information to proceed with the case. However, drug cases often include multiple drug items, and testing each specimen may not always yield useful results.

Interestingly, recent research has also focused on evidence backlogs within law enforcement agencies, representing evidence from open cases that has not been submitted to a laboratory for analysis (Lovrich et al., 2004; Pratt, Gaffney, Lovrich, & Johnson, 2006; Strom & Hickman, 2010; Strom et al., 2009). With regard to drug evidence, Strom et al. (2009) reported that out of 2.3 million drug arrests in 2007, evidence from about 480,000

(or 21%) was not submitted to a laboratory for analysis. Certainly a large proportion of these cases involve guilty pleas elicited using the results of presumptive field tests, thus, not requiring confirmatory laboratory analyses. Yet some of these open drug cases would ultimately require analysis by a laboratory and are backlogged within law enforcement agencies. The reasons are varied, but laboratory resource constraints may be a likely candidate. Many laboratories also refuse straight “identification” cases (i.e., drugs with no suspect). Resource constraints and lack of a suspect were among many other explanations offered for unsubmitted evidence in more serious crimes, such as homicide and rape (Lovrich et al., 2004; Strom et al., 2009).

2.2 Challenges of Drug Evidence

In seeking to reduce the caseload pressure presented by drug evidence, laboratory protocols for examination of drug evidence typically try to limit the amount of material to be identified (e.g., by analyzing only a sample of a large drug seizure known as ‘representative sampling’; Peterson & Hickman, 2005; Rodríguez, Colón, & Díaz, 1993). Most laboratories have an established sampling protocol for analysis of a subset of drug evidence for a case. Examiners may also conclude their analyses once they have identified a substance that supports the prosecution’s case. Only a quarter of laboratories reported additional steps in their protocols such as seeking to identify adulterants or diluents that may indicate the drugs’ point of origin (Peterson & Hickman, 2005).

Another important approach to reducing caseload pressure is for the analyst to discuss with prosecutors what types of questions they are seeking to answer. In some cases, this may extend to an actual “sign-off” from the prosecutor that the analysis is necessary, effectively sharing responsibility for use of laboratory resources. As Peterson and Hickman noted:

More laboratories are experimenting with managerial and technical steps to reduce their caseloads and the time for analyses and giving testimony in court. Whereas labs once proceeded with a complete analysis when a suspected controlled substance was submitted—regardless of input from any other criminal justice agency—more laboratories today are requiring proof from the police and/or prosecutor that the case will proceed (that is, be prosecuted) before continuing with a complete analysis (2005, p. 8).

Outsourcing is another solution to backlogs. Only a small overall proportion of laboratories (about 5%) reported outsourcing drug evidence requests to other laboratories. Yet, in 2002, those laboratories spent nearly half a million dollars on outsourcing drug evidence requests, at a median cost of about \$90 per request (Peterson & Hickman, 2005).

Finally, increased staff would help; laboratory directors reported in 2002 that the equivalent of an additional 355 full-time examiners (a 16% increase, at an estimated cost of \$11.2 million) would enable them to achieve a 30-day turnaround on all drug requests (Peterson & Hickman, 2005). Three years later, a 23% increase in full-time employees was reported as necessary to achieve a 30-day turnaround on drug requests (Durose, 2008). Although the 2002 crime laboratory census helped to spark legislation that expanded federal funding for backlog reduction to all areas of forensic services (not just DNA), it remains to be seen whether this funding achieved the desired effect. Results of the 2005 crime laboratory census suggest that it has not, but the Bureau of Justice Statistics (BJS) will be repeating the crime laboratory census in 2010. The forthcoming census may capture any “lagged” effect of the additional funding on drug evidence backlogs.

2.3 Roles of Law Enforcement, Prosecutors, and Laboratories in Processing Drug Cases

As the street-level agents of the criminal justice system, law enforcement is the initial point of entry for drug evidence into the criminal process. For example, an arrest of a suspect may lead to a search that yields suspected drug material on his person or in his vehicle. In some jurisdictions, law enforcement may use field-based presumptive tests, such as color-change tests (color tests or colorimetry), which can be conducted in the field or in a law enforcement station as part of the arrest processing. The reasons vary, including police and prosecutorial priorities or a legally insignificant amount of material available to analyze and prosecute. Likewise, investigators may evaluate the relevance of drug material relative to other case needs and characteristics. As the primary decision stage in the criminal justice process, police make decisions that can have a substantial impact on how justice is carried out at subsequent stages. These decisions determine the types and volume of cases presented to prosecutors and the potential demands placed on laboratories. Peterson (1974) described this attrition in physical evidence as a funnel-like process.

The next stage is the prosecutor’s decision about whether and how to charge defendants in possession of drug material. In some jurisdictions, guilty plea agreements may be reached on the basis of presumptive field tests. Charges may also be filed on the basis of presumptive field tests, but confirmatory analyses will be required for trial-bound cases. As the second major decision stage in the criminal justice process, prosecutors also serve as an important filter in determining whether and what laboratory resources will be required. Laboratory requests may be made to initiate analyses, even though the results may later be unnecessary because of uncommunicated changes in prosecutorial strategy or priority.

When the request reaches the laboratory, there is usually an evidence technician who is responsible for reviewing the data request and ensuring that all information required for analysis is included (e.g., a suspect identification number, suspect name, etc.). If the case meets the submission criteria, it is routed into the queue for analysis. Once the evidence is

analyzed, laboratory staff typically avail law enforcement and the prosecution of the results via an online system, e-mail, or through the mail.

Laboratory analysis of drug evidence can be analyzed through a variety of methods that include preliminary testing combined with confirmatory testing. Preliminary testing can include color testing, microcrystalline microscopic analysis (especially marijuana and botanical evidence), or physical identification of a tablet using a reliable source. The confirmation of the presence of a controlled substance is performed primarily by one of two confirmatory tests, gas chromatography/mass spectrometry (GC/MS) or infrared spectrophotometry (FTIR). Non-traditional and novel confirmatory techniques may include high performance liquid chromatography (HPLC), high resolution mass spectrometry (GC/HRMS; especially detection of anabolic androgenic steroids), direct analysis real time time-of flight mass spectrometry (DART-TOF) and other mass spectral techniques.

After analysis, a forensic scientist interprets the instrumental data and prepares a report of his/her findings. This report is used in criminal court proceedings and often the forensic scientist is asked to provide expert testimony to the courts. This action by the Drug Enforcement Administration, like the state statutes, organizes drugs into schedules which define substances that are controlled. Drugs are classified on their potential for abuse, current accepted medical use, and potential for dependence. There are five schedules in the federal guidelines as a part of the Controlled Substances Act. Schedule I drugs have the most severe criminal penalties associated with illegal possession as these substances have a high potential for abuse, have no currently accepted medical use in treatment in the United States, and there is a lack of accepted safety for their use under medical supervision.

Effective communication is a critical link among these three principal actors (police, prosecutor, and crime laboratory). Prosecutors must communicate with law enforcement about prosecutorial priorities, as well as the necessary amounts and related procedures for various types of drugs. When the police act as an informed filter, the cases presented for prosecution are more likely to be an efficient use of prosecutorial resources. In the other direction, effective communication about case dispositions can help the police with issues such as evidence storage. Likewise, communication between prosecutors and crime laboratories will help ensure effective decision making about whether and how to charge and updates on case progress and outcomes may make analysis unnecessary (i.e., minimizing unnecessary submissions to the laboratory). Finally, communication between police and crime laboratories is critical in regard to how the evidence is collected and transmitted. For example, smaller agencies may submit laboratory requests before charges are filed, leading to unnecessary backlogs.

2.4 Legal Factors in Drug Cases

To adequately discuss the challenges facing the field of forensic evidence, we must go beyond the function of scientists and law enforcement to examining the role the judiciary plays in either furthering or obstructing the use of forensic evidence. Relevant to our evaluation, in particular, is examining how the courts have allowed for the growing presence of forensic evidence while preserving the procedural rights of criminal defendants.

2.4.1 Background: The Sixth Amendment and the Confrontation Clause

The first 10 amendments to the United States Constitution form the Bill of Rights. The sixth of these outlines a cluster of procedural rights for criminal defendants in Federal courts, such as the right of a criminal defendant to receive notice of accusation, to have a speedy trial, to be heard by an impartial jury, and to be confronted with hostile witnesses. The Supreme Court has conveyed these protections to criminal defendants in the courts of all 50 states as essential elements of ‘due process.’

The Sixth Amendment right of criminal defendants to be confronted with their accusers has become known as the “Confrontation Clause.” The Supreme Court interprets the Confrontation Clause to require both the opportunity to be confronted with one’s accuser(s) and to cross-examine them. The Confrontation Clause is a safeguard to ensure the reliability of evidence presented at a criminal trial by subjecting such evidence to adversarial testing.

The scope of the rights afforded by the Confrontation Clause has been examined by the Court in a series of cases. In an early case, *Mattox v. United States* (1895), the clause was interpreted as a mechanism to prohibit the use of depositions or ex parte affidavits in criminal cases. Over the years, the Court has advanced the notion that the right to a face-to-face confrontation is not absolute. Face-to-face confrontation may be avoided if doing so serves an important public purpose without sacrificing the rationale behind the right of confrontation—that is, if the right of confrontation would conflict with some other important public purpose and if alternative steps can be taken to ensure the reliability of the testimony. In the past 50 years, the scope of the Confrontation Clause has been subject to demarcation by the Court in a succession of cases. Two of the most significant cases have been *Ohio v. Roberts* (1980) and *Crawford v. Washington* (2004).

In *Ohio v. Roberts*, the Court allowed ex parte statements to be admitted as evidence if they were either firmly rooted in hearsay exception or bear “particularized guarantees or trustworthiness” (*Ohio v. Roberts*, p. 67). However, 24 years later in *Crawford*, the Court abandoned the standards created in *Roberts* on the grounds that they were both too broad and too narrow. In *Crawford*, the Court recognized that the result of the lower courts’ application of the *Roberts* standards demonstrated “a fundamental failure on our part to interpret the Constitution in a way that secures its intended constraint on judicial discretion”

(p. 32). The Court explicitly found that, under the Confrontation Clause, cross-examination is the fundamental means by which the reliability of testimony is to be evaluated.

2.4.2 *Melendez-Diaz v. Massachusetts*

Of particular interest is the recent case of *Melendez-Diaz*. The issue before the Court was whether affidavits reporting the results of forensic analysis of drug evidence are “testimonial”; if they are, such affidavits would invoke the defendant’s rights of confrontation under the Sixth Amendment. Simply stated, does the Sixth Amendment require the prosecution to present the findings of forensic examiners through live testimony at trial? The case arose in 2001 in Boston, where police officers searched a car and found four plastic bags containing a substance resembling cocaine. The police arrested the driver of the car and the two passengers, one of whom was Luis Melendez-Diaz. The suspicious behavior of the men during the ride to the police station prompted the officers to search the police cruiser, where they found a plastic bag containing 19 smaller plastic bags. In compliance with Massachusetts state law and police procedure, the police submitted the seized evidence to a state laboratory for analysis. Subsequently, the police charged Melendez-Diaz with distributing and trafficking in cocaine.

At trial, the prosecution placed into evidence the seized bags and three sworn certificates of analysis showing the results of the forensic analysis, which identified the contents as cocaine. The defendant objected to the admission of the certificates, asserting that the Confrontation Clause as interpreted by *Crawford* required the analysts to testify in person. The objection was overruled, and the certificates were admitted. The jury found Melendez-Diaz guilty. He appealed on Sixth Amendment grounds. The Appeals Court of Massachusetts rejected the claim, relying on a previous Massachusetts Supreme Court case that held that the authors of certificates of forensic analysis are not subject to confrontation under the Sixth Amendment. The Supreme Judicial Court of Massachusetts denied review. The United States Supreme Court agreed to hear the case, which was argued in front of the Court on November 10, 2008.

Relying on their ruling in *Crawford*, on June 25, 2009, the Court vacated the Massachusetts Appeals Court ruling. Justice Scalia wrote the majority opinion, which found that *Melendez-Diaz* “involves little more than the application of our holding in *Crawford v. Washington*, 541 U. S. 36. The Sixth Amendment does not permit the prosecution to prove its case via *ex parte* out-of-court affidavits, and the admission of such evidence against Melendez-Diaz was error” (*Melendez-Diaz v. Massachusetts*, 2009). The Court’s 5–4 opinion addressed two key issues. First, that Massachusetts made an expert available for the defendant to subpoena was not sufficient to protect Melendez-Diaz’ Sixth Amendment rights. In fact, their doing so actually unconstitutionally deprived Melendez-Diaz of his rights, because it shifted the prosecution’s burden of “producing the accuser” to the defendant. Second, the opportunity to cross-examine forensic experts is constitutionally guaranteed.

Counsel for the Commonwealth contended that the Confrontation Clause did not apply because the analysts were not “accusatory witnesses, in that they did not directly accuse petitioner of wrongdoing; rather, their testimony was inculpatory only when taken together with other evidence linking petitioner to the contraband.” However, the Court deemed that the testimony presented in the analysts’ ex parte testimony is precisely the kind of accusatory statements contemplated by the Sixth Amendment. In support of this conclusion, Scalia observed, “they certainly provided testimony *against* petitioner, proving one fact necessary for his conviction—that the substance he possessed was cocaine.” As accusatory or hostile witnesses, analysts fall into the category of witnesses that must be produced by the prosecution. The Court found support for the idea that the forensic science system is prone to imperfection in a report from the National Research Council of the National Academies (2009). Scalia questioned the overall neutrality and reliability of forensic evidence and observed that it is not “uniquely immune from the risk of manipulation.” Acknowledging that there may be other ways to accomplish the same goal, the Court noted that such other methods are not constitutionally guaranteed.

The Court addressed the acceptability of notice and demand as a statutory approach. Simple notice and demand statutes set forth an acceptable timeline for the prosecution to notify the defense of its intention to submit an analyst’s findings and for the defense to demand the opportunity to cross-examine the analyst. The *Melendez-Diaz* opinion leaves unclear to what extent these state-promulgated procedural rules may stray from simple notice and demand models and remain in compliance with *Melendez-Diaz*.

Before the issuance of the *Melendez-Diaz* decision, many states were operating under simple notice and demand statutes. Some of these states opted to modify their notice and demand statutes to come more squarely in compliance with the guidance offered in *Melendez-Diaz*. One such change was to broaden the scope of cases that fell under the umbrella of notice and demand. States also added statutory language to firm up the timing of the obligations set forth in the notice and demand statutes—for example, if the state plans to use a report, it must provide notice of such intent 15 business days before the proceeding. The defendant has until 5 business days before the proceeding to object. States also either added language to state explicitly that in the event that the defendant objected to the admission of the evidence, the burden to subpoena the analyst rested with the prosecution; or they removed language that implied that the burden to subpoena fell on the defendant. A lack of statutory clarity about who will bear the burden to issue such a subpoena came to the Court in *Briscoe v. Virginia* (2010).

2.4.3 *Briscoe v. Virginia*

Four days after the Supreme Court issued its decision in *Melendez-Diaz*, the Supreme Court agreed to hear the *Briscoe* case. In 2008, when the Supreme Court of Virginia decided this case, the Commonwealth of Virginia had a statute that arguably placed the burden to

subpoena the witness on the defendant. Section 19.2-187.1 of the Virginia Code (amended by special session about 6 weeks after *Melendez-Diaz*) provided that the accused “shall have *the right to call* the person performing the analysis or examination involved in the chain of custody as a witness therein, and examine him in the same manner as if he has been called as an adverse witness” (emphasis added). In *Briscoe*, the state argued, among other things, that “[h]ad petitioners availed themselves of the right to demand the state to produce the analysts, and then called the analysts as adverse witnesses, the analysts would have testified under oath, been cross-examined, and had their demeanors observed by the factfinder” (Brief for Respondent, *Briscoe v. Virginia*, 2010).

Unlike *Melendez-Diaz*, *Briscoe* does not offer a lengthy written opinion from which to glean the reasoning that led to the Court’s decision to vacate and remand the case. However, the exchanges between the Justices and the Commonwealth in oral arguments provide some insight. Oral arguments suggested that the central question in *Briscoe* may have been resolved by the Court’s holding in *Melendez-Diaz*. Fourteen days after oral arguments, the Court vacated the holding of the lower court and remanded the case “for further proceedings not inconsistent with the opinion in *Melendez-Diaz v. Massachusetts*” (*Briscoe v. Virginia*, 559 U. S. ____ [2010]).

Although the Court did not find a need to limit or clarify *Melendez-Diaz*, such a case is likely to arise because of the questions left unanswered by *Melendez-Diaz* and its reaffirmation in *Briscoe*. For example, as Justice Sotomayor asked during oral arguments in *Briscoe* (Record, p. 5), if under a simple notice and demand statute, the defendant objects and the prosecution subpoenas the laboratory analyst, does the Confrontation Clause require the prosecution to put the analyst on the stand to affirm the findings under oath? Will the practice of interviewing analysts by videoconferencing meet the “live witness” burden of the Confrontation Clause? Finally, and perhaps most significantly, may a state use substitute expert testimony (i.e., a designated supervisor serving as a proxy for the actual analyst)?

Since *Melendez-Diaz*, state courts have been inconsistent in their treatment of substitute or “proxy” witnesses. In most states, the presence and cross-examination of a knowledgeable witness is enough to differentiate the case from *Melendez-Diaz*, where no such cross-examination occurred nor was a surrogate made available. For example, in *Pendergrass v. State* (2009, pp. 707–708), the Indiana Supreme Court concluded that calling a supervisor to testify to results, rather than the analyst who performed the test, was proper in that instance because the supervisor “who took the stand did have a direct part in the process by personally checking [the] test results. As such, she could testify as to the accuracy of the tests as well as standard operating procedure of the laboratory and whether [the analyst] diverged from these procedures. The court noted that *Melendez-Diaz* did not have the opportunity that *Pendergrass* had at trial to confront witnesses who were directly involved in the substantive analysis.” An appellate court in Georgia in *Carolina v. The State* (2010)

found that the trial court did not err in admitting testimony when “the report or data prepared by the non-testifying technician was not admitted into evidence and the expert who made the determination that the substance was contraband based on her interpretation of the data did testify at trial and was thus subject to cross-examination.”

However, other states have chosen to interpret the *Melendez-Diaz* mandate more broadly. A good example of this broader interpretation is found in *People v. Benitez* (2010). Upon review, the California Supreme Court transferred *Benitez* back to the appellate court with directions to vacate and reconsider the matter in light of *Melendez-Diaz*. Upon reconsideration, the appellate court held that under *Melendez-Diaz*, “there is no substitute for cross-examination of the creator of a scientific report.” Hence, the defense’s opportunity to cross-examine a witness who could provide testimony based only on the analyst’s notes failed to satisfy the defendant’s Sixth Amendment right to confrontation.

The implications of *Melendez-Diaz* will take time to be understood by the judicial system. While most states do not appear to have experienced extensive repercussions from *Melendez-Diaz* directly, the mixed decisions at the state level will result in a patchwork approach across the country making national attempts to improve processing more difficult.

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3. RESEARCH METHODS

The research design and methods used for this study were tailored to the specific needs of the research questions and the type of information being collected. We elected to employ a detailed, case study approach to enhance our ability to explore the different decision-making factors that influenced case processing at different stages. This approach was valuable because it allowed us to explore many dimensions of the while providing the flexibility to respond to unexpected challenges in the data collection.

Between January 2009 and March 2010, RTI project team members traveled to 10 jurisdictions across the United States to conduct data collection. The purpose of the site visits was to obtain the perspectives of stakeholders from law enforcement, forensic laboratories, and prosecution offices regarding the flow of controlled substances evidence through each stage of the criminal justice system. Specific items of interest included the procedures and criteria for submitting, analyzing, and processing controlled substances evidence.

The sections below describe the development of the interview guides, provide a general description of how the site visits were conducted, and summarize the procedures used to analyze the qualitative data gathered from each site. RTI's Institutional Review Board granted approval for this data collection.

Relevant to the findings and recommendations specific to legal rulings and their impact on drug evidence processing, it is important to note that during this project, many of these *Melendez-Diaz* court proceedings were occurring around the same time as our discussions with the site laboratories. In some instances, the *Melendez-Diaz* ruling occurred before our scheduled site visits. Thus, the impact of *Melendez-Diaz* was discussed during the 7 of the 10 site visits but was not addressed with respondents from the 3 initial sites.

3.1 Development of Interview Guides

RTI project team members worked with the project's expert consultants to develop three qualitative, open-ended instruments that were designed to collect information from law enforcement, forensic laboratory staff, and prosecutors on how controlled substances evidence was processed and used in their jurisdictions (see Appendixes B, C, and D). The law enforcement survey included questions that helped to gain a better understanding of how officers collect drug evidence and the criteria used for deciding what evidence should be submitted to the laboratory for analysis. For laboratory personnel, questions were designed to capture policies for analyzing evidence, as well as the critical factors that affect laboratory backlogs for drug cases. For prosecutors, the questions focused on the role that controlled substances evidence plays in the charging of suspects, pretrial plea agreements, and posttrial convictions.

3.2 Site Selection Process

RTI project staff was familiar with many of these laboratories through work on other projects and, in concert with expert consultants, was able to identify a representative sample of sites that would provide a wide variation of different laboratory arrangements within local and state systems. For example, selecting a state laboratory that served state and local agencies was one certain criterion for inclusion into the sample, as was selecting a state system with satellite laboratories throughout the state. Local laboratories were also sought for inclusion into the sample with attention to how they were situated within the hierarchy. In one local site, for example, the laboratory was under the auspices of the sheriff's office. At another site, the laboratory was situated within the medical examiner's office. Jurisdiction size was also a factor considered for site selection process to have both smaller and larger offices as well as rural and city locations. Differences in organization were one of the key characteristics that were considered in this selection process, but the team was also interested in variations by geography, procedures, and the differences in legal processes. External and internal experts were asked to comment on these differences and to make site-specific recommendations. Sites where an external consultant could help assist with the site visits was also part of the selection process. Once potential sites were identified, they were approved by NIJ.

RTI staff used expert consultants and internal resources to establish contact with each of the chosen sites. Typically, initial contacts were made with representatives from the forensic laboratory, which provided RTI staff with the names and contact information of their colleagues in the law enforcement agencies and prosecution offices. The site team leader worked with these individuals to schedule the site visit. Before the site visit, the site team leader would forward the survey questions to each scheduled respondent.

3.3 Site Visits and Administering the Interviews

Data collection consisted of 60 stakeholder interviews conducted with law enforcement and forensic science practitioners from across the U.S. The interviews followed a semistructured process, which used a script but allowed the stakeholder flexibility to introduce new ideas and expand on specific topics. The interview script covered a variety of topics and was detailed enough to cover in the 60 minute interview.

Some of the stakeholders we contacted were concerned that the information they provided would be reported in the media or another forum and thus be revealed to their supervisors and constituents. In response to these concerns, a series of informed consent procedures were implemented. We assured respondents that their comments would remain anonymous, even during dissemination of results. Finally, a draft report was provided to all respondents for review.

Each site visit lasted approximately 2 days; the typical site team consisted of two or three people, one of whom served as the lead interviewer while the other was the primary note taker. In some cases, RTI's consultants accompanied RTI staff on the site visits. The interviews often took place in the respondents' offices or in nearby conference rooms. Occasionally, multiple respondents were interviewed in small groups of two to five individuals. Respondents were told that their names, agencies and locales in which they worked would remain anonymous. Sixty respondents were interviewed across all sites, with a range from 3 respondents at one site to eleven interviews at two sites.

Site team members used the semistructured interviews as guides, and each interview lasted about 60 minutes. Depending on the site team's preference, notes were handwritten during the interview and transcribed into electronic files later or were typed into a laptop during the interview and were later edited and reviewed. Immediately after the interviews, we reviewed the interview notes to capture any comments that were made but not recorded. Site team members conferred on the draft notes before they were finalized.

3.4 Analyzing and Reporting the Findings

The analysis was developed using common standards of qualitative methods (Miles & Huberman, 1994). The interview notes were typed into a template designed to reflect the format of the interview and we combined all the notes into a summary set. The notes were read in full three times. During the first reading, the interviews were summarized. The second reading focused on identifying persistent themes throughout the responses, so that themes could be organized by agency type. We identified common emergent themes for barriers and promising practices if an item was mentioned by at least three stakeholders or if an item was mentioned by at least one stakeholder from each of the three different criminal justice entities. The third reading allowed for a comparison between the sites as well as an opportunity to address questions that were posed during the first and second readings. A constant comparative coding method was employed during this process (Glaser, 1965). The investigators reexamined, challenged, amended, and/or confirmed themes within the notes during a debriefing meeting. Finally, the findings were summarized by the type of agency in the findings section of this report.

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4. RESULTS

This section describes the results obtained through the studies conducted in 10 jurisdictions across the United States and presents the major themes identified. The results from each agency type are organized to follow the flow of evidence through criminal justice system: from law enforcement through the laboratory system to the prosecution.

4.1 Law Enforcement: Investigating and Processing Drug Evidence

Law enforcement respondents included supervisors and patrol staff, many of which were part of multi-agency drug task forces. All law enforcement respondents were asked to describe how they use evidence in drug investigations, how they use field testing for illegal substances, what procedures they follow for submitting evidence to forensic laboratories, how they track and ultimately destroy evidence, and what kind of working relationships they have with prosecution offices and laboratory staff.

4.1.1 *Collection and Use of Drug Evidence*

Law enforcement officers can collect drug evidence in many different ways. Patrol officers often discover illicit drugs during traffic stops or when making arrests for other crimes. Narcotics unit and drug task force members reported that their primary method of identifying and targeting drug offenders was the “buy-bust,” in which offenders are arrested after they have sold illegal substances. Naturally, one of the key pieces of evidence in controlled substances investigations is the drug evidence itself. According to law enforcement respondents at three sites, latent fingerprint evidence and touch DNA is increasingly collected for laboratory analysis in response to both prosecutors’ requests and jury members’ expectations that this evidence ought to be presented in court, even though interviewees acknowledged that latent prints were rarely recovered from packaging material. Other forms of evidence used to support drug arrests included drug paraphernalia, marijuana growing equipment, methamphetamine laboratory chemicals and equipment, audio from wiretaps or body wires, video surveillance footage, and photographs.

Across all the sites, law enforcement officers themselves were responsible for collecting the drug evidence from the crime scene. Evidence technicians within the law enforcement agency assisted with collecting latent prints or touch DNA from the drug packaging. Once the forensic evidence was collected, officers were responsible for weighing the evidence and packaging it for laboratory analysis. There was variation in how the drugs were submitted to the forensic laboratory. State police agencies and their associated task forces often had protocols in place for mailing drug evidence to the laboratories. Task force members reported mailing evidence to the laboratory either the same day or the day after the drugs were obtained. Certified or priority mail was at times used by the submitting law enforcement agency to send evidence to the laboratory. In other instances, the submitting

law enforcement agencies hand delivered the evidence either several times a week, weekly, monthly, or on an as-needed basis (depending on proximity to laboratory and the number of drug cases that the submitting agency had waiting to be submitted). Submitting evidence by mail seemed to reduce the time it took to get evidence to the laboratory.

4.1.2 Presumptive Field Tests

Once suspected drug evidence is located, presumptive field tests (e.g., color change type kit) are often conducted. Although only available for a limited number of drugs, of the 10 sites included in the study, law enforcement agencies in all 10 of the sites reported that their officers used field tests as part of the agency's standard operating procedures (SOPs). Yet, while all interviewed law enforcement respondents reported that they used field tests, there was some variation in which types of drugs were field tested and how frequently the field testing was conducted. For example, one site only tested heroin and cocaine while at another site, a respondent noted that, with the exception of psilocybin mushrooms, 99% of the evidence seized was field tested. Law enforcement respondents reported that they used field tests to obtain and justify search warrants, establish probable cause, and provide preliminary indications of whether the substance in question is legitimate, which is critical for them to make a subsequent arrest.

The Value of Nonforensic Evidence

Noting recent technological advances with audiovisual equipment and decreases in market costs for these products, law enforcement officers in one jurisdiction described how video surveillance, pictures, and audio from wires often convinced defendants to accept plea agreements early in the judicial process. Notably, during buy-busts operated by the drug task force, the officers tried both to maintain their techniques and to keep their confidential informants' identities safe. Consequently, officers were motivated to build cases that would be pled out to avoid trials that would expose their informant(s) and the nature of their operations.

An important advantage that these technologies give law enforcement officers and prosecutors is that they provide often indisputable evidence to defendants, suspects, and juries. Photographs can be obtained from digital video stills so that revealing details about the buy are concealed. Alternative methods, such as audio and video, can provide strong evidence for drug cases at a relatively low cost and therefore limit the need for other supporting evidence such as latent prints or even touch DNA. According to the respondents at this site, many defendants accepted plea agreements when they saw themselves in these photographs, rendering forensic analysis unnecessary.

Field test results are often used before the suspect was indicted to extend offers for negotiated pleas and are deemed as acceptable evidence for the grand jury process. This was not true at every site however. For example, the prosecutor's office in one site required that confirmatory laboratory results—and not field test results—be used for the grand jury process. As one Laboratory Manager affirmed, "most law enforcement officers with experience in drug cases know exactly what they are dealing with 99.9 percent of the time

and a chemical color test just confirms what they already know." The initial financial savings with the use of field tests can be significant (\$2 versus \$50 for laboratory test).

In addition to field testing, some jurisdictions have a dedicated Field Testing program that includes training and certification of law enforcement officers and often times is supervised by the laboratory. These types of Field Testing programs had been established in two of the sites.

The program allows specially trained Officers to conduct field tests on certain drugs (i.e., marijuana, cocaine powder, cocaine base, methamphetamine, and heroin). These programs can significantly increase the efficiency of processing drug cases not only for the laboratory and law enforcement, but also for the prosecutor's office. One site respondent stated that the prosecutor's office had agreed to charge cases based on the field testing results, to allow the court process to begin quickly and proceed without waiting for laboratory results. The practice of field testing has greatly improved the capacity for moving drug cases through the criminal justice system, particularly when the law enforcement department, laboratory, and prosecution are in agreement.

This program, however, would not work without the combined efforts of the officers, the crime laboratory, and the prosecutors. On average, the officers test over 9,000 controlled substance items of evidence per year since the program was expanded in 2003. However, field testing kits were not used consistently within single agencies or across law enforcement agencies within a single jurisdiction. In one site, agencies from the local sheriff and municipal police departments had a standard practice of using presumptive field testing; however, the state police agency (which represented the majority of cases submitted to the state forensic laboratory) did not use the field tests consistently. This was because state police officers either did not have enough field testing kits available for all cases (due to inadequate funding) or because the policy for using field test kits was not consistently applied across officers within the agency. Furthermore, the level of training in the use of field testing, including knowing the limitation of the tests, was highly variable among sites and law enforcement officers. For example, testing for white powder heroin may require at least two color field tests, but 'black tar' heroin is so dark it interferes with the reading of the field test results.

Additionally, while field test kits provided useful data for probable cause, filing charges or plea negotiation, ultimately, a laboratory-based test was necessary for a trial prosecution across all sites. Instrumental field test equipment was seen as having limited utility as such devices produce non-confirmed results still requiring traditional laboratory based testing, but are significantly more expensive to purchase, maintain and train personnel to use.

4.1.3 Procedures for Processing and Submitting Evidence to Crime Laboratories

After an arrest, officers are required to package the evidence, fill out the paperwork, and submit the evidence to the laboratory. Across the sites, there was variation both in (1) the prioritization of drug cases submitted to the laboratory and (2) the time lapse between the arrest and the date of submission to the laboratory.

Regarding the prioritization of cases, law enforcement agencies at several sites reported that the prosecutor notified them by mail when a case should be submitted for analysis. In one instance, the process called for the office of the district attorney (DA) to send a form letter to the law enforcement agency requesting that the evidence be submitted to the laboratory after an indictment was handed down from the grand jury. At this particular site, the irony was that the state police (the largest submitting agency to the state crime laboratory) submitted all drug cases for analysis regardless of the DA's office review. Overall, law enforcement agencies in four of the sites submitted all drug evidence seized as part of an arrest to the laboratory.

Time from collection to laboratory submission varied within a jurisdiction as a function of specific agency protocols or a lack thereof. For example, in one jurisdiction, drug task force officers were required to submit evidence to laboratories within a week of the arrest. However, they noted that their colleagues from local sheriff's offices and police departments commonly submitted forensic evidence up to several months post-arrest.

There were several reasons for the submission delays. The distance to the laboratory played a significant role for some sites where there were procedures mandating hand-delivered evidence. This is particularly an issue when local sheriff's offices and police departments send all of their evidence to one centralized state laboratory or to a regional laboratory that is a considerable distance away. In these cases, it is more cost-effective for local law enforcement agencies to let evidence stockpile. One potential solution for some of these jurisdictions would be to allow the evidence to be submitted through the postal service or through a courier service such as FedEx. Across many jurisdictions RTI visited, stockpiling evidence was a long-standing common practice.

Respondents also attributed lags in evidence submission to a lackadaisical attitude among officers and within some agencies, toward sending evidence to laboratories in a timely manner. Respondents suspected that this was due, in part, to law enforcement officers believing that they had satisfied their due diligence by making the arrest itself. Respondents believed that officer training was one forum for improved emphasis on the importance of submitting evidence and the consequences of delaying submission (e.g., lost evidence, problems with the chain of custody, and other types of inefficiencies that impede the system).

A potential benefit to a time lag in evidence submission is that the forensic laboratories do not waste time analyzing evidence for cases that are ultimately dismissed or pled out. This benefit can create a problem later when the cases are submitted as “rush” requests and laboratory staff must provide adequate documentation in time for hearings and trials. Several jurisdictions had the tendency for all cases to be indicated as “rush” cases as the investigators had become accustomed to submitting all cases as rushed jobs even if there was no pending court date.

4.1.4 Evidence Tracking Systems

The selected sites reported a wide range of evidence tracking capabilities once the evidence was submitted to the laboratory. At one site, the entire process—from arrest to trial—was a manual paper operation. Law enforcement officers sent letters to the laboratory requesting the analysis of evidence, although these letters did not often accompany the evidence itself. At this site, law enforcement officers described frustrating aspects of how the system operated, including lost requests, 6 to 7 month delays for laboratory reports, and an inability to speak with laboratory staff on a timely basis.

Respondents described integrated, automated evidence tracking systems used at three sites. These automated systems often included mechanisms in which law enforcement users entered the number of submissions into the Web-based system, which would then provide a unique barcode form for each exhibit. Benefits associated with these systems included significant time savings in terms of required paperwork and a decrease in submission errors. In these sites, the systems were situated within the laboratory and were implemented with the capability for law enforcement and prosecutors to have restricted access to the system so that they could monitor a case’s progress through the laboratory. Section 4.2.2 describes these systems in more detail.

4.1.5 Evidence Destruction and Storage

When respondents were asked to describe their evidence destruction policies, most indicated a court order or a prosecutor’s directive must be issued by the courts in order for law enforcement agents to destroy evidence associated with a case. The process of identifying potential cases for destruction, generating the written request for the court order, receiving the court orders, following up when a reply was not received and documenting evidence destruction was a time-consuming and frustrating process for law enforcement agencies. At one site, none of the evidence stored from federal cases could be destroyed, and thus evidence that took up a lot of space (i.e., marijuana growing equipment) was expected to be stored in perpetuity. Many other sites noted that as a general rule, DNA evidence was not destroyed. For marijuana cases in particular, some sites had adopted the federal laboratory practice of taking a photograph of all seized evidence,

retaining a sample for storage, and then destroying the remainder of the seizure. This was the exception rather than the rule, however.

Concerns among law enforcement respondents about evidence storage space and the difficulties associated with obtaining approval from the courts to destroy evidence were one of the most pressing issues reported across the sites. In most cases, evidence is stored in a secure location within the law enforcement agency. In light of concerns about destroying any DNA evidence and the sheer volume of all cases that get processed in a given year, evidence destruction can be a contentious issue and a substantial burden for law enforcement agencies.

4.1.6 Law Enforcement Communication and Coordination

Law enforcement respondents were asked a series of questions related to the level and nature of communication and coordination with prosecutors and forensic laboratory staff. It was clear that interpersonal relationships between the parties affected the quality of communication and working relationships. For instance, two officers portrayed the local prosecutor as being particularly committed to prosecuting drug cases, being easy to work with, and available for consultation. In some instances, these were prosecutors who were specially appointed to local or regional drug task forces. Some law enforcement respondents reported working closely with prosecutors to identify the key pieces of evidence needed to build cases that were strong enough to go to trial but would likely result in pleas.

Symptoms of poor communication between law enforcement and prosecutors included having overflowing evidence rooms with drug evidence from cases with unknown dispositions, confusion about retention policies and retention of the minimum amount of evidence necessary for prosecution, and complete reliance on law enforcement to inform laboratories when cases had been pled out.

Across some sites, law enforcement and laboratory staff had limited communication for practical and organizational reasons, including (1) laboratory staff rarely had follow-up questions for the officers; (2) either the officers knew the status of the case or the prosecutors had taken over the case at the point of submission; and (3) infrequent instances in which laboratory staff had to retrain law enforcement on submission protocols or other related issues. One law enforcement officer noted a “cultural difference” between law enforcement and laboratory staff. Personnel from these agencies often have different backgrounds and areas of expertise. As a result, each of the agencies had a difficult time communicating with one another, seeing the perspective of the other agency, and is unaware of what the other does on a day-to-day basis. One law enforcement respondent noted that the prosecutors and laboratory staff might need to be educated regarding the risks associated with their jobs and what a delay in laboratory results might mean for their investigative work.

At one site, the evidence technicians within the police department were responsible for obtaining the information needed for each case from arresting officers and then communicating that information to the laboratory staff. Law enforcement staff at this site noted that less than 1% of the cases submitted to the laboratory required any additional follow-up from their department.

At another site, there was a dedicated unit of sworn police department staff in the laboratory (two officers) who continuously review the laboratory backlog to verify that the current cases are still viable and have not been adjudicated. This allows the laboratory staff to concentrate their resources on the most appropriate cases. Moreover, the prosecutor's office at this site regularly sends the laboratory electronic files that show the current status of each case. The officers are able to cross reference the prosecutor's file to the laboratory backlog as another way of eliminating an unnecessary backlog.

4.2 Forensic Laboratories: Procedures for Receiving and Analyzing Drug Evidence

Laboratory staff were asked about their case acceptance policies; their procedures for receiving, tracking, analyzing, and reporting evidence; the extent of their backlogged controlled substances caseload and how they managed it; the extent to which they were called to testify in court for these types of cases; and the communications and quality of their relationships with the law enforcement and prosecution officers they serve.

4.2.1 Case Acceptance Policies

There were several established case acceptance policies used to standardize the type of evidence submitted and address some of the problems associated with evidence backlogs. For example, two state laboratory respondents noted that they did not accept "found" substances—or cases that did not have a suspect connected to them—and all laboratory respondents observed that they would refuse to analyze a submission with packaging or documentation issues. Some acceptance policies restricted the laboratory's obligation to test a submission if it had been previously tested by another laboratory. One laboratory noted that it only analyzed submissions for cases with active court dates and that it required prosecutorial approval for cases before submission (there was a place for the prosecutor's signature on the laboratory's submission form). The interviewed laboratory staff reported that the laboratory submission forms were often signed by prosecutors "in bulk" and that agencies develop fictitious court dates to circumvent the system.

Respondents in five jurisdictions described several policies that had been implemented to alleviate the number of lower-level cases in general and marijuana cases in particular. Typically, these protocols gave laboratory staff the discretion to prioritize evidence according to a specified set of rules. Many of these policies (for an example of such a policy, see *Example of a Case Acceptance Policy* on page 4-2) prioritized the analysis of exhibits

that would yield the highest charge(s). Another state agency with a history of backlogged drug cases described informally discouraging the analysis of misdemeanor amounts of marijuana and paraphernalia.

Other policies restricted the number of analyses required for a large seizure; specifically, if one submission contained multiple exhibits, one or a sample of the specimens would be tested. Restricting the analyses of residues or paraphernalia (e.g., a crack pipe) was another strategy respondents described; some respondents indicated that the laboratory would run the analysis only if requested by the prosecutor to do so.

Within the jurisdictions that have implemented these types of policies, the impact on the controlled substances case backlogs has been profound. In two jurisdictions in this study, backlogs numbering in the thousands have become more manageable and have allowed forensic staff to stay on top of their current caseloads. One state regional laboratory, implemented backlog reduction efforts in mid-2006; since that time, the number of pending cases across all laboratory disciplines decreased by 50%. For drug chemistry, specifically, pending requests fell from more than 9,000 in June 2006 to approximately 850 by October 2009. The turnaround time for drug chemistry cases was decreased from 69 days to 14 days during this same period.

In another statewide jurisdiction, the backlog had reached a critical mass in 2004 with close to 5,000 backlogged cases (Figure 4-1). Consequently, a case acceptance policy was implemented with the goal to reduce the number of requests primarily by analyzing the substances with the highest criminal penalties (see *An Example of a Case Acceptance Protocol on page 4-10*). At the same time, the laboratory outsourced all backlogged cases allowing the analysts to concentrate on current incoming cases. Since implementing the case acceptance policy, the backlog has been eliminated, the number of cases coming into the laboratory and subsequently analyzed has dropped (Figure 4-2), and the average turnaround time for cases dropped from over 150 days in 2003 to a little over 20 days in 2009 (Figure 4-3).

Figure 4-1. Drug Cases In One Selected Jurisdiction, 2000–2009

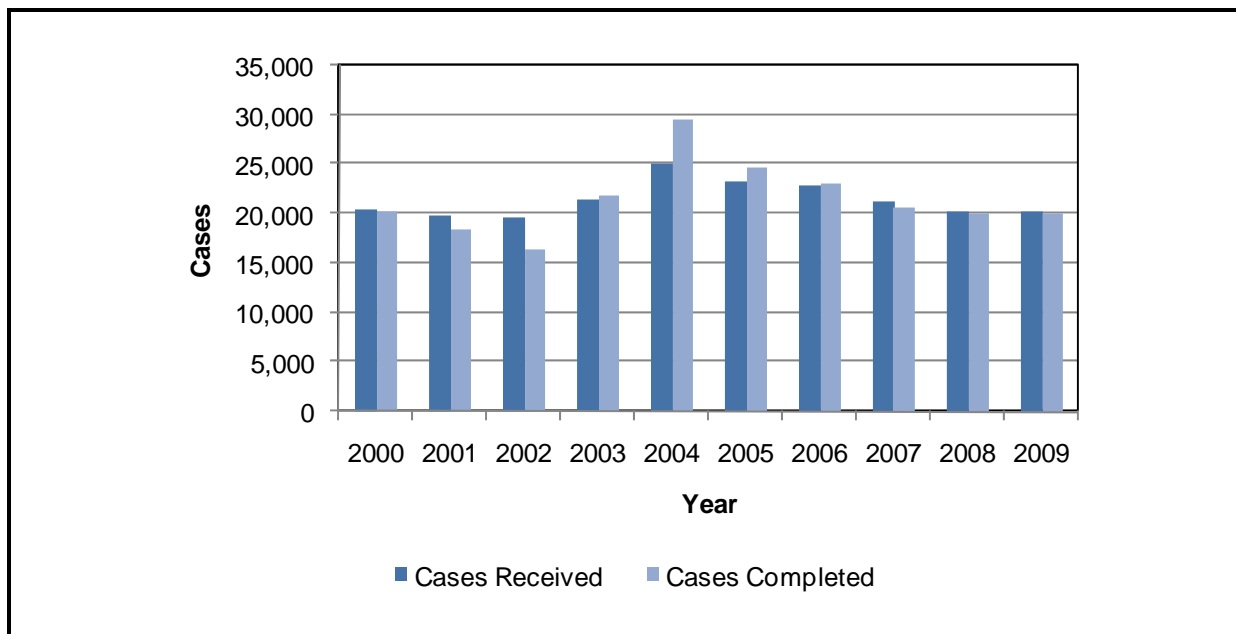


Figure 4-2. Drug Cases Completed In One Selected Jurisdiction, 2000–2009

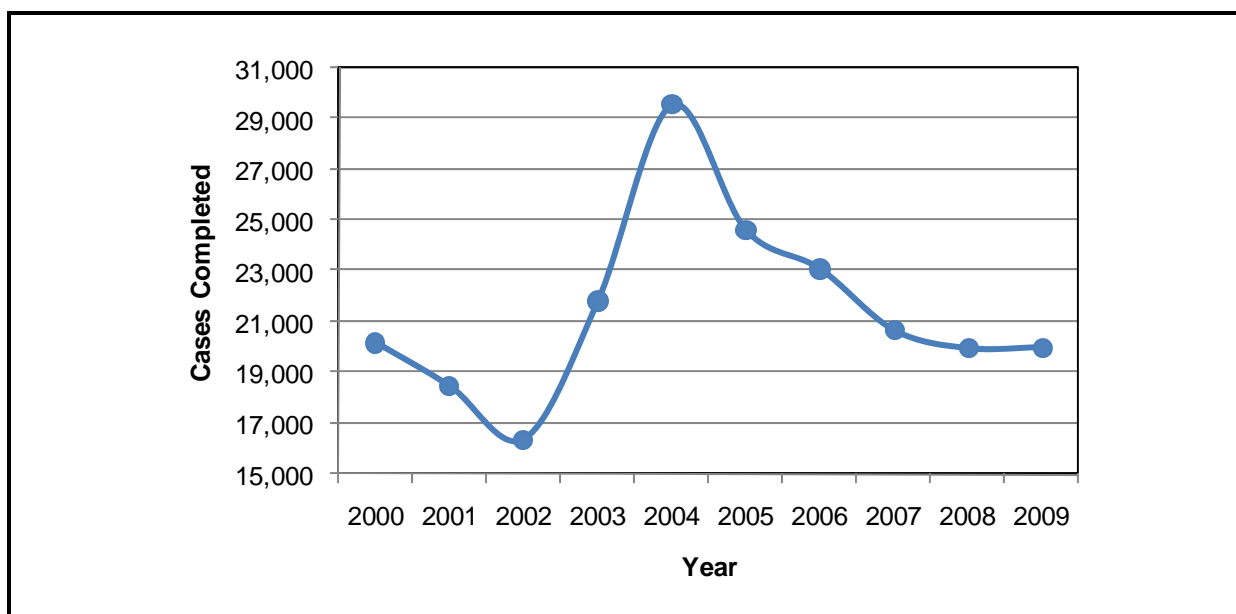
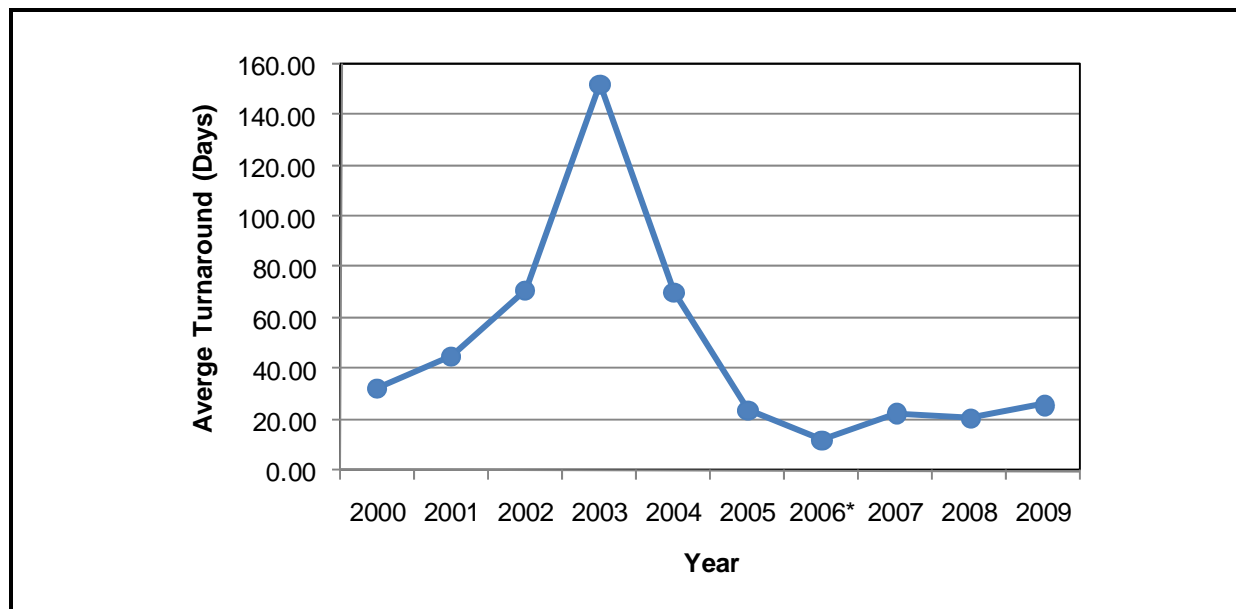


Figure 4-3. Average Drug Case Turnaround In One Selected Jurisdiction, 2000–2009



Although limits on the number of exhibits tested and policies of testing the highest-charge exhibits demonstrably reduced backlogs and improved turnaround times in the laboratories, prosecutors said that these policies occasionally create problems for them—most often when an exhibit that met all the laboratory criteria was tested but ended up being excluded from evidence or otherwise not useful to the charge. The general impression across the sites was that, the better and sooner the prosecution and investigators communicated their needs to the laboratory, the greater the likelihood that the best evidence would be analyzed in a timely fashion.

In practice, implementing these types of policies require that the laboratories negotiate with associated prosecutors. Sites reported that they used a range of ways to implement these policies. In one jurisdiction, the laboratory provided its prosecutors with annual discretion to approve of their cases being processed in this manner. In another site, the laboratory staff contacted the prosecutor on a case-by-case basis for prioritized and expedited submissions to determine which items within a submission had to be analyzed in order for the prosecutor to build a case. At another site, the lab reported that although they had a case acceptance policy for quite some time, it had not been approved by the prosecutor's office.

Example of a Case Acceptance Policy

General Case Intake Considerations

1. Syringes will not be examined unless all of the following are true:
 - a. visible residue is present
 - b. they are packaged correctly (safely) at receipt
 - c. request for examination is accompanied by a written and signed request from the prosecutor indicating sufficient justification for their examination
2. Currency will not be examined unless visible residue is present.
3. Optical isomers of drugs (d,l-propoxyphene, d,l-methorphan, etc.) will not be determined unless request for examination is accompanied by a written and signed request from the prosecutor indicating sufficient justification for their examination.
4. Quantitations of drugs in *liquid* samples will not be performed.
5. If an assumption is made about an entire population, a statistical sampling plan must be followed (100% confidence, or hypergeometric sampling plan).

Guidelines for Prioritized Exhibits

1. Exhibit representing highest penalty will be tested.
 - a. Highest schedule controlled substances (e.g., cocaine over marijuana)
 - b. Among multiple substances of same schedule, higher weight (or count for tablets) (e.g., 2.0 g of cocaine over 450 mg, 100 tablets over 3 tablets)
2. May only be used when authorized (yearly) by prosecutor of county.
3. May not be used on cases known to be involved in Federal prosecution.
4. May not be used on clandestine laboratory cases.
5. Powders/Solids will be given priority over everything else.
6. If selected exhibit is found to not contain a controlled substance, another exhibit must be selected for testing (process repeated until a controlled substance is identified, or all exhibits have been tested).
7. If one exhibit contains a group of specimens (e.g., 20 knotted plastic bags of white powder), one specimen may be tested and the remaining specimens reported as not examined (within the guidelines of #6 above).

Guidelines for Unprioritized Exhibits

1. All exhibits will be tested up to a maximum of five exhibits.
2. Powders/Solids will be given priority over everything else.
3. All other evidence is given priority over residues.
4. Residues do not need to be examined if measurable quantities of associated drugs are also submitted (e.g., marijuana pipe need not be examined if weighable marijuana exhibit is also submitted), even if there are fewer than five exhibits in the case.
5. A maximum of one controlled substance residue need be examined in each case (e.g., if a crack pipe, marijuana pipe, and digital scale are all submitted, only one need be examined—the one with highest charge), even if there are fewer than five exhibits in the case.
6. In exhibits with multiple pharmaceutical preparations (e.g., oxycodone, hydrocodone, alprazolam tablets all together), only the highest penalty tablet need be examined, even if there are fewer than five exhibits in case.
7. For multiple exhibits of marijuana with a gross weight less than 8 ounces (penalty threshold), only one exhibit need be tested, even if there are fewer than five exhibits in the case.

4.2.2 Receiving, Tracking, Analyzing, and Reporting Evidence

There was wide variation among the selected sites in the average turnaround time for processing a given controlled substances case, ranging from 12 days to 6 months or greater (a turnaround time which was reported by two state laboratories). Most of the laboratories reported turnaround times between 20 and 45 days. Several factors account for this variation in turnaround times for laboratories, starting with the processes by which the drug cases are handled.

In terms of receiving, tracking, analyzing, and reporting evidence, the selected sites ranged from manual paper operations to highly automated systems that allowed law enforcement and prosecuting attorneys access to the status of each case submission. Non-automated laboratory sites experienced inefficiencies caused by staff spending considerable time logging evidence and shepherding it through the system. These laboratories have limited knowledge of their existing backlog and therefore are not being able to forecast their work on a daily or weekly basis. The lack of data in such laboratories also restricts the ability for staff to advocate for additional staffing and other resources. Moreover, in these jurisdictions, laboratory staff spent considerable time on the telephone with law enforcement and prosecutors apprising them of the current status of the submission. Additional time is spent when interested parties do not have the laboratory case identification number and the laboratory staff is required to look up the case by a suspect's name. This leads to mistakes in identity and causes laboratory staff to spend more time away from conducting analyses.

One approach that has been incorporated into several jurisdictions is the creation of an Evidence Liaison position, which can be located within law enforcement (Police Liaison) or within the laboratory. For law enforcement, the position can be a dedicated sworn officer who can work on-site at the law enforcement agency and/or the in the laboratory. On site stated that their Evidence Liaisons "continuously review the backlog and verify that the cases present are viable and have not been adjudicated, this allows the laboratory to concentrate their resources on the appropriate cases."

In a few jurisdictions, the laboratory system had either recently implemented or were about to implement an automated submission system. The automated submission systems—typically commercially available laboratory information management systems (LIMS)—greatly enhanced the ability of prosecutors and law enforcement agencies to monitor cases' progress through the system. Furthermore, collaboration with the Prosecutor's office and the laboratory can occur through electronic files which provide information on the current status of cases. For example, a new evidence tracking program funded by NIJ, the Forensic Information Data Exchange (FIDEX), is a Web-based technology tool which can provide an electronic platform that enables NIEM-conformant exchanges of forensic information among criminal justice stakeholders, including law enforcement, crime laboratories and the courts.

FIDEX is currently being piloted in several jurisdictions (<http://www.nfstc.org/programs/fidex/>).

Key gains associated with the automated systems across three sites addressed many of the problems previously identified with a manual system: reduction in time spent by laboratory staff to log evidence, decreased entry errors, and less staff time on the telephone confirming the receipt of exhibits and/or apprising prosecutors of the statuses of particular cases. Automated systems provided enhanced security and allowed laboratory administrators real-time access to backlog statistics.

State laboratory systems that had recently implemented automated systems often noted that, although the larger law enforcement agencies embraced the automated system, many of the smaller law enforcement agencies continued to use the paper forms resulting in inefficiencies and a hybrid intake system for the laboratory. One state laboratory respondents noted that although the online system had been in place for nearly a year, only 10% of the submitting agencies it serves use it. It should also be emphasized that implementation of computerized systems often resulted in unexpected difficulties. This applied to commercial off the shelf products, commercial off the shelf products with customization, and purely customized systems. One key drawback associated with these systems is the limited technical assistance from commercial vendors once the system was established. These issues seemed particularly salient for one jurisdiction in which system-level patches that were pushed onto the network created glitches in archived laboratory reports. While on the whole, all laboratories felt the systems were helpful there were aspects that were unsatisfactory. It appeared that the facilities that had a better fundamental system (better document handling and management in a manual system) had more successful implementations of computer systems.

4.2.3 Testifying in Court

There was substantial variation in the responses regarding how much time laboratory analysts were expected to testify in court. Respondents from local laboratories and in three state laboratory systems reported that they did not spend a significant amount of time testifying. This was partly because the vast majority of cases either pled out or otherwise settled without a trial. Across three state laboratory systems, however, respondents reported that court testimony took up a significant portion of time, partly because of the geographic distance separating the laboratories from the jurisdictions they served. At one municipal laboratory, staff indicated that they only needed thirty minutes' notice to appear in court because their office was located across the street from the courthouse. However, in many sites, the geographic distance between the laboratory and court room required substantially more time. Video testimony might be one way for laboratory staff to testify without having to drive several hours to the courthouse.

Travel time aside, respondents observed that their presence in court was often part of a “game” between the prosecuting and defense attorneys: plea deals are often made when laboratory staff arrive at court. One state laboratory respondent and law enforcement respondents noted that, in some instances (specifically personal possession marijuana cases), officers can testify for misdemeanor marijuana cases based on presumptive testing.

4.2.3.1 Perceived Impact of *Melendez-Diaz v. Massachusetts*

The Supreme Court ruling in *Melendez-Diaz v. Massachusetts* and its later upholding of *Briscoe v. Virginia* determined that criminal defendants are entitled to require the state to subpoena laboratory analysts to be available for cross examination if the state intends to submit the findings of the analyst as evidence at trial. The Court based its rulings on the Sixth Amendment, namely the Confrontation Clause. Dissenting justices and some prosecutorial and forensic science leaders expressed concern that *Melendez-Diaz* would cause a drastic increase in the number of analysts subpoenaed and would result in increased backlogs and impaired prosecutorial efficiency. We therefore included some questions about the impact of *Melendez-Diaz* when speaking with stakeholders from prosecutorial offices and forensic laboratories.

In particular, respondents were asked how they expected *Melendez-Diaz* to affect their court testimony burden. Most said that they did not expect a dramatic impact, but one jurisdiction reported that the decision has substantially increased the number of subpoenas served to their laboratory analysts.

As predicted by the Court in both the majority opinion and the dissent, the ruling appears to be causing less disruption in the states where analysts are already obligated to testify. In our discussions with stakeholders, we observed that sites in such states—those whose standard practice was to have analysts available to testify—reported the least amount of impact of the decision. Conversely, the one site that reported significant increases in subpoenas issued for laboratory personnel testimony was in a state that had to change its laws and practices needed to comply with *Melendez-Diaz*. Still other sites reported little to no impact from the decision despite a change in their state laws or court rules. Thus, the status of the law or current practices do not appear to be the only determining factors of the magnitude of the decision’s impact. Some factors that potentially could account for the ease or difficulty of the transition into compliance with *Melendez-Diaz* are discussed below.

The frequency and degree to which facts are stipulated to by counsel in controlled substance cases is one topic that was raised repeatedly in our discussions with stakeholders. In locales where defense attorneys routinely stipulate to the identification of the drug material, the incidence of analysts needing to testify is minimal. Consequently, the *Melendez-Diaz* holding does not have a particularly strong impact. One site reported that the type of drugs that

were most commonly at issue in their controlled substance cases—such as marijuana and heroin—did not normally result in analysts’ testifying.

Culture also potentially plays a role in the perception of burden. The nature of the relationship between prosecutors and defense counsel is adversarial by design. However, there is a wide degree of variability as to the degree of collaboration, transparency, and professional courtesy that exists between the two parties. While all defense attorneys are under a legal duty to advocate for their clients, in the state that reported a significant increase in analyst subpoenas after *Melendez-Diaz*, the relationship between some of the defense attorneys and prosecutors may have been unusually antagonistic. It may also be true that this specific defense bar was particularly aware of the strategic implications of the Court’s decision.

Proxy Witnesses

In the context of these discussions, many respondents brought up how they handled cases that went to trial after the resignation, move, retirement, or death of an analyst. In such situations, respondents either had the original analyst’s supervisor testify instead or had another analyst reaffirm the evidence.

Cost and timing may also play a role in the perception of burden. For example, one cause for the variance among the sites could be the use of video testimony. In areas where laboratory analysts routinely testify via videoconferencing, the travel and time burden of needing to testify is greatly reduced. Even when laboratory analysts are subpoenaed at a greater rate, the increase may not be perceived as a cause for alarm or as an undue burden on resources because videoconferencing is efficient in cost and time. Similarly, in those areas where the laboratory is located within very close proximity to the courthouse, respondents reported that testifying was not particularly onerous. Other comments led us to speculate that laws requiring more advance notice of a subpoena also lessen the burden of testifying. It is likely, for example, that analysts who have 2–4 weeks’ notice of their court appearances are able to plan around the travel and adjust their workloads accordingly. This could minimize any negative consequences related to testifying.

Given the dynamic nature of the criminal justice system, we also recognize that the impacts of *Melendez-Diaz* may not yet be fully realized. Therefore, respondents who reported not currently perceiving any negative effects from the decision may begin to experience problems in the future. Inversely, where there was a significant increase in burden on analysts, stakeholders may discover ways to implement strategies to reduce the strain on the system in an effort to improve overall laboratory and prosecutorial efficiency.

One recommendation that comes out of our discussions with sites about *Melendez-Diaz* is that sites should consider examining the factors that affect the amount of burden created by the testifying of analysts and identify those factors that they can change. Perhaps even

small adjustments could decrease any potential impact on laboratory backlogs and workload.

We would also like to highlight some pressing questions that arose as a result of the *Melendez-Diaz* decision and the subsequent upholding of *Briscoe*. A few that are particularly relevant to our discussion here are as follows:

- Will video conferencing prove to be a cost effective approach? Will it survive Confrontation Clause and other constitutionally based challenges and emerge as a viable strategy for other states to employ?
- How will the issue of proxy witnesses ultimately be resolved by the courts? In cases in which evidence cannot be reanalyzed and the original analyst is permanently unavailable, will courts accept peers or supervisors as sufficient witnesses?
- As defensive bars around the country become savvier about the strategic usefulness of the *Melendez-Diaz* holding, will subpoenas of analysts increase? If so, will prosecutors develop mechanisms for decreasing the impact of this activity to a point that it loses some of its perceived strategic advantage?

4.2.4 Managing/Eliminating Backlogs and Finding Case Processing Efficiencies

Several factors contributed to significant backlogs in many of the jurisdictions, including: (1) the volume of controlled substances cases, (2) poor communication between laboratories and law enforcement and/or prosecuting attorneys about the status of cases resulting in unnecessary laboratory testing or needless travel to court; (3) lack of staff and resources to complete the work; (4) the intense amount of resources and staffing necessary to process clandestine methamphetamine laboratories; (5) the exponential effect of backlogged cases, and (6) the “CSI effect.”

The first and second issues have been addressed earlier in this report. However, regarding the second issue, poor communication regarding case status, it is notable that in five out of the ten sites, laboratory staff reported that they regularly compare their active drug cases against court docket information using on-line resources (i.e., court-based systems or LexisNexis). This process enabled the laboratories to check on case outcomes and to determine if the case was still open and required confirmatory testing (dismissals, guilty pleas).

With respect to staffing, two state laboratory systems observed that the salaries for laboratory analysts and technicians are not competitive with private industry and that public laboratories merely serve as a training ground for analysts before they move to more lucrative private sector positions. Notably, in one of these states, respondents attributed staff retention at the laboratory to the economic downturn, because private sector employment opportunities were scarcer. One laboratory system noted that having more

laboratory technicians to assist the analysts would be beneficial as well, but the starting salary for these positions does not attract many applicants (less than \$20,000/year).

Regarding resources, one jurisdiction noted that the cascade of federal funding that supported many laboratories' purchases of new equipment 10 years ago has dried up. As a result, this laboratory respondent indicated that the outdated equipment purchased with this money needs to be replaced as currently it is often out of service leaving the laboratory in a holding pattern for weeks at a time. Delays and already large backlogs will continue to increase if this equipment is not replaced soon. Given the economic conditions at the state and federal level this funding mechanism for laboratories may not be replaced in the near future. More generally, some respondents expressed concerns about the uncertainty of how such programs as the Coverdell Forensic Science Improvement Grants Program will function in the future. These programs were seen as vital to the continued improvement of laboratory capacity and capabilities; however, there was some frustration at the perceived tendency of Coverdell funds to be used within the State block grant arrangement for purposes other than the laboratory. It is unclear what the mechanisms were for grant funding that led to this perception in these jurisdictions.

Laboratory respondents noted that processing evidence from clandestine methamphetamine laboratories requires extensive resources in terms of staffing and time. One analyst approximated that it takes twice as long to process a methamphetamine laboratory case as it does cases for other substances because of the number of exhibits and the different types of chemicals that have to be processed. Moreover, law enforcement officers have to be educated on how to submit this type of evidence so that the highest quality evidence is submitted to the laboratory for analysis. In one jurisdiction, the submitting agency is the laboratory itself: the laboratory has a team of specialized forensic analysts who travel to the laboratory sites and collect their own evidence for processing. Within this site, although efficiencies have been gained by dividing the state into territories and expanding the pool of analysts, methamphetamine laboratories create a substantial burden on staff time.

Given these burdens, it was notable that all jurisdictions reported appreciable decreases in the number of clandestine methamphetamine laboratories. Respondents attributed these decreases to the effectiveness of states' control of certain over-the-counter cough and cold medicines. The introduction of purer Mexican methamphetamine was also indicated as it allowed for former methamphetamine manufacturers to purchase methamphetamine wholesale less expensively, cut it for a retail product and thus make more money with less risk.

Because of popular television shows such as *CSI: Crime Scene Investigation*, in which audiences see investigators submitting forensic evidence for all cases and receiving nearly instantaneous scientific reporting, several laboratory respondents described increasingly

receiving latent print analysis requests with controlled substances evidence. These requests reflect the perception—often referred to as the “CSI effect”—that juries expect to see such evidence if the case goes to trial.

In practice, this has increased the burden on laboratory staff, and for drug cases, many respondents felt that such evidence did not necessarily strengthen a case. This is partly because this evidence is not always feasibly obtained in controlled substances cases. Specifically, evidence often changes hands several times during the chain of custody, rendering the prints unusable. Moreover, in arid climates such as those in the western part of the United States, latent prints are nearly impossible to obtain as they evaporate. Across the three sites that mentioned this as an issue, there was general agreement that the judiciary, juries, prosecutors, and law enforcement need to be educated that this evidence is often unnecessary to build a case and that it is often not feasible for laboratory staff to fulfill these requests.

Respondents from sites that were able to reduce or eliminate their controlled substances case backlogs described how this was accomplished and how they have been able to stay on top of their caseload since. Solutions included:

- reducing the number of exhibits that had to be analyzed (e.g., if there were nine baggies of white powder, only three would be tested) and only analyzing the substances that would incur the highest charge;
- hiring additional staff;
- providing overtime;
- prioritizing cases that came from local agencies because state cases were often conspiracy cases that required increased time to build;
- dedicating staff to concentrate on backlogged cases only; and
- outsourcing a portion or all of the backlogged controlled substances cases.

The funding required to support some of these solutions came from seizures or forfeitures or from funds authorized by the state legislatures. In the case of the jurisdiction that outsourced its controlled substances cases, the laboratory agreed to pay all associated witness fees (which would have come from the prosecutor’s budget otherwise).

However, it should be noted that some of these solutions are dependent on other parts of the criminal justice system or are restricted by some other reason. For example, reducing the number of exhibits to be analyzed must be approved by the prosecuting attorney. Thus, efforts towards improvements in a particular laboratory system are often constrained by statutory demands, resource limitations, and/or are hindered by other parts of the criminal justice system that do not make concomitant adjustments, adaptations, or improvements.

4.2.5 Interagency Communication and Coordination

Many laboratory respondents described poor communications with the prosecutor's office. The major impact is laboratories shouldering artificial backlogs. As one respondent noted, although the laboratory currently has a backlog of 3,400 controlled substances cases, it is likely that only 1,500 of them represent "true" cases that ought to be analyzed. This leaves the majority of the cases in the backlog not needing analysis because the cases have been pled out and the laboratory staff not notified of these developments.

Indicators of communication problems between laboratory staff and their law enforcement and prosecutor counterparts included laboratory staff describing how prosecutors wanted everything submitted to the laboratory for a case regardless of set policies (including misdemeanor cases), and comments from law enforcement and prosecution questioning the logic of how the laboratory is processing samples. While uniformly all respondents indicated they were very happy with their laboratories and believed that they could call the laboratory staff to expedite a case if needed, many of these respondents believed that the current staffing levels at their respective laboratories were inadequate.

In light of these artificial backlogs and the pressure to process backlogged cases, laboratory respondents described time-intensive solutions to move some of the cases from their dockets. Specifically, at one site, laboratory staff spent a substantial amount of time on LexisNexis or visiting the clerk of courts Web sites to determine whether particular cases are still on the active docket or have been pled out. One jurisdiction receives a data file that lists all of the open cases within the jurisdiction, which laboratory staff must match manually to their active submissions to determine the status of these cases.

At best, these solutions are inefficient work-arounds in systems that are in need of integrated information sharing and automated data management systems. Interestingly, these strategies often were viewed negatively by prosecutors. Several jurisdictions indicated problems with the laboratory rejecting a case for testing based on the case no longer being active when the prosecution had dropped charges in the process of combining or refileing charges for other procedural reasons. This then resulted in the case evidence having to be resubmitted to the laboratory and significant time delays. Again, this highlights the essential nature of effective communication between all components.

4.3 Prosecution: Use of Forensic Evidence in Charging by Prosecutors.

Prosecutors interviewed at the selected sites often represented states' attorneys who were assigned to a particular county and site-specific district attorneys. Critical pieces of information obtained from these respondents included how they prioritized their cases and made charging decisions (and the role that controlled substances evidence played in these decisions), what components were necessary to pursue pretrial plea agreements in cases

involving controlled substances, how drug analysis results are used in trials, what type of cases drop out of the court process after controlled substances analyses have been completed, and how communications work between prosecutor's offices, forensic laboratories, and submitting law enforcement agencies. Prosecutor respondents also provided insights regarding improvements to the system processes.

4.3.1 Case Prioritization and Charging Decisions

The prosecutors described many ways that they prioritize cases. Broadly, many described prioritizing felony charges in general, habitual felons, trafficking cases, clandestine methamphetamine laboratories due to the environmental and social risks involved, and cases that were linked to drug "kingpins" or someone in a higher organized crime family. Budget constraints in some selected jurisdictions, coupled with a changing cultural attitude about drug offenders, resulted in prosecutors deferring many of the drug offender cases to drug courts or offering pleas to lesser charges.

Across most jurisdictions, marijuana cases were not prioritized, and in some jurisdictions not prosecuted at all unless felony amounts were seized. In many jurisdictions, misdemeanor marijuana cases were relegated to lower courts, such as a Magistrate Court. Although these cases might seem like they streamline the court dockets, they require more resources because of their volume, the time it takes to process the cases, and because law enforcement officers are often called in to provide testimony.

4.3.2 Field Tests and Plea Agreements

The prosecutors interviewed agreed that field testing was a useful tool for indictments. During the preliminary stages of a case, prosecutors in some jurisdictions utilize the field test results to present preliminary evidence to grand juries for indictments and/or to leverage plea negotiations. For example, in one jurisdiction, if an offender is picked up for more than three grams of an illicit substance (excluding the packaging), it is viewed as an expedited felony case. The officers in this jurisdiction will process the case as a felony, but a positive field test may be utilized to leverage a plea for a misdemeanor case charge. If the suspect does not accept that offer, the prosecutor will file the felony charge and the officer will submit the evidence to the laboratory for confirmatory testing. In other jurisdictions, prosecutors preferred to have the laboratory's confirmatory analysis for plea agreements. None of the jurisdictions interviewed indicated that field tests were used during trials, with the exception of misdemeanor cases involving marijuana.

4.3.3 Use of Drug Analysis Results in Trial

A common theme across all interviewed prosecutors was that forensic evidence has increased the burden of proof from "beyond a reasonable doubt" to "beyond any doubt" in the court room. Juries expect to see more evidence tested and defense attorneys call into

question why certain items were not tested. Thus, across all jurisdictions, prosecutors acknowledged that while frustrating, they have responded by encouraging the submission of all available items to the laboratory, with the most common submission request involving latent prints. Notably, even if the submitted evidence came back with no conclusive results (as is often the case with latent print submissions), some prosecutors maintained that it was helpful for them to note to juries that this avenue had been pursued.

When a drug case goes to trial, prosecutors noted that beyond the positive identification of the substance, it is also critical to know the chain of custody and the name of the analyst who performed the results. In some jurisdictions, this information is contained on the laboratory report while in other sites, prosecutors often had to re-contact the laboratories and law enforcement officers to obtain this information.

Lastly, at one site, it was noted that drug cases are often used to train new deputy district attorneys. During their training period, new attorneys are mentored regarding the necessary components needed to prosecute a drug case successfully and their role in educating officers about the amounts necessary for analysis (i.e., what constitutes a reasonable request to laboratory staff).

4.3.4 Prosecutor Communication and Coordination

Prosecutors were asked to describe communications between their offices and with the law enforcement agencies and the laboratory. Some interviewed prosecutors recognized that their respective systems did not have automatic or automated lines of communication in place for handling key concerns from laboratories (i.e., providing notice when cases were dismissed so that they can pull the evidence submissions from the analysis queue) and from law enforcement (i.e., letting officers know that evidence from dismissed or closed cases may be destroyed). In at least two jurisdictions, the responding prosecutors indicated that they send routine reports or memos to the relevant parties though this was not an official policy within their systems.

In other sites, however, the lack of automation caused broken lines of communication that often resulted in acknowledged inefficiencies, such as rushed laboratory requests from prosecutors. One prosecutor noted that communication was apt to break down when there was a case involving multiple defendants in which one of whom accepts a plea and the others do not. In such cases, when the laboratory staff looked up cases on the active docket, if they noted that one of the suspects had pled out, they might have suspended the analysis of all evidence. The prosecutor noted that the resolution of these issues often involved last-minute rush analyses.

Prosecutors operating in jurisdictions using a laboratory with a significant backlog expressed frustration at the long delays, although some tempered these frustrations by acknowledging

that when they received the laboratory reports, they were confident of their veracity and the competence of the analysts if the case went to trial. As one respondent noted, "We love [our laboratory]. We just hate the backlog."

Finally, it was clear that having fully integrated or partially integrated information management systems was helpful for prosecutors to monitor a case's progress through the system. However, within some of those systems, the information captured was sometimes superfluous, while more critical information (e.g., chain of custody information) was not always captured.

5. CONCLUSION

5.1 Study Implications and Recommendations

The study yielded a number of recommendations with respect to promoting the efficient use of laboratory resources, improving information sharing, and implementing improved procedures for collecting, prioritizing, submitting, and analyzing drug cases. These recommendations are discussed in detail below.

5.1.1 Recommendation 1: Define, Implement, and Enforce Laboratory Submission Policies

Forensic laboratories, especially state laboratories but also local laboratories, should implement effective and well-constructed laboratory submission guidelines that establish clear rules outlining what evidence will be accepted for analysis. These rules are most effective when they are developed based on research regarding the types of cases that would benefit most from testing. For example, prioritizing the types of cases or types of evidence within a case (e.g., highest statute exhibits within a case) that are most likely be used by prosecutors. The study found clear support for significant reductions in laboratory case workload and turnaround time, both in drug chemistry and in other laboratory sections, after the implementation of laboratory acceptance policies.

Furthermore, it is critical that submitting agencies, prosecutors, and defense attorneys be consulted and involved early on in the development of these guidelines after initial drafting by the laboratory. Submission policies need to be revisited by all stakeholders on a regular basis. Staff attrition and changes in policies and practices create the potential for practice to deviate from policy over time. It was observed in many interviews with law enforcement that submitting officers were marginally aware of submission policies. However, laboratory personnel in the same jurisdiction would immediately point to a complete document of explicit submission policies when this issue was raised in interviews with these staff. The appearance was that policies had been communicated during initial implementation training by the laboratory but not regularly revisited leaving new law enforcement personnel to learn from senior law enforcement officers rather than laboratory staff. While this on-the-job training is certainly beneficial, it must also be reinforced with regular training on standards and policies for evidence collection and submission to ensure that practice does not deviate from policy.

Laboratories that were able to utilize their submission guidelines to limit and reduce the number of misdemeanor drug cases (particularly marijuana cases) submitted to the laboratory for analysis typically saw significant improvements in case processing efficiency. Misdemeanor cases handled in Magistrate Court (or the “lower courts”) require more resources not only in terms of volume, but the judicial process is also time consuming and can place a heavy burden on officers who have to testify. Limits appear to be very effective

for the laboratory, but establishing effective limits needs the input of prosecution and law enforcement. Again these policies need regular recurrent input to allow for all personnel to continually understand the needs and capabilities of each stakeholder.

5.1.2 Recommendation 2: Promote Regular, Multi-Channel Communication

Frequent and routine communication between submitting law enforcement agencies, laboratories, and prosecutors is essential towards promoting both the efficient and effective use of drug evidence. Prosecutor communication with laboratories in particular was a significant problem across many of the sites. Prosecutors rarely contacted laboratories to provide updates on drug cases and, in most instances, did not have a standard practice of informing laboratories of cases resolved due to a guilty plea or dismissal.

Study participants estimated that 50% to 75% of the drug case “backlog” represented cases that had already been pled out or dismissed. Laboratory staff in 5 sites spent considerable time comparing their active cases to online systems that would allow them to see which cases had been removed from the active court dockets. Improving basic procedures for communications is a natural first step. This may include a phone call or email from the prosecutor to the laboratory when a case is pled out or dismissed. A continuous system of communication also benefits law enforcement in terms of being provided with information on the status of cases such that evidence can be destroyed in a timely manner and so they also can close their active cases.

5.1.3 Recommendation 3: Implement Case Tracking or Case Reporting System to Improve Cross-Agency Information Sharing

All jurisdictions should employ (or in the cases where systems already exist, provide electronic access to case tracking) cross-agency information sharing systems to their partnering agencies, including laboratory staff, prosecutors, defense attorneys, and submitting police agency personnel. The idea is to develop systems that would link information across systems using barcodes and other unique identifiers to track critical information as it moves from one stage to the next. One of the essential factors for success is the development of a single case identifier used to track evidence across agencies. More short-term approaches towards case reporting include Web-based LIMS systems which provide a secure means for online communication and timely updates on laboratory case results (including the ability to print laboratory reports remotely and access to electronic laboratory result litigation packets), and the promotion and use of court-based systems that provide updates on cases.

5.1.4 Recommendation 4: Improve Training across All Three Criminal Justice Stakeholders

A better understanding of the responsibilities, roles, and policies of each stakeholder is a critical finding from this study. This should include training for prosecutors, law

enforcement, and laboratory staff on the judicial system process including how suspects are charged and how plea negotiations are conducted. In addition, prosecutors and defense attorneys must educate law enforcement officers about the importance of submitting evidence in a timely fashion to laboratories. Laboratory staff must routinely train law enforcement officers about how the laboratory functions, the appropriate submission process, and the reasons and importance behind particular submission policies. Potentially this training could be part of the police academy curriculum initially, but could also be provided in booster sessions through Web-based training or at a minimum documented on a Web site for convenient reference. Laboratory staff can also be instrumental in the training of officers to conduct field test for particular drugs, which will ultimately streamline the number of cases submitted to the laboratory and provide prosecutors with more assurance of the field testing process.

To maximize effectiveness, laboratory staff should be educated about the issues and needs of law enforcement officers and prosecution. This is especially critical in jurisdictions where there is fragmented communication, a lack of case acceptance policies, and where laboratory staff face backlogs. In these jurisdictions, it was not uncommon for laboratory staff to receive cases for re-analysis that they had already processed and for cases to be routinely submitted as rushed requests.

Lastly, the study findings suggest that prosecutors often start their careers with controlled substances cases since they are relatively straightforward procedurally. Consequently, new prosecutors do not fully understand the laboratory process, the necessity of certain procedures, and the nature of and reasons behind a growing backlog. Prosecutors and law enforcement officers alike need to be aware of the limitations with certain types of evidence for controlled substances cases (e.g., latent fingerprints or touch DNA) and the time and resource burdens these types of requests place on the laboratory.

5.1.5 Recommendation 5: Improve and Increase Judicial Resources

It is important to note that although this report has primarily focused on the controlled substances case backlogs existing within laboratories, RTI also found that court dockets were also backlogged with these cases. In one jurisdiction, a substantial backlog of drug cases was attributed to limited grand jury time. Although drug courts were designed to alleviate the heavy burden of controlled substances cases on the court system, these measures have minimal impacts on the system as a whole when a small number of defendants are admitted into the drug court program each year. In light of these findings, a natural recommendation is to increase judicial resources such that court systems can support more grand juries, expand existing drug court programs, and explore other ways to expedite the processing of these cases.

5.1.6 Recommendation 6: Implement Solutions that Allow Laboratories to Catch-Up on Their Backlogs

It should be emphasized that there is no “one size fits all” solution to ending backlogs, but there were a number of strategies highlighted across the 10 selected sites that bear mentioning as potential solutions to mitigate laboratory backlogs. There was a general consensus that when there was a backlog at the laboratory, it was extraordinarily difficult for the laboratory staff to get caught up with cases in the absence of receiving resources such as additional staff, funding, and/or equipment. One laboratory system was able to secure funding for overtime pay, while another laboratory system outsourced all of its backlogged cases in favor of its own staff processing incoming, current cases. Both of these solutions were implemented concurrently with a prioritized case acceptance policy. These policies greatly reduced the volume of incoming cases such that laboratory staff could more effectively manage their caseload once their backlog was resolved. A drawback associated with chronic overtime practices, however, is staff fatigue, which increases the risk for errors made during analyses.

Increased laboratory funding should also look at providing key administrative staffing. Laboratories identified key operating efficiencies when there were coordinating staff who were dedicated to managing court subpoenas and testimony, monitoring evidence submissions to ensure quality, communicating with submitting officers when there were issues, and weeding-out from the laboratory’s active cases those that were terminated by a guilty plea or dismissal. Ideally, these positions would serve as a communications hub for all three agencies. This type of administrative staffing can free up technical and scientific laboratory personnel to focus on analytic tasks.

The findings also yielded the conclusion that drug sections are often a “revolving door” for analysts who use the laboratories as a training ground for more lucrative careers in the private sector or in other states. Increasing salaries to make these positions more attractive would be one way to resolve the problem of staff attrition. Criminal justice systems are also affected when laboratory staff attrition is high to the extent that prosecutors may need to pay the expenses for the analyst to testify after they have left their position.

Since many laboratories have either implemented or will soon be implementing automated, online systems to permit law enforcement and prosecution staff to follow the evidence submissions through the system, the absence of dedicated information technology staff would seem to be problematic. This may be one area for additional staffing that could ameliorate future technology-related barriers in the laboratory’s overall functioning.

5.1.7 Recommendation 7: Dedicate Federal Funding Sources to Non-DNA Laboratory Functions

In recent years, the funding for forensics has been earmarked for DNA equipment and training. Yet, the reality is that the majority of cases submitted to crime laboratories are controlled substance cases. Broadening the funding streams could allow some of the forensic spending to support whatever equipment is needed, regardless of whether it helps with DNA identification. Such spending could also support temporary staff positions that would allow particular laboratories to make concerted efforts to reduce backlogs. While drug chemistries have not been particularly criticized for the validity of the technologies and methods used, the significant funding to DNA has allowed DNA to become the standard to which everything else is now compared. Even established physical science disciplines such as drug chemistries need funding to continue to refine and improve the fundamental science of the discipline as well as improve backlogs.

5.1.8 Recommendation 8: Improve Testimony Efficiency

While the *Melendez-Diaz* and *Briscoe* Supreme Court decisions did not appear to have significant impacts on all but one of the jurisdictions interviewed, the conservative interpretation of the confrontation clause by the Supreme court (and the likely patchwork of state decisions addressing the components of these decisions left undefined by the Supreme Court) will make national efforts to reduce testimony loads more complicated. At the national level, efforts to ensure adequate capacity for processing and to enhance communication between law enforcement, laboratory and prosecution to ensure the most efficient development of trial-bound cases will be more effective than efforts to mitigate testimony loads for cases that do go to trial (such as video testimony etc). While better technologies may aid some jurisdictions, others may find such testimony inadmissible. However, helping jurisdictions to be able to develop the best cases and provide the best evidence for those cases with good coordination of resources to support the trial will improve conditions more broadly in light of the current interpretations of the confrontation clause of the Constitution.

There are mechanisms for the coordination of testimony that can increase efficiency in the use of laboratory personnel and the prosecution of cases. Prosecutors' offices that have witness coordination functions in place (that address expert testimony or laboratory personnel testimony) aid both prosecutors as well as the laboratory. Introduction of drug evidence by testimony will likely be necessary for most trials in the foreseeable future. Efforts to improve the coordination of testimony are important as laboratory personnel sitting at the courthouse waiting to testify are personnel that are not processing cases. This is an area where education of judges in the needs and constraints of the laboratory could be helpful as well.

5.1.9 Recommendation 9. Provide Better Guidance to Law Enforcement Agencies on Drug Evidence Destruction

Across the jurisdictions studied, law enforcement agencies were responsible for storing evidence while the courts or prosecution were responsible for providing orders to destroy it. The consensus seemed to be that evidence rooms tended to get cleaned out when the amount of evidence had reached an overwhelming threshold. In some jurisdictions, there were policies about particular evidence that could not be destroyed (e.g., if the case was taken over by the federal prosecutor), so law enforcement agencies were forced to store this evidence into perpetuity. Some of this evidence can be physically large, including automobiles, marijuana growing equipment, etc.). Such policies need to be addressed among the active stakeholders. For controlled substances cases in particular, the federal laboratory policy of photographing all of the evidence and only storing a sample of it might be one alternative for jurisdictions to consider. Alternatively, a passive policy that allows for evidence destruction after a certain period of time after a trial or case dismissal might be another way to alleviate this problem. This issue seems common enough to warrant increased coordination and communication between the courts, prosecutors, and law enforcement.

5.2 Study Limitations

Although the Controlled Substances study methodology was effective and efficient, and generated many useful findings, certain limitations of the study must be acknowledged. For one, information was obtained using largely qualitative methods and therefore the results are not necessarily generalizable to all state and local jurisdictions. Second, because interviews were conducted with representatives from the participating agencies, it was difficult to verify if the responses were at least partially dependent on which individuals participated in the interviews. In other words, if criminal investigations and research and planning offices were forced to both answer the same questions on backlogs, it is possible that both would provide different answers.

5.3 Conclusions

The NIJ Controlled Substances Case Processing Study sought to describe how drug evidence moves across the criminal justice system, including the decision criteria and impact of decisions at each stage. The study's findings demonstrate that there is a clear need for more standardized procedures regarding what evidence is to be submitted to the laboratory in order to create a system of "basic logic" to which everyone adheres. Since a large proportion of drug case convictions in the State Courts are based on defendant pleas, there is some question about whether confirmatory drug results from forensic laboratories are a necessity in all of these cases. What is known is that jurisdictions across the U.S. struggle to keep up with the steady flow of controlled substance cases. If system-level procedures were used consistently within and across jurisdictions, significant cost-savings could be achieved.

This would include practices such as the development of data systems that promote improved information sharing (including instant notification of closed or dismissed cases), the development of improved processes for prioritizing cases for submission to laboratories, and the implementation of case acceptance policies by forensic laboratories. In sum, the study's findings demonstrated the need for:

- more uniform procedures and processes for submitting and analyzing drug evidence that includes some prioritization based on factors such as case seriousness;
- improved information systems for tracking and monitoring drug evidence within a records management framework (including systems that provide case status updates from prosecutors);
- more systematic policies and resources for evidence retention and storage;
- increased training for law enforcement on the benefits and goals of forensic evidence, including guidelines for prioritizing drug cases for analysis; and
- improved coordination on forensic analysis both within law enforcement agencies themselves and across police agencies, forensic laboratories, and prosecutor's offices, which could include dedicated staff for case management and coordination, laboratory submission guidelines, and case tracking systems that promote information sharing across these criminal justice entities.

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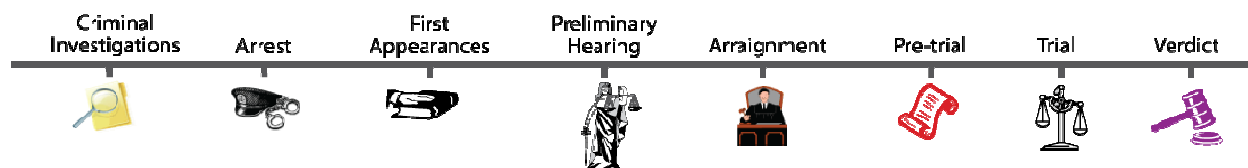
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APPENDIX A: OVERVIEW OF LEGAL PROCEDURES

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An Overview of Legal Procedures



Criminal Investigations

- Police learn of a criminal act and investigate.
- Police collect and preserve evidence for the prosecutor.
 - “Probable cause” justifies further investigative activities (such as search warrants).
 - Evidence collected outside of proper procedures may be excluded at trial.
- The prosecutor chooses the charge to reflect both the nature and the severity of the crime.
 - In drug cases, the quantity of drugs found, the class of drug involved, or both may affect the severity of the offense.



Arrest

- With probable cause, a suspect may be arrested and booked into jail.
- Once in police custody, a suspect must be given a Miranda warning (after the Supreme Court case *Miranda v. Arizona* [1966]); that is, he must be told that
 - he has the right to remain silent,
 - what he says may be used against him in a court of law, and
 - he has the right to counsel.



First Appearances, Probable Cause Determinations, and Grand Juries

- Usually within 48 hours, a defendant must come before a judicial officer, hear the charges against him, and state how he intends to plead.
- Probable cause for arrest is shown by the issuance of an arrest warrant, at an initial appearance in front of a judicial officer, or by indictment by a grand jury.



Preliminary Hearing

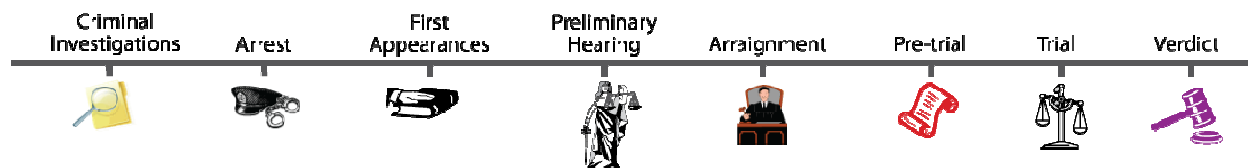
- Before a judicial officer, within 10 court days of arraignment.
- Prosecutor must demonstrate reasons for a strong suspicion that a crime was committed and that the defendant is guilty.
- If the prosecutor is successful, the defendant is said to be “bound over” for trial.



Arraignment and Plea Bargaining

- Sometimes referred to as a “second arraignment” or “arraignment on information.”
- Can be another opportunity for the prosecutor to offer the defendant a deal to resolve the case without a trial.
- The defense may receive a copy of the complaint, the police report, any statements made to the police by the defendant, any scientific reports, and a list of the prosecution’s witnesses.

An Overview of Legal Procedures (continued)



Pretrial Conferences and Motions Hearings

- If a plea agreement cannot be reached by the parties, the case progresses toward trial.
- Before a trial takes place, pre-conferences and pretrial hearings are additional opportunities for plea bargains.
- The prosecutor seeks to use plea bargaining in order to obtain a guilty plea from a defendant and thereby avoid the cost of a trial and the risk of an acquittal.
- Defendants aim for diversion, dismissed or reduced charges, shorter recommended sentences, or community-based sanctions instead of incarceration.



Trial

- Trials may take place in front of a judge or a jury.
 - In felony cases, the defendant has a right to a trial by jury.
 - If the trial is in front of a judge it is called a “bench trial,” a proceeding in which the judge performs the fact-finding function of the jury.
- After opening statements, the prosecution presents its case. It may submit evidence and call witnesses. All witnesses are subject to cross-examination by the other side.

- After the prosecution presents its case, the defense presents its case.
- In a jury trial, the judge then gives the jury their instructions. The trial concludes with the prosecution and defense making their closing arguments.



Verdict and Appeal

- Jurors deliberate in secrecy.
- When they have reached a decision, they deliver it to the judge, then read it to the defendant in court.
- A jury may find the defendant guilty of all, some, or none of the crimes charged.
- Potential grounds for appeal of a guilty verdict include nonlegal errors, like juror misconduct, and legal errors, such as
 - absence of sufficient evidence,
 - allowance of inadmissible evidence,
 - inclusion of evidence obtained in an unconstitutional manner, or
 - mistakes in the instructions to the jury.

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**APPENDIX B:
STAKEHOLDER INTERVIEW GUIDE: FORENSIC
LABORATORY STAFF**

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*NIJ Controlled Substances Case Processing Study
Stakeholder Interview Guide: Forensic Laboratory Staff
(Estimated Interview Duration: 60-90 minutes)*

A. STUDY BACKGROUND

Surveys of forensic laboratories have shown that drug evidence represents a large share of the analysis caseload for most labs. The high number of requests for drug chemistry analysis is also one of the main contributors to laboratory backlogs. Unfortunately, there is not a lot of guidance for what jurisdictions can do about this problem, especially since potential solutions will require the support of law enforcement agencies, prosecutors, and forensic laboratories.

This study will work with sites to examine the flow of drug evidence across each stage of the justice system, including procedures for submitting, analyzing, and using controlled substances evidence. One of the project's objectives is to identify promising practices for improving system efficiencies. RTI also wants to learn more about problems impacting the movement of drug cases through the system and solutions to these problems.

The goal of the project is not to criticize or draw attention to the problems of any specific jurisdiction. The names of the individuals and agencies involved in this study will not be mentioned by name in any published reports. Furthermore, we will provide all participants with a draft of the final NIJ report prior to its release, to allow for your review and comment. Your participation in this project is completely voluntary.

Interview Questions

B. STAKEHOLDER & LABORATORY BACKGROUND

The next few questions ask about your laboratory and your position as it applies to the processing and analysis of drug evidence.

1. What best describes the operation of your laboratory in terms of receiving and analyzing drug cases?

Probes:

- a. What are the main types of law enforcement agencies you serve?
- b. How would you describe the overall process flow of controlled substances cases in your system including law enforcement, laboratory, and prosecutor's office

2. Do you have any direct involvement with the law enforcement officers or prosecutors who are submitting evidence or using the analysis results in court?

Probes:

- a. Is there an open line of communication for special cases? If no, do you see this as problematic?
- b. Are the roles of each agency for processing controlled substances clearly defined?
- c. Between the lab, the prosecutor's office, and law enforcement, which is the primary decision maker for which controlled substances cases are processed and which are not?

3. What is annual throughput of CS evidence for screening, confirmation and review?

Probes:

- a. Discuss lab current backlog for screening, analysis and review

C. PROCEDURES FOR RECEIVING AND ANALYZING DRUG EVIDENCE

The next few questions ask about the procedures used in your lab for receiving and analyzing drug evidence.

4. How would you describe the routine process flow of controlled substances cases in your laboratory from receiving to reporting of results?

Probes:

- a. For example, illegal drugs (powders, solid material, liquids, LSD blotter paper, plant materials) and pharmaceutical preparations (tablets, capsules, and injectables) are routinely screened using color tests and thin layer chromatography (TLC) with identification by GC/MS. Additional techniques such as infrared spectrophotometry (FTIR) and gas chromatography with flame ionization detector (GC/FID) may also be used.
- b. Does the lab use a team approach or a "one examiner to each case" approach?
- c. Are lab personnel ever used to collect CS evidence for submission to the lab?
- d. What type of sampling scheme is used (i.e., protocols for how quantities and types of CS are submitted)?

5. What policies or systems are used by your laboratory for analyzing and prioritizing drug cases submitted by law enforcement?

Probes:

- a. Any type of Drug item reduction program?
- b. Processing of field tests kits?

6. Are there specific policies in place that impact which drug cases are submitted by law enforcement to your laboratory for analysis?

Probes:

- a. Criteria for what is screened (e.g., limitation of number of items/case, type of crime etc?)
- b. Visual inspection, color test, TLC

7. On what basis does your laboratory NOT analyze cases that have been submitted to the laboratory?

Probes:

- a. Discuss the lab's role in testing presumptive field tests

8. Have any procedural changes been implemented to address how drug cases are processed and analyzed due to backlog problems?

Probes:

- a. Did your lab outsource any types of drug chemistry cases in 2008? What type of lab (private, other, state lab)?
- b. Discuss lab's criteria for outsourcing

9. Has your laboratory implemented any efficiency measures in the past three years? How have these implementations affected your backlog for controlled substances?

Probes:

- a. Robotics implementation?

D. COMMUNICATION PROCEDURES AND SYSTEMS

The next few questions ask about procedures and systems in place for communicating across agencies on the status of drug cases.

10. How would you describe the current level of communication between the forensic laboratory, law enforcement and prosecutor's offices in your jurisdiction?

Probes:

- a. Do law enforcement and Prosecuting Attorney's routinely call to ask that a specific case be expedited or fast tracked?
- b. Is there additional communication from submitting agency prior to screening to determine status of case?

11. What types of systems or procedures are in place to facilitate the tracking of cases?

Probes:

- a. What steps are taken to share case updates between agencies?
- b. Are there processes in place to ensure that information is shared between agencies as either agreed upon or required?

12. Keeping in mind budget constraints and agency politics, what can or should be done to improve communication on drug cases?

Probes:

- a. What are some of the major steps that can be taken to achieve better communication?
- b. Which of these would be the most practical and cost effective steps to take?
- c. Are any of these steps being taken now by any of the agencies in your jurisdiction?

13. What policies or systems would you implement to reduce drug case backlogs? What are some recommendations for efficiency improvements to the evidence process?

Probes:

- a. How can we reduce case attrition?
- b. Can we better prioritize which drug cases need to be analyzed?

14. What are the barriers that impact case turnaround times in your jurisdiction?

Probes:

- a. What are some of the major barriers that you have seen?
- b. How are they resolved?
- c. How could they be better resolved?
- d. How much emphasis is placed on overcoming these barriers by your agency leaders?
- e. Are these unique to the current situation, or do you think they apply to many jurisdictions across the US?

15. In your tenure at the lab, how have things changed in terms of forensic analysis backlogs?

Probes:

- a. In what ways has the problem of backlogs improved or worsened?

16. What represents the biggest challenge your laboratory faces today?

Probes:

- a. Communication channels?
Training needs?
Equipment?

NIJ Controlled Substance Case Processing Study Stakeholder Survey: Forensic Laboratory Staff

Instructions: Thank you for meeting with us to discuss the processing of drug evidence in your jurisdiction. As mentioned, one of the goals of this project is to track the overall flow of drug cases across each phase of the criminal justice system. The following is a brief survey on basic aggregate measures of case flow including statistics on drug arrests, drug cases submitted by law enforcement for analysis, drug cases received and analyzed by laboratories, drug cases prosecuted, and basic adjudication outcomes for drug cases. Your assistance on this survey would be greatly appreciated.

Assistance: If you need assistance answering any questions, please contact either Kevin Strom (kstrom@rti.org; 919-485-5729) or Jeri Miller (jerimiller@rti.org; 919-485-5685).

Interview Guide:

When complete, please fax the completed survey to **919-485-2680, Attn: Kevin Strom**

Information Supplied By:

| | | | | |
|-----------------|------------|-------------|--------|-----------|
| Name: | | Title | | |
| Agency Name | | | | |
| Address: | | City: | State: | Zip Code: |
| E-mail Address: | | | | |
| Telephone: | Extension: | Fax Number: | | |

1. What is the size of the jurisdiction served?

- 2. Do any other crime laboratories routinely provide services to the jurisdiction? If so, please list the names and locations of these laboratories below.**

| Laboratory Name/Location |
|--------------------------|
| |
| |
| |

- 3. Approximately how many jurisdictions does your laboratory serve?**

- 4. How many lab personnel does your lab have for collection, submission, screening, analysis and review?**

- 5. How many drug cases were submitted to your laboratory in the past three calendar years?**

CY 2006 _____ CY 2007 _____ CY 2008 _____

- 6. How many drug cases did your laboratory analyze in the past three calendar years?**

CY 2006 _____ CY 2007 _____ CY 2008 _____

- 7. Did your laboratory outsource, or contract out, any type of drug chemistry cases for analysis in 2008?**

Yes

No

8. On what basis does your laboratory NOT analyze cases that have been submitted to the laboratory? (Check All That Apply)

- All submitted cases are analyzed
- Case dismissed/no defendant
- Guilty plea/plea bargain
- Adjudicated without forensic evidence testing
- No formal or specific request for analysis is received from arresting officer, submitting agency, or prosecutor's office
- Items submitted for destruction only
- Presumptive Identification
- Insufficient sample
- Insufficient funding
- State statutory guidelines do not require analysis (e.g., only felony-generating substances are analyzed)
- Other (specify) _____

9. Are all cases involving drug seizures or drugs found by the agencies you serve submitted to the laboratory?

- Yes
- Varies by agency
- No
- Don't know

10. What is/are the key reason(s) that a case seized or found by the agencies you serve would NOT be submitted to your laboratory? (CHECK ALL THAT APPLY.)

- Field tested cases not submitted unless confirmatory testing is needed
- No defendant is identified
- Defendant may plead guilty or plea bargain prior to or without submission to the laboratory
- Case dismissed prior to submission to the laboratory
- Some drug cases are submitted to another laboratory/other laboratories
- Prosecutor has not signed off on the case
- Other (specify) _____

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APPENDIX C: STAKEHOLDER INTERVIEW GUIDE: LAW ENFORCEMENT

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*NIJ Controlled Substance Case Processing Study
Stakeholder Interview Guide: Law Enforcement
(Estimated Interview Duration: 60-90 minutes)*

A. STUDY BACKGROUND

Surveys of forensic laboratories have shown that drug evidence represents a large share of the analysis caseload for most labs. The high number of requests for drug chemistry analysis is also one of the main contributors to laboratory backlogs. Unfortunately, there is not a lot of guidance for what jurisdictions can do about this problem, especially since potential solutions will require the support of law enforcement agencies, prosecutors, and forensic laboratories.

This study will work with sites to examine the flow of drug evidence across each stage of the justice system, including procedures for submitting, analyzing, and using controlled substance evidence. One of the project's objectives is to identify promising practices for improving system efficiencies. RTI also wants to learn more about problems impacting the movement of drug cases through the system and solutions to these problems.

The goal of the project is not to criticize or draw attention to the problems of any specific jurisdiction. The names of the individuals and agencies involved in this study will not be mentioned by name in any published reports. Furthermore, we will provide all participants with a draft of the final NIJ report prior to its release, to allow for your review and comment. Your participation in this project is completely voluntary.

Interview Questions

B. STAKEHOLDER & AGENCY BACKGROUND

The next questions ask about your agency and your position in that agency as it applies to drug investigations, drug arrests, and the collection and processing of drug evidence.

1. Tell us about your agency, the types of drug cases you handle, and how your agency is organized to handle drug cases.

Probes:

- a. Role in investigating drugs cases and in collecting and submitting drug evidence

2. Describe the standard procedures used by your agency for collecting and submitting drug evidence?

Probes:

- a. What forensic lab does your agency typically submit drug evidence to?
- b. Is prosecutor office typically notified? If so, when and how?
- c. Do you talk to the lab prior to submitting drug evidence? If so, under what circumstances?
- d. Agency SOP's for collecting and submitting drug evidence.
- e. Is your agency experiencing difficulties storing drug evidence?
- f. Would agency policy changes make the collection or submission of drug evidence easier?

C. INVESTIGATING AND PROCESSING DRUG CASES

3. Is forensic evidence used to guide police decision-making when investigating suspects in drug cases?

Probes:

- a. Are the results from field tests ever used as leverage to elicit pleas?
- b. Are the results from lab analyses ever used prior to the arrest of a suspect? For example, is drug evidence submitted during an investigation to identify potential signatures of the seizure or to connect the drugs with known groups or source countries?

4. Does your agency use presumptive field testing to identify drugs? If so, can you explain the types of circumstances where field testing is used?

Probes:

- a. Is field testing required on all drugs seized?
- b. Is field testing used only for the arrest and indictment stage?
- c. Can field tests be used as evidence in trial (if the field test is the only testing performed)?

5. Are there other specific policies in place that impact which drug cases are submitted by your agency to a forensic laboratory for analysis?

Probes:

- a. Prosecutorial approval required for lab submission
- b. Field tested cases not submitted unless confirmatory testing is needed
- c. Other departmental or state policies

6. Is the investigating officer responsible for deciding if drug evidence should be submitted to the laboratory or is that decision made at a higher level?

7. Have any procedural changes or policies been implemented to address how drug cases are investigated and processed due to backlog problems?

Probes:

- a. If yes, are these departmental policies or were they implemented at a higher level (district or state level)? For example, West Virginia policy that requires prosecutorial approval prior to submission to the lab.
- b. When was the policies implemented?
- c. Can you estimate the impact of these policies on the submission of drug evidence (e.g., has it reduced the number of smaller, possession cases)?

8. In your tenure at the agency, how has the investigation and processing of drug cases changed? Have forensic backlogs influenced any of these changes?

Probes:

- a. Have policy or procedural changes within the past 5 years resulted in noticeable efficiency improvements?

D. COMMUNICATION PROCEDURES AND SYSTEMS

9. Do you have any direct involvement with the laboratory staff who analyze the drug evidence you submit to them?

Probes:

- a. If yes, how do you normally interact with lab staff on drug cases?
- b. Do you typically talk to lab staff before a case is submitted?
- c. Do you only talk with lab staff for certain types of cases?

10. Do you communicate directly with the prosecutors on drug cases?

Probes:

- a. Do you communicate prior to a case being submitted to the lab?
- b. Do interactions differ by the type of case? (seriousness of case)
- c. Do interactions differ for federal versus state cases?

11. Are there any systems or procedures in place to facilitate information sharing on drug cases?

Probes:

- a. What steps are taken to share case updates between agencies?
- b. Are there processes in place to ensure that information is shared between agencies as either agreed upon or required?

12. Keeping in mind budget constraints and agency politics, what could be done to improve communication between law enforcement, forensic labs, and prosecutors on drug cases?

Probes:

- a. What are some of the major steps that can be taken to achieve better communication?
- b. Which of these would be the most practical and cost effective steps to take?
- c. Are any of these steps being taken now by any of the agencies in your jurisdiction?

13. How often do officers in your agency have to provide testimony for drug cases?

Probes:

- a. Can you estimate the percentage of time required for court for officers who regular work on drug cases?
- b. How often do you communicate with the prosecutor prior to court? How close in proximity to the court proceedings?

14. If you had unlimited budget, time, and resources, what policies or systems would you implement to reduce drug case backlogs? What are some recommendations for efficiency improvements to the evidence process?

Probes:

- a. Joint information systems that could be used to share information on drug cases? (e.g., closed case notification system)

15. What are the major barriers that impact case turnaround times in your jurisdiction?

Probes:

- a. What are some of the major barriers that you have seen?
- b. How are they typically resolved?
- c. How could they be better resolved?
- d. Are these unique to the current situation or do you think they apply to many jurisdictions across the US?
- e. Is there legislation for policy or procedures that either hinder or increase case processing efficiency for drug cases?

16. What are the biggest challenges your agency faces today in terms of investigating drug cases, collecting drug evidence and processing drug cases?

NIJ Controlled Substance Case Processing Study
Stakeholder Survey: Law Enforcement

Instructions: Thank you for meeting with us to discuss the processing of drug evidence in your jurisdiction. As mentioned, one of the goals of this project is to track the overall flow of drug cases across each phase of the criminal justice system. The following is a brief survey on basic aggregate measures of case flow including statistics on drug arrests, drug cases submitted by law enforcement for analysis, drug cases received and analyzed by laboratories, drug cases prosecuted, and basic adjudication outcomes for drug cases. Your assistance on this survey would be greatly appreciated.

Assistance: If you need assistance answering any questions, please contact either Kevin Strom (kstrom@rti.org; 919-485-5729) or Jeri Miller (jerimiller@rti.org; 919-485-5685).

Interview Guide:

When complete, please fax the completed survey to **919-485-2680, Attn: Kevin Strom**

Information Supplied By:

| | | | |
|-----------------|------------|-------------|------------------|
| Name: | | Title | |
| Agency Name | | | |
| Address: | | City: | State: Zip Code: |
| E-mail Address: | | | |
| Telephone: | Extension: | Fax Number: | |

1. NUMBER OF AUTHORIZED SWORN PERSONNEL EMPLOYED BY YOUR AGENCY:
[FULL-TIME EMPLOYEES ARE THOSE REGULARLY SCHEDULED FOR 35 HOURS OR MORE PER WEEK]

| | |
|-----------|-----------|
| Full-time | Part-time |
|-----------|-----------|

2. Which crime laboratories does your office routinely use for analyzing drug evidence?

| Laboratory Name/Location |
|--------------------------|
| |
| |
| |

3. Does your agency have a specific unit dedicated to investigating and processing drug cases? If so, what is the name of the unit?

4. Does your agency belong to a multi-jurisdictional task force that investigates and processes drug cases?

5. Does your multi-jurisdictional task force work State and Federal cases?

6. Approximately how many drug arrests (i.e., arrests for the illegal possession or trafficking of controlled substances) were made by your agency during the following calendar years

CY 2006 _____ CY 2007 _____ CY 2008 _____

7. Please select the most common reason(s) why drug evidence from a case is not submitted to a lab for analysis? (check all that apply)

- Suspect has not yet been identified ₁
- Suspect has been identified but not formally charged ₂
- Suspect adjudicated without forensic evidence testing..... ₃
- Case has been dismissed ₄
- Uncertain of usefulness of forensic evidence..... ₅
- Insufficient funding for analysis of forensic evidence ₇
- Analysis not requested by prosecutors ₈
- Inability of laboratory to produce timely results ₉
- Laboratory will not accept forensic evidence due to backlog... ₁₀
- Other not listed above ₁₁

8. What type of records management system does your agency use?

- Fully computerized, networked system
- Fully computerized, non-networked system
- Partially computerized system, some manual record-keeping
- Manual record-keeping system
- Other (describe)

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APPENDIX D: STAKEHOLDER INTERVIEW GUIDE: PROSECUTORS

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*NIJ Controlled Substance Case Processing Study
Stakeholder Interview Guide: Prosecutors
(Estimated Interview Duration: 60-90 minutes)*

A. STUDY BACKGROUND

Surveys of forensic laboratories have shown that drug evidence represents a large share of the analysis caseload for most labs. The high number of requests for drug chemistry analysis is also one of the main contributors to laboratory backlogs. Unfortunately, there is not a lot of guidance for what jurisdictions can do about this problem, especially since potential solutions will require the support of law enforcement agencies, prosecutors, and forensic laboratories.

This study will work with sites to examine the flow of drug evidence across each stage of the justice system, including procedures for submitting, analyzing, and using controlled substance evidence. One of the project's objectives is to identify promising practices for improving system efficiencies. RTI also wants to learn more about problems impacting the movement of drug cases through the system and solutions to these problems.

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Interview Questions

B. STAKEHOLDER & AGENCY BACKGROUND

This set of questions asks about your office and position as it applies to the prosecution of drug cases.

1. Tell us a little about your office, the types of drug cases you handle, and how the office is organized to handle drug cases?

Probes:

- a. Does your office have prosecutors that are assigned to handle drug cases only?

2. Does your office have standard procedures or protocols to follow for drug cases?

Probes:

- a. Is your office typically notified about a pending drug case?
- b. Do you talk to the laboratory or law enforcement agency prior to receiving drug evidence results? If so, under what circumstances?

3. In your jurisdiction, where does the decision to analyze drug evidence initially rest (e.g., with law enforcement, with the laboratory, with your office?)

Probes:

- a. Under what circumstances would this be different –
 - Possession cases only
 - Cases that carry larger sentences
 - Federal versus State cases

C. CASE PROCESSING

The next questions ask about the processes and procedures used in your office for handling drug cases.

4. Does your office help prioritize in any way which cases are analyzed by the laboratory?

Probes:

- a. How is this communicated to the laboratory if it occurs?
- b. Is severity of drug offense and the sentenced involved weighed heavily?

5. What role do drug analysis results have on decisions to charge a subject?

Probes:

- a. Are confirmatory analyses identifying the drug always required?
- b. Can field tests be used as a basis for charging a suspect?
- c. Are there circumstances when you can charge a suspect without any form of analysis?

6. What are the main criteria used by your office for making decisions on which drug cases will be prosecuted?

Probes:

- a. What is the impact of forensic evidence on this decision-making process?

7. How are drug analysis results typically used in the plea agreement process?

Probes:

- a. Are confirmatory analyses identifying the drug always required for a plea?
- b. Can field tests be used as a basis for eliciting a plea?
- c. Are there circumstances when you can obtain a plea without any form of analysis?

8. How are drug analysis results typically used in trial?

Probes:

- a. Do drug analyses ever have a major impact on the trial outcome?
- b. Can field tests be used in trial?

9. Are there other specific policies in place that impact which drug cases are submitted by law enforcement to your handling of the case?

10. Have any procedural changes or policies been implemented to address how drug cases are prosecuted due to forensic backlog problems?

Probes:

- a. If yes, are these departmental policies or were they implemented at a higher level (district or state level)? For example, West Virginia policy that requires prosecutorial approval prior to submission to the lab.
- b. When was the policy implemented?
- c. Can you estimate the impact of these policies on cases submitted for prosecution? (e.g., has it reduced the number of smaller, possession cases)?

11. In your tenure at the agency, how have things changed in terms of drug prosecutions? Have forensic backlogs influenced any of these changes?

Probes:

- a. Have policy or procedural changes within the past 5 years resulted in noticeable efficiency improvements?

D. COMMUNICATION PROCEDURES AND SYSTEMS

12. How would you describe the current level of communication between the prosecutor's offices, forensic laboratory, and law enforcement in your jurisdiction?

Probes:

- a. How much information sharing occurs?
- b. What type of information is coordinated between your office, the lab, and law enforcement?

13. What types of systems or procedures are in place to track cases and to facilitate communication on cases?

Probes:

- a. What steps are taken to share case updates between agencies?
- b. Are there processes in place to ensure that information is shared between agencies as either agreed upon or required?

14. What are the largest barriers that impact case turnaround times in your jurisdiction?

Probes:

- a. What are some of the major barriers that you have seen and how are they resolved?
- b. How much emphasis is placed on overcoming these barriers by your agency leaders?
- c. Are these unique to your area or do you think they apply to many jurisdictions in the U.S.?
- d. Is there legislation for policy or procedures that either hinder or increase CS case processing efficiency?

15. What represents the biggest challenge your office faces today in terms of prosecuting drug cases?

Probes:

- a. Can you identify the largest areas of case attrition and inefficiency?

16. Keeping in mind budget constraints, what can or should be done to improve communication between laboratories, law enforcement and prosecutors on drug cases?

Probes:

- a. What are some of the major steps that can be taken to achieve better communication?
- b. Which of these would be the most practical and cost effective steps to take?
- c. Are any of these steps being taken now by any of the agencies in your jurisdiction?

17. If you had unlimited budget, time, and resources, what policies or systems would you implement to reduce drug case backlogs? What are some recommendations for efficiency improvements to the evidence process?

**NIJ Controlled Substance Case Processing Study
Stakeholder Survey: Prosecutors**

Instructions: Thank you for meeting with us to discuss the processing of drug evidence in your jurisdiction. As mentioned, one of the goals of this project is to track the overall flow of drug cases across each phase of the criminal justice system. The following is a brief survey on basic aggregate measures of case flow including statistics on drug arrests, drug cases submitted by law enforcement for analysis, drug cases received and analyzed by laboratories, drug cases prosecuted, and basic adjudication outcomes for drug cases. Your assistance on this survey would be greatly appreciated.

Assistance: If you need assistance answering any questions, please contact either Kevin Strom (kstrom@rti.org; 919-485-5729) or Jeri Miller (jerimiller@rti.org; 919-485-5685).

Interview Guide:

When complete, please fax the completed survey to **919-485-2680, Attn: Kevin Strom**

Information Supplied By:

| | | | |
|-----------------|------------|-------------|------------------|
| Name: | | Title | |
| Agency Name | | | |
| Address: | | City: | State: Zip Code: |
| E-mail Address: | | | |
| Telephone: | Extension: | Fax Number: | |

1. NUMBER OF PROSECUTORS EMPLOYED BY YOUR AGENCY TO ASSIST IN THE PROSECUTION OF DRUG CASES?

| | |
|-----------|-----------|
| Full-time | Part-time |
|-----------|-----------|

[Full-time employees are those regularly scheduled for 35 hours or more per week]

2. Which crime laboratories does your office routinely use for analyzing drug evidence?

| |
|--------------------------|
| Laboratory Name/Location |
| |
| |
| |

3. Does your office have a specific unit dedicated to handling drug cases?

4. Approximately how many drug cases did your office prosecute in each of the following calendar years?

CY 2006 _____ CY 2007 _____ CY 2008 _____

5. Among all drug cases submitted by law enforcement agencies to your office from CY2006-2008, can you estimate the percentage of cases that were:

Dismissed

Pled out

Went to trial

6. What type of records management system does your office use for tracking drug cases?

- Fully computerized, networked system
- Fully computerized, non-networked system
- Partially computerized system, some manual record-keeping
- Manual record-keeping system
- Other (describe)