



Solving Sexual Assaults: Finding Answers Through Research

by Nancy Ritter

Research on DNA testing sexual assault kits reveals a complex picture.

It has been a headline-making story for the past few years: thousands of sexual assault evidence kits — untested — in police storage. In a few jurisdictions, lawmakers have responded to the outcry from victims and victim advocates by mandating that kits in all alleged sexual assaults be DNA tested.

But what do we know, empirically, about the value of DNA testing large numbers of sexual assault kits (SAKs) that have long been held in police property rooms? And what do we know, empirically, about the crime-solving utility of testing kits in all alleged sexual assaults?

One thing we know is that the probative value of forensic evidence in any crime, including sexual assault,

depends largely on the circumstances of the case — pivotal in one, less important in another. If the perpetrator is a stranger to the victim, a DNA profile can be crucial in identifying the suspect and adjudicating the case. However, at least half of sexual assault victims know the perpetrator's identity; if he admits sexual contact but claims it was consensual, DNA evidence may be of questionable value in adjudicating the case — although it could have value in uncovering serial so-called “acquaintance” rapes. And, finally, when sexual assault is perpetrated on a child, DNA evidence is vital in determining that a crime occurred.

NIJ provided grant support to examine the role of DNA testing of untested SAKs in property



rooms of the Los Angeles Police Department (LAPD) and the Los Angeles Sheriff's Department (LASD). The grant was modest — \$100,000 — and, therefore, the study had a narrow focus, including time limitations.

The two primary goals in the L.A. study were to look at a random sample of the nearly 11,000 kits to:

- Assess the efficacy of DNA testing
- Determine the criminal justice outcomes (arrest, charge, conviction) within the first six months after the kits were DNA tested

The findings with respect to the study's second goal were surprising to many. In a randomly selected sample of 371 SAKs, there were no new arrests, new charges were filed in one case, and there were two convictions in the first six months after these kits were tested. In fact, it is probable that the DNA testing was not responsible for the single filing and the two convictions.

There are a number of important facts to keep in mind when trying to understand these results. First, the study looked at case adjudication in only the first six months after testing, as this was the period defined in the NIJ grant. The researchers did not examine whether there have been additional arrests, charges filed or convictions since that time. Second, the sample size was small, and the findings are from one site; therefore, great caution should be used in trying to extend the findings to other locales. Indeed, the reasons for large numbers of untested SAKs in police property rooms — and the testing and case status of the kits themselves — may be very different in other jurisdictions.

Recordkeeping that allows key criminal justice stakeholders to determine why a kit was not previously tested rarely exists, particularly in a searchable, electronic database.

One possible explanation for the findings is that a large number of the more than 10,000 SAKs in police storage had not been sent to the laboratory precisely *because* detectives and prosecutors had previously determined that testing would not increase the likelihood of adjudication. It was, however, beyond the scope of the NIJ study to analyze *why* the kits in L.A. city and county had not been tested, except anecdotally through focus groups with detectives, prosecutors and laboratory analysts.

That said, the L.A. study findings provide more empirical knowledge in an area in which there has been relatively little solid research to inform an important, controversial challenge facing our nation today: untested evidence in sexual assault cases and the role of DNA testing in solving these cases.

The L.A. Sexual Assault Kit Study

By fall 2008, there were 10,895 SAKs in the LAPD and LASD property rooms that had not been sent to a crime laboratory for analysis. (This is sometimes erroneously referred to

as a “backlog,” but that term applies only to cases that *have* been submitted to a crime laboratory for analysis but have not yet been analyzed.) Although it was assumed that some of the SAKs were untested because investigators had concluded that testing was unwarranted — cases, for example, in which the perpetrator had been convicted or entered a guilty plea without DNA evidence, or cases in which investigators had concluded no crime occurred — it was unknown how many of these kits could yield probative DNA evidence, identify perpetrators and support successful adjudications if they were tested.

In 2009, Human Rights Watch, which had been looking at the issue of sexual assaults in L.A., reported that:¹

- The county and city crime labs did not have the capacity to test all of the stored SAKs, let alone test new ones as they came in.
- It was taking up to a year from the time a request for DNA testing was made until a final laboratory report was completed.
- Victims were rarely informed of the status of their case.

L.A. officials made the decision to perform DNA testing on all of the nearly 11,000 SAKs in the LAPD and LASD property rooms. They found additional funding (including through NIJ's Backlog Reduction Grant Program) to outsource the testing to private labs.

This situation presented NIJ with a unique opportunity. All around the country, jurisdictions were realizing that large amounts of untested evidence in alleged sexual assault cases had not been sent to a laboratory for testing. The problem was that no one

knew if there would be value — in terms of solving crimes and garnering justice for the victims and society — in testing them.

To help address this issue, NIJ funded researchers at California State University, Los Angeles, to look at two random samples. In the first, they looked at 1,948 cases to determine how successful testing would be in detecting a DNA profile that could be uploaded to the Combined DNA Index System (CODIS). The researchers also examined a second, smaller sample (371 cases from the first sample) to determine the impact DNA testing had on case adjudications in the first six months after kits were tested. Finally, the researchers conducted focus groups with LAPD and LASD detectives, prosecutors and lab analysts.

Testing Results and Case Characteristics

One of the primary goals of the study was to help answer these questions with respect to the untested SAKs in L.A.:

- What kind of evidence did the SAKs contain, and what would DNA testing reveal?
- How frequently was semen identified?
- How frequently was a male DNA profile obtained?
- How many profiles were uploaded to CODIS, and how many “hits” resulted? (For more on CODIS, see sidebar, “CODIS: The National DNA Database.”)

Figure 1 (on p. 7) presents the findings of a randomly selected 20 percent sample (1,948 cases) in the L.A. study. The dark blue line at the top shows the total 1,948 cases that were studied. As the cases moved through DNA testing —

CODIS: The National DNA Database

The Combined DNA Index System (CODIS) is a database in which DNA profiles from crime scenes and convicted offenders (and, in some states, arrestees) are stored. CODIS — which includes local (LDIS), state (SDIS) and national (NDIS) databases — can be searched to determine if a DNA profile pulled from biological evidence in a crime matches the DNA of a known offender or DNA from evidence in another crime. These searches can generate leads for investigators when matches, or “hits,” occur.

As of 2010, CODIS contained more than 8.7 million offender profiles and approximately 330,000 profiles from crime-scene evidence.

Searching CODIS can potentially have both immediate benefits (offering investigative leads in the current case) and long-term benefits (potentially linking an assailant to other crimes or linking cases together). Many states now collect DNA from all felony arrestees, which is greatly expanding CODIS and increasing the opportunity for hits. (For more information on arrestee DNA collection, see “Collecting DNA from Arrestees: Implementation Lessons,” page 18.)



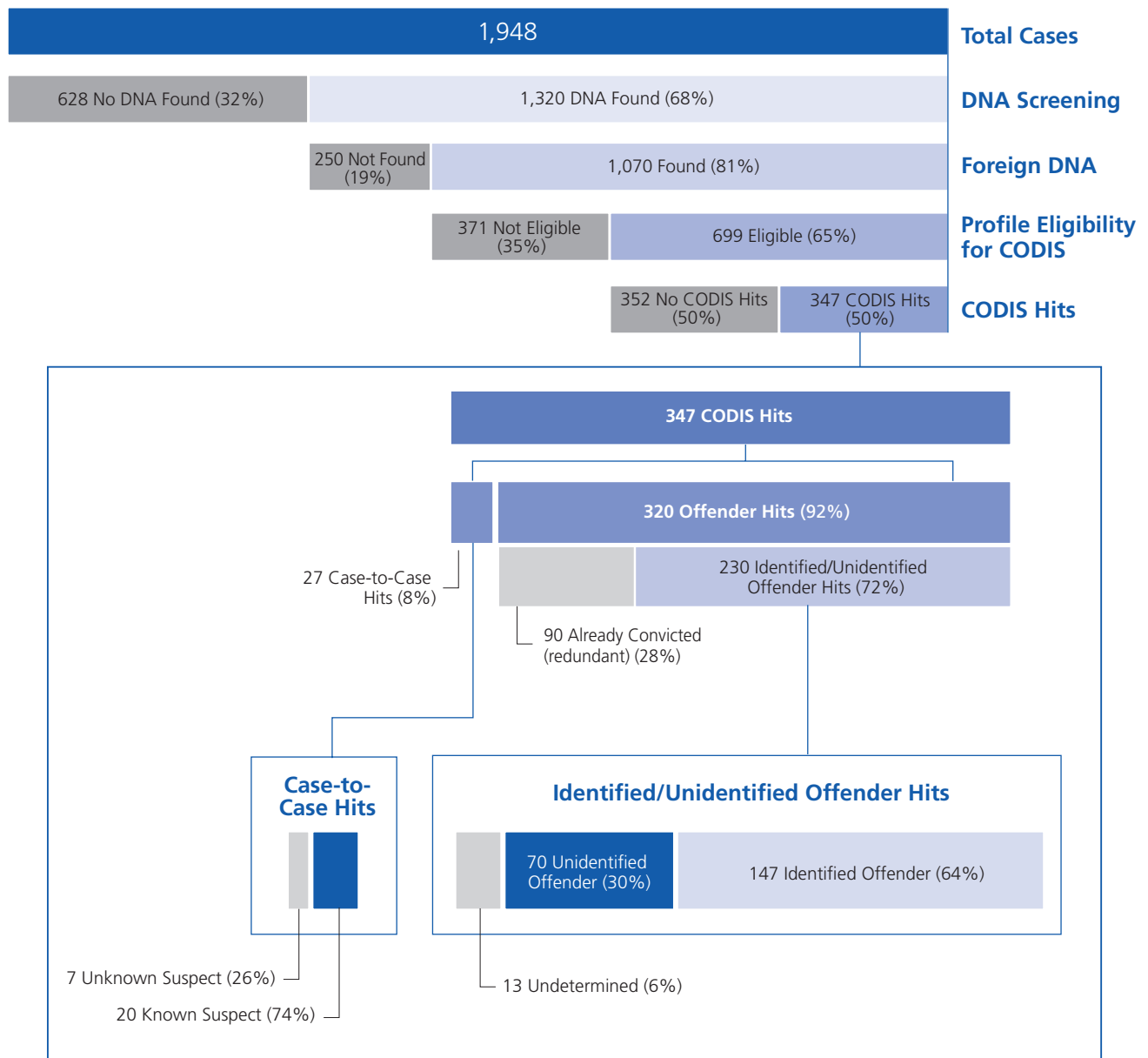
going from the top of the diagram to the bottom — some yielded results that could help investigators solve cases, and some did not. Obviously, one important “bottom line” of any CODIS hit is whether the hit provides a true investigatory lead that might help solve a case; the dark blue boxes at the bottom of the figure represent the cases in which DNA testing yielded investigative leads.

When the 1,948 SAKs were screened for DNA, DNA was present in 68 percent of the cases (1,320 cases, shown in light blue on the diagram’s second line). DNA was not present, however, in 32 percent of the cases (628 cases, shown in gray on the second line), so the lab did not further test these.

The third line shows that “foreign” DNA — DNA from someone other than the alleged victim — was found in 81 percent of the cases in which there was DNA (shown in light blue). In 19 percent of the cases in which there was DNA, however, no foreign DNA was found (shown in gray).

Moving down the graph to the fourth line, 65 percent of the cases in which there was foreign DNA yielded profiles that were able to be uploaded into CODIS (699 cases, shown in blue). However, 35 percent of the cases in which there was foreign DNA did *not* yield a profile that was able to be uploaded into CODIS (371 cases, shown in gray).

Figure 1. Results from the L.A. Study's Large Case Sample



Of the 699 cases that were uploaded into CODIS, about half resulted in hits (347 cases, blue segment) and about half did not (352 cases, gray segment). It is important to understand that even though there were hits in only half of the L.A. sample cases that were uploaded to CODIS, it is not known whether the profiles that did not result in hits may match future cases. (For more on this, see sidebar,

“Case Characteristics of Untested Sexual Assault Kits in Los Angeles.”)

There are two kinds of hits when a DNA profile matches a profile in CODIS: an “offender” hit and a “case-to-case” hit.

In the 347 cases in which there was a CODIS hit, 92 percent (320 cases) were “offender” hits

(the right branch), and 8 percent (27 cases) were “case-to-case” hits (the left branch).

Offender Hits

Of the 320 offender hits, 28 percent (90 cases) merely re-identified the semen donor who had already been convicted of or had pled guilty to the very crime represented by

Case Characteristics of Untested Sexual Assault Kits in Los Angeles

One of the goals of the NIJ-funded study of sexual assault kits (SAKs) in the property rooms of the Los Angeles Police Department and the Los Angeles Sheriff's Department was to determine some of the case characteristics. The researchers did this by looking at a 20 percent random sample of the previously untested SAKs. Here are some of the findings:

- Ninety-four percent of the victims were female.
- Ninety-two percent of the assailants were male.
- The average age of the victims was 22 years; approximately 40 percent of the victims were under 18.
- Sixty-five percent of the victims knew the assailant.
- Seventy-seven percent of the victims reported vaginal penetration by the penis, a finger or a foreign object.
- Anal penetration was attempted or achieved in 32 percent of the cases.
- The assailant engaged in non-genital acts in 58 percent of the cases; the most common were kissing (39 percent), fondling (14 percent) and licking (14 percent).
- Twenty-nine percent of the victims reported that the assailant used contraceptives or lubricants; victims reported that the assailants used condoms in 11 percent of the assaults.
- Victims said they believed the assailant ejaculated in 28 percent of the cases.
- A great majority of the victims — 80 percent — engaged in some form of post-assault hygiene prior to the sexual-assault exam:
 - Seventy-three percent urinated or defecated.
 - Fifty-five percent ate, drank, gargled, rinsed or brushed their teeth.
 - Fifty-four percent used a genital wipe or douche.
 - Forty-six percent changed their clothing.

the kit — *without* the SAK having been tested. His DNA was entered into CODIS upon his conviction (or arrest), and this CODIS hit was to this same, previous case. Therefore, these hits, depicted in the gray segment as “already convicted (redundant)” on the diagram, did not yield any new information that could help in a particular investigation.

Of the 320 offender hits, 72 percent (230 cases) were to someone who had been arrested for or convicted of another crime. These hits can be to an identified offender (what law enforcement calls a “warm” hit) or to an unidentified offender (what law enforcement refers to as a “cold” hit). An *identified offender* hit is when the profile matches a named suspect, someone whose identity was already known or who was arrested in the case. DNA testing for an identified offender hit does not yield any additional investigative

information that law enforcement could follow up on, unless the suspect denies sexual contact. An *unidentified offender* hit occurs when the profile matches an arrestee or convicted offender whose identity was previously unknown — these, indeed, could yield new investigative information.

In the 230 offender hits in the L.A. study:

- Sixty-four percent (147 cases) were to identified offenders; that is, to people whose identity was known by the victim (light blue segment).
- Thirty percent (70 cases) were to unidentified offenders; that is, to people whose identity was unknown to the victim (dark blue segment).
- Six percent (13 cases) were to offenders whose relationship to

the victim could not be determined by the researchers; that is, the case file did not reveal whether the victim had known the identity of the suspect or not (gray segment).

NIJ is continuing to study the criminal-justice value of DNA testing, depending on whether the victim knows the identity of the alleged attacker, to learn whether this factor should be used as a testing prioritization criterion.

Case-to-Case Hits

The case-to-case hits in the L.A. study sample are depicted in the left branch of the diagram (at the very bottom). A case-to-case hit is when a newly tested SAK yields a DNA profile that matches a profile in another case in CODIS (which may or may not be a sexual assault). There were 27 case-to-case hits after the

1,948 SAKs in the L.A. study sample were DNA tested. Approximately three-fourths of these case-to-case hits (20 cases out of 27; dark blue segment on the diagram) linked to another case in which the suspect's identity was known. One-quarter of the case-to-case hits (seven cases; gray segment) linked to another case in which the suspect's identity was not known — that is, his DNA profile was known, but his name was not. Obviously, only known-suspect case-to-case hits provide an investigative lead for police to follow up on, but certainly “linking” unknown-suspect cases would become important if the profile is ever identified by name; a case-to-case hit also might help investigators establish the existence of a pattern, even if the alleged perpetrator's identity is not known.

In summary, then, after DNA testing an SAK, there are basically two types of CODIS hits that can generate a new investigative lead to help solve *that* case: a hit to a previously

unidentified offender (someone whose identity was not previously known to the victim) or a case-to-case hit to a case in which there is a **known suspect**.

Looking at the **new investigatory leads** — or the impact of DNA testing in the total sample of 1,948 previously untested SAKs in the L.A. study — **DNA testing led to a suspect being identified in 90 cases: 70 in which there was an previously unidentified offender hit (4 percent of the total kits tested), and 20 in which there was a case-to-case known suspect hit (1 percent of the total kits tested)**. Note that it was beyond the scope of the study for the researchers to determine what happened to these leads.

Criminal Justice Outcomes

One of the goals of the L.A. study was to look at a smaller, randomly selected subset of the 1,948 cases — 371 cases — to determine

the number of new arrests, charges, convictions and sentences — called criminal-justice “outcomes” — that resulted within six months of testing.

As noted in the beginning of this article, there were no new arrests after these 371 kits were DNA tested. Although charges were filed in one new case, and there were two convictions (which includes the case in which charges were filed) after the SAKs were tested, it is doubtful that the testing was relevant to these case outcomes. In one conviction, sperm was detected on rectal and dried secretion samples, but DNA testing had not been done. In the other, Y-chromosome testing yielded the presence of male DNA, but no foreign DNA was found when the samples were subjected to short tandem repeat analysis. (For more on what the L.A. study showed with respect to DNA-testing methods, see sidebar, “DNA Testing: Techniques and Results in the Los Angeles Study.”)

DNA Testing: Techniques and Results in the Los Angeles Study

DNA testing can be a powerful tool in identifying or excluding suspects in sexual assaults. A suspect's DNA profile can be obtained from semen and cells left on the victim. Dried semen, saliva or other body secretions on bedding, clothing or towels can also yield a DNA profile, as can cells left on the exterior or interior of a discarded condom.

The NIJ-funded study of untested sexual assault evidence in L.A. found that:

- Y-chromosome testing (to determine the presence of male DNA) and conventional

serology screening techniques (including microscopic examination to determine the presence of sperm cells) had comparable success rates in leading to positive short tandem repeat results. However, the Y-chromosome technique was more successful in detecting foreign and male DNA in samples taken from the vaginal and external genitalia areas and dried secretions.

- In developing full and partial profiles, the Y-chromosome screening technique was superior with samples from external genitalia, and conventional serology techniques were more successful with

samples from the rectal area. Success was mixed in samples taken from the oral and vaginal areas and from dried secretions.

It should be noted that screening evidence for presence of the Y-chromosome does not yield a male DNA profile; that is, it does not identify the suspect. Also, Y-chromosome screening does not distinguish the tissue type, so the Y chromosome could have come from epithelial cells in saliva, or from semen, blood or skin cells; this type of information could affect the way a crime is eventually charged.

NIJ's Action-Research Project in Houston and Detroit

In April 2011, NIJ awarded competitive research grants to Wayne County (Detroit) and Houston to examine the issue of untested evidence in sexual assaults. At that time, it was believed that there were more than 16,000 untested sexual assault kits (SAKs) in the Houston Police Department property room and more than 10,000 in Detroit police custody.

The NIJ-funded teams in Houston and Detroit include criminal justice researchers; sexual assault forensic examiners; and representatives from the police department, crime lab and community-based victim services organizations. One of the primary goals of the “action research” project is to produce transportable lessons and strategies to help other jurisdictions that have untested SAKs in their property rooms.

“Action research” is a method in which researchers engage in an active partnership with practitioner agencies to solve a problem. As former NIJ program manager Lois Mock and her co-authors explain in

a 2010 article, the researchers play a key role in identifying the problem and analyzing the data and in working with the practitioner agency to develop intervention strategies to target the problem.¹ The practitioner agency implements the strategies, and the researchers monitor progress and provide feedback to better refine the strategies. Finally, the researchers conduct an assessment of the implementation of the problem-solving strategies and their impacts.

The Houston and Detroit projects were broken into two phases. The first was a six-month planning phase. The teams are now into the second, implementation, phase. Although it is too early to report any definite findings, some interesting preliminary data have emerged.

One of the Detroit team’s goals in phase 1 was to get an accurate count of how many SAKs in police custody were, in fact, untested. Their audit has determined that, as of November 1, 2009, there were 8,505 untested SAKs in police storage.

A second goal in Detroit was to examine why the problem developed

in the first place. Based on an analysis of 20 years of archival records (public records and internal records) and on in-depth interviews with key stakeholders from all multidisciplinary groups, researchers Rebecca Campbell and Giannina Fehler-Cabral from Michigan State University have identified reasons why there were so many untested SAKs in Detroit. In essence, they say, the following can be regarded as “risk factors” for a large number of untested SAKs:

- Lack of a formal policy and protocol for kit testing
- Reduction in staffing levels within law enforcement due to budget cuts, which can significantly curtail sexual assault investigations
- Very high turnover in law enforcement leadership and supervision of the sex crimes unit
- Reduction in staffing levels in the crime lab due to budget cuts
- Use of inefficient DNA testing equipment/methodology within the crime lab due to budget cuts

It is important to understand that, when officials made the decision to test all previously untested kits stored in the LAPD and LASD property rooms, there was no attempt to weed out cases that had previously been adjudicated (that is, adjudicated *without* the benefit of the SAK being tested). The researchers found that, in the random sample of 371 cases, a suspect had been arrested in nearly 40 percent of the cases (147 arrests) without the benefit of DNA analysis.

Charges had been filed in 81 of the 371 sample cases, and 65 cases (nearly 18 percent of the sample) had ended in a conviction.

This confirms one thing that we already know: In many cases, DNA testing of evidence is not necessary for there to be a plea or conviction in a sexual assault case. Based on the results in the L.A. study, the researchers found, in fact, that there was little *immediate* criminal-justice

value in testing the large number of previously untested SAKs that were in the LAPD and LASD property rooms. What is unknown, of course, is whether there may be future dividends — that is, the potential to solve future crimes — from uploading the profiles to CODIS in cases that had not been previously adjudicated.

NIJ is currently involved in research projects in Houston and Detroit

- Lack of good-quality sexual assault medical forensic exams
- Lack of community-based sexual assault advocacy services
- Lack of professional training for all multidisciplinary service providers

Currently, Detroit is testing a sample of the previously untested SAKs and developing victim-notification protocols.

In Houston, one of the most significant early findings concerns the number of untested kits. As part of its preparation for moving to a new evidence-storage facility, the Houston Police Department performed an audit of all SAKs in its custody. As a result of the audit, officials have determined that there are far fewer untested SAKs in Houston than previously believed. The NIJ project is focusing on approximately 4,000 kits that have been stored in the freezer, of which about one-third (1,200 kits) have been screened by the lab in the past couple of years.

In the first phase of the project, Noel Busch-Armendariz, Director

of the Institute on Domestic Violence and Sexual Assault at the University of Texas at Austin, and her team — along with William Wells from Sam Houston State University, co-principal investigator on the NIJ project — conducted 146 interviews of law enforcement investigators, prosecutors, laboratory analysts, sexual assault nurse examiners, victim advocates and victims. The interviews are helping the team develop an in-depth understanding of untested sexual assault evidence in Houston.

Final results from the Houston and Detroit projects are expected in 2014.

Note

1. Mock, Lois Felson, "Action Research for Crime Control and Prevention," in *New Criminal Justice: American Communities and the Changing World of Crime Control*, ed. John Klofas, Natalie Kroovand Hipple and Edmund McGarrel. New York: Routledge, 2010: 97-102.

where the jurisdictions are first determining if kits stored in their property rooms have already been tested or the cases have already been adjudicated before coming up with a plan to do DNA testing. (For more on this, see sidebar, "NIJ's Action-Research Project in Houston and Detroit.")

NIJ is also building on the L.A. study results through a recently funded project in Massachusetts. This work is intended to add to our body of

knowledge about when DNA testing may — and may not — be necessary to move a case forward. (For more on that project, see sidebar, "Understanding DNA Testing in Sexual Assaults: NIJ's Ongoing Work in Massachusetts.")

Input From Focus Groups

In the L.A. study, the researchers held focus groups with sexual assault investigators, prosecuting attorneys

and criminalists from the LAPD and LASD. Such qualitative information can help frame and give greater context to quantitative data, and this can be especially important when other scientific evidence is still being developed to inform policy and practice. The L.A. focus groups looked particularly at the role SAK evidence plays in resolving stranger and non-stranger sexual assaults.

Perhaps the most commonly expressed sentiment among the participants was that mandatory testing of kits was unnecessary when the suspect's identity was already known, and the legal issue was consent. Noting that laboratory resources are limited, participants stated that a system of priorities should be established to determine which SAKs — and what specific evidence within the kits — would have probative value. (For more, see sidebar, "The Los Angeles Focus Groups.")

Why Are SAKs Not Sent to Laboratories for Testing?

The reasons that large numbers of SAKs are stored in police property rooms around the country are complex. As mentioned previously, kits that have not been sent to a crime lab are not technically part of what is often referred to as the "backlog," because investigators or prosecutors have not submitted them to a laboratory and requested that they be analyzed. Within the criminal justice community, the term "backlog" applies to cases that have been waiting for testing in a crime lab for more than 30 days. In fact, it is problematic to regard all untested SAKs in police property rooms as part of a crime laboratory backlog. Doing so oversimplifies — and could even obscure — the reasons that SAKs are not sent to a crime lab for analysis.

Understanding DNA Testing in Sexual Assaults: NIJ's Ongoing Work in Massachusetts

Last year, NIJ awarded \$97,000 to the University of Illinois to study the role of forensic evidence in the criminal justice outcomes of sexual assault cases. Researchers are looking at a random sample of 436 sexual assaults that occurred in 2008-2010 in Massachusetts. The goals of the study are to:

- Provide a detailed description of forensic evidence to determine the frequency of different types of evidence
- Assess the timing of when forensic evidence is available with respect to arrests and charges filed
- Examine the relationship among forensic evidence, arrests and charging
- Analyze the role of forensic evidence, particularly in cases with

child victims and cases in which the perpetrator is a stranger

- Compare the impact of sexual assault nurse examiners (SANEs) versus non-SANE evidence collectors on arrests and charges filed

The researchers will use a variety of methods (including descriptive and bivariate statistics and logistic regression analyses) to analyze data from three sources: mandatory reports by medical providers collected in the state Executive Office of Public Safety and Security database, non-electronic crime lab data, and police incident data from the National Incident-Based Reporting System and a Boston Police Department database.

Findings from the study are expected in 2013.

That said, it is crucial that jurisdictions determine which SAKs stored in their property rooms have previously been DNA tested and which have not but could have probative value if tested. In Houston, for example, where an NIJ-funded project is looking at the issue of untested evidence in sexual assault cases, authorities have determined that approximately half of the stored SAKs had previously been screened by the crime lab (see sidebar, "NIJ's Action-Research Project in Houston and Detroit"). This raises the question of whether a large percentage of SAKs in the property rooms of some jurisdictions may have already been tested.

Regardless of what future research tells us about the percentage of stored SAKs that have already been tested, it is clear that many SAKs have *not* been tested. To gather more data about this issue, NIJ commissioned a nationwide survey a few years ago to try to understand why forensic evidence in a variety of crimes, including sexual assault, was not being sent to a crime lab for analysis. More than 2,000 state and local law enforcement departments responded.

The findings, published in 2009, revealed that forensic evidence — including DNA, fingerprints, firearms and tool marks — was not submitted

to a crime lab in 18 percent of unsolved sexual assaults, 14 percent of unsolved homicides and 23 percent of unsolved property crimes during 2002-2007.²

Of course, there are legitimate reasons why law enforcement might not send forensic evidence to a lab, including a belief that it would not be probative, or knowledge that the charges have been dropped or that a guilty plea has already been entered in the case. However, the RTI International researchers who performed the survey concluded that some law enforcement officers might not fully understand the value of forensic evidence in developing new investigatory leads. Here are some of the findings:

Reason evidence not sent to the laboratory	Percentage of agencies citing as a reason
No suspect had been identified	44%
Uncertain of its usefulness	30%
Suspect adjudicated without testing	24%
Case dismissed	19%
Prosecutor did not request testing	15%

DNA-Testing Decisions

Perhaps the most frequent reason that an SAK is not sent to a lab for DNA testing is that the victim knows the identity of the assailant: He is a domestic or intimate partner; he is a family member or they are dating; or they have a work-related or casual relationship. In these cases, if the suspect admits sexual contact, but maintains that it was consensual,

authorities (in jurisdictions without a “test-all” policy) are unlikely to think that DNA testing would be probative. Although the percentage of these “known-suspect” cases varies from jurisdiction to jurisdiction, studies have shown that 48-75 percent of sexual assault victims know the identity of the assailant.³⁻⁷

One of the goals of the L.A. study was to determine *why* investigators or prosecutors had not requested DNA analysis when the SAKs were first collected. This presented an insurmountable, if not altogether surprising, hurdle.

One of the greatest challenges authorities faced when confronting the nearly 11,000 SAKs in the LAPD and LASD property rooms — and which other jurisdictions around the country now face — was determining *why* an SAK was not tested at the time of the alleged crime. In fact, the LASD performed an audit of its untested SAKs and determined that many of the cases had been adjudicated without the kits’ being DNA tested. But, put simply, recordkeeping that allows key criminal justice stakeholders to determine why a kit was not previously tested rarely exists, particularly in a searchable, electronic database. And without easily searchable records, it can be very difficult to determine if the detective decided not to send a kit to the lab because the alleged perpetrator’s identity was already known and DNA testing may not have been a wise use of resources, or if the kit should have been tested, and testing it now could potentially solve the case.

Neither the LAPD nor LASD has a computer system that tracks sexual assault evidence and key decisions made along the way. Looking again

at the 2009 RTI survey of 2,000 police departments, this finding was significant: Only 43 percent of the departments said they had a computerized system that allowed them to track information about evidence in a case. That statistic was even lower for mid-size and small departments. And, of course, the existence of a

It is crucial that jurisdictions determine which SAKs stored in their property rooms have previously been DNA tested, and which have not but could have probative value if tested.

computerized system that *connects* law enforcement, the lab and the prosecutor’s office is rarer still.

Take this example: If a detective working a sexual assault case in 1990 did not *document* his decision in a database, case file or evidence log that the SAK was not being sent to the lab for DNA analysis because the suspect was known to the victim and the legal issue was “consent” — or if the suspect had pled or been found guilty — it is very difficult to know now whether testing that SAK *now* would help solve the case.

In the L.A. study, the researchers found that information on the decision to test — or not test — an SAK was not consistently documented. Pertinent data may or may not

have existed in the police incident report, the sexual assault exam report, the victim’s statement, the arrest report or the prosecutor’s file. Unfortunately, resources did not allow the researchers to try to track down this information.

Determining the status of an SAK in police storage — Has it been tested? Is the suspect’s identity already known because the victim knew him? Was the case adjudicated? — is vexingly difficult to do in many jurisdictions. In Houston, for example, where NIJ is currently studying the issue, authorities have devoted significant time and human resources to “auditing” the SAKs in the police property room to determine their testing and case-outcome status.

Ultimately, what this means is that, unless a jurisdiction has the resources to test every SAK in its custody — at a minimum of \$1,000 per kit — determining details about a kit that allow authorities to triage testing is labor-intensive and expensive. In this regard, it is also important to note that many people support a policy of testing *all* stored SAKs and all evidence in new sexual assault cases. (For more information, see sidebar, “The Case for Testing All Sexual Assault Kits.”)

Applying Lessons Learned

Public resources are finite. We are in a period of cutbacks at every level of government. At the same time, sexual assault victims and the public are demanding justice in unsolved sexual assaults.

In the end, it is science that can help practitioners and policymakers make the most efficacious and fiscally responsible decisions on how best to solve sexual assault cases. The

The Los Angeles Focus Groups

One of the goals of the Los Angeles sexual assault kit (SAK) study was to talk to boots-on-the-ground practitioners. Lead researcher Joe Peterson and his California State University team held four focus groups. Here are some of the main points made in the focus groups.

Law enforcement investigators

Although most of the detectives said that they had not yet found the Combined DNA Index System (CODIS) valuable in linking sexual assault cases, they cited the “Grim Sleeper” serial murders as a recent example of how DNA testing could link a decades-old case to a single offender. The detectives said that as the CODIS database grows, it will become a more useful investigative tool.

The detectives expressed no doubt that DNA testing in sexual assault cases can be valuable; however, they questioned the need to test all SAKs. Some said they believed that the recently adopted policy of testing all kits was an overreaction, saying that it removed their discretion. Some questioned the wisdom of testing

all SAKs when time and human resources are limited, especially in cases that are unlikely to result in prosecution. They also noted that the current test-all policy results in some testing delays and, ultimately, amounts to poor case management when caseloads are already heavy.

The detectives discussed the importance of communicating with lab analysts. They noted that the SAK testing request form allows them to direct the lab to specific pieces of evidence within the kit that, based on the history provided by the victim, could most likely yield a DNA profile. However, some detectives conceded that, although the lab request form does not preclude additional communication with analysts, they did not always speak with the analysts or only followed up on some cases.

The detectives also mentioned occasional difficulty understanding scientific terminology in lab reports and that better communication with the analyst would help them better comprehend the results. They noted the importance of maintaining awareness of scientific results and database inquiries and coordinating

the sharing of information with victims.

Deputy district attorneys

The deputy district attorneys’ belief mirrored the detectives’ belief that DNA testing of an SAK has tremendous corroborative value in meeting legal standards of evidence and supporting the victim’s credibility. However, some prosecutors felt that the length of time and cost of testing were prohibitive, and most said that testing is not strictly necessary if there is other corroborative evidence, such as a suspect’s admission or a victim’s injuries. Note, however, that this does not address the possible value of using CODIS to link the suspect to other past or future crimes.

They characterized the decision to test an SAK as “fact-driven,” based on each case, adding that even though corroboration of victim statements and victim credibility are key criteria in deciding whether to charge a suspect, it is not mandatory to have DNA results in every case. The prosecutors agreed with the detectives that testing is probably not necessary if the suspect’s identity is not in question or if “consent” is the issue

L.A. study — although only one study of one city and county’s experiences — offers another piece of the puzzle. Most significantly, the study — and, in fact, NIJ’s growing body of knowledge in sexual assault and the use of forensic evidence — points to this reality: The nation’s criminal justice agencies need computerized databases that link crucial data — including documented decision-making — from police

investigation files, the sexual assault exam, lab testing of the SAK and the prosecutor’s office. Such databases also would allow an objective review, by police oversight boards, for example, to provide better transparency about decision-making processes and the quality of investigative and forensic services.

Indeed, this issue is at the heart of recommendations made by the L.A.

study researchers. Going forward, they said, jurisdictions should form an SAK advisory committee with representatives from law enforcement, the crime lab and the forensic medical community to:

- Develop criteria for submitting SAKs to the lab and criteria for deciding which kits should be DNA tested.

when both individuals are underage; however, they strongly supported testing when it is key to establishing that a crime occurred or could possibly identify the suspect.

Some prosecutors said that policies mandating the testing of all SAKs were being driven by community perceptions, including that the public generally regards *not* testing evidence in an alleged sexual assault as violating the victim's rights. Such expectations, they said, have been compounded by TV shows that do not foster a full understanding of DNA testing. 'Juries expect it,' they said. 'They're going to wonder why when the kit isn't tested.' The prosecutors noted that, when an SAK is not tested, they must offer an explanation during *voir dire* or trial. It is vital, they added, to educate potential jurors on 'what science can and cannot do' because of expectations formed by *CSI*-type dramas.

Some of the prosecutors suggested that lab delays were sometimes caused by detectives requesting that the lab test everything. The researchers reported that this seemed contrary to the detectives' belief in their ability to direct the testing of

evidence and seemed to suggest that the prosecutors did not believe that detectives always knew what particular evidence within an SAK would be most useful to a case.

The prosecutors said that lab analysts appreciated when they (the prosecutors) were knowledgeable about different types of DNA analysis and the associated costs, particularly in light of the presence or absence of other evidence in a case.

Finally, the prosecutors agreed with the detectives that labs should establish testing priorities to determine which kits should be tested and which evidence within an SAK should be tested.

Laboratory analysts

The lab analysts generally felt that their mission — to help solve cases — was being complicated by their parent agencies' new policy to test all SAKs. They regarded this as turning the lab's mission into uploading profiles into CODIS, regardless of whether the suspect's profile in the case was already in CODIS. Although they acknowledged the long-term benefits that could be gained from increasing the size of the CODIS

database, they said that many of the hits resulting from testing all SAKs in the property rooms were for defendants who had already been convicted. They also said that, to their knowledge, none of the hits had led to a defendant being exonerated.

The analysts told the researchers that, if the detectives felt that testing all SAKs eliminated their discretion, they felt this even more strongly. "We don't get to triage; we get told what to do," one said. "We just do what comes in the door," said another. The lab analysts agreed with the detectives and prosecutors that some cases were being tested unnecessarily, noting that lab resources could be used more efficiently, specifically in stranger sexual assaults.

The analysts noted difficulty staying current with workload, saying that although new analysts were being hired, it was difficult to train them quickly to begin working on cases. They said that the response to the untested SAKs in L.A. seemed more like crisis management, adding that strategic planning was necessary to come up with long-term solutions.

- Establish mandatory data elements to be recorded, including why a decision was made not to send an SAK to the crime lab for testing.

The researchers also recommend that jurisdictions not start testing all SAKs in their custody until they know if the kit has been previously tested and whether the case has been adjudicated without being DNA

tested. Based on the L.A. study, for example, we see very clear evidence that unless authorities are able to determine if a kit has been tested before, they would (if the kits were tested now) not be able to determine if a CODIS hit occurs because the profile was previously put into CODIS from *that same case*, or if the hit is truly a new hit (cold hit) that could help investigators solve that case or other cases.

These are issues that the NIJ-funded teams in Detroit and Houston are further exploring.

"The bottom line," said Joe Peterson, lead researcher in the L.A. study, "is that we will never understand the value of forensic DNA testing in sexual assault until there are better data — consolidated in a single database

The Case for Testing All Sexual Assault Kits

There is significant support — particularly among victim advocates, policymakers, prosecutors and sexual assault survivors — for testing all sexual assault kits (SAKs). This includes the thousands of SAKs maintained in police property rooms as well as kits in every new sexual assault that occurs. Proponents of mandatory testing argue that testing SAKs even in non-stranger cases (48-75 percent of sexual assaults³⁻⁷) can potentially lead to the identification of a serial rapist, affirm the victim's version of events, discredit the assailant or exonerate an innocent suspect.

Advancements in DNA technology now allow smaller and more

degraded pieces of biological evidence to be analyzed. Therefore, current DNA technologies can be used to solve cold cases and exonerate wrongly convicted people.

It is also possible to use DNA-testing results from cases that are not going to be adjudicated — if the statute of limitations has run, for example — in other ways. Testing results from an unadjudicated case may be deemed relevant in the parole hearing of a convicted offender, for example. It is also possible for a judge to allow evidence of past criminal behavior — even criminal behavior that was unadjudicated, if the court deems that it is directly relevant to the case at hand — under Federal Rule of Evidence 404(b).

Often referred to simply as “404(b),” this rule allows evidence regarding a defendant's character or prior criminal conduct into a trial under certain circumstances. Some proponents of analyzing all older SAKs argue that even if the statute of limitations has run, it could be important to have 404(b) evidence of a past sexual assault if the person is on trial in the future for another sexual assault. Especially in cases when the victim and the suspect know each other, the ability to present 404(b) evidence can effectively turn a “he-said, she-said” case into a case of “he-said, she-said, she-said.”

In the end, it is science that can help practitioners and policymakers make the most efficacious and fiscally responsible decisions on how best to solve sexual assault cases.

or in linked databases — maintained by all the agencies in the criminal justice system that are responsible for investigating and prosecuting sexual assaults.”

This, Peterson said, is perhaps the most important recommendation coming out of the L.A. study: Better data management systems must be created to ensure that detectives, crime lab analysts and prosecutors have access to the most relevant information in a case.

“This kind of information,” he added, “needs to be at the *fingertips* of criminal justice and crime lab professionals ... not weeks, months or even years later.”

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For more information:

- Read the final report to the National Institute of Justice, *Sexual Assault Kit Backlog Study*, at <https://www.ncjrs.gov/pdffiles1/nij/grants/238500.pdf>.
- Read the NIJ Special Report, *The Road Ahead: Unanalyzed Evidence in Sexual Assault Cases*, at <https://www.ncjrs.gov/pdffiles1/nij/233279.pdf>.
- Read the NIJ Special Report, *Making Sense of DNA Backlogs: Myths vs. Reality*, at <https://www.ncjrs.gov/pdffiles1/nij/232197.pdf>.



Check out NIJ's Web page on the action-research projects in Detroit and Houston: <http://www.nij.gov/topics/forensics/sexual-assault-kits.htm>.



Listen to researchers and practitioners in Los Angeles discuss how collaboration can improve the quality of sexual assault investigations and watch their presentations: <http://www.nij.gov/multimedia/presenter/presenter-nijconf2011-collaboration>.

Listen to a panel discussion on forensic information data exchange and the partnership between law enforcement and crime laboratories from the 2010 NIJ Conference: <http://nij.ncjrs.gov/multimedia/audio-nijconf2010-data-exchange.htm>.



Watch Rebecca Campbell's presentation on the impact of sexual assault nurse examiner programs on adult sexual assault investigation and prosecution: <http://nij.ncjrs.gov/multimedia/video-sane.htm>.

Notes

1. Human Rights Watch, *Testing Justice: The Rape Kit Backlog in Los Angeles City and County*, New York: Human Rights Watch, 2009: 1-61, available at <http://www.hrw.org/sites/default/files/reports/rapekit0309web.pdf>.
2. Strom, Kevin J., Jeri Roper-Miller, Shelton Jones, Nathan Sikes, Mark Pope, and Nicole Hortsman, "The 2007 Survey of Law Enforcement Evidence Processing," Final report to the National Institute of Justice, grant number 2007F 07165, October 2009, NCJ 228415, available at <http://www.ncjrs.gov/pdffiles1/nij/grants/228415.pdf>. See also Ritter, Nancy, "Untested Evidence: Not Just a Crime Lab Issue," *NIJ Journal*, 266 (2010): 28-30, available at <http://www.nij.gov/journals/266/untested.htm>.
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5. Campbell, Rebecca, Debra Patterson, Deborah Bybee, and Emily R. Dworkin, "Predicting Sexual Assault Prosecution Outcomes: The Role of Medical Forensic Evidence Collected by Sexual Assault Nurse Examiners," *Criminal Justice and Behavior*, 36, 2009: 712-727.
6. McLean, Iain, Stephen A. Roberts, Cath White, and Sheila Paul, "Female Genital Injuries Resulting From Consensual and Non-Consensual Vaginal Intercourse," *Forensic Science International*, 240, 2011: 27-33.
7. Spohn, Cassia, Dawn Beichner, and Erika Davis-Frenzel, "Prosecutorial Justifications for Sexual Assault Case Rejection: Guarding the 'Gateway to Justice,'" *Social Problems*, 48, 2001: 206-235.