The Role of Forensic Evidence in Arrest and Prosecution of Sexual Assault Cases

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This research is funded by the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice (2011-WG-BX-0005 and 2013-NE-BX-0005). The opinions, findings, and conclusions or recommendations expressed in this presentation are those of the author(s) and do not necessarily reflect those of the Department of Justice.
<table>
<thead>
<tr>
<th>Study 1: Police Founding &amp; Arrest</th>
<th>Study 2: Prosecution &amp; Conviction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sample</strong></td>
<td><strong>Sample</strong></td>
</tr>
<tr>
<td>– Statewide random sample of</td>
<td>– Single county sample (same state)</td>
</tr>
<tr>
<td>medical exams sent to police</td>
<td>of cases referred for prosecution</td>
</tr>
<tr>
<td>– Child and adult cases</td>
<td>– Victims age 12 and older</td>
</tr>
<tr>
<td>– N=528</td>
<td>– N=257</td>
</tr>
<tr>
<td><strong>Data</strong></td>
<td><strong>Data</strong></td>
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<tr>
<td>Medical exam, crime lab reports,</td>
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</tr>
<tr>
<td>police reports</td>
<td>and prosecutor files</td>
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<tr>
<td></td>
<td>Interviews with 8 Assistant</td>
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<tr>
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<td>District Attorneys</td>
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</tbody>
</table>
# Victim Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Study 1</th>
<th>Study 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>95.9%</td>
<td>95.9%</td>
</tr>
<tr>
<td>Median Age (years)</td>
<td>23</td>
<td>25</td>
</tr>
<tr>
<td>White</td>
<td>68.6%</td>
<td>41.8%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>17.1%</td>
<td>20.1%</td>
</tr>
<tr>
<td>Black</td>
<td>9.1%</td>
<td>32.5%</td>
</tr>
<tr>
<td>Known assailant</td>
<td>68.2%</td>
<td>64.0%</td>
</tr>
</tbody>
</table>

Study 1: Statewide sample.
Study 2: Large urban county.
Prevalence of Injury and Biological Evidence

Study 1: Statewide sample.
Study 2: Large urban county.
Some indication that evidence can be found more than 72 hours after the incident.
Presence of DNA Evidence

Study 1: Statewide sample.
Study 2: Large urban county.
STUDY 1: FOUNDING AND ARREST
Three factors associated with unfounding:

Penetration* 47%

Physical force* 37%

Exam after 24 hours+ 62%

* $p \leq 0.05$
+ $p = 0.06$
Three factors associated with arrest:

- Exam after 24 hours*
  - 62%

- Acquaintance*
  - 14%

- Genital injury*
  - 62%

- Intimate partner*
  - 4x

*p ≤ .05
Kit testing was associated with founding and arrest.

- Unfounded: 62%
- Founded-No Arrest: 89%
- Arrest: 97%
Biological evidence is only a factor in police arrest decisions in a small number of cases.
Most arrests occur **well before** crime lab analysis and reporting.

- **12 hours**
  - Forensic examination

- **8 days**
  - Kit arrival at crime lab

- **1 day**
  - Suspect arrested

- **43 days**
  - Crime lab reports results to police

Based on median times.
When an arrest occurs after lab findings, it is more likely to have a DNA profile generated.

DNA Profile

- NO ARREST (N=175) - 34%
- ARREST BEFORE LAB FINDINGS (N=105) - 42%
- ARREST AFTER LAB FINDINGS (N=10) - 80%
Arrests after lab findings are also more likely to have a DNA match to the suspect.

<table>
<thead>
<tr>
<th>Category</th>
<th>DNA Matches Suspect</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Arrest (N=163)</td>
<td>8%</td>
</tr>
<tr>
<td>Arrest Before Lab Findings (N=95)</td>
<td>20%</td>
</tr>
<tr>
<td>Arrest After Lab Findings (N=9)</td>
<td>56%</td>
</tr>
</tbody>
</table>
DNA matches to another case are also more likely when the arrest occurs after lab results.
SANE nurses took significantly more photographs than non-SANE.

13.6% had at least one photograph of non-genital injuries taken.
SANEs were more likely to do additional swabbing than non-SANE.
SANE examiners identified significantly more genital injuries than non-SANE

41.1% of victims had genital injuries*

*Includes: Swelling, redness, abrasion, or tearing to any genital structure
Study 1: Summary of Findings

• Case attrition occurs early.

• Forensic results rarely precede arrests.

• Case founding decisions reflect “real” rapes: penetration and force.

• Arrests associated with known offenders, injuries, and timely reporting.

• SANEs were more likely to take photographs, do additional swabbing, and identify genital injuries.
STUDY 2: PROSECUTION AND CONVICTION
Most cases fall out because no charges are filed or the case is dismissed

- 257 cases referred to prosecutors
- 87 cases with criminal charges filed or accepted for prosecution
- 38 cases carried forward (not dismissed)
- 27 cases with conviction
35% of cases the victim declined prosecution.
Few cases had a DNA match to the suspect.

- 257 referred to prosecutors
- 217 with forensic evidence kits
- 201 kits tested by crime lab
- 121 with biological evidence
- 100 had DNA analysis
- 92 had DNA profile
- 64 suspect
- 41 DNA match
DNA match to the suspect was associated with filing, no dismissal, and conviction.

<table>
<thead>
<tr>
<th>Evidence Variable</th>
<th>Summary of Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-genital injury</td>
<td>No effect; more analysis needed</td>
</tr>
<tr>
<td>Genital injury</td>
<td>No effect, more analysis needed</td>
</tr>
<tr>
<td>Semen/sperm</td>
<td>No effect</td>
</tr>
<tr>
<td>Saliva</td>
<td>No effect</td>
</tr>
<tr>
<td>Any biological evidence</td>
<td>No effect</td>
</tr>
<tr>
<td>DNA match to suspect</td>
<td>Significantly related to...</td>
</tr>
<tr>
<td></td>
<td>• Filing criminal charges</td>
</tr>
<tr>
<td></td>
<td>• Carrying cases forward w/o dismissal</td>
</tr>
<tr>
<td></td>
<td>• Conviction</td>
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</table>

IS DNA MATCH TO SUSPECT A CAUSE OR EFFECT OF PROSECUTOR ACTIONS?
In 29.4% of cases the lab reports were available **before** charges were filed.

- **DNA MATCH TO SUSPECT**
  - 19% Criminal Charges or Accepted for Prosecution
  - 81% No Criminal Charges
- **KIT PROCESSED BUT NO MATCH**
  - 56% Criminal Charges or Accepted for Prosecution
  - 44% No Criminal Charges
- **NO KIT OR KIT NOT PROCESSED**
  - 28% Criminal Charges or Accepted for Prosecution
  - 72% No Criminal Charges
Cases with a DNA match to the suspect were less likely to be dismissed.

- Carried forward to guilty plea or trial
- Dismissed

- DNA MATCH TO SUSPECT: 91% (9%) 9%
- KIT PROCESSED BUT NO MATCH: 57% (43%) 52%
- NO KIT OR KIT NOT PROCESSED: 48%
Cases with a DNA match to the suspect were more likely to result in a conviction.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Conviction</th>
<th>No conviction</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNA MATCH TO SUSPECT</td>
<td>43%</td>
<td>57%</td>
</tr>
<tr>
<td>KIT PROCESSED BUT NO MATCH</td>
<td>9%</td>
<td>91%</td>
</tr>
<tr>
<td>NO KIT OR KIT NOT PROCESSED</td>
<td>18%</td>
<td>82%</td>
</tr>
</tbody>
</table>
Significant factors explaining conviction:

Victim credibility*  
62%

Suspect arrest*  
4X

DNA suspect match**  
7X

*p ≤ .05  
**p ≤ .01
NUMBER OF CASES

<table>
<thead>
<tr>
<th></th>
<th>Referred</th>
<th>Criminal Charges</th>
<th>Carried Forward (No Dismissal)</th>
<th>Conviction</th>
</tr>
</thead>
<tbody>
<tr>
<td>257</td>
<td>87</td>
<td>38</td>
<td>27</td>
<td></td>
</tr>
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</table>

% DNA MATCHES

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>16%</td>
<td>31%</td>
<td>55%</td>
<td>70%</td>
<td></td>
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</tbody>
</table>
Presenting DNA demonstrates belief in victim and thoroughness of investigation.

DNA identifies suspect but other evidence is needed -- overcome consent defense -- deal with DNA ambiguities.

DNA “slam dunk” -- identifies suspect -- consent defense ineffective.

Minimally probative

Moderately probative

Very probative

Biological Evidence: Continuum of Probative Value

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Biological Evidence: Continuum of Probative Value
Biological Evidence Assists Investigations and Prosecution

- Identifying suspects in stranger cases
- Identifying suspects in cases where victim unable to provide good witness
- Places suspects at the scene of the crime
- Helps with questioning suspects
- Bolsters victim’s credibility
Biological Evidence is Not a Panacea

• Consent difficult to overcome

• Defense can challenge the chain of custody or results

• Defense can offer alternative explanations for DNA presence
Biological Evidence is Impacted by Court Culture

• Forensic evidence presented even if not probative

ADA 2: *We still have a burden of proving the elements of the crime and the fact that the defendant is the person who committed the crime. . . Under the theory of better to be safe than sorry—we don't do it to the extent that we would in non-consent cases.*

ADA 4: *When we have the evidence, we use it. When we don’t have it, we bring in experts to explain why we don’t have it every time, every time.*
Study 2: Summary of Findings

• DNA matches happen in a **small number of cases**

• DNA is **associated** with charging, no dismissal, conviction
  – Prosecutors often sought DNA analysis on cases they moved forward on.

• DNA is **more useful** in stranger cases or assailants denying sexual contact; **less useful** when assailants claim consent
Study 2: Summary of Findings

• Prosecutors sought to introduce DNA evidence whenever possible
  – Felt it reflected prosecutor and victim thoroughness and corroboration of victim allegations.

• Skillful prosecution needed to make DNA effective (e.g., countering switch to a consent defense)

• Prosecutors use multiple forms of evidence, not just DNA evidence
Overall Conclusions

• More effective use of biological evidence is unlikely to dramatically increase arrest and prosecution rates

• Victim participation in prosecution and victim credibility are big factors—more needs to be learned

• Testing untested kits holds promise for catching serial rapists, but much more research is needed
Overall conclusions (cont.)

• Almost all cases carried forward to guilty plea or trial had a DNA match
  – Prosecutors often sought a DNA match even after filing criminal charges
  – Is DNA match a new requirement for prosecution?

• Increasing access to quality exams, crime lab analysis, and prosecutor skill in using biological evidence is a social justice issue.
Contact us!

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