Using DNA to Solve Property Crimes: Results of an Experimental Study

John K. Roman

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A Randomized Study...

- Studies the cost-effective of DNA compared to traditional crime-solving strategies in property crime – mainly residential burglaries;
...in Five Communities in Four States

Police in LA, OC, Phoenix, Denver, and Topeka:
Submit data for 500 property cases where biological evidence (i.e., saliva, blood, etc.) is present.
Cases are Randomly Assigned

DNA in 500 cases:

*Test Cases (250):*
  - Traditional Investigation & DNA Testing;

*Control Cases (250) - Traditional Investigation only*
## Cases Enrolled in the Experiment

<table>
<thead>
<tr>
<th>Site Location</th>
<th>Total Test Cases</th>
<th>Total Control Cases</th>
<th>Total Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topeka, KS</td>
<td>131</td>
<td>129</td>
<td>260</td>
</tr>
<tr>
<td>Los Angeles, CA</td>
<td>193</td>
<td>198</td>
<td>391</td>
</tr>
<tr>
<td>Denver, CO</td>
<td>255</td>
<td>255</td>
<td>510</td>
</tr>
<tr>
<td>Orange County, CA</td>
<td>250</td>
<td>251</td>
<td>501</td>
</tr>
<tr>
<td>Phoenix, AZ</td>
<td>251</td>
<td>249</td>
<td>500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1080</strong></td>
<td><strong>1082</strong></td>
<td><strong>2162</strong></td>
</tr>
</tbody>
</table>
Study Conclusions - ID

• Suspects identified in 31% of cases where DNA evidence is tested.

• Suspects identified in 12% w/ traditional inv. only;
Study Conclusions - Arrest

- Suspects arrested in 16% of cases where DNA evidence is tested (n=173).
- Suspects arrested in 8% with traditional inv. only (n=86);
Study Conclusions – Value of DNA

Suspect identification

- Fingerprints, Eyewitness ID suspect in 12% of cases for both cohorts.

Additionally, in DNA cases:

- 16% ID by offender hit;
- 3% ID by forensic hit.
Who is being arrested?

DNA Suspects have more (and more serious) priors
- DNA arrestees had 2.9 prior felony convictions and 5.6 prior felony arrests.
- Arrestees identified by traditional investigation had 0.9 prior felony convictions and 1.7 prior felony arrests.
Affordable DNA test increases use

Lower costs of DNA testing and a faster turnaround has increased its use in a multitude of criminal cases.

<table>
<thead>
<tr>
<th>Cost of processing a case with DNA evidence</th>
<th>Denver’s cost breakdown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Los Angeles</td>
<td>$86 Preliminary testing</td>
</tr>
<tr>
<td>Phoenix</td>
<td>241 Profile generation</td>
</tr>
<tr>
<td>Orange County, Calif.</td>
<td>92 CODIS entry*</td>
</tr>
<tr>
<td>Denver</td>
<td>78 Case verification</td>
</tr>
<tr>
<td>Topeka, Kan.</td>
<td>372 Investigation</td>
</tr>
<tr>
<td></td>
<td>164 Post-arrest</td>
</tr>
</tbody>
</table>

* DNA profile computer program that operates local, state and national databases

Average cost: $1,394

SOURCE: Urban Institute
What Does it Cost to Add DNA?

- Cost to ID a new suspect: $4,514
- Cost of a new arrest: $14,178
- Cost of a new case that was accepted for prosecution: $6,913.
Best Case Costs?

*The Denver Experience*

Cost to ID a new suspect: $1,466
Cost of a new arrest: $3,679
Cost of a new case that was accepted for prosecution: $1,903.