
Caught red handed: DNA testing improves case outcomes

This user abstract presents the following Campbell systematic review: Wilson, D B, Weisburd, D & McClure, D: Use of DNA testing in police investigative work for increasing offender identification, arrest, conviction and case clearance. The Campbell Collaboration 2011. DOI: 10.4073/csr.2011.7.

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DNA testing has been increasingly used as part of police investigative work since the 1980s. Initially used only in rape and homicide cases, its use has now expanded to other crimes such as property offenses. The evidence suggests that DNA testing can improve outcomes of police investigations. The findings of a systematic Campbell review of research findings are set out below.

THE EVOLUTION OF DNA USE IN POLICE INVESTIGATIONS

The rate of solving crimes has historically been low and this has created interest in supplementing traditional investigative techniques. DNA testing is no longer used only to match evidence from a crime scene to an identified suspect. The development of national DNA databases makes it possible to identify suspects based on DNA samples *before* there is any other evidence implicating the individual. This opens up the possibility of using DNA testing as a part of routine police investigative practices. While DNA testing is expensive and time-consuming, the science behind DNA testing is considered sound.

THE UTILITY OF DNA TESTING IN ROUTINE POLICE INVESTIGATION: BEYOND A REASONABLE DOUBT?

This review examines whether the use of DNA testing improves the effectiveness of police in identifying and convicting criminals. It found evidence to suggest that including DNA testing in routine police practice is helpful when investigating a broad range of crimes. This conclusion must be qualified, as the majority of the evidence comes from studies with clear methodological weaknesses. The single high quality study included in this review provides compelling evidence for the value of DNA testing in solving high-value property crimes; DNA

testing more than tripled the odds of identifying a suspect and making an arrest, and more than doubled the odds of a case being accepted for prosecution.

FACTS ABOUT THE SYSTEMATIC REVIEW

This review looked at seven outcomes: the effects on the apprehension of criminals, reductions in the likelihood of arresting/prosecuting innocent people, and the effect of DNA on the cost, speed, clearance rates, arrest rates and conviction rates of investigations. All five of the included studies explicitly aimed to assess the impact of DNA testing on the success of police investigations. Given the diversity of designs, the authors did not meta-analyze results across studies. Meta-analysis was done within two multi-site studies and showed positive results regarding the identification, arrest and prosecution of criminals and increased sentence length and chance of pleas bargains. No evidence was found on speed of investigations.

Only one study addressed the cost effectiveness of DNA testing: the average cost of adding DNA testing to property crime investigations ranged from just under \$2,000 USD to \$13,000USD. The price of DNA testing continues to drop as a result of technological advances and economies of scale. The cost also depends on the type of DNA analysis conducted.

OTHER RESEARCH IN THE AREA

Additional high quality evaluations – and particularly random-assignment evaluations - are needed to establish the robustness and generalizability of these findings.

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Further information

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