



Probabilistic Reporting in Criminal Cases in the United States:

A Baseline Study

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OVERVIEW

Forensic examiners are frequently asked to give reports and testimonies in court and there have been calls for them to report their findings probabilistically. Terms like *match*, *consistent with* or *identical* are categorical in nature, not statistical — they do not communicate the value of the evidence in terms of probability. While there is robust debate over *how* forensic scientists should report, less attention is paid to how they *do* report.

KEY RESEARCH QUESTIONS

- 1 To what extent are forensic reports in these disciplines consistent with published standards?
- 2 To what extent are forensic reports in these disciplines probabilistic, and, if so, how is probability expressed?

APPROACH AND METHODOLOGY

DATA SET 572 transcripts and reports from Westlaw, consultants' files and proficiency tests using a heterogeneous, opportunistic data collection approach.

WHAT Researchers reviewed reports across four pattern disciplines:

- Friction Ridge Prints
- Firearms & Toolmarks
- Questioned Documents
- Shoeprints

HOW Using disciplinary standards as a framework, researchers determined the type of report being reviewed and if it used standard terminology. Then, they coded each report both for whether or not it was probabilistic and for the type of language used, such as "same source," "identified" and "consistent."



KEY TAKEAWAYS FOR PRACTITIONERS

Across all four disciplines, the prevailing standards for reporting were *categorical* in nature. The majority of reports analyzed adhered to the reporting standards for their discipline — but discussion of probability was extremely rare and, even in those cases, frequently used to dismiss the use of probability itself.

reports used categorical terms in their reporting



reports used terms that adhered to their disciplinary standards



reports used probabilistic terms



● friction ridge prints ● firearms & toolmarks ● questioned documents ● shoemark

FOCUS ON THE FUTURE

To increase the probabilistic reporting of forensics results:

- 1 Incorporate probabilistic reporting into disciplinary standards.
- 2 Educate practitioners, lawyers, and judges on the reasons for, and importance, of probabilistic reporting.
- 3 Demand that experts quantify their uncertainty when testifying in court.

Access additional relevant Insights and explore more at forensicstats.org/insights/.

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