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Rising to the Challenge of the NAS Report Strengthening Forensic Science in the United States: A Path Forward: A Call for Demonstrated Competence amongst Legal Practitioners

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RISSING TO THE CHALLENGE OF THE NAS REPORT
STRENGTHENING FORENSIC SCIENCE IN THE UNITED
STATES: A PATH FORWARD: A CALL FOR
DEMONSTRATED COMPETENCE AMONGST LEGAL
PRACTITIONERST

Christine Funk † and Evan Berman††

I. INTRODUCTION ............................................................... 684
II. SHIFTS IN THE LEGAL LANDSCAPE .......................... 685
   A. Procedural Changes................................................. 685
   B. Limits on Testimony.............................................. 686
   C. Standards of Admissibility................................. 687
   D. The NAS Report and the Minnesota Court .......... 688
III. THE CURRENT STATE OF THE STUDIES ON EYEWITNESS ID .... 689
IV. THE NAS REPORT .................................................. 690
   A. The Current State of Forensic Science............. 690
   B. The Current State of the Legal Community ........ 692

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“The law’s greatest dilemma in its heavy reliance on forensic evidence, however, concerns the question of whether—and to what extent—there is science in any given ‘forensic science’ discipline.”

I. INTRODUCTION

In criminal prosecutions, the government increasingly relies on forensic science. Eyewitness identification has been relied upon much longer. But is this reliance misplaced? Both types of evidence seemingly come with a degree of certainty. Yet there are very real problems with the underlying reliability of both types of evidence. In 2009, the National Academy of Sciences published a report reviewing many forensic science disciplines. In 2010, Special Master Geoffrey Gaulkin issued a report to the New Jersey Supreme Court on eyewitness identification. Both reports express concern about limitations in these fields—limitations that juries, lawyers, and judges alike may fail to fully appreciate.

Advances in the field of DNA testing, in part, brought to light some serious problems in other disciplines of forensic science. As DNA evidence exonerated the innocent, it became apparent that “in some cases, substantive information and testimony based on faulty forensic science analyses may have contributed to wrongful convictions of innocent people.” Two issues are presented in the NAS Report: First, there is a “potential danger of giving undue weight to evidence and testimony derived from imperfect testing and analysis.” Second, “imprecise or exaggerated expert testimony

3. Id.
5. See generally id.; NAS REPORT, supra note 2.
6. NAS REPORT, supra note 2, at 4.
7. Id.
has sometimes contributed to the admission of erroneous or misleading evidence.” The NAS Report does not indicate to whom it is referring when it speaks of the potential danger to give undue weight to evidence and testimony, nor does it identify under what circumstances erroneous or misleading evidence is admitted. At the end of the day, however, it is the judge charged as gatekeeper, the prosecutor admonished to be a minister of justice, and the defense attorney as advocate for her client who have the obligation to ensure the fact finder does not give undue weight to forensic evidence and testimony. The obligation of the parties extends further: both the lawyers and the judge have an obligation to prevent or correct imprecise or exaggerated identification, forensic testimony, and erroneous and misleading identification or forensic evidence.

This can be accomplished, in part, by requiring lawyers whose cases involve forensic science to demonstrate a level of competence to use such evidence. Section II will discuss some recent, relevant shifts in the legal landscape that seem to reflect an awareness of the concerns of the NAS Report and advances in social sciences. Sections III and IV discuss recent findings which illustrate the limitations of eyewitness identification and certain forensic sciences. Section V examines the NAS Report’s view of the needs (and failings) of the legal community in regards to forensic science. Section VI proposes a response to the current situation, which should put the parties on better forensic science footing. In conclusion, the authors note that if nothing is changed in the criminal justice system, nothing will change.

II. SHIFTS IN THE LEGAL LANDSCAPE

A. Procedural Changes

In March of 2010, Judge Nancy Gertner, a United States district court judge in Massachusetts, issued a procedural order in light of the NAS Report. She ordered parties before the court to

8. Id.
9. See id.
10. See id.
identify whether or not the parties intended to introduce trace evidence, whether a *Daubert/Kumho* hearing would be sought, and to identify witnesses and exhibits. Judge Gertner observed that, in the past, admissibility of many forms of forensic evidence was “effectively presumed, largely because of its pedigree—the fact that it had been admitted for decades.” In recognition of the NAS Report, the order declared that trace evidence’s admissibility would no longer be presumed, but rather that each case requires individual, careful examination.

Judge Gertner observed, “To be sure, the court’s treatment of this evidence relates directly to the adequacy of counsel’s treatment,” which should not be lost on practitioners in the criminal justice system.

**B. Limits on Testimony**

In October of 2009, Judge Paul Grimm, a magistrate judge in the United States District Court of Maryland, issued a Report and Recommendation restricting the testimony of the State’s firearms expert after a hearing, finding:

> [T]here is no meaningful distinction between a firearms examiner saying that “the likelihood of another firearm having fired these cartridges is so remote as to be considered a practical impossibility” and saying that his identification is “an absolute certainty.” Neither is justified based on the testimony at the hearing or the literature and cases reviewed and discussed in this Report and Recommendation, and neither is warranted by the facts of this case.

As such, the recommendation limited the testimony such that the witness “only be permitted to state his opinions and bases without any characterization as to degree of certainty.” This and

12. *Id.*
13. *Id.* at 3.
14. *Id.*
15. *Id.* at 2.
17. *Id.* at 581–82. This second recommendation is followed by third and fourth recommendations in the alternative, which would have allowed the sergeant “to express his opinions ‘more likely than not’” or in the third alternative, “to a reasonable degree of ballistic or technical certainty.” *Id.* at 582 (quotation omitted).
other recommendations were subsequently adopted by the trial court.\footnote{18}

\textbf{C. Standards of Admissibility}\footnote{19}

On June 18, 2010, Special Master Geoffrey Gaulkin issued a Report of the Special Master concerning eyewitness identification.\footnote{20} The Report was predicated on the review of over two hundred published scientific studies, articles, and books submitted by the parties.\footnote{21} Additionally, seven expert witnesses testified over a ten-day period.\footnote{22} The special master was to determine whether the standard of admissibility used in the \textit{Manson/Madison} test was still valid and appropriate “in light of recent scientific and other evidence.”\footnote{23} The \textit{Manson/Madison} test involves two parts: First, the court must decide if the eyewitness identification was “impermissibly suggestive.”\footnote{24} Second, the court must determine if there is a “very substantial likelihood of irreparable misidentification.”\footnote{25} A subsequent analysis involves an evaluation of the following factors: the “opportunity of the witness to view the [suspect] at the time of the crime, the witness’s degree of attention, the accuracy of [the witness’s] prior description of the [suspect], the level of certainty demonstrated at the time of the confrontation, and the time between the crime and the confrontation.”\footnote{26} The report continues, “The short answer to the Court’s question whether the \textit{Manson/Madison} test and procedures are ‘valid and appropriate in light of recent scientific and other evidence’ is that they are not.”\footnote{27}

\begin{itemize}
  \item \textit{Id.} at 548.
  \item The reader may be surprised to see a section on eyewitness identification included in a paper on forensic science. However, we recognize the recommendation of the researchers quoted in Special Master Gaulkin’s Report, “that eyewitness identifications be regarded as a form of trace evidence . . . .” \textit{Report of the Special Master, supra note 4, at 10.}
  \item \textit{Id.}
  \item \textit{Id. at 3.}
  \item \textit{Id.}
  \item \textit{Id. (quoting State v. Henderson, 2009 WL 510409, at *2 (N.J. Feb. 26, 2009)).}
  \item \textit{Id. (quoting State v. Madison, 536 A.2d 254, 258 (N.J. 1988)).}
  \item \textit{Report of the Special Master, supra note 4, at 6 (quoting Manson v. Brathwaite, 432 U.S. 98, 114 (1977)).}
  \item \textit{Id. at 79.}
\end{itemize}
Special Master Gaulkin concluded that, just as with physical trace and scientific evidence, the burden should initially be on the prosecution to establish that the eyewitness is reliable.\(^\text{28}\) This “reliability inquiry” of course, would be expanded “beyond police misconduct to evaluate memory as fragile, difficult to verify and subject to contamination from initial encoding to ultimate reporting.”\(^\text{29}\) Placing the burden on the proponent of the eyewitness identification evidence is both “scientifically proper and procedurally wise.”\(^\text{30}\) Further, Special Master Gaulkin observed “it would be appropriate and useful for [the] Court to take all available steps to assure that judges and juries are informed of and guided by the scientific findings.”\(^\text{31}\)

D. The NAS Report and the Minnesota Court

In State v. Hull, the Minnesota Supreme Court first acknowledged the NAS Report and the impact it may have on future court cases.\(^\text{32}\) Hull argued on appeal that he should have been allowed a prong one Frye-Mack hearing on the admissibility of both fingerprint evidence and handwriting analysis.\(^\text{33}\) Citing harmless error in light of other evidence, the court declined to address the issue.\(^\text{34}\) Justice Meyer likewise found the error harmless in her concurring opinion.\(^\text{35}\) However, Justice Meyer pointed out that the failure of the trial court to allow for a prong one hearing leads to an incomplete and unreliable record, upon which no decision could be based.\(^\text{36}\) Justice Meyer’s concurring opinion does not presumptively preclude the admissibility of fingerprint evidence, handwriting analysis, or any other forensic evidence. However, like Judge Gertner and Special Master Gaulkin before her, Justice Meyer suggests, “in order to present expert conclusions

\(^{28}\) Id. at 84.

\(^{29}\) Id.

\(^{30}\) Id. at 85.

\(^{31}\) Id.

\(^{32}\) State v. Hull, 788 N.W.2d 91, 104 n.4 (Minn. 2010).

\(^{33}\) Id. at 104. Under the first prong of the Frye-Mack test “the court asks ‘whether experts in the field widely share the view that the results of scientific testing are scientifically reliable.’” Id. at 103 (quoting State v. Roman Nose, 649 N.W.2d 815, 819 (Minn. 2002)).

\(^{34}\) Id. at 104.

\(^{35}\) Id. at 110–11 (Meyer, J., concurring).

\(^{36}\) Id. at 109.
based on these methods to a jury, the proponent of the evidence must first meet its burden under the first prong of Frye-Mack to show that its forensic evidence methods produce accurate and reliable results.37

III. THE CURRENT STATE OF THE STUDIES ON EYEWITNESS ID

Whereas the error rate with regard to many forensic disciplines is unknown, there has been a great deal of study done to ascertain how effective eyewitness identification really is. The findings are fairly consistent. In archival studies in the United Kingdom, 39% of over three thousand witnesses correctly identified the suspect, but 21% falsely identified fillers.38 Because only 60% actually made identifications, the misidentifications amount to 35% of the "positive identifications."39 Other studies indicate that, in actual cases, the error rate is approximately one in three.40

Studies have shown that misidentification is a practical reality. A 1978 meta-analysis that reviewed 345 studies found “there is less than one chance in a million that a non-blind test administrator has no influence on the behavior of the subject.”41 Studies uniformly show witness confidence and witness accuracy are not closely correlated. Suggestive procedures can enhance witness confidence, post-identification feedback can likewise enhance confidence, and witness perceptions about the ability to observe an individual—as well as their attention to detail at the time of observation—is inflated in relation to level of confidence.42 That said, studies have shown that jurors are not receptive to this information. They tend to “underestimate the importance of proven indicators of accuracy,” and rely heavily on things such as witness confidence, which is not a good indicator of accuracy, overestimating a witness’s ability to consistently and accurately identify a subject.43 Studies with mock jurors further indicate that expert testimony can “sensitize” people to the issues, which can

37. Id. at 110.
39. Id.
40. Id.
41. Id. at 20. (citations omitted).
42. Id. at 33–36.
43. Id. at 49.
impact eyewitness identification.\textsuperscript{44}

IV. THE NAS REPORT

A. The Current State of Forensic Science

The NAS Report provides practitioners in the law with information they might otherwise not be aware of. “Often there are no standard protocols governing forensic practice in a given discipline.”\textsuperscript{45} In other words, there is no well defined methodology. One is free to do their work any way they choose. “The simple reality is that the interpretation of forensic evidence is not always based on scientific studies to determine its validity.”\textsuperscript{46}

When there are protocols, “they often are vague and not enforced in any meaningful way.”\textsuperscript{47} With no standard protocols, a technique cannot be effectively validated. There is no way to assure that the science is being done “correctly.” The limits of the system cannot be tested where the system is not defined. For example, with shoeprint analysis, individual characteristics from a questioned shoe print are compared with a possible source.\textsuperscript{48} However, “there is no defined threshold that must be surpassed, nor are there any studies that associate the number of matching characteristics with the probability that the impressions were made by a common source.”\textsuperscript{49} An illustration of what this means, practically speaking, is provided by the NAS Report. When given identical cases of new shoes with accidental identifying characteristics, “there were considerable differences in the conclusions reached by different laboratories examining identical cases.”\textsuperscript{50} In order for a test to be considered “scientific” the technique must be testable and reproducible. The testing done in the area of questioned shoe prints seems to suggest the method is not reproducible from lab to lab.

Arson is similarly situated. According to the NAS Report, “Despite the paucity of research, some arson investigators continue

\textsuperscript{44} Id.
\textsuperscript{45} NAS REPORT, supra note 2, at 6.
\textsuperscript{46} Id. at 8.
\textsuperscript{47} Id. at 6.
\textsuperscript{48} Id. at 146.
\textsuperscript{49} Id. at 147.
\textsuperscript{50} Id. at 148 (citation omitted).
to make determinations about whether or not a particular fire was set.”\textsuperscript{51} The NAS Report notes “much more research is needed,” in areas such as “the natural variability of burn patterns and damage characteristics and how they are affected by the presence of various accelerants.”\textsuperscript{52}

Even if different analysts follow the same protocol, there can still be an issue regarding reproducibility. Fingerprint examination, for example, relies on the Analysis, Comparison, Evaluation, and Verification (ACE-V) method.\textsuperscript{53} According to the NAS Report, the same ACE-V fingerprint identification protocol “does not guarantee that two analysts following it will obtain the same results.”\textsuperscript{54} In other words, repeatability is not assured simply by following the protocol. The ACE-V method is “too broad to ensure repeatability and transparency.”\textsuperscript{55} As such, ACE-V “is not specific enough to qualify as a validated method for this type of analysis.”\textsuperscript{56}

The NAS Report holds forensic DNA evidence in high regard, noting, “With the exception of . . . DNA analysis, . . . no forensic method has been rigorously shown to have the capacity to consistently, and with a high degree of certainty, demonstrate a connection between evidence and a specific individual or source.”\textsuperscript{57} Interpretation of DNA profiles, however, particularly in mixed samples, seems to have some of the same problems as the ACE-V method when it comes to reproducibility. Proof of this can be found in a study done by \textit{New Scientist}, published in August of 2010.\textsuperscript{58} In the study, \textit{New Scientist} took a mixed sample of DNA, generated from a gang rape in Georgia.\textsuperscript{59} Kerry Robinson was convicted, in part, based on the findings of two crime lab analysts who reviewed the data and could not exclude Mr. Robinson as a contributor to the sample.\textsuperscript{60} \textit{New Scientist} took that same sample and sent it to seventeen experienced analysts at a single,
unidentified lab in the United States. The results may surprise the lay reader and lawyer alike. Instead of unanimous agreement, only one scientist concurred with the trial testimony, that Mr. Robinson could not be excluded as a possible contributor to the sample. Four analysts made a finding of “inconclusive” and an astonishing twelve scientists actually excluded Mr. Robinson from being a possible contributor to the sample.

There is also a dearth of studies on error rates in some forensic science fields. The rate of error in a given discipline is, in essence, “proportions of cases in which the analysis led to a false conclusion.” There are not systems that are well defined which can be relied on to determine rates of error. Distinct from an “error rate” is the issue of when and how errors occur. This, likewise, is not currently known.

The NAS Report has some fairly harsh words regarding the courts as gatekeepers. “There is nothing to indicate that courts review bite mark evidence pursuant to Daubert’s standard of reliability.” Further, “[t]here is little to indicate that courts review firearms evidence pursuant to Daubert’s standard of reliability.”

B. The Current State of the Legal Community

Chapter 8 of the NAS Report is dedicated to “Education and Training in Forensic Science.” Among the needs identified is the need “to educate the users of forensic science analyses, especially those in the legal community.” The Committee asserts parties, lawyers, and judges alike, would “benefit from a greater
understanding of the scientific bases underlying the forensic science disciplines and how the underlying scientific validity of techniques affects the interpretation of findings.\textsuperscript{71} While the Report had much to say about the shortcomings of forensic science, it is unfair to lay the blame entirely on the forensic scientists. The parties in the legal system are “encumbered by, among other things, judges and lawyers who generally lack the scientific expertise necessary to comprehend and evaluate forensic evidence in an informed manner . . . .”\textsuperscript{72} As such, “the legal system is ill-equipped to correct the problems of the forensic science community.”\textsuperscript{73}

In reviewing reported decisions in criminal cases, an interesting pattern comes to light. In these reported cases, trial court judges “rarely exclude or restrict expert testimony offered by prosecutors . . . .”\textsuperscript{74} Likewise, reported decisions “also indicate that appellate courts routinely deny appeals contesting trial court decisions admitting forensic evidence against criminal defendants.”\textsuperscript{75} Of concern in reviewing this pattern is that despite “serious issues regarding the capacity and quality of the current forensic science system[,] . . . the courts continue to rely on forensic evidence without fully understanding and addressing the limitations of different forensic science disciplines.”\textsuperscript{76}

There has long been a presumption that the forensic science at issue is solid, and that the practitioner got it absolutely correct. However, the Committee disagrees.\textsuperscript{77} “In short, the interpretation of forensic evidence is not infallible. Quite the contrary. This reality is not always fully appreciated or accepted by many forensic science practitioners, judges, jurors, policymakers, or lawyers and their clients.”\textsuperscript{78}

This lack of education and understanding is coupled with a pattern of admissibility, particularly in criminal cases. “Unlike the

\begin{itemize}
\item \textsuperscript{71} Id.
\item \textsuperscript{72} Id. at 110.
\item \textsuperscript{73} Id. at 55.
\item \textsuperscript{74} Id. at 11; see also Peter J. Neufeld, The (Near) Irrelevance of Daubert to Criminal Justice and Some Suggestions for Reform, 95 Am. J. Pub. Health, S107, S113 (Supp. 2005) (“Although scientific evidence is often more reliable than other types of evidence, not all that purports to be ‘science,’ is.”).
\item \textsuperscript{75} NAS REPORT, supra note 2, at 11.
\item \textsuperscript{76} Id. at 85.
\item \textsuperscript{77} Id. at 87–88.
\item \textsuperscript{78} Id. (citation omitted).
\end{itemize}
extremely well-litigated civil challenges, the criminal defendant’s challenge is usually perfunctory. Even when the most vulnerable forensic sciences—hair microscopy, bite marks, and handwriting—are attacked, the courts routinely affirm admissibility citing earlier decisions rather than facts established at a hearing.” In addition, the defense bar generally appears to “lack the requisite knowledge and skills, as well as the funds, to succeed” in mounting a challenge.  

Consider the following examples. Imagine a woman, missing for three days, is found dead and naked in the woods. Time of death is declared “give or take ten minutes.” Imagine a forensic scientist testifying, “The only difference between the defendant’s DNA profile and the mixed sample from the gun is that the alleles on the gun are stochastically imbalanced.” Imagine a fire investigator testifying, “Evidence of arson includes alligator spaulding.” To the casual reader, these statements may appear to be obvious evidence of guilt. Experts in the fields of forensic pathology, DNA evidence, and arson would strongly disagree. The statements are scientifically unsupportable—in some instances, even nonsensical. Should the prosecutor, defense attorney, and judge—untrained in forensic science—be faced with such a statement from a scientist (due to poor training, incompetence, or a desire to advance the evidence in a misleading or exaggerated way), lawyers may fail to appreciate the falseness of the claim. Even with vigorous cross-examination, once committed, it is unlikely that a forensic scientist will acknowledge they overstated or misstated the science.

Consider more likely scenarios. An expert testifies the defendant cannot be excluded from DNA found at the crime scene. Another testifies in an arson case that the presence of an accelerant was detected. In addition to the potential for false claims, more likely scenarios are the failure of prosecutors, defense attorneys, and judges to appreciate the significance, or lack thereof, of seemingly sound scientific statements. When a conclusion such as “the defendant cannot be excluded” is presented by a forensic scientist, the attorney’s response, for example, should not be to (1) charge out a crime or (2) seek a plea bargain, but rather ask, what is the significance of this failure to

79.  Id. at 107 (quoting Neufeld, supra note 74, at S110).
80.  Id.
exclude? How many other random people in the population could not be excluded? One in ten thousand? Or one in two? Regarding the presence of an accelerant, if the alleged arson occurred in a garage, an attorney can cross-examine on gasoline being stored in garages, present in lawn mowers, snow blowers, cars, and the like. But what about wood floors in homes built in the 1970s or earlier? How many people are aware that gasoline was used as a paint thinner? These are only a few examples. The need for education and subsequent competence in the area of forensic science is essential to quality representation—on both sides of the aisle.

V. RAISING THE BAR IN THE CRIMINAL JUSTICE SYSTEM BY IMPOSING MINIMUM STANDARDS: A PATH FORWARD

The report finds that the existing legal regime—including the rules governing the admissibility of forensic evidence, the applicable standards governing appellate review of trial court decisions, the limitations of the adversary process, and judges and lawyers who often lack the scientific expertise necessary to comprehend and evaluate forensic evidence—is inadequate to the task of curing the documented ills of the forensic science disciplines.

With the criminal justice system currently inadequate to cure the documented ills, what is to be done? The NAS Report notes, “Unfortunately, it might be too late to effectively train most lawyers and judges once they enter their professional fields.” If this is the case, we must wait a generation to begin to address the problem adequately. Alternatively, the parties in the criminal justice system can trust the forensic science community to fix the problem itself. Neither answer seems satisfactory. Another alternative, however, does exist.

Funding must be set aside to train judges, prosecutors, and defense attorneys in the underpinnings of science. The truth of the matter is lawyers are presented with forensic evidence that they are ill equipped to handle. “A fear of science won’t cut it in an age when many pleas of guilty are predicated on the reports of scientific experts. Every public defender’s office should have at

81. Id. at 85.
82. Id. at 236.
least one lawyer who is not afraid of a test tube.”  

Without education, lawyers are inadequate to handle the task of appropriately assessing the value and reasonableness of forensic science findings. Education, of course, costs money. It is inefficient to educate lawyers in forensic science as part of the law school curriculum, as suggested by the NAS Report. Many will go their entire career without dealing with a forensic science case, where others deal with forensic science as a matter of course. Perhaps the best approach, then, is to impose additional requirements on those lawyers who handle forensic evidence. One possibility is to require a showing of a level of competence beyond the standard bar exam. The proposal to require certification is not without precedent. For example, in California, lawyers appointed as lead or associate counsel for death penalty cases must meet requirements beyond bar passage. Pennsylvania likewise has additional requirements, including a minimum number of hours of training specifically on death penalty issues. Philadelphia County has additional requirements, including that the lawyer “[i]s familiar with, and experienced in the use of expert witnesses and scientific and medical evidence, including, but not limited to, psychiatric and pathological evidence.”  

Practically speaking, applying the requirement to judges would be more challenging. While some counties have certain judges assigned solely to criminal cases, other counties use their judges as “jacks of all trades.” Some counties have only a few judges presiding over the caseload. Is it practical for one judge to be required to be certified in a two-judge county? When balancing the need for education of the judiciary against the very real possibility of a wrongful conviction, the answer seems obvious. While more research is being done, studies suggest courts “employ Daubert more lackadaisically in criminal trials—especially in regard to prosecution evidence—than in civil cases—especially in regard to plaintiff evidence.” In light of the fact that forensic science is

83. JIM DWYER ET AL., ACTUAL INNOCENCE: WHEN JUSTICE GOES WRONG AND HOW TO MAKE IT RIGHT 162 (2005).
84. NAS REPORT, supra note 2, at 236.
85. CAL. R. OF CT. 8.605.
86. PA. R. CRIM. P. 801.
87. PHILA. CO. CRIM. DIV. R. 406-1.
88. NAS REPORT, supra note 2, at 11 n.21 (citing 1 DAVID L. FAIGMAN ET AL., MODERN SCIENTIFIC EVIDENCE: THE LAW AND SCIENCE OF EXPERT TESTIMONY § 1.35, at
being admitted in courtrooms across the country as a matter of course, it is surprising that “[i]n most forensic science disciplines, no studies have been conducted of large populations to establish the uniqueness of marks or features.” If the judiciary is not aware of this and has not been trained on the significance of this, how can they be effective gatekeepers?

Of course, if a judge is not interested in such special training, those cases could be assigned to a visiting judge. Alternatively, perhaps lawyers could be given the option of filing on a noncertified judge as an additional safeguard, over and above the current allowance.

VI. CONCLUSION

Eyewitness identification and forensic science have at least two things in common: both sets of testimony are subject to error and both have the distinct capacity to overcome the burden of proof beyond a reasonable doubt necessary to gain criminal conviction. The 2009 NAS Report points out the limits of many fields of forensic science. Studies on eyewitness identification routinely show a high error rate when it comes to positive identification. Effective cross-examination and meaningful jury instructions have not proven sufficient to challenge the testimony of these witnesses. Education for legal practitioners involved in cases wherein forensic science is presented must be implemented.

The subtitle to the NAS report states: “A Path Forward.” As long as the justice system continues to do things the way they have always been done, the system will not be moving forward. The forensic science community has taken steps to reexamine and improve practices. The legal community must do so as well.

105 (2007–2008 ed.)).
89. Id. at 188–89.
90. Id. at 8.