Embracing the Path Forward:  
The Journey to Justice Continues

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I. INTRODUCTION

It was a moment to remember. The rumor at the American Academy of Forensic Sciences' annual meeting in February 2009 concerned the imminent release of the National Academy of Sciences’ report (NAS Report), *Strengthening Forensic Science in the United States: A Path Forward.*¹ Forensic scientists from all disciplines and from every corner of the nation were awaiting the report, a report that the Consortium of Forensic Science Organizations (CFSO)² encouraged Congress to fund. The NAS press conference was streamed live onto the computers of Academy members huddled in groups in the halls of the Denver Convention Center. Moments later, copies of the summary of the report were being printed and circulated. Excitement abounded as the recommendations of the report were reviewed and their consequences considered. There seemed to be agreement with most recommendations and agreement in concept with others. This excitement was dampened, however, when the substantive bases for some of the recommendations were examined. Questions were raised about the thoroughness of the

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Committee’s research, the practicality of its recommendations, and its failure to accomplish parts of what Congress chartered the NAS to do. A year later, these questions still persist, but the forensic science community continues on a course of self-improvement, and the federal government has taken the lead in coordinating and implementing the path forward.

The “path forward” for forensic science did not begin with the NAS Report. Forensic scientists have longed for resources to buy modern equipment, conduct further research, produce peer-reviewed articles, engage in quality management, and continue their education. We were reminded of our commitment to attain justice through science by the President of the American Academy of Forensic Sciences in his 2003 President’s Editorial, where the sentiment of the Academy was once again stated:

With the importance of forensic science to truth and justice, the science employed and relied upon by judges and juries must be valid. It does not matter how well forensic scientists abide by testing protocols or how reliable the techniques are, if the underlying science does not actually reveal what the expert says it does. Method validation studies and new research must be ongoing even in the areas of traditional forensic science disciplines. Justice demands good science and we have an obligation to provide it. We can no longer expect the courts or public to accept the truth of our science merely because we say it is good. In order to maintain the integrity of both the science and the justice system, we must prove that it is so.3

The forensic science community’s commitment to its journey to justice was clear in 2003 and continues today.4 The “path forward” as envisioned by the forensic science community and the NAS has substantially coalesced, and the journey to justice continues with new enthusiasm.5 There is still great hope and optimism in the forensic community that the NAS Report will awaken federal and state governments and spur them into action.6 There is no question over or quarrel with the message the NAS committee consistently heard: forensic science can be improved only “by a

5. Id.
6. This is the author’s observation from attending many meetings of forensic science organizations since the publication of the NAS Report, and from the support of the forensic science stakeholders for the Executive Office of the President’s Subcommittee on Forensic Science. See generally http://www.whitehouse.gov/sites/default/files/microsites/ostp/forensic-science-subcommittee-charter.pdf.
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national commitment to overhaul the current structure that supports the forensic science community in this country. This can only be done with effective leadership at the highest levels of both federal and state governments, pursuant to national standards, and with a significant infusion of federal funds.”

II. MISSED OPPORTUNITIES

The history of crime laboratory needs assessments can be traced back to 1967, when President Johnson’s Crime Commission’s seminal work “The Challenge of Crime in a Free Society” recognized that there were some excellent crime laboratories around the country. However, the great majority of police department laboratories have only minimal equipment and lack highly skilled personnel able to use the modern equipment now being developed . . . .” President Nixon’s Crime Commission found that the same issues still existed in 1973, when it declared: “Too many police crime laboratories have been set up on budgets that preclude the recruitment of qualified, professional personnel.” The report also noted under resourced, overcrowded laboratories and the lack of adequate equipment, called for administrative autonomy and budgetary authority within parent agencies, certification (accreditation) of laboratories and standardization of police laboratory procedures and analyses. In the mid-1970s, the National Institute of Law Enforcement and Criminal Justice (NILECJ) issued grants to develop a process to measure the performance of laboratories. Proficiency tests “revealed that laboratory performance was less than satisfactory and in some areas it was distinctly sub par,” which made headlines in newspapers around the country in 1977. In 1999, at the request of the American Society of Crime Laboratory Directors (ASCLD), the National Institute of Justice (NIJ) and the Office of Law Enforcement Standards (OLES) in the National Institute of Standards and Technology (NIST) funded a project titled “Forensic Summit: Roadmap to the Year 2000.” The summit resulted in a publication by NIJ called Forensic

7. NAS Report, supra note 1, at xx.
9. Id.
11. Id. at 292-308.
13. Id.
Among the needs identified were:

- Creation of standard-setting bodies;
- Funding of forensic academic research and development programs by NIJ;
- Formal quality assurance training for all forensic scientists; and
- Validation studies for most of the nine common disciplines found in the majority of public crime laboratories, including latent print examinations and trace evidence.

In March 2003, President George W. Bush announced a new initiative: "Advancing Justice Through DNA Technology." As part of the initiative, he proposed the creation of a Forensic Science Commission. The proposal read, in part:

The Attorney General will appoint Commission members from professional forensic science organizations and accreditation bodies and from the criminal justice community. These individuals will have broad knowledge and in-depth expertise in the criminal justice system and in various areas of the forensic sciences such as analytical toxicology, trace evidence, forensic biology, firearms and toolmark examinations, latent fingerprints, crime scene analysis, digital evidence, and forensic pathology, in addition to DNA. Judges, prosecutors, attorneys, victim advocates, and other members of the criminal justice system will also be represented on the Commission.

The 2004 Consolidated Appropriations Act required NIJ to prepare and transmit to Congress a report addressing the needs of the forensic science and medical examiner communities beyond the DNA initiative. The report to Congress was due 180 days after the enactment of the Act.
was required to collaborate with specific forensic science organizations in preparation of the report. The report, titled "Status and Needs of Forensic Science Service Providers: A Report to Congress," reflected the opinions of the forensic science community and discussed a number of challenges and needs. Included among the suggestions were the following:

- Exploring mandatory accreditation and certification;
- Conducting basic research into the scientific underpinning of impression evidence; and
- Sponsorship by the federal government of research to validate forensic science disciplines to address basic principles, error rates, and standards of procedure.

The report was submitted to Congress in May 2004, with the hope that funding would help alleviate many of the challenges facing forensic science. In addition, the report recommended that the issues identified be addressed more fully by the President’s proposed Forensic Science Commission.

Section 306 of the DNA Sexual Assault Justice Act of 2004 codified the President’s direction to the Attorney General to create a National Forensic Science Commission and authorized funding for it. Among the Commission’s responsibilities were to:

- make recommendations to the Attorney General for programs that will increase the number of qualified forensic scientists available to work in public crime laboratories;
- disseminate, through the National Institute of Justice, best practices concerning the collection and analyses of forensic evidence to help ensure quality and consistency in the use of forensic technologies and techniques to solve crimes and protect the public;
- examine additional issues pertaining to forensic science as requested by the Attorney General . . .

The Commission was never funded, and the forensic science community lost the momentum and opportunity to take advantage of many of the sound

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22. Id.
24. Id. at 6-7.
25. Id. at 2.
26. Id. at 3.
28. Id. at 2274.
recommendations for the improvement of forensic science. Nevertheless, funds continued to be appropriated by Congress for DNA initiatives through the Debbie Smith Act of 2004, a sequel to the DNA Analysis Backlog Elimination Act of 2000. Other funds were appropriated to improve the quality and timeliness of forensic science (other than DNA) and medical examiner services through the reauthorization of the Paul Coverdell National Forensic Sciences Act of 2000.

The latest attempt to garner the attention of federal and state governments to the needs of the forensic science community was the NAS Report. The National Academies is arguably the most prestigious scientific organization in the United States. One of the political realities of having the NAS conduct an investigation of any particular scientific subject or problem is that it places tremendous public focus and attention on whatever problem the NAS agrees to investigate, including the attention of Congress. Whenever an investigation by an NAS committee results in a finding that a scientific method is valid and reliable, there can be no higher endorsement than the blessing of the NAS.

In 1992, the National Research Council, the research arm of the NAS, examined the scientific underpinnings of probability estimates used in DNA profiling and issued a report that was the subject of later criticism. A sequel to the 1992 report was published in 1996 and served as the imprimatur from the scientific and academic communities that forensic DNA testing and the associated statistical probabilities, were scientifically valid and reliable when properly conducted. It meant that forensic DNA analysis was accepted by the general scientific community and, consequently, met the legal threshold of admissibility in criminal courtrooms throughout the United States.

33. NAS Report, supra note 1, at 81.
34. See section IV. Stakeholders' Responses, infra.
35. See generally COMM. ON DNA TECH. IN FORENSIC SCI., NAT'L RESEARCH COUNCIL, DNA TECH. IN FORENSIC SCIENCE (1992).
37. See, e.g., Commonwealth v. Fowler, 685 N.E.2d 746, 751-53 (1997); DAVID L.
It also meant that with the increased development and use of DNA testing and the judicial acceptance of it, forensic DNA analysis and backlog reduction efforts attracted almost $600 million of Congressional funding between 2004 and 2008.\footnote{Murphy, supra note 29, at 11.} The funding for forensic DNA analysis and backlog reduction since 2003 has outstripped by seven fold the total funding for all of the other forensic science disciplines combined, over the same period.\footnote{Id.} This disparity existed despite the reality that DNA submissions and DNA backlogs accounted for only a small percentage of the total work performed by crime laboratories.\footnote{Id. at 12-13.} That political reality was not lost on the CFSO, nor was the failure to obtain significant funding for non-DNA disciplines from Congress forgotten. If the NAS were asked to weigh in on the needs of all of the forensic science disciplines in addition to DNA analysis, it might be possible to achieve enough momentum to awaken the federal government to the long overlooked needs of the remainder of the forensic science community, just as forensic scientists witnessed with forensic DNA analysis.

Founded in 2000, CFSO now represents seven forensic science professional organizations with a combined membership of more than 12,000 forensic science professionals.\footnote{The Consortium of Forensic Science Organizations, http://thecfso.org (last visited Feb. 21, 2010).} The CFSO was instrumental in educating members of Congress about the needs of the forensic science community.\footnote{Id.} Recognizing the necessity for funding forensic science disciplines, including DNA, CFSO encouraged Congress to commission an additional study on the needs of the forensic science community. The 2005 Senate Report that laid the groundwork for the NAS Report states:

While a great deal of analysis exists of the requirements in the discipline of DNA, there exists little to no analysis of the remaining needs of the community outside of the area of DNA. Therefore, within the funds provided for the DNA and Forensics Initiative the Committee directs the Attorney General to provide $1,500,000 to the National Academy of Sciences to create an independent Forensic Science Committee .... The National Academy shall issue its report to the Committees on Appropriations no later than June 1, 2006.\footnote{S. REP. No. 109-88, at 46 (2005).}

At the February 18, 2009, news conference, which announced the issuance of the NAS Report, co-chair Constantine Gatsonis said the report
did not state many things that are completely new to anybody.\textsuperscript{44} The history of forensic sciences' previous efforts to reform, as discussed above, support that characterization. The importance of the NAS Report, however, is not just its recommendations, but that it once again brought to the attention of Congress and the Administration the urgent needs of the forensic science community, including capacity, education, research, protocols, and standards. The NAS Report details the profound importance of the federal government taking bold, new leadership over forensic science with more specificity than prior reports, and describes in vivid detail why the need for change is so compelling.

Importantly, the Report "can provide a foundation for building broad consensus for change."\textsuperscript{45} The challenge now facing the forensic science stakeholders is to make something of this opportunity, and not to let it fade, once again, into the cobwebbed shroud encasing prior reports.

III. THE NAS REPORT

The Senate charged the NAS to study and report on eight issues of interest.\textsuperscript{46} Unfortunately, the NAS Report did not provide all of the deliverables expected by the Senate. One of the most unfortunate omissions of the NAS Report is the failure to "disseminate best practices and guidelines concerning the collection and analysis of forensic evidence to help ensure quality and consistency in the use of forensic technologies and techniques to solve crimes, investigate deaths, and protect the public."\textsuperscript{47} The CFSO is disappointed that the NAS Committee did not provide specific recommendations addressing infrastructure needs and capacity building.\textsuperscript{48} But perhaps more disappointing is the fact that the report, although titled "A Path Forward," only gives us mileposts or important achievements to attain.\textsuperscript{49} It does not give a clear roadmap of how to get there.

Because the recommendations in the NAS Report are not new, the challenge is to determine the methods or processes needed to achieve the

\textsuperscript{44} Professor Constantine Gatsonis, Co-Chairman, Forensic Science Committee, Briefing on the National Academy of Science Report (Feb. 18, 2009) (transcript available at http://www.nationalacademies.org/morenews/20090218.html).


\textsuperscript{47} Id.

\textsuperscript{48} CFSO "Talking Points" regarding the NAS Report prepared as a result of the 2009 CFSO Roundtables regarding recommendations and observations following the NAS Report (on file with author).

\textsuperscript{49} See NAS Report, supra note 1.
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recommendations. That information would have been the real “path forward.” Without the roadmap, Congress, the Administration, and the forensic science community are in the same quandary as they were in 1967, 1973, 1999, and 2004, after various reports disclosed the unfortunate truth about the lack of resources, educated personnel, standards, quality management, research and oversight in the forensic science community.

The NAS issued thirteen recommendations in its report, two of which are particularly controversial. The first is the creation of an independent agency, the National Institute of Forensic Science (NIFS), as an oversight and coordination mechanism for the practice of forensic sciences. There is consensus among forensic science associations and law enforcement organizations that a federal office of some type should indeed be created to coordinate and implement federal activity regarding forensic science, including research, standards, accreditation, certification, ethics, and funding. Such an office would help defragment the forensic science community, provide leadership, and improve the quality of the system.

As demonstrated by the following analysis, the NAS recommendation to create a new and independent agency, however, is itself fragmented. The forensic science community agrees with the NAS Report that truly meaningful advances will not come without significant leadership from the federal government. The question is where such an entity should be placed within the federal government.

The NAS Committee recognized that creating a new entity “will pose challenges, not the least of which will be budgetary constraints.” Another obstacle is the bureaucratic considerations of creating a new federal entity unattached to any existing federal agency. In evaluating whether any existing federal agency can meet the criteria set forth by the NAS Committee for a NIFS, it analyzed and rejected the following agencies:

National Science Foundation (NSF)

The NAS Report acknowledged NSF has strengths in leading basic scientific research and has “connections to the research and education communities.” Although the NSF could sustain a research base, according to the NAS Report, its ties to the forensic science community are

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51. NAS Report, supra note 1, at 81.
52. See infra section IV, Stakeholders’ Responses.
53. See infra section IV, Stakeholders’ Responses.
54. NAS Report, supra note 1, at 82
55. Id. at 79.
very slim. The NAS Committee felt that NSF would have “to take many untested steps if it were to assume responsibility for the governance of applied fields of science.”

Department of Commerce, National Institute of Science and Technology (NIST)

The NAS Committee also considered NIST, noting NIST’s forensic science research program, its strong ties to industry and academia, and “eminent history” in standard setting and method development. As with NSF, the NAS Committee felt that NIST’s ties to the forensic science community are limited and that it would “not be seen as a natural leader by the scholars, scientists, and practitioners in the field.” The NAS Committee did not think either NSF or NIST had the “breadth of experience or institutional capacity to establish an effective governance structure for the forensic science enterprise.”

Department of Justice (DOJ)

While recognizing that the DOJ has tremendous experience in governance, including in the area of forensic science, the NAS rejected the DOJ as a suitable agency to house the NIFS. It is here that the NAS Report asserts that the governing entity “cannot be principally beholden to law enforcement.” The NAS Report concluded that the work done by the DOJ units (referring to the crime laboratories) is too narrow, because forensic science serves more than just law enforcement. When forensic science does serve law enforcement, the NAS Report continued, it must also be available to police, prosecutors, and defense attorneys.

Each government agency rejected by the NAS Committee has at least one criterion the NAS found necessary for its proposed new entity to possess. NSF has substantial experience in managing diverse portfolios of peer-reviewed research, NIST has the forensic science research program, and the DOJ has the experience in forensic science and governance.

56. Id.
57. Id.
58. Id.
59. Id.
60. Id. at 79-80.
61. Id. at 80.
62. Id.
63. Id.
64. See id. at 81.
65. Id.
66. Id. at 79-80.
The NAS Committee rejected each of those agencies because none had all of the required qualities. Neither NSF nor NIST has the "breadth of experience or institutional capacity to establish an effective governance structure for the forensic science enterprise." Thus, the fallacy of the NAS recommendation to create a new, independent agency is revealed. A newly created independent, federal agency would also have to develop its own "breadth of experience" and "institutional capacity," and achieve the qualities recognized in NIST and NSF. In fact, the Innocence Project, once a firm supporter of creating a new, independent agency to house the NIFS, has retreated from that position in reaction to the practical and political reality that Congress will not support its creation as envisioned by the NAS Report. Instead, the Innocence Project now suggests that the NIFS be housed in the Department of Commerce, which the NAS Report has already rejected as a satisfactory home for the NIFS.

Although dismissed by the NAS Committee, the only structure that makes sense to house such an entity is the Department of Justice (DOJ). There are several arguments advanced by Committee members and NAS staff in the NAS Report articulating the reasons the DOJ is an inappropriate agency. Those arguments, and countering considerations in favor of placing the NFIS-like entity in the DOJ, follow.

A. The NIFS Should Not Be in an Agency that Is "Beholden to Law Enforcement"

The placement of an NIFS-like entity in the DOJ could be placed in the Office of the Deputy Attorney General, and thus would not be controlled by the DOJ’s law enforcement bureaus. The Deputy Attorney General is not beholden to law enforcement, rather he or she provides oversight and implements the broad ideals of justice. In fact, no other agency within our government is mandated by law to administer so broadly the Constitutional

67. Id. at 80-81.
68. Id. at 80.
69. Id.
70. Innocence Project legislative outline for a NIFS in the Department of Commerce (on file with author); see also The Innocence Project, http://www.innocenceproject.org/ (last visited Apr. 21, 2010).
71. Innocence Project legislative outline for a NIFS in the Department of Commerce (on file with author); see also The Innocence Project, http://www.innocenceproject.org/ (last visited Apr. 21, 2010).
72. NAS Report, supra note 1, at 80; The International Association for Identification’s 94th International Educational Conference Panel Discussion on the NAS Report Recommendations, August 21, 2009, Tampa, Florida.
73. NAS Report, supra note 1, at 80.
obligation to provide justice to all the American people.\(^7\) The DOJ already has the breadth of experience and institutional capacity to establish a strong structure to lead the forensic enterprise.

B. The Work Done by DOJ Laboratories Is Too Narrow—Forensic Science Should Serve Law Enforcement, Prosecutors, and Defense Attorneys

The DOJ laboratories should serve the entire justice system, and they do. When DNA analysis was developing in crime laboratories, there was a need for standards, protocols, quality assurance and quality control guidelines. It was the Department of Justice that advanced DNA analysis to the gold standard it is today. In addition to the significant development of the forensic aspects of DNA, the FBI propounded the national standards and quality management processes for DNA analysis.

The Technical Working Group on DNA Analysis Methods (TWGDAM), now known as the Scientific Working Group on DNA Analysis Methods (SWGDAM), issued guidelines in 1989. TWGDAM was a group of private and public sector forensic experts sponsored by the FBI (in the same manner as the other Scientific Working Groups (SWGs) are today). The TWGDAM worked with NIST to develop model reference material.

No formal authority was granted to TWGDAM or SWGDAM. Then the DNA Identification Act of 1994 was passed by Congress.\(^7\) This act deemed the TWGDAM guidelines as national standards, until the FBI Director issued his own quality assurance standards on the recommendation of the DNA Advisory Board (DAB).\(^7\)

Congress mandated that the composition of the DAB include “scientists from State, local and private forensic laboratories, molecular geneticists and population geneticists not affiliated with a forensic laboratory, and a representative from the National Institute of Standards and Technology.”\(^7\)

The purpose of the DAB was to develop quality assurance standards. The DAB was not an oversight committee, but an advisory committee. Thus, the FBI Director, after considering the recommendations of the DAB,

\(^7\) http://www.justice.gov/usao/eousa/foia_reading_room/usam/title9/27mcrm.htm#927.001; Berger v. United States 295 U.S. 78, 88 (1935) ("The United States Attorney is the representative not of an ordinary party to a controversy, but of a sovereignty whose obligation to govern impartially is as compelling as its obligation to govern at all; and whose interest, therefore, in a criminal prosecution is not that it shall win a case, but that justice shall be done. As such, he is in a peculiar and very definite sense the servant of the law, the twofold aim of which is that guilt shall not escape or innocence suffer.").


\(^7\) Id. § 14131(a)(2), (4) (creating DAB as an advisory board to the FBI Director).

\(^7\) Id. § 14131(a)(1)(B).
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issued the standards.\textsuperscript{79} It is noteworthy that the work of the DAB was uncontested and it functioned without controversy. Moreover, many of the DNA analyses that exonerated actual innocents through post-conviction testing followed those very standards. To suggest that the Department of Justice cannot develop standards and protocols, objectively conduct a research agenda, or engage in sound scientific research, is to ignore history.

C. The DOJ Has Done Nothing in the Past in Response to the Needs of the Forensic Science Community, and Consequently There Is No Expectation that It Will Do So Now

The above statement is not true. In addition to providing national leadership in the development of forensic DNA profiling, NIJ has been active in its response to the needs of the forensic community. The DOJ, through its subordinate component, NIJ, has administered, for example, the DNA backlog reduction and capacity enhancement funding and the Paul Coverdell Forensic Science Improvement Grants. Between fiscal year 2002 and fiscal year 2009, inclusive, NIJ administered 661 forensic science grants involving $105,300,000 in the Coverdell program alone, NIJ was also the primary source of funding for research by crime laboratories that dedicated resources to research according to the BJS 2002 census.\textsuperscript{80} The FBI receives about $33 million per year for its own research.\textsuperscript{81} In addition, NIJ, FBI and DEA fund and manage most of the Scientific Working Groups.\textsuperscript{82}

D. The DOJ Could Not Be Objective and Is Biased in Favor of Law Enforcement

This is more of a subjective perception than an objective reality. To alleviate that perception, however, in any NIFS-like entity in the DOJ there should be certain mechanisms built into the process to provide a check on the objectivity of its process and deliverables. This can be accomplished in two ways. First, it can be done by creating a federal advisory board that would review and comment on research agendas, proposed standards and protocols, accreditation and certification criteria, and so forth. Second, an NIFS-like entity that is inter-agency and multi-disciplinary in make up would guarantee its independence and objectivity. For example, the NIFS-

\textsuperscript{79} Quality Assurance Standards for Forensic DNA Testing Laboratories were issued in October, 1988. Once those national standards were issued, ASCLD/LAB, the accreditation body, assessed all accredited crime laboratories performing DNA analysis and accessing CODIS against those standards.

\textsuperscript{80} NAS Report, \textit{supra} note 1, at 71.

\textsuperscript{81} \textit{Id.} at 73.

\textsuperscript{82} \textit{Id.}
like entity, although led by DOJ, could be composed of representatives from NIST, NSF, NIJ, NIH (for medical examiners) and others. With the advice of an advisory board steeped in rigorous basic and applied science, and the inter-agency, multidisciplinary participation of scientists, the DOJ would be able to carry out the duties and responsibilities of a national leader in forensic science in a conflict free and objective environment.

Although forensic science must not be beholden to law enforcement, it has to be responsive to the needs of law enforcement because forensic science "provides great value to law enforcement investigations." Forensic science analyses are frequently conducted before there is an arrest, before there is the intervention of a defense attorney, and before court proceedings begin. Often times the analyses exonerate persons of interest during the investigative stage and other times provide important leads to discovering the true perpetrator. Crime laboratories must work closely with law enforcement, being responsive to its needs while at the same time maintaining its scientific integrity. However, the relationship between crime laboratories and law enforcement is another area in which there is disagreement.

The NAS Report's recommendation to separate crime labs from law enforcement has created concern not only in the forensic science community, but also in law enforcement. It is the apparent call for the removal of all public forensic laboratories and facilities from the administrative control of law enforcement agencies or prosecutors' offices. The objective of Recommendation 4 is to provide laboratories "maximum independence from or autonomy within the law enforcement community."

Budgetary and political realities suggest that most federal and state lawmakers will not embrace the removal of crime laboratories from law enforcement agencies. The National Advisory Commission on Criminal Justice Standards and Goals observed in its 1974 Report on Police that

[t]o dissolve the organizational integrity of such facilities (crime laboratories), in order to restructure them as... independent systems, would create chaos precisely where the police service can least afford any interruption of service. It would appear much more realistic to adopt measures to insure that these laboratories are operated efficiently

83. The Scientific Working Group on Friction Ridge Analysis, Study and Technology (SWGFAST) notes that the NIFS would "require an unprecedented and problematic management model," and recommends more efficient and pragmatic approaches, such as collaboration between entities such as NFS, NIST, Scientific Working Groups, national laboratories and academic institutions. SWGFAST NAS Position Statement, available at http://www.swgfast.org/SWGFAST_NAS_Position.pdf.
84. NAS Report, supra note 1, at 127.
85. NAS Report, supra note 1, at 190 (emphasis added).
without regard to the special interests of the agency or the concerned government unit . . . .\textsuperscript{86}

The Senate Committee on the Judiciary heard the same message in 2009, when the witness representing the National District Attorneys Association (NDAA) indicated, “in terms of the integrity and reliability of forensic evidence it is more important how a laboratory is run rather than where it is located.”\textsuperscript{87}

The safeguards provided by laboratory accreditation, the competency and proficiency attained through certification and proficiency testing, reliability resulting from scientifically validated standards and adoption of best practices, and the implementation of a national code of professional responsibility will achieve the scientifically autonomous laboratory envisioned by the NAS Report. In other words, it is the culture within the laboratory that ultimately encourages scientific integrity, and is more important than where it is housed. Several of the fraudulent, incompetent, and dishonest forensic practitioners cited in major articles were not associated exclusively with laboratories within law enforcement agencies.\textsuperscript{88}

The same ethical and professional shortcomings have occurred in public and private laboratories and among sole practitioners.

The laboratory’s culture of autonomy within an agency is assured by today’s laboratory accreditation standards. Recommendation 7 of the NAS Report recognized the international standards for accreditation published by the International Organization for Standardization (ISO).\textsuperscript{89} ISO/IEC 17025:2005 provides the framework for scientific integrity and laboratory independence within a parent agency.\textsuperscript{90} Following are several of the ISO standards that support this goal:

4.1.4 If the laboratory is part of an organization performing activities other than testing and/or calibration, the responsibilities of key personnel in the organization that have an involvement or influence on the testing and/or calibration activities of the laboratory shall be defined


\textsuperscript{88}. Id. at 6-8.

\textsuperscript{89}. NAS Report, supra note 1, at 215.

in order to identify potential conflicts of interest.

4.1.5 The laboratory shall

a) have managerial and technical personnel who, irrespective of other responsibilities, have the authority and resources needed to carry out their duties, including the implementation, maintenance and improvement of the management system, and to identify the occurrence of departures from the management system or from the procedures for performing tests and/or calibrations, and to initiate actions to prevent or minimize such departures (see also 5.2);

b) have arrangements to ensure that its management and personnel are free from any undue internal and external commercial, financial and other pressures and influences that may adversely affect the quality of their work . . . ;

d) have policies and procedures to avoid involvement in any activities that would diminish confidence in its competence, impartiality, judgment or operational integrity;

e) define the organization and management structure of the laboratory, its place in any parent organization, and the relationships between quality management, technical operations and support services;

f) specify the responsibility, authority and interrelationships of all personnel who manage, perform or verify work affecting the quality of the tests and/or calibrations.

In conjunction with universal accreditation of public and private forensic-science laboratories, the ISO standards provide a reasonable and practical alternative to removing crime laboratories from law enforcement agencies.

The standards also provide a barrier between private laboratories and their corporate structures that may be focused more on profitability than scientific integrity, although there is already a long history of existing commercial successes by private laboratories that embrace integrity as a corporate value.

There is little disagreement within the forensic community with Recommendation 3: “Research is needed to address issues of accuracy, reliability, and validity in the forensic science disciplines.” Forensic scientists recognize that the need for research into the scientific bases of forensic-science disciplines dates back to the early needs assessments of

91. Id. at 2-3.


93. NAS Report, supra note 1, at 190.
the forensic science community.94

However, the forensic science community does disagree with the NAS Report’s characterization of the extant research that exists, or does not exist as it suggests, in some forensic-science disciplines found in Chapter 5 of the Report.95 Presentations were made before the Committee during its eight meetings, and some research material was submitted.96 Individual members of the Committee did their own research, although what was reviewed and how it was shared with other members of the Committee is unknown. A representative of NAS indicated that the Committee disregarded research published in certain journals or publications and confined the scope of its search for validity and reliability studies to less than the universe of forensic-science reference materials.97 This shortcoming throws into question the thoroughness of the $1.5 million, three-year study. If a complete review was accomplished and made available for public review by the NAS Committee, a gap analysis could now be readily conducted to determine the priorities for a research agenda. More on the NAS Committee’s scientific research underlying Chapter 5 is presented later in this paper.

IV. THE STAKEHOLDERS’ RESPONSES

The forensic science stakeholder community includes, among others, forensic scientists, attorneys, law enforcement, the courts, and victim advocacy groups. The community is represented by organizations of forensic scientists, such as the American Academy of Forensic Sciences (AAFS) and the Consortium of Forensic Science Organizations (CFSO). Crime laboratory directors are represented by the American Society of Crime Laboratory Directors (ASCLD). Scientific Working Groups (SWGs) are divided according to discipline, such as the Scientific Working Group on Friction Ridge Analysis, Study, and Technology (SWGFAST).98 The National Association of Medical Examiners (NAME) represents medical examiners. Certification groups such as the International Association for Identification (IAI) and laboratory accreditation programs such as the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB) and Forensic Quality Services, International (FSQ-I)


96. NAS Report, supra note 1, at 2.

97. Id.

98. There are at least 16 SWGs funded by a variety of agencies, including NIJ, FBI and DEA.
provide examiner competency standards and laboratory quality management oversight. Attorneys for the defense and prosecution are represented by such organizations as the National Association of Criminal Defense Lawyers (NACDL), the National Association of District Attorneys (NDAA), and the American Bar Association (ABA). The International Association of Chiefs of Police (IACP) and the National Sheriffs’ Association (NSA) represent many law enforcement officials. Despite the variety of interests represented by these groups, there is a unique and unusual agreement in the broad concepts represented by the NAS Report.

Based on formal statements made by some of these organizations, it appears they agree in concept with the NAS Report’s recommendations. For example, most organizations agree that there should be a federal office of some sort that oversees or coordinates the forensic science community, while others are silent on the issue. The AAFS agrees with the NAS recommendation for an independent NIFS, while NACDL recommends “a science-based federal agency,” but not the “Department of Justice or any other existing federal department or agency whose primary mission involves prosecution or law enforcement.” NAME observes that “[t]he report provides cogent and thoughtful solutions to the current deficiencies including most significantly, the development of a National Institute of Forensic Science (NIFS).” Variants of the NAS NIFS model include using existing agencies. Representing some of the major forensic

99. “The NAS study provides recommendations that the community supports . . . .” CFSO talking points, supra note 48.

100. NDAA “does not endorse the idea that [the purpose of the NIFS] requires the creation of a new federal agency . . . .” NDAA Resolution (on file with author); see http://www.ndaa.org.


103. Letter from J. Howard, M.D., President of NAME, to the Senate Judiciary Comm. (March 13, 2009) (on file with author); see also http://thename.org.

104. Innocence Project, supra note 70; see http://www.innocenceproject.org; Letter from J. St. Clair, Am. Soc’y of Crime Lab. Dirs./Lab. Accreditation Bd. (ASCLD/LAB), to Senator Leahy (March 16, 2009) (on file with author); http://www.ASCLD-LAB.org; Letter from Dean Gialamas, ASCLD President, ALSCD and Beth Greene, ALSCD President-Elect, ALSCD to Senator Leahy (March 17, 2009) (on file with author); http://www.ascld.org. NDAA does not endorse “the adoption of the [NIFS’s] mission by an existing agency ill-suited to the task.” NDAA resolution (on file with author); see National
science organizations, the CFSO supports raising "forensic science to a higher level in the DOJ . . ." SWGFAST proposes as an alternative to an all-encompassing body a collaborative, interagency initiative of existing agencies. Significant differences, however, appear in these variations of the NIFS. IACP supports the development of an entity to set standards and best practices, and to serve as a funding source for forensic science. The Innocence Project (IP) and NACDL strongly support the federal entity as an oversight body. ASCLD and ASCLD/LAB support an existing federal agency only as a coordinating body. The IAI agrees, stating that "the national agency should be one of support, not of governance, recognizing the proper role of the Courts and the States." The NACDL suggested in its preliminary mission statement that the NIFS be established before there is "an attempt at the other important and necessary reforms of the forensic sciences." That position was inapposite to the position of the NAS Committee that "each recommendation is a separate, essential piece of the plan to improve the forensic science community in the United States. Therefore, even if the creation of NIFS is forestalled, the committee vigorously supports the adoption of the core ideas and principles embedded in each of the . . . recommendations." The NACDL’s preliminary position in that regard was abandoned in its final position statement. However, NACDL does maintain that “[t]he results of any forensic theory or technique whose validity, limitations, and measures of uncertainty have not been established should not be admitted

District Attorney’s Association, http://www.ndaa.org (last visited April 21, 2010).

105. CFSO talking points, supra note 48.

106. SWGFAST NAS Position Statement, supra note 95, at 5.


108. Innocence Project, supra note 70; see http://www.innocenceproject.org.


112. NAS Report, supra note 1, at 20-21.
into evidence to prove the guilt of an accused person.”

It is no surprise that the stakeholders disagree with each other in regard to the NAS recommendation of removing the crime laboratories from parent law enforcement or prosecution agencies. The disagreement among the stakeholders results partly from the duality of the recommendation itself, and partly by a lack of clarity in the NAS Report. Recommendation 4 begins by stating that its purpose is to “maximize independence from or autonomy within the law enforcement community.” The recommendation ends by suggesting that funding be provided “for the purpose of removing all public forensic laboratories and facilities from the administrative control of law enforcement agencies or prosecutors’ offices.”

Some organizations have focused on the portion of the recommendation to remove public laboratories from their parent law enforcement agencies. For example, the IACP voices strong opposition to “the report’s recommendation that crime laboratories and other forensic services should be removed from law enforcement agencies,” and NDAA opposes “divorcing local forensic services from the missions they were created to support.” While the AAFS supports the NAS Recommendations, it is unclear whether it supports removal or autonomy.

NACDL recommends that “[l]aw enforcement and prosecutorial agencies should have no controlling administrative, budgetary, or managerial relationships to forensic facilities and practitioners.” It is


114. NAS Report, supra note 1, at 191 (emphasis added).

115. Id. (emphasis added).


interesting to note that the term “controlling” was added to NACDL’s final set of principles and recommendations. It may be that NADCL is leaning toward autonomy for labs within law enforcement agencies, rather than complete separation.

Advocacy groups critical of forensic science have latched on to the complete removal of crime laboratories from law enforcement. The underlying discussion to Recommendation 4, however, while only a single paragraph in the body of the Report, clarifies the Recommendation’s meaning, where it states: “Ideally, public forensic science laboratories should be independent of or autonomous within law enforcement agencies.” A number of public laboratories are already independent of law enforcement agencies, such as the Virginia Department of Forensic Science. For the remaining public forensic science laboratories, autonomy within the parent agency would achieve the goals identified in the Report. For example, autonomy within its agency would give laboratory directors a greater voice within the justice system in laboratory matters, increase the ability to set its own priorities, help avoid cultural pressures resulting from close relationships with the police, and provide the ability to set their own budget priorities. Most importantly, it would help assure scientific integrity in the analysis and interpretation of evidence.

Several organizations oppose the removal of crime laboratories from law enforcement agencies, but support different degrees of autonomy within the parent law enforcement agencies. The IAI and SWGFAST do not support removal, but believe there should be separate funding structures for crime laboratories and identification units. ASCLD/LAB does not support removal and suggests that accreditation standards in ISO/IEC 17025:2005 provide for independent science and scientific integrity. ASCLD also opposes removal “if the parent agency is required to document how crime laboratories have scientific autonomy with the freedom to conduct testing and report results without pressure from activity, interest, or influence.”

Professor Giannelli writing in the American Bar Association Section of


119. NAS Report, supra note 1, at 184 (emphasis added).


122. Letters from Dean Gialamas, President, ASCLD & Beth Greene, President-Elect, ASCLD, to Patrick J. Leahy, Chairman, Senate Comm. on the Judiciary, at 2-3 (on file with the American Society of Crime Laboratory Directors).
Criminal Justice’s magazine states that

the problems raised by the police-crime lab relationship can be
mitigated somewhat by adopting stringent scientific procedures such as
written protocols, complete case files, and comprehensive lab reports.
A code of ethics and legal procedures such as full pretrial discovery and
the availability of defense experts are also important quality control
mechanisms.123

Many who are experienced in laboratory management believe that much
of the mitigation that Professor Giannelli suggests can be accomplished
without removing the crime laboratories from law enforcement and
prosecutorial offices.124

Laboratory accreditation is one means to ensure autonomy without a
wholesale realignment of the laboratories in America. Accreditation is a
universally recognized method of enhancing the quality management of
forensic science laboratories.125 Recommendation 7 of the NAS Report
makes it clear that “[a]ll laboratories and facilities (public or private)
should be accredited,”126 and no stakeholders disagree with that goal.
The importance of accreditation is apparent from the ASCLD/LAB
statement identifying many of the NAS Report’s recommendations that
have previously been incorporated into the accreditation program. These
include

- proficiency testing;
- personnel qualifications and training;
- competency testing of new analysts and career-long proficiency testing;
- reporting requirements including the use of qualifying statements in reports to
  make clear the significance of associations;
- root cause analysis to
determine the cause of errors as well as a review of past casework to
determine if the error affected other cases and a review of future work
to ensure that the error does not reoccur;
- guidelines for professional

123. Paul C. Giannelli & Susan Friedman, The National Academy of Sciences Report:
124. CFSDO Roundtable Outline (Revised Aug. 19, 2009), available at http://www.the
iai.org/current_affairs/cfso_response_to_nas.pdf.
125. The ABA, for example, recommends accreditation and certification. See American Bar Association, 2006, Report of the ABA Criminal Justice Section’s Ad Hoc Innocence Committee to Ensure the Integrity of the Criminal Process; see also ACHIEVING JUSTICE:
FREEING THE INNOCENT, CONVICTING THE GUILTY, REPORT ON THE ABA CRIMINAL JUSTICE SECTION’S AD HOC INNOCENCE COMMITTEE TO ENSURE THE INTEGRITY OF THE CRIMINAL PROCESS (Paul Giannelli & Myrna Raeder eds. 2006). Several states now require accreditation of crime laboratories. See, e.g., N.Y. EXEC. § 995a (McKinney 1996); OKLA. STAT. tit. 74, § 150.37 (2002); TEX. CODE CRIM. PROC. ANN. art. 38.35 (Vernon 1991),
amended by H.B. 2703, 2003 Leg. (Tex. 2003); TEX. GOV. CODE ANN. § 411 (Vernon 1998),
126. NAS Report, supra note 1, at 215.
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responsibility and ethical conduct; and quality assurance and quality control practices. 127

Likewise, certification is widely recognized as an enhancement to practitioner competency and proficiency, and therefore gauges laboratory quality. Recommendation 7 of the NAS Report also emphasizes the importance of certification by its emphatic statement that “[n]o person (public or private) should be allowed to practice in a forensic discipline or testify as a forensic science professional without certification.” 128 Only NACDL qualifies its support of mandatory certification by carving out a segment of the scientific population who should still be allowed to testify without being certified as competent or proficient in the particular discipline about which they are giving expert testimony. It proposes that

[f]orensic science practitioners and other scientists and experts who have specialized knowledge and expertise and/or conduct research and/or teach in academic and private institutions but who do not perform routine bench work in a forensic facility do not need to be certified in the particular procedure to evaluate the empirical evidence concerning the validity, reliability, and accuracy of various examinations. 129

The rationale for this carve-out position is the purported difference between the process of actually running the tests and the process of critically evaluating the results of the test and the methodologies used. 130

Another deviation from other stakeholders’ positions is NACDL’s proposal that the accreditation and certification bodies be “independent in all respects” from the laboratories being accredited or the persons being certified. 131 Currently, subject matter experts from accredited laboratories and practitioners who are certified participate in the accreditation and certification programs.

Divesting these programs of subject matter experts would have a tremendous, detrimental impact on the quality of the programs, and would


128. NAS Report, supra note 1, at 215.


130. Id. at 4.

131. Id.
contravene the many accreditation programs in scientific and commercial arenas around the world.

NAME supports the NAS Report’s recommendations pertaining to the coroner/medical examiner system. Replacing the obsolete coroner systems with medical examiner systems is a top priority, in addition to adequate funding, educational opportunities, accreditation, and the development of a Scientific Working Group for forensic pathology and medicolegal death investigation. It also recommends that “all medicolegal autopsies be performed or supervised by a board certified forensic pathologist.”

The remaining NAS Report recommendations are uniformly supported by the forensic science stakeholders. Moreover, most of the recommendations are consistent with the ABA Standards on DNA Evidence, and are presumably supported by the ABA.133 Despite the ABA’s support of most of the NAS Report, predicting the judicial reaction to it is difficult.

V. QUESTIONS OF ADMISSIBILITY

Each case in the criminal justice system must be decided on the record before the court pursuant to the applicable law, controlling precedent, and governing rules of evidence. The question whether forensic evidence in a particular case is admissible under applicable law is not coterminous with the question whether there are studies confirming the scientific validity and reliability of a forensic science discipline.134

Judge Edwards’s comments may be predictive of whether the courts will change course in evaluating the admissibility of forensic science evidence as the result of the NAS Report. Although opponents of the forensic science evidence proffered in criminal trials will undoubtedly argue, as they have already done,135 that the NAS Report is a silver bullet piercing the heart of forensic science in general and specific disciplines in particular, a comprehensive scientific review of the foundations of forensic science was neither the Congressional charge for the Committee nor the results of its analyses. Judge Edward’s admonition is reminiscent of the observations by Justice Breyer in Kumho Tire Company, LTD. v.
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Carmichael, that "too much depends upon the particular circumstances of the particular case at issue." As both Justice Breyer and Judge Edwards said, each court must look at the record before it pertaining to the specific forensic science discipline at issue and the testing and results that are being proffered in the case at bar. In other words, courts should look at the expertise of the proffered witness, the methodology followed, the quality management system in place, as well as other relevant factors identified by Daubert v. Merrell Dow Pharmaceuticals, Inc. and its progeny. The question then, is the weight that should be accorded, if any, to the NAS Report in determining the admissibility of scientific evidence. This is a different question from whether Congress or the Administration should give the NAS Report's recommendations great weight and consideration in their efforts to improve forensic science, which both branches of government should absolutely do.

Each court will have to examine the NAS Report to determine its value and contribution to the assessment of the admissibility of the particular evidence at issue. Simply because the National Academy of Sciences issued the report does not mean that it should be persuasive in each instance. As the Supreme Court noted in General Electric Company v. Joiner, courts should not consider an opinion "only by the ipse dixit of the expert." Moreover, the Supreme Court noted that "conclusions and methodology are not entirely distinct from one another." Importantly, therefore, when considering the NAS Report in regard to admissibility determinations, courts should examine carefully the methodology by which the NAS Committee came to its various conclusions regarding specific forensic science disciplines.

137. Id. at 150.
138. See Michael D. Risinger, The NAS/NRC Report on Forensic Science: A Path Forward Fraught with Pitfalls, 10 UTAH L. REV. (forthcoming Jan. 2010) (arguing that the task-specific approach to attacking expert reliability should be used as opposed to a global attack which is less likely to prevail).
140. The National Academy of Sciences is a prestigious organization recognized as such by the courts. However, not every report is without criticism. For example, with regard to the first NRC DNA report, it was found, in propounding what the committee regarded as a moderate position—the ceiling principle and the interim ceiling principle—the report itself became the target of criticism from scientists and lawyers on both sides of the debate on DNA evidence in the courts. Moreover, some of the statements in the 1992 report have been misinterpreted or misapplied in the courts. NAS Report, supra note 1.
142. Id.
Unlike other National Academy of Sciences reports, such as DNA Technology in Forensic Science and The Evaluation of Forensic DNA Evidence, Strengthening Forensic Science in the United States: A Path Forward is not focused on a single discipline. The Committee’s broad charter related to the health of the forensic science community in general, and primarily called for the NAS Committee’s report to be a needs assessment rather than a technical or scientific evaluation of the forensic science disciplines. Thus, while the two DNA reports noted above discussed a single discipline in 164 pages and 211 pages respectively, the NAS Report spends, for example, six pages on DNA, ten pages on friction ridge analysis, and less than six pages on toolmark and firearms identification. The latter two disciplines have been accepted by courts and relevant scientific communities for decades and have generated many studies, necessitating a more thorough and expansive review than they apparently received by the Committee. In addition, the NAS Report could have recommended that laboratories, law enforcement entities, and courts cease the use of these and other disciplines, if the Committee felt it was warranted. It did not do so, and that is significant.

Instead, the report noted that the Committee did not discover validity studies for some disciplines. The failure to discover validity studies, however, does not mean the science is invalid. The paucity of pages devoted to specific disciplines in the NAS Report does not necessarily mean the content is devoid of meaningful information. One must also look at the informational basis underpinning each assessment of a specific discipline, particularly in light of Professor Gatsonis’s description of Chapter 5 as presenting “a précis of each of the main disciplines.” The committee met eight times, but only five of those

143. See generally NAS Report, supra note 1.
144. Id.
145. See id.
146. Id. at 128-33.
147. Id. at 136-145.
148. Id. at 150-155.
149. See United States v. Rose, 2009 WL 4691612, *1 (D. Md. Dec. 8, 2009) (“The Report itself did not conclude that fingerprint evidence was unreliable such as to render it inadmissible under Fed. R. Evid. 702.”). Id. at *2 (finding, unlike the state court, that friction ridge analysis ought to be admissible in federal court). Id. at *3.
meetings were public meetings in which presentations and research were presented. Over a course of seven-and-one-half days of presentations, for example, three hours were devoted to friction ridge analysis and thirty minutes to toolmark and firearms identification. In addition to copies of the electronic presentations, other materials were submitted to the committee. The limited focus on any one discipline explains the "committee's summary assessment of each of these disciplines."

More to the point is the Committee's self-imposed limitation. It "decided early in its work that it would not be feasible to develop a detailed evaluation of each discipline in terms of its scientific underpinning, level of development, and ability to provide evidence to address the major types of questions raised in criminal prosecutions and civil litigation." Following the Committee's lead, the court in Johnston v. Florida concluded "that the report lacks the specificity that would justify a conclusion that it provides a basis to find the forensic evidence admitted at trial to be infirm or faulty." Likewise, in United States v. Rose, the court observed that the "[NAS] Report itself did not conclude that fingerprint evidence was unreliable such as to render it inadmissible . . . ."

The limited focus on the scientific bases of the forensic science disciplines is not surprising, since the composition of the NAS Committee reflects the original intent of the Congressional charge to assess the present and future needs of the forensic science community, to make recommendations for training and education programs, and to make recommendations to maximize the use of forensic techniques, not to examine comprehensively the validity and reliability of forensic science disciplines. The NAS Committee "was composed of a diverse and

152. NAS Report, supra note 1, at 303-14.
153. Id. at 307, 309, 314.
155. Public access materials may be obtained through http://www8.nationalacademies.org/cp/projectview.aspx?key=48741.
156. NAS Report, supra note 1, at 127.
157. Id. (emphasis added).
158. Johnston v. Florida, 2010 WL 183984 at *7 (Fla. Jan 21, 2010); see also Thomas L. Bohan, Strengthening Forensic Science: A Way Station on the Journey to Justice, 55 J. FORENSIC SCI. 1, 6 (Jan. 2010) ("This lack of immediate [judicial] response may be due to the conclusory manner in which the criticisms were framed.").
talented group of professionals, some expert in various forensic science disciplines, others in law, some in higher education, and others in different fields of science, engineering, and medicine."\(^{161}\)

With such wide-ranging expertise, the committee could not render any particular degree of expertise on the specific forensic science disciplines. Members of the National Research Councils for the two DNA reports, on the other hand, were primarily experts in fields directly related to the analysis of DNA. In contrast, the biographical information on the NAS Committee members reveals, for example, no members who are practicing examiners\(^{162}\) or experts in the fields of friction ridge analysis, toolmark and firearm examination, or a number of the other forensic science disciplines reviewed in the report. "Five [members] were long-time academics or government employees ... with no apparent previous contact with the world of forensic science\(^{163}\) one was a professor of computer science who worked on computer handwriting analysis; five had law degrees; two were forensic pathologists; four had experience as analysts in forensic science laboratories.\(^{164}\)

With the diversity in specialties represented on the committee, and the lack of experts in some of the specific fields considered, the Committee should not be considered by the courts as a relevant scientific community for any one of the disciplines discussed in the report.\(^{165}\) This is not a


\(^{163}\) Risinger, supra note 138.

\(^{164}\) Risinger, supra note 138 (discussing the makeup of the committee was discussed to show it was "hardly a hotbed of card-carrying forensic science skeptics"). Additionally, it shows that the Committee was devoid of members steeped in the rigors of many of the disciplines summarized in Chapter 5 of the NAS report.

\(^{165}\) See United States v. Taylor, 663 F. Supp. 2d 1170, 1178 (D.N.M. 2009) (considering the NAS Report, the court held in a firearms identification case that "it does appear that the use of 'pattern matching' to determine whether or not there is a match ... is generally accepted among firearms examiners in the field"); cf United States v. Mouzone, 2009 WL 3617748 at *17 (D. Md. Oct. 29, 2009) ("[T]he latest scientific consensus is as expressed in the NRC Forensic Science Report," but the court found "that the theory underlying firearms-related toolmark identification has gone through sufficient testing and publication of studies regarding its reliability and validity ... and that these matches are relevant to determining whether the bullets or cartridges were fired from the same firearm.") The Magistrate Judge, however, recommended to the District Court that the firearms examiner be restricted in the degree of certainty in which he expresses his opinions); see also United States v. Willock, 2010 WL 1233992 No. WDQ-08-0086 (D. Md. Apr. 23,
criticism of the Committee or its individual members. It is only a reflection on the task they were engaged to perform.

Peer review of reports issued by the National Academies is an important element that lends credibility. The National Research Council proclaims that "[t]his independent, rigorous review is a hallmark that distinguishes the National Academies from many other organizations offering scientific and technical advice on issues of national importance."\textsuperscript{166} The NAS Report itself recognizes the importance of peer review of studies and research so that the data forming the bases of conclusions can be analyzed.\textsuperscript{167} The NACDL promotes the concept that "[t]he principle of transparency is . . . a hallmark of good science . . . ."\textsuperscript{168} It is important, therefore, to know the universe of material relied upon for the conclusions of the NAS Committee in Chapter 5, if the report is to be considered at all in a court of law.

Of concern regarding the NAS Report and its peer review process is the committee's lack of transparency and openness. In addition to the presentations and material received by the Committee that are publicly available on the National Academies Web site, "[b]etween meetings, committee members reviewed numerous published materials, studies and reports related to the forensic science disciplines, engaged in independent research on the subject, and worked on drafts of the final report."\textsuperscript{169} It is unknown to what extent these published materials, studies and reports differ from those now available to the public. Of more concern is the "independent research" conducted by individual members. It is not clear that the fruits of this research were made available to other members of the committee, or whether the material reviewed was representative of the totality of source material available.\textsuperscript{170} Requests for the nature and extent of this "independent research" have been denied by the National Academies. This lack of transparency and openness casts an unfortunate shadow of doubt over the validity of the underpinnings of Chapter 5 and diminishes the weight to be given to the Committee's findings in the précis

\textsuperscript{167.} NAS Report, \textit{supra} note 1, at 114.
\textsuperscript{168.} NACDL, Principles and Recommendations to Strengthen Forensic Evidence and Its Presentation in the Courtroom 11 (February 27, 2010), http://www.nacdl.org/sl_docs.nsf/ issues/crimelab_resources/$FILE/NACDLStrengtheningForensicAustin.pdf
\textsuperscript{169.} NAS Report, \textit{supra} note 1, at 2.
\textsuperscript{170.} The consensus was developed from the testimony and written submissions "as well as the personal experiences of the committee members." \textit{Id.} at 128. This admission is somewhat surprising considering the NAS Report's position on "subjectivity" and the heuristic development of some forensic science disciplines. \textit{See}, \textit{e.g.}, \textit{id.} at 8.
of the major disciplines in the NAS Report. This is especially troubling because the NAS Report was funded by taxpayers and as such its processes should be open to public scrutiny.

Equally unclear is the published material that the committee rejected because it did not appear in its select group or type of publication, as opposed to what was referred to as “trade” journals in the forensic sciences.171 The limitations of its selective literature review further inhibit the usefulness of the NAS Report as a resource for the courts. The relevant scientific communities may not always publish articles in the most prestigious publications. There is often a lack of interest in the forensic sciences by the larger scientific community, thereby limiting the opportunity for publication in the more widely circulated scientific journals. SWGFAST, for example, maintains that “a significant body of constructive scientific research has already been conducted” on friction ridge analysis, that has “not been adequately reported by the NAS Committee.”172 Just what else the committee missed by being selective will never be known.

Again, these comments are not meant to criticize the work of the Committee or its staff. The composition of the Committee and the design of the study were not intended to result in a detailed, scientific dissertation on the state of any forensic science discipline or a commentary on the admissibility of any forensic science evidence. Judge Edwards made clear that the report “does not mean to offer any judgments on any cases in the judicial system. The report does not assess past criminal convictions, nor does it speculate about pending or future cases . . . . That was beyond our charge.”173

Some commentators reference the fact that the Supreme Court mentioned the NAS Report in Melendez-Diaz v. Massachusetts.174 The

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171. NAS Committee Staff, Statement to Senate Judiciary Committee Staff at Meeting of Forensic Science Stakeholders on October 16, 2009. This was one of several informal meetings held between the two staffers working on legislation and the forensic science stakeholders coordinated through the CFSO.


174. Melendez-Diaz v. Massachusetts, 129 S.Ct. 2527, 2536-37 (2009). Certificates of analysis sworn by analysts at a state laboratory, attesting that the substance analyzed was cocaine, and proffered at a drug-trafficking trial as prima facie evidence of substance’s composition, in accordance with state law, were testimonial statements covered by Confrontation Clause, and analysts were witnesses for purposes of the Clause.
question in Melendez-Diaz was singular in nature: whether laboratory reports are ""testimonial," rendering the affiants 'witnesses' subject to the defendant's right of confrontation under the Sixth Amendment."175 One commentator, however, has maintained that the case was decided in the appellant's (defendant's) favor because of the NAS Report.176 The Court's own words belie that assertion:

Contrary to the dissent's suggestion ... we do not "rel[y] in such great measure" on the deficiencies of crime-lab analysts shown by this report to resolve the constitutional question presented in this case. The analysts who swore the affidavits provided testimony against Melendez-Diaz, and they are therefore subject to confrontation; we would reach the same conclusion if all analysts always possessed the scientific acumen of Mme. Curie and the veracity of Mother Theresa. We discuss the report only to refute the suggestion that this category of evidence is uniquely reliable and that cross-examination of the analysts would be an empty formalism.177

Courts have often held that the crucible of cross-examination is a critical and appropriate means of attacking witnesses and evidence, particularly shaky evidence.178 It is not surprising that the Supreme Court would view cross-examination as a necessary adjunct to ensuring evidentiary reliability. Preparation for effective cross-examination by defense counsel was greatly inhibited in Melendez-Diaz because of the bare bones nature of the laboratory report. The chemist analyzed a substance believed to be illicit and issued a report, the entirety of which stated: "The substance was found to be: Cocaine."179 The report, issued in 2001, was prepared by the State Laboratory Institute of the Massachusetts Department of Public Health, a non-accredited institution. If the same analysis was conducted today in an accredited laboratory, the report would include much more information in light of the current report writing standards imposed on accredited crime laboratories.

The NAS Report's conclusory summaries on the forensic disciplines may be proffered in admissibility hearings, for whatever weight courts may

175. Id. at 2530.
give it, in light of the relaxed rules of evidence in those hearings. During
trial, experienced experts or attentive attorneys can most likely foil the
effective use of the Report to cross-examine an expert witness, and if not,
the cross-examiner may be burdened with an answer he or she does not
like. An “attack expert,” one who usually is not a true subject matter expert
in the field about which he or she is testifying, but who incorporates the
NAS Report into his or her testimony, could well be excluded.180

Regardless of these potential uses of the NAS Report, or the continuing
disagreement over two of the Report’s recommendations, it cannot be
overstated, as observed by others, that “[t]he NAS report’s
recommendations, if adopted, would benefit law enforcement and
prosecutors in the long run. It would allow forensic science to develop a
strong scientific basis and limit challenges from defense attorneys
regarding the reliability of such evidence.”181

VI. WHAT’S NEXT?

As of this writing, it is the Report’s first-year anniversary. So what
improvements have been made in the forensic sciences? Congress has held
hearings on the Report and the status of the forensic sciences.182 The CFSO
has worked hard to gather a consensus of the relevant stakeholders through
its sponsorship of several roundtable meetings in Washington, D.C.183 It
has also helped to arrange meetings with the Senate Judiciary Committee’s
majority staff to discuss the views of the community’s stakeholders on
what Congress can do to help implement the NAS recommendations.184

Although there is hope that constructive, well-funded legislation will

180. See State v. Armstrong, 920 So.2d 769 (Fla. Dist. Ct. App. 2006); People v. Hyatt,
181. Paul C. Giannelli & Susan Friedman, The National Academy of Sciences Report:
182. See generally National Research Council’s Publication “Strengthening Forensic
Science in the United States: A Path Forward, hearing Before the Subcomm. On Crime,
gov/hearings/hear_090513.html; The Need to Strengthen Forensic Science in the United
States: The National Academy of Science’s Report on a Path Forward, Hearing Before the
18EdwardsTestimony.pdf; Strengthening Forensic Science in the United States, Hearing
hearings/hearing.cfm?id=4038.
183. CFSO 2009 Roundtable Meetings of forensic science stakeholders to discuss
recommendations of the NAS Report.
184. CFSO, working with relevant staff members of the Senate Judiciary Committee,
brought representatives of the forensic science stakeholder community together for
discussions with the Judiciary Committee staff on several occasions in 2009 and 2010. The
agendas for these meetings reflected the recommendations of the NAS Report.
evolve from these meetings, such hopes may be unrealistically optimistic given the state of our economy, the deficit, and the President's proposed fiscal year 2011 freeze on discretionary spending. One commentator is expressing pessimism regarding the creation of any independent agency along the lines of NAS's NIFS, because of the law enforcement lobby and states' rights proponents, and describes the suggestion for independence of laboratories from law enforcement "dead-on-arrival" in Congress.\footnote{Risinger, \emph{supra} note 138.}

The NAS Report also recognizes that Congress is not a panacea for change:

\begin{quote}
Congress cannot directly fix all of the deficiencies in the forensic science community. Under our federal system of government, Congress does not have free reign to amend state criminal codes, rules of evidence, and statutes governing civil actions; nor may it easily and directly regulate local law enforcement practices, state and local medical examiner units, or state policies covering the accreditation of crime laboratories and the certification of forensic practitioners.\footnote{NAS Report, \emph{supra} note 1, at 13.}

However, Congress does have the power of the purse, and can offer federal funds contingent on meeting certain standards of practice and other conditions. Although the success of "strings-attached" funding programs has varied, with an adequate quid pro quo for the required actions, such programs are well worth promoting. One of the greatest needs of the forensic science community is capacity building. With funding for facilities, equipment, personnel, and research, it is likely that crime laboratories would be eager to become accredited, certify their personnel, and implement best practices.

Sometimes leadership must be fostered by example. The NAS Report agrees: "If [federal] programs are required to operate pursuant to the highest standards, they will provide an example for the states."\footnote{\textit{Id.}} Federal crime laboratories should all be accredited; their analysts should exhibit competency and proficiency through certification, follow an enforceable code of professional responsibility and employ the best practices in conducting reliable analyses founded on valid scientific underpinnings. This is an area in which the Executive Branch of government has the authority to act without the intervention of Congress.

On July 7, 2009, an exciting new initiative was implemented by the Executive Office of the President, which is asserting new leadership in the forensic sciences. The Subcommittee on Forensic Science (Subcommittee) was established by action of the National Science and Technology Council

\footnotesize{\begin{itemize}
\item 185. Risinger, \emph{supra} note 138.
\item 186. NAS Report, \emph{supra} note 1, at 13.
\item 187. \textit{Id.}
\end{itemize}}
CRIMINAL AND CIVIL CONFINEMENT

The Subcommittee on Science Committee (COS), within the Office of Science and Technology Policy (OSTP). The Subcommittee is comprised of representatives of each federal agency having within it a forensic science component. As its Charter states, the “purpose of the Subcommittee is to advise and assist the COS, NSTC, and other coordination bodies of the Executive Office of the President on policies, procedures and plans related to forensic science in the national security, criminal justice, and medical examiner/coroner systems at the local, state and federal levels” and its “overarching goal will be to lead an interagency assessment of the Federal government’s ability to implement or promote the implementation of the recommendations in the NRC [NAS] report and develop timely and specific recommendations for doing so.” In essence, the Subcommittee will attempt to flesh out the skeletal “path forward” identified by the NAS Report, with methodology, initiative, and program recommendations for the White House. Already, significant leadership by the federal laboratories and the Subcommittee has occurred.

The Subcommittee has four Interagency Working Groups (IWGs) which are assigned specific areas of responsibility reflecting the recommendations of the NAS Report, and one IWG responsible for outreach and communication. The four substantive IWGs are (1) Education and Ethics, (2) Accreditation and Certification, (3) Standards, Practices and Protocols, and (4) Research, Development, Testing and Evaluation. The Subcommittee recognizes the importance of integrating into the IWGs a

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188. The National Science and Technology Council (NSTC) was established by Executive Order on November 23, 1993. Establishment of the NSTC, 58 Fed. Reg. 62, 491 (Nov. 23, 1993). This Cabinet-level Council is the principal means within the executive branch to coordinate science and technology policy across the diverse entities that make up the Federal research and development enterprise. Id. § 4. Chaired by the President, the membership of the NSTC is made up of the Vice President, the Director of the Office of Science and Technology Policy, Cabinet Secretaries and Agency Heads with significant science and technology responsibilities, and other White House officials. Id. § 2.

189. Congress established OSTP in 1976 with a broad mandate to advise the President and others within the Executive Office of the President on the effects of science and technology on domestic and international affairs. Presidential Science and Technology Advisory Organizational Act of 1976, 42 U.S.C. § 6613 (1976). The 1976 Act also authorizes OSTP to lead interagency efforts to develop and implement sound science and technology policies and budgets, and to work with the private sector, state and local governments, the science and higher education communities, and other nations toward this end. Id. §§ 6613, 6617.


191. See http://www.whitehouse.gov/administration/eop/ostp/nstc/committees/cos (containing charters for all IWGs).
diverse membership of federal, state, local, and tribal government representatives.

Efforts began in February 2010 to invite those representatives to participate in the IWGs.

The members of these IWGs will support the Subcommittee’s efforts by exchanging views, information, and advice relating to the management and implementation of Federal programs relating to forensic science. The Subcommittee has considered several efforts consistent with the recommendations of the NAS Report in the areas of accreditation, code of professional responsibility, training of lawyers and technicians, research agendas and gap analyses, observer bias, and best practices. With the support of the forensic science stakeholders, this Administration can and will make a difference in promoting justice through the use of good science and reliable methods.

In addition, progress can and was made by the forensic science community itself. SWGFAST, for example, calls the NAS Report a “wake-up call for the community” and suggests:

1. Practitioners, police agencies, and forensic organizations begin implementing several of the recommendations immediately. This could include establishing and following a code of ethics (Recommendations 7 and 8); requiring certification and accreditation (Recommendation 7); implementing written standards and, written acceptable conclusions and defining what is meant by each of them (Recommendations 2 and 8); implementing quality assurance wherever possible through case reviews, testimony audits, and mandatory proficiency testing; and ensuring that all practitioners are adequately trained and that the training is continually up to date (Recommendations 5 and 8). Implementing these things could be done immediately; there is no need to wait for a federal body to mandate them.

ASCLD/LAB is also implementing NAS recommendations into its accreditation program as enhancements of existing requirements or as new requirements. For example, it is strengthening the requirements of laboratory reports, preparing guidance documents on uncertainty of measurements, establishing training for its accredited laboratories, and is requiring the ASCLD/LAB Guiding Principles of Professional

192. Id.
Responsibility for Crime Laboratories and Forensic Scientists\textsuperscript{195} be incorporated or specifically referenced in quality manuals and be reviewed with employees annually. To address the accreditation of forensic units\textsuperscript{196} spread throughout law enforcement agencies nationwide, ASCLD/LAB is exploring creating an accreditation program under ISO:IEC 17020:1998. In addition, in light of the difficulty in federally mandating certification of state and local forensic scientists, ASCLD/LAB is considering ways to use its ability under the ISO:IEC 17025, section 5.2 Personnel to enhance the assessment of employee competency and proficiency by borrowing from ISO/IEC 17024:2003, Conformity Assessment – General Requirements for Bodies Operating Certification of Persons.

VII. CONCLUSION

Since 1967, there were missed opportunities when the forensic science community waited for federal leadership to improve forensic science services to the American judicial system. Time after time, little has happened. The greatest enhancements and improvements for forensic science providers and the work they produce have been self-initiated. Among the most important have been the accreditation and certification programs, none of which exist because of government support or initiative.

A year has passed since the NAS Report was published, and as as one commentator put it, "[t]he good news is that everyone is talking."\textsuperscript{197} New and exciting opportunities are being created by the Administration to improve the forensic sciences and recent steps within the forensic science community have, once again, moved it closer to the ideals envisioned by the NAS Report. These steps are incremental and can be burdensome on laboratories and practitioners, but justice demands good science and the forensic science community has an obligation to provide it. With that commitment the forensic-science community’s journey to justice will continue.


\textsuperscript{196} NAS Report, supra note 1, at 63-4 ("Many forensic examiners do not work in a traditional crime laboratory. Often they work within law enforcement offices in units called ‘identification units’ or ‘fingerprint units.’ Few of these forensic units are accredited by either of the nationally recognized accreditation organizations.”).