



Written Statement of
THE NATIONAL ASSOCIATION OF CRIMINAL DEFENSE LAWYERS

before the
Senate Committee on the Judiciary

Re: "Strengthening Forensic Science in the United States"
September 9, 2009

Who we are:

The National Association of Criminal Defense Lawyers (NACDL), a professional bar association founded in 1958, is the preeminent organization in the United States advancing the mission of the criminal defense bar and criminal justice reform. NACDL's direct membership and network of more than 90 local, state and international affiliates comprise tens of thousands of practicing criminal defense lawyers, public defenders, active-duty U.S. military defense counsel, law faculty, and judges. NACDL embraces a public service agenda, with an institutional mission to ensure due process, safeguard fundamental constitutional principles, and advocate for rational and humane criminal justice policies.

How we use science:

At the core of NACDL objectives is the protection of innocent people from wrongful accusation and conviction, and the guarantee to all individuals accused of crimes fair trials based on reliable evidence. The reliance by criminal defense attorneys on trustworthy scientific evidence is a very important fact that is often overlooked in discussions about the forensic science community. Criminal defense attorneys – and more directly, the accused who they represent – are stakeholders in the system who depend on scientific evidence as an objective, valid, and reliable means for determining the truth, including the jury deciding whether to convict an accused. Scientific evidence is not used solely by law enforcement. Scientific evidence is used by the defense in post-conviction actual innocence proceedings, and even more frequently, in criminal trials. The Innocence Project has used DNA evidence to exonerate hundreds of factually innocent people. NACDL members have handled hundreds of thousands of criminal trials in which evidence from the whole spectrum of forensic science disciplines was

involved. Through investigation and at trial, the defense uses scientific evidence to exonerate the wrongfully accused, to demonstrate the deficiencies of law enforcement investigations, and to ensure that no person is convicted on unreliable evidence in any form.

NACDL has grown increasingly concerned about the integrity of the forensic science system in the United States. For this reason, NACDL welcomed the work and conclusions of the National Academy of Sciences as reported in *Strengthening Forensic Science in the United States: A Path Forward*¹ (NAS Report). After its long and careful review, the NAS Committee provided thirteen “inexorably interconnected” recommendations. Congress should consider each of these recommendations with the same degree of seriousness of purpose that led to each recommendation and should be mindful of their inter-relationship. *Strengthening Forensic Science in the United States* provides our Nation’s leadership with the essential framework necessary for the forensic science system to produce accurate and reliable science, and hence fair and accurate verdicts, in our courtrooms.

The forensic science system:

NACDL recognizes and appreciates that there are many dedicated and committed forensic science examiners who work tirelessly to conduct the overwhelming number of scientific examinations that are conducted in criminal investigations every day. The forensic science system, however, has failed to support the good intentions of these dedicated forensic science examiners.

¹ *Strengthening Forensic Science in the United States: A Path Forward*, Committee on Identifying the Needs of the Forensic Sciences Community: Committee on Applied and Theoretical Statistics, National Research Council, National Academy of Sciences, 2009.

As highlighted by the NAS Report, our current forensic science system lacks the scientific underpinnings and validation of methodologies, standardization, and quality assurance measures that are necessary to ensure the reliability of the results and conclusions of the hard-working examiners in our forensic science laboratories. Calls for improvement of the forensic science system are not a criticism of individual examiners, but a recognition that the examiners work in a flawed and inadequate system. Reform of the system is necessary to enable forensic science examiners to do the independent, objective and reliable scientific work that they want to do and that we criminal defense attorneys need to defend our clients from serious accusations that can lead to years of imprisonment or even death. The good intentions of individual forensic science examiners are not enough to ensure that only reliable scientific evidence is presented in every case in which science can help determine the truth. Additional efforts are needed to address the lack of rigorous scientific underpinnings and protocols that raise doubts as to the reliability of certain theories and techniques now used by forensic science examiners. There is also a need to address disparities in the standards, practices, and education of forensic science examiners.

Forensic science is helpful to the criminal justice system only when it produces accurate and reliable scientific results. Conclusions derived from unsound scientific methodologies, subjective assessments, or deficient procedures can obscure the truth, misrepresent the facts, and lead to injustice. Results obtained without strict adherence to quality control measures can mislead investigators, attorneys, judges and jurors, wasting resources and destroying lives.

What needs to be done:

- Scientist-led oversight

Some improvements to the forensic science system can be accomplished in steps and through the cooperative efforts of professional organizations and the individual efforts of forensic science laboratories; nevertheless, the essential reform that will ensure the scientific integrity of forensic science techniques will require a restructuring of the current system.

NACDL agrees that Congress should establish an independent federal entity to promote the development of forensic science into a mature field of multidisciplinary research and practice and to achieve meaningful forensic science reform. Federal, scientist-led, oversight is necessary to develop and enforce the mandatory and rigorous accreditation and certification requirements, best-practice standards, and ethical codes that are needed and to ensure that the statistical and empirical studies necessary to ascertain the validity of all forensic science techniques and theories have been conducted.

Despite the fact that the NAS Committee fully considered and rejected placement of this authority in the Department of Justice (DOJ), some have advocated for the Department of Justice to serve this oversight function. Oversight by the Department of Justice is not the answer. The Department of Justice is not a scientist-led entity. The forensic science system requires a paradigm shift to make science the guiding principle of forensic science. Law enforcement cannot be the primary function of forensic science.

Science does not belong to law enforcement any more than the need for objective, unbiased evidence belongs exclusively to the prosecution. Science – and the knowledge it provides – belongs to us all. The forensic science system must stand separate and apart from law

enforcement, guided only by the principles of objective, accurate and reliable science, and beholden to no other concern or master.

Accordingly, law enforcement ties to forensic science laboratories must be severed. Publicly-funded forensic science laboratories should be independent departments with separate budgets. The vital work and objectivity of forensic science must not be vulnerable to the bias, or subject to the control, of only one side in the criminal justice system. Severing ties to law enforcement will serve another goal as well. Defense access to forensic science resources must not be limited by law, policy, or managerial attitude. Forensic science must be equally available and accessible to all participants in the criminal justice system, in practice, as well as in theory.

- Research

Another measure essential to the integrity and usefulness of forensic science is the assessment of the validity of the many forensic science techniques whose scientific underpinnings have been called into question. This research will take time to complete and should begin as soon as possible. Funding and infrastructure, including the establishment of a research agency dedicated to forensic science, are needed to stimulate interest in forensic science by independent researchers in the academic arena. Independent, highly qualified research scientists must assess the statistical and empirical underpinnings of forensic science and work on the development of protocols and mechanisms for ensuring that science is properly practiced in forensic laboratories. These measures should be implemented as soon as possible.

The reality is that we simply do not know whether certain forensic science techniques or theories are reliable and yield accurate results. The quality of the products of the forensic science system is uncertain. Our criminal justice system demands more. The NAS Report highlights several techniques for which questions of scientific validation have been raised. And

questions have been raised about other forensic science techniques and theories, such as the elements of arson investigation, the subject of an unsettling article asserting the innocence of an executed man recently in *The New Yorker*² and Shaken Baby Syndrome, which some have dubbed the “next innocence project.” Each forensic science technique or theory for which serious questions about reliability have been raised must be subjected to a rigorous assessment of its scientific underpinnings. This research must be conducted by research scientists, not forensic science practitioners, and must be regarded as a priority. Scientists must review the research supporting the underlying assumptions and results of those forensic science techniques and theories about which serious questions have been raised to answer two questions: first, whether the assumptions are valid; and second, whether an error rate has been or *can* be correctly calculated for the particular technique. This research and validation cannot be done by the forensic science community alone but must draw from the richness of the greater scientific community housed in our Nation’s impressive research universities and scientific institutions.

Some have argued that the use of forensic science in the courtroom will be jeopardized by research into the scientific underpinnings of questioned forensic science techniques and theories. On the contrary, it is the refusal to acknowledge these questions, and to do the research necessary to answer them, that threatens to undermine the entire system. The questions will not end until they have been answered by science.

NACDL’s members do not presume to substitute their knowledge of the injustice inflicted by unreliable forensic science for the rigors of scientific scrutiny. Instead, NACDL’s position is that serious questions about some forensic science techniques and theories do exist and they must be answered by science.

² Grann, D. “*Trial by Fire: Did Texas Execute an Innocent Man?*” *The New Yorker*, Sept. 7, 2009, p. 42-63 (discussing the case of Cameron Todd Willingham).

If we do not act immediately to answer these questions we risk, at best, bringing disrepute and distrust on the entire forensic science system, frustrating the justice system, and promoting injustice.

- Accreditation/Certification

Several of the NAS recommendations focus on the accreditation of laboratories and the certification of forensic science examiners. Even if a particular forensic science discipline has established scientific foundations, mandatory accreditation and certification requirements are essential to maintaining quality control and competency in forensic science laboratories. The requirement of accreditation for all public and private laboratories that perform scientific testing for which the results are intended to be used in court is a worthwhile step. A central federal entity should oversee this mandatory accreditation by setting the standards for accreditation based on careful research by independent scientists and by regulating the inspections and reviews necessary for accreditation. These requirements must extend to the pattern identification type units that have not sought accreditation in the past and have not been subject to scientific oversight.

Similarly, the NAS Report recommendation of mandatory certification of all public and private laboratory examiners who conduct scientific testing is another good step forward. Certification should also be available to experts outside the laboratory systems as a means to establish competency and to institute a requirement for continuing education to ensure experts maintain current knowledge in their field. Of course, the certification requirement for crime laboratory examiners must not be used in any way to bar academics and other independent researchers from testifying in court. The defense bar frequently requires the assistance of these independent experts to understand and explain to judges and juries forensic science evidence in

court. The scrutiny of academic and research scientists has illuminated issues that may never have been detected or acknowledged.

Additionally, the accreditation and certification processes and procedures must be transparent; they must be open to inspection and review. The criminal justice system depends upon public confidence in the process and the openness of its proceedings. Public confidence in the merits of accreditation and certification will be minimal if no one knows what is necessary to achieve that status.

What will not work:

NACDL supports the complete reform efforts advanced by the NAS Report as a stakeholder in the forensic science community, and as an organization comprised of the daily representatives of those accused persons who stand to be the most affected by weaknesses in forensic science. The values of science and justice require the implementation by a national entity of the NAS Report's central and overriding recommendations for independent validation research, independent development of standards, and independent oversight.

In response to the NAS Report, some have suggested that reform – particularly research to determine the scientific validity of questioned forensic science techniques – is unnecessary because the adversarial system of criminal proceedings is sufficient to ensure that only reliable scientific evidence is admitted into court and that a criminal trial can accurately determine the scientific validity of a forensic science technique. Regrettably, while the adversarial system can produce anecdotal evidence of problems with some forensic science techniques, such as the arrest and jailing of attorney Brandon Mayfield on a fingerprint misidentification in the Madrid train bombing investigation, experience has generally proven otherwise. Each post-conviction

DNA exoneration grounded in an error in the development or presentation of forensic evidence is an example of the historical inability of the criminal justice system to determine the validity of forensic science.

Faith in the adversarial process, in contrast to the hard work of reform, ignores the role of the scientific method in determining sound principles and trustworthy techniques. This misplaced reliance ignores the scientific approach that imbues scientific evidence with its objective reliability, and it replaces the scientific method with the entirely different concerns, procedures, and inefficiencies of a criminal trial. Criminal trials – which do not follow and cannot replace the scientific method – are simply not the place to test the validity and reliability of the forensic disciplines. The criminal justice system is unequipped to remedy the systemic problems in the forensic science community.

The disparity in resources for the prosecutorial function and those available to the defense function is substantial. Most public defender budgets are insufficiently funded. Public defenders frequently cannot obtain experts with sufficient expertise to effectively assess the results of a particular forensic methodology or the application of that methodology in a particular case. Funding requests are too often controlled by judges who accept forensic results without question. Because they fail to understand the issues and deficiencies of the evidence to be challenged, they fail to approve funds for experts to consult with defense counsel. Without access to experts, the defense cannot bring to the courtroom the assistance of scientists and independent scholars who have sufficient skill and expertise to advance the criminal justice system's use of forensic methodologies.

In addition to limited access to scientific experts, defender organizations lack sufficient resources to allow for ample litigation of individual cases. The current crushing caseloads of

many offices prevent meaningful litigation of the more complicated issues associated with forensic evidence in most cases. Simply put, a lawyer with a pretrial caseload of hundreds of cases does not have sufficient time to vigorously litigate scientific issues in any case, let alone every case. And the sole practitioner who accepts a court-appointed case is even more under-resourced and ill-prepared to address forensic science in that case. While some federal, state, and local crime laboratories may be overworked and underfunded, the prosecution still has more scientific resources to turn to than those persons afforded indigent defense.

Finally, in addition to resources, reform in the forensic science system will require training in science for attorneys and judges. The criminal justice system requires an integrated system of science and the law. The NAS Report articulated the limitations and failings of our current forensic science system. The necessary reforms and opportunities for change, however, will not be accomplished by scientists alone. The legal profession must be a part of the solution. The elevation of forensic science cannot happen without the elevation of scientific education in the profession. Until a balance in resources and an elevation in the knowledge base are achieved, the adversarial system will continue to fail to determine the scientific validity of questioned forensic science techniques, fail to produce fair trials, and fail to ensure that science serves to protect the innocent from a wrongful conviction.

Why it matters:

In the criminal justice system we depend on physical evidence, including the scientific analysis of that evidence, to help us to determine the reliability of the other evidence in the case: the eyewitness testimony, the statements of potentially biased witnesses, and the alleged

confessions of defendants. Science is the objective means by which we can gauge the veracity of human accounts. Science is essential to determining truth.

The reliability of science does not depend on the accuracy of the criminal justice system. The accuracy of the criminal justice system, however, does depend on the reliability of science.

Failings in the forensic science system affect all participants in the criminal justice system. Failings in the forensic science system threaten public confidence in the reliability of verdicts and outcomes of trials. Hence, failings in the forensic science system affect all of society. For all of us, the need for reform is plain and the time for reform is now.