

STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES:
A PATH FORWARD

Statement of

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Committee on Science and Technology
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Mr. Chairman and members of the sub-committee:

My name is Carol Henderson. I am the Director of the National Clearinghouse for Science Technology and the Law (NCSTL), which is a program of the National Institute of Justice. Through my leadership of NCSTL, I have been responsible for creating the only searchable database on science, technology and law information in the world. I am a Professor of Law at Stetson University College of Law, and the immediate Past President of the American Academy of Forensic Sciences. As an Assistant United States Attorney with extensive experience, a founder of the Florida Innocence Project, and more than twenty years of involvement in teaching and scholarly writing on the interface between science and law, I am well aware of the importance of forensic science to the justice system. The nexus between science and law is critical to forensic science. We therefore have to recognize that the "forensic overhaul" desired by the NAS Committee on Identifying the Needs of the Forensic Sciences Community requires the collaboration of all stakeholders: attorneys and judges, crime laboratory and technical personnel, and civil expert witnesses.

We have been presented with an opportunity to make forensic science serve justice even more reliably and effectively. This is the time to build better "forensic science". However, we must be realistic in regard to the urgency of acting now and not permitting defects identified in the report to go unaddressed, yet make the best use of available resources and go forward in a measured and considered manner that creates sound and lasting systems.

I am therefore recommending a three-step approach:

◆immediate action that uses existing Federal resources to address scientific standards;

◆interim action to evaluate strategic policy directions and strategies and explore innovative solutions;

◆a long-term goal of creating a National Institute of Forensic Sciences (NIFS) as envisioned by the NAS Committee on Identifying the Needs of the Forensic Sciences Community.

Urgent Action: Making the best use of existing resources:

Many of the issues identified in the report concern the scientific foundation of disciplines and sub-disciplines in forensic science. The concerns range from “are these techniques fundamentally unsound” to “while there is a body of evidence that the techniques are of value, there is a lack of validation to the degree that has been established in the introduction of DNA testing”.

There is an existing Federal agency well-suited to the task, namely the National Institute of Standards and Technology (NIST). NIST has a national role in promoting scientific standards, and has made significant contributions to the core science in several areas of forensic science. Its successes include advancement of the fundamental science of forensic DNA testing, fundamental work on AFIS systems, and major contributions to firearms comparisons. These bring together areas defined at various points in the NAS report as being the new scientific gold standard of forensic testing (DNA) and areas that are badly in need of fundamental research to provide a valid scientific basis to support decades of technical experience (fingerprinting and firearms/tool mark examination). NIST also has a well-deserved reputation for independence - a recurring concern of the NAS panel.

Interim Action: Implement a program to address policy issues and focus on innovative processes:

The corollary to the need for rapid action and using existing resources such as NIST to address scientific standards, is that the wider issues such as those of the independence of crime laboratories and encouraging education, research, accreditation and credentialing, require very careful development and consideration. For example, more than 90% of the nation's crime laboratories are housed in law enforcement agencies. Any effort to change that will have major budgetary and operational consequences. We need to be certain that such action is founded in fact and that the change will produce the benefits expected. The very fact that more than 90% of the nation's crime laboratories are administered from within law enforcement agencies means that sophisticated models and analysis will be needed to prove the case.

Accreditation has already been addressed in the forensic community. There are established programs that provide accreditation to international standards and that have been accepted by the great majority of forensic science service laboratories, and indeed, as is recognized in the report, some states require their forensic science laboratories to be accredited. There are also existing certification programs in the forensic community, but there are no mandatory requirements and the response of public and private laboratories has been sketchy. The courts also have a vital say, with their role as gatekeepers of admissibility. The whole question of Federal, state and local recognition, creation and funding of registration bodies, and the definition of meaningful certification standards is another case where a considered policy review is required to prevent waste of resources and miss-steps in implementation.

The report identified shortcomings in research, education, and standards of practice in the nation's crime labs. In-depth research and analysis of options leading to strategic policy and implementation plans is needed. The infrastructure to address the absence of a national research agenda in forensic science does not exist; the gap between service standards and high quality and life-long education cannot be bridged with a band-aid; and realization of the committee's recommendation to create a National Institute of Forensic Science (NIFS) as an independent oversight and coordinating body is a long-term issue.

These interim issues must be addressed, notably papers regarding forensic science policy are marked by their absence. There is no established forensic equivalent to think tanks like the Aspen Institute, for example. My objective in discussing these interim objectives with you is to emphasize their importance and the need for carefully thought-out policy and strategic planning.

Long-term action: Create a National Institute of Forensic Science (NIFS):

Many of the recommendations of the NAS Committee on Identifying the Needs of the Forensic Sciences Community center on NIFS as an oversight and coordinating body, and defer action to NIFS. However, it took more than 20 years from articulation of the concept before there was an operational NIFS in Australia. This committee knows only too well the lengthy consultative processes that will have to be undertaken if the Government chooses to pursue creating a NIFS in the United States. The process will not be instant and will, as with the interim issues discussed above, benefit from careful analysis of strategic policy and implementation factors, leading to a policy and implementation plan.

The focus of the makeover

I would like to turn now to more general considerations based on my personal experience as a law professor, federal prosecutor and Past President of the American Academy of Forensic Sciences (AAFS). There is a tendency for crime laboratory administration to be conservative, and its ability to foster communication, collaboration and innovation probably suffers - as alluded to in the report - from the absence of a meaningful university presence in forensic science. The lack of academic freedom in research and development results in stifling of forensic science. As long as the overwhelming body of forensic science does not challenge itself or respond to the voices of all its stakeholders, especially the legal community which is its primary stakeholder, we will not move forward.

I have great hope for the future of forensic science. In fact, my theme while I was President of the AAFS was "Forensic Science: Envisioning and Creating the Future". AAFS has recognized the importance of education and credentialing by creating a Forensic Science Programs Education Committee and the Forensic Specialities Accreditation Board to review the quality of forensic education programs and assess boards or organizations that certify individual forensic scientists or other specialists. The Forensic Sciences Foundation during my presidency of AAFS raised more than \$300,000 to support research. AAFS has welcomed the NAS report and under President Tom Bohan will continue to champion changes to the forensic landscape.

These initiatives are a start, but how can we make the significant changes that are needed? We can draw an analogy with the race to the moon. The space age had its catastrophes just like forensic science, but its successes came because there was a stretching but achievable goal and the scientists and engineers at NASA could apply themselves to delivering successful outcomes. Give forensic science the same target and we will see even more progress than has been achieved so far. Challenge to the

status quo is as important as a unified commitment to a clear set of objectives and a strategic plan.

Identifying innovative approaches is therefore a key strategic issue: forensic science will not be made better by providing increased funds to do more of the same things that have led it to where it is. "Innovation" is a cultural issue as much as one of infrastructure and the case can be illustrated by comparison to the medical model of education, research and service delivery. Medical schools in top tier universities act as centers of excellence that truly advance medical science, including the critical role of transition from student to resident to faculty, with an on-going commitment to professional development and research. The "second opinion" is a natural and accepted part of medical practice. Centers of excellence attract independent and critical minds, ever seeking to find new and better diagnostic and therapeutic tools. By contrast, forensic science sometimes responds defensively to criticisms and regards requests for a "second opinion" as a slight and not as a tool to encourage interaction with stakeholders.

Rep. Bart Gordon, the Chairman of the House Committee on Science and Technology, has reminded us that "Scientific progress occurs when we foster the open exchange of ideas and information." That is excellent advice and could form the basis of a goal of "Collaboration between all stakeholders to build, by 2014, a solid foundation from which reliable scientific and technologic services can be provided to the whole of the justice system". President Obama has pledged to place science at top of the national agenda, a commitment that we in forensic science embrace.

Summary:

In closing, I thank the committee for the opportunity to address you and for your serious consideration of the report of the NAS Committee on Identifying the Needs of the Forensic Sciences Community. As we move forward we have to be conscious of the need

for action, tempered by awareness of the current economic situation and by the importance of responding to the opportunity given to us by the NAS report in a way that will result in lasting and effective solutions. To that end, I have recommended a three-stage approach:

◆ ***Immediate action*** that uses existing Federal resources to address scientific standards

◆ ***Interim action*** to evaluate strategic policy directions and strategies, and explore innovative solutions to areas such as education and research, and

◆ ***Long-term action*** to create a National Institute of Forensic Science (NIFS)