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SENATE COMMITTEE ON COMMERCE, SCIENCE AND TRANSPORTATION

**HEARING ON "FROM THE LAB BENCH TO THE COURTROOM:
ADVANCING THE SCIENCE AND STANDARDS OF FORENSICS"**

June 26, 2013

Mr. Chairman and Members of the Committee,

I appreciate the opportunity to be here today to provide my perspective on issues relating to strengthening forensic science in the United States. Forensic science is a pivotal part of the criminal justice system on the federal, state, and local level. Forensic science has the power to advance criminal investigations by helping to identify and exclude suspects, plays a significant role in the adversary system through expert reports and trial testimony, and, as we have seen repeatedly over the past 20 years, has the power to exonerate the innocent.

Let me share with you my background and experiences with forensic science, both as a participant in the criminal justice system over the last 30 years as a prosecutor, defense lawyer, and agency head, and through extensive investigations I have conducted of two important forensic labs.

From 1983 through 1989, I was a federal prosecutor in New York and Washington, DC. My experience with forensic science and its techniques during that period was fairly typical for a prosecutor in the era that preceded the use of DNA. I worked with forensic scientists and analysts who provided reports and testimony on fingerprints, serology, controlled substances, and handwriting comparisons. With the exception of handwriting analysis, which was generally understood to be more subjective and less scientifically rigorous than the other fields, there was no controversy surrounding the forensic science reports that were produced or the courtroom testimony the analysts provided. They were accepted as true and beyond question.

Prosecutors happily embraced the boost that forensic science gave to their cases and did not question the analysis or the conclusions of the forensic examiners. Neither did defense counsel. These forms of forensic evidence were routinely admitted into evidence without challenge or controversy. In my seven years as a federal prosecutor, I never heard any doubts expressed about the validity of the science underlying the reports and testimony used by my

colleagues and me, nor did I ever see any instance of forensic evidence effectively challenged or excluded from evidence. In fact, I once secured convictions in a narcotics case after the drugs had been stolen from the prosecutor's office. The testimony of the chemist was enough.

In 1994, I was serving as the Inspector General of the Department of Justice (DOJ) when we began an investigation of the FBI Laboratory. Initially, the investigation focused on claims made by an FBI Lab scientist that one of his fellow examiners had altered analytic reports. After some of the initial allegations were substantiated, the investigation expanded to include a far broader review of cases handled by three sections within the FBI Lab that were involved in analyzing bombing and explosives cases. Eventually, the investigation came to include some of the most significant bombing and explosives cases handled by the FBI Lab in the previous decade, including the first World Trade Center bombing case (1993), the Oklahoma City bombing case (1995), the Avianca bombing case (1989), and many others. The Office of the Inspector General (OIG) report of investigation, published in April 1997, is available at: <http://www.justice.gov/oig/special/9704a/index.htm>.

The findings and conclusions of the investigation were stunning to forensic scientists in this country and abroad, and to officials in federal and local law enforcement. The FBI Lab had long been viewed as the gold standard in forensic science, and had exercised enormous influence on forensic labs in the United States and around the world. Our investigation found major flaws and deficiencies with many of the most significant cases we reviewed, including the World Trade Center and Oklahoma City bombing cases. We found that many of the most senior analysts and supervisors in the FBI Lab had performed work that lacked scientific rigor, reached unsupported conclusions, and, in many cases, were biased in favor of the prosecution. We recommended that many of the senior analysts and supervisors be removed from the Lab because they had shown themselves to be unable or unwilling to conduct rigorous forensic analysis. We issued a set of broad institutional recommendations focusing on accreditation, organizational restructuring, report writing, quality assurance, documentation, the development of written protocols, and training.

The FBI reacted immediately to our broad set of 40 recommendations. When we returned a year later, we found that the FBI had done a responsible job of implementing those recommendations. Unfortunately, the same cannot be said of the efforts of a DOJ task force created to follow up on a large number of cases called into question by the OIG investigation. The operations of the DOJ task force were plagued by delays, lack of transparency, and the failure to notify defense lawyers representing clients in cases in which problematic forensic work was identified. The deficiencies in the work of the DOJ task force were

highlighted in a series of stories published last year in the *Washington Post*.¹ In response, the DOJ Inspector General has launched an inquiry into the causes of those shortcomings.

In 2005, I was hired by the City of Houston to conduct an independent investigation of the Houston Police Department (HPD) Crime Lab. For several years, starting in 2002, the HPD Crime Lab had been the subject of numerous allegations claiming that the work it performed was unscientific, inaccurate, and unreliable. Those allegations encompassed virtually every section of the Lab, including DNA, serology, controlled substances, toxicology, trace evidence, firearms, and handwriting. The City attempted in various ways to address the problems in the Lab by bringing in consultants and a new Lab director, but continued public criticism of the Lab caused the HPD Chief of Police, with the blessing of the mayor, to seek an outside, independent review. To conduct the investigation, we assembled a top-flight team of forensic scientists from throughout North America. The team reviewed and analyzed cases in every forensic science discipline in which the Lab performed work. By the end of the investigation, we had reviewed more than 3,500 individual cases, making it the broadest review of a forensic science lab ever performed.

We found that many sections of the Lab performed capable and reliable work, but we also found profound problems with the work the Lab had performed in DNA and serology, with unacceptably high error rates in both areas of analysis. This was especially disturbing because DNA analysis and serology analysis are conducted in the most serious cases, including homicides and sexual assaults. We were so alarmed by the error rates we found in serology cases that we expanded our review to include a larger and broader set of cases than originally contemplated, reaching back to the 1980s. The errors in these DNA and serology cases were not without tragic human costs; they resulted, in at least two highly publicized sexual assault cases, with innocent men being sent to prison for crimes that subsequent analysis demonstrated that they could not have committed. We found the problems in the HPD Crime Lab to be the result of many factors, including lack of resources and support, poor management, insufficient quality control, inadequate training, inadequate protocols, lax supervision, and an insular culture in which Lab management for decades had

1 http://www.washingtonpost.com/local/crime/doj-review-of-flawed-fbi-forensics-processes-lacked-transparency/2012/04/17/gIQAFegIPT_story.html;

http://www.washingtonpost.com/local/crime/convicted-defendants-left-uninformed-of-forensic-flaws-found-by-justice-dept/2012/04/16/gIQAWTcgMT_story.html

prevented any meaningful external reviews. The reports issued in connection with that investigation are available at: www.hpdlabinvestigation.org.

These two in-depth investigations were threads in the broader fabric of concerns that were emerging in the 1990s and 2000s about the state of forensic science in this country. Forensic science disciplines that were at one time unquestioned came to be subjected to heightened scrutiny. Through the work of the Innocence Project and others, we learned of the enormous power of DNA analysis to exonerate defendants previously convicted of serious crimes. The dark side of that equation was that, at the same time, we came to learn that non-DNA forensic analysis and testimony had frequently led to convictions based on excessive and unsupported claims about the strength and power of their findings and conclusions. Indeed, flawed forensic science was in many instances revealed to be a key ingredient in securing wrongful convictions. One study of DNA exonerations has shown that flawed forensic evidence contributed to approximately 50% of wrongful convictions overturned by DNA testing.²

This growing disquiet with the state of forensic science led to the 2005 congressional mandate to the National Academy of Sciences (NAS) to conduct a study on the current state of forensic science in the United States, and ultimately to the 2009 publication of *Strengthening Forensic Science in the United States: A Path Forward*. That carefully crafted report has become the touchstone for subsequent discussion of how best to reform the practice of forensic science in this country. The report summarized its core finding in this way:

The forensic science system, encompassing both research and practice, has serious problems that can only be addressed by a 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.

The recent activities of this Committee and the Senate Judiciary Committee are designed to help fully realize the promise of forensic science and to reduce the flaws and shortcomings that currently exist in the system. That promise is to focus investigations on legitimate suspects, aid in identifying and convicting the guilty, and help to exonerate the innocent. But our experience with the criminal justice system suggests that this bright promise cannot be

² Brandon Garrett and Peter Neufeld, Virginia Law Review, Vol. 95, No. 1, March 2009, p. 8.

achieved without the federal leadership and funding called for by the NAS report.

In your letter inviting me to testify today, you asked me to address the scope of the problems that can arise in crime labs and how improved standards, increased training, and accreditation might help to solve these problems. Let me do so briefly. In the crime lab investigations I have conducted, the problems we discovered included the following:

- Individual, non-systemic errors made by individual lab examiners;
- Systemic errors made by groups of lab examiners due to lack of adequate training;
- Failures in supervision;
- Inadequate systems to ensure quality assurance and quality control;
- Development and application of untested and unvalidated forensic procedures that are unique to individual examiners or groups of examiners and have not been peer reviewed;
- Outright fraud by examiners who have falsified analytic results;
- Skewing of analytic results in favor of the prosecution;
- Inadequate efforts to develop a culture of science within crime labs, including through staffing top leadership positions with qualified scientists;
- Failures of leadership at intermediate and top management levels in crime labs; and
- Absence of accreditation and other external reviews.

This is an extensive catalog of problems and issues, not all of which are susceptible to improvement in programs designed to address standards, training, and accreditation.

We need to be realistic about the limitations of reform but also of its potential to improve the quality of forensic science services delivered in this country. Individual, non-systemic errors by individual examiners can never be eliminated – lab examiners are human and they will make mistakes. But sustained efforts to improve crime labs are possible and desirable through 1) broad-based, fundamental research into the scientific foundations of various forensic disciplines; 2) the creation of more uniform standards based on sound science; 3) funding more and better training; and 4) developing meaningful systems of accreditation. These steps would undoubtedly raise the quality of the forensic science services provided throughout the nation and diminish the number of errors.

In my investigations of the two major crime labs, my teams found that deficiencies in standards, training, and the absence of accreditation played major roles in the problems we examined.

- In the investigation of the FBI Lab, the team found that:
 - “Meaningful peer review and reliance on validated procedures would have prevented” many of the flawed conclusions reached by FBI Lab analysts;
 - There was no coordinated, overall training program within the Lab; and
 - Until 1994, there had been no effort by the FBI to seek accreditation or other types of external reviews.

- In the investigation of the HPD Crime Lab, the team found that
 - Standard Operating Procedures consisted of materials cobbled together over time without adequate reevaluation and reorganization, and virtually no technical reviews of analysts’ work;
 - The majority of errors found in the Lab’s work were the product of poor training and lack of competent technical guidance and supervision rather than intentional misconduct; and
 - Lab management failed to make meaningful efforts to seek accreditation from recognized outside bodies.

If these two labs were isolated instances of the problems created by inadequate standards, poor training, and lack of accreditation, there might not be a need for a broad, national solution. But the NAS report concluded, after a lengthy and detailed review, that these problems are pervasive. I agree.

The legislation introduced last session by Chairman Rockefeller, which focused on promoting research, requiring standards development, and implementing uniform standards, would be an enormous step in the right direction. In view of the central importance that the various forensic sciences play in our criminal justice system, the lack of funding for basic and applied research in forensic science cannot be defended. The bill called for the development of a national forensic science research strategy developed by the National Science Foundation, a forensic science grant program, and the creation of forensic science research centers. In addition, it called for the National Institute of Standards and Technology (NIST) to develop forensic science standards, in consultation with standards development organizations and other stakeholders, including current participants in the forensic science system.

Finally, it called for the formation of a Forensic Science Advisory Committee co-chaired by the Director of NIST and the Attorney General.

The Justice Department has already taken one step in the right direction. As you know, in February 2013, the Attorney General published a Federal Register Notice announcing the formation of the National Commission on Forensic Science. The Commission's responsibilities will include recommending strategies for enhancing quality assurance in forensic science units. Its duties will include:

- Recommending priorities for standards development;
- Reviewing forensic science subject matter guidance developed by subject matter experts;
- Developing proposed guidance relating to the use of forensic science in the criminal justice system;
- Developing policy recommendations, including:
 - A uniform code of professional responsibility; and
 - Minimum requirements for training, accreditation and/or certification; and
- Identifying the current and future requirements to strengthen forensic science and meet growing demand.

The membership of the National Commission has not yet been determined. Whether it is capable of realizing the ambitions of the Notice announcing its formation remains to be seen, but DOJ should be applauded for taking the first major institutional step in the direction of providing high-level federal attention to some of the most important issues implicating the delivery of forensic science services.

The formation of the National Commission is an important step, but much more needs to be done. It does not eliminate the need for achieving the other goals contained in the legislation proposed last year. The imperatives of basic and applied research remain undiminished, as does the need for focused efforts on developing and refining standards for forensic science. As the NAS report concluded, "although congressional action will not remedy all of the deficiencies in forensic science methods and practices, truly meaningful advances will not come without significant concomitant leadership from the federal government."

We have come a long way since the days – not so very long ago – when prosecutors, defense lawyers, and judges blindly accepted the findings and conclusions of crime lab analysts. Over the past 20 years, we have become all too familiar with the fallibility of crime lab analysts and the tragic consequences when their conclusions are flawed and their certainty is unjustified. We have

come to realize the shortcomings in the way forensic science is practiced in this country and the need for broad institutional reform. The challenge before us is to make a serious and sustained effort to address the deficiencies that have been identified and to improve the quality of justice provided throughout this country. The people of this country deserve nothing less.

Thank you for your attention. I am happy to answer any questions you may have.