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REGULATING DNA LABORATORIES:  
THE NEW GOLD STANDARD?

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# REGULATING DNA LABORATORIES: THE NEW GOLD STANDARD?

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## INTRODUCTION

Forensic science is facing a crisis—one in which DNA profiling is often cited as an exemplar. One aspect of this crisis concerns the lack of foundational support for many traditional forensic techniques. As a landmark 2009 report by the National Academy of Sciences (NAS) observed, “[a]mong existing forensic methods, only nuclear DNA analysis has been rigorously shown to have the capacity to consistently, and with a high degree of certainty, demonstrate a connection between an evidentiary sample and a specific individual or source.”<sup>1</sup> The NAS report went on to note that “some forensic science disciplines are supported by little rigorous systematic

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I. COMMITTEE ON IDENTIFYING THE NEEDS OF THE FORENSIC SCIENCES COMMUNITY, NATIONAL ACADEMY OF SCIENCES, STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD 100 (2009) [hereinafter NAS REPORT]. Two decades before the report was released, scholars had identified DNA as the new gold standard in forensic science. See Michael J. Saks & Jonathan J. Koehler, *What DNA “Fingerprinting” Can Teach the Law About the Rest of Forensic Science*, 13 CARDOZO L. REV. 361, 372 (1991) (“[F]orensic scientists, like scientists in all other fields, should subject their claims to methodologically rigorous empirical tests. The results of these tests should be published and debated. Until such steps are taken, the strong claims of forensic scientists must be regarded with far more caution than they traditionally have been.”).

research to validate the discipline's basic premises and techniques. There is no evident reason why such research cannot be conducted."<sup>2</sup>

The NAS report identified several such disciplines in this category, including fingerprint examinations,<sup>3</sup> firearms (ballistics) and tool mark identifications,<sup>4</sup> document comparisons,<sup>5</sup> hair analysis,<sup>6</sup> and bite mark examinations.<sup>7</sup> Recent news accounts underscore the potential impact of this issue. In May 2013, the Mississippi Supreme Court stayed the execution of Willie Jerome Manning after the U.S. Department of Justice notified state officials that FBI experts had presented misleading testimony at his trial, including flawed hair and firearms evidence.<sup>8</sup> Days later, the FBI announced that Manning's case was but one of 120 cases—including twenty-seven death

2. NAS REPORT, *supra* note 1, at 22. At another point, the NAS report states, "The simple reality is that the interpretation of forensic evidence is not always based on scientific studies to determine its validity. This is a serious problem. Although research has been done in some disciplines, there is a notable dearth of peer-reviewed, published studies establishing the scientific bases and validity of many forensic methods.

*Id.* at 8. *See also id.* at 53 ("The bottom line is simple: In a number of forensic science disciplines, forensic science professionals have yet to establish either the validity of their approach or the accuracy of their conclusions, and the courts have been utterly ineffective in addressing this problem.").

3. *Id.* at 144 (stating that research is needed "to properly underpin the process of friction ridge [fingerprint] identification.").

4. *Id.* at 154 ("Sufficient studies [on firearms identification] have not been done to understand the reliability and repeatability of the methods.").

5. *Id.* at 166 ("The scientific basis for handwriting comparisons needs to be strengthened.").

6. *Id.* at 161 ("[T]estimony linking microscopic hair analysis with particular defendants is highly unreliable.").

7. *Id.* at 174 ("No thorough study has been conducted of large populations to establish the uniqueness of bite marks . . .").

8. *See* Campbell Robertson, *With Hours to Go, Execution Is Postponed*, N.Y. TIMES, May 8, 2013, at A17, available at <http://www.nytimes.com/2013/05/08/us/willie-j-manning-granted-stay-of-execution.html> ("A Mississippi man scheduled to be put to death on Tuesday was granted a stay of execution by the State Supreme Court, after the United States Department of Justice sent lawyers and officials involved in the case several letters disavowing the degree of certainty expressed by F.B.I. forensic experts at the man's trial."). Days earlier, the Court had rejected Manning's bid for a stay of execution in order to permit DNA testing. Campbell Robertson, *Mississippi Inmate's Bid for DNA Tests Is Denied with Tuesday Execution Set*, N.Y. TIMES, May 4, 2013, at A11, available at <http://www.nytimes.com/2013/05/04/us/dna-tests-rejected-for-inmate-facing-tuesday-execution.html> (reporting that the "Mississippi Supreme Court, in a 5-to-4 decision . . . denied requests for DNA testing of evidence made by a prisoner set to be executed on Tuesday, potentially setting up what experts said would be a rare case in recent years in which a person is put to death with such requests unmet.").

penalty prosecutions—in which improper microscopic hair analysis had been introduced at trial.<sup>9</sup>

The second issue confronting forensic science concerns the regulation of crime laboratories. As explained below, DNA profiling is the most regulated forensic science discipline. Hence the paradox: the most scientifically valid procedure is also the most extensively regulated.

This essay briefly describes the regulatory scheme for DNA profiling. However, the regulation of DNA testing is inextricably tied to the regulation of crime laboratories in general.<sup>10</sup> Some lab reforms preceded the advent of DNA analysis, while others followed. Two reforms are examined in this essay: (1) the accreditation of forensic facilities; and (2) the establishment of forensic science commissions.

## I.

### CRIME LABORATORIES BEFORE DNA

Crime laboratories in the United States emerged in the 1920s, first in Los Angeles and later in Chicago; the FBI laboratory was established in 1932.<sup>11</sup> At the time, crime labs were considered a major reform—the police would use science to solve crimes. Because crime laboratories developed in police departments, they were imbued, unsurprisingly, with a law enforcement culture.<sup>12</sup> In the long

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9. Spencer S. Hsu, *U.S. Reviewing 27 Death Penalty Convictions for FBI Forensic Testimony Errors*, WASH. POST (July 17, 2013), [http://www.washingtonpost.com/local/crime/us-reviewing-27-death-penalty-convictions-for-fbi-forensic-testimony-errors/2013/07/17/6c75a0a4-bd9b-11e2-89c9-3be8095fe767\\_story.html](http://www.washingtonpost.com/local/crime/us-reviewing-27-death-penalty-convictions-for-fbi-forensic-testimony-errors/2013/07/17/6c75a0a4-bd9b-11e2-89c9-3be8095fe767_story.html) (“[O]n the witness stand, several agents for years went beyond the science and testified that their hair analysis was a near-certain match.”). See also Jack Nicas, *Flawed Evidence Under a Microscope: Disputed Forensic Techniques Draw Fresh Scrutiny; FBI Says It Is Reviewing Thousands of Convictions*, WALL ST. J., July 18, 2013, <http://online.wsj.com/news/articles/SB10001424127887324263404578614161262653152>; Norman L. Reimer, *The Hair Microscopy Review Project: An Historic Breakthrough for Law Enforcement and a Daunting Challenge for the Defense Bar*, CHAMPION, July 2013, at 16, 17–18.

10. DNA analysis makes up only a small portion of crime lab work. See Jan S. Bashinski & Joseph L. Peterson, *Forensic Sciences*, in LOCAL GOVERNMENT: POLICE MANAGEMENT 559, 562 (William A. Geller & Darrel W. Stephens eds., 4th ed. 2003) (“[R]equests for serology/DNA, arson, trace evidence, and questioned document cases represented only a small fraction (3.4 percent) of the cases . . .”).

11. For a more extended discussion of the history of crime laboratories, see Paul C. Giannelli, *Regulating Crime Laboratories: The Impact of DNA Evidence*, 15 J.L. & POL'Y 59 (2007).

12. See John I. Thornton, *Criminalistics—Past, Present, and Future*, 11 LEX ET SCIENTIA 1, 27 (1975) (“Most laboratories owe their existence, not to progressive attitude on the part of police administrators, but because the police agencies inau-

run, the lack of a scientific culture would hinder the development of forensic science.<sup>13</sup> The NAS report put it bluntly: “The law’s greatest dilemma in its heavy reliance on forensic evidence . . . concerns the question of whether—and to what extent—there is *science* in any given ‘forensic science’ discipline.”<sup>14</sup> The lack of rigorous oversight was an offshoot of this problem. Quality assurance, like written protocols, external audits, and proficiency testing, is ingrained in science but was not, until recently, part of forensic science.<sup>15</sup> Indeed, a leading authority on forensic science could write in 1983 that “[c]rime laboratories are unique among publicly supported scientific operations in that few participate in external quality assurance programs.”<sup>16</sup>

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gulating laboratory services were shamed into it by adverse publicity or the threat of it [and] all to [sic] often the laboratory was poorly conceived, poorly equipped, and poorly staffed.”).

13. See Jennifer L. Mnookin et al., *The Need for a Research Culture in the Forensic Sciences*, 58 UCLA L. REV. 725, 731 (2011) (“[A] significant culture shift is required: Forensic science needs to focus more on science than on law, to shift from a quasi-adversarial perspective to a research orientation. In short, we call for the development and instantiation of what we will term a research culture within forensic science.”) (emphasis omitted).

14. NAS REPORT, *supra* note 1, at 87. Crime labs generally lack the resources and the capability to conduct foundational research. As I have written elsewhere:

First, the early crime labs, as is still true today, were operational, not research, laboratories. Second, basic research can be both time-consuming and expensive, and the underfunding of crime laboratories has been chronic. Third, even if research was perceived to be desirable, these laboratories were ill-equipped to conduct it. Police officers, whose skills were developed through on-the-job training, staffed these labs.

Paul C. Giannelli, *Forensic Science: Why No Research?*, 38 FORDHAM URB. L.J. 503, 508 (2011). This, of course, does not mean research at the federal level has been effective. See Paul C. Giannelli, *Daubert and Forensic Science: The Pitfalls of Law Enforcement Control of Scientific Research*, 2011 U. ILL. L. REV. 53 (examining how the federal government has manipulated forensic science research).

15. Clinical laboratories are regulated under the Clinical Laboratory Improvements Act of 1988, 42 U.S.C. § 263a (2012), and commentators have argued that crime laboratories should also be regulated. See Randolph N. Jonakait, *Forensic Science: The Need for Regulation*, 4 HARV. J.L. & TECH. 109, 191 (1991) (“Current regulation of clinical labs indicates that a regulatory system can improve crime laboratories.”); Barry Scheck & Peter Neufeld, Editorial, *Junk Science, Junk Evidence*, N.Y. TIMES, May 11, 2001, at A35, available at <http://www.nytimes.com/2001/05/11/opinion/junk-science-junk-evidence.html> (“There is a model for improvement. The 1988 Clinical Laboratory Improvement Act provided accountability for laboratories that perform medical tests. A mistake in health tests can have dire results—not only for the patient, but also for the lab, which risks losing accreditation.”).

16. Joseph L. Peterson, *The Crime Lab*, in THINKING ABOUT POLICE 184, 196 (Carl B. Klockars ed.).

Two major reforms were initiated prior to the DNA era. First, the first external proficiency test of forensic disciplines was published in 1978.<sup>17</sup> This study revealed that “a disturbingly high percentage of laboratories are not performing routine tests competently.”<sup>18</sup> 71% of the crime laboratories in the study provided unacceptable results on a blood test, 51.4% made errors in matching paint samples, 35.5% erred on a soil examination, and 28.2% made mistakes on firearms analysis. The report concluded that “[a] wide range of proficiency levels among the nation’s laboratories exists, with several evidence types posing serious difficulties for the laboratories . . . .”<sup>19</sup> Proficiency testing continued after the 1978 study.<sup>20</sup> Although merely voluntary, it was now part of the lexicon of forensic science.

Second, as a consequence of the 1978 proficiency study, crime lab directors in 1982 established the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB) to operate a laboratory accreditation program.<sup>21</sup> ASCLD/LAB accreditation requirements include ensuring the integrity of evidence, adhering to valid and generally accepted procedures, employing qualified examiners, and operating quality assurance pro-

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17. JOSEPH L. PETERSON ET AL., CRIME LABORATORY PROFICIENCY TESTING RESEARCH PROGRAM (1978).

18. William A. Thomas, *Symposium on Science and the Rules of Legal Procedure*, 101 F.R.D. 599, 645 (1983) (remarks of Professor Joseph L. Peterson). Although some laboratories performed exceptionally well, the performance of others was disturbing: “65 percent of the laboratories had 80 percent or more of their results fall into the acceptable category. At the other end of the spectrum, 3 percent of laboratories had less than 50 percent of their responses considered acceptable.” Peterson, *The Crime Lab*, *supra* note 16, at 195. Similarly, certain types of examinations caused few problems, whereas others produced very high rates of “unacceptable proficiency.” Unacceptable proficiency was most often attributed to: (1) misinterpretation of test results due to carelessness or inexperience; (2) failure to employ adequate or appropriate methodology; (3) mislabeling or contamination of primary standards; and (4) “inadequate data bases or standard spectra.” PETERSON ET AL., *supra* note 17, at 258.

19. PETERSON ET AL., *supra* note 17, at 3.

20. See Joseph L. Peterson & Penelope N. Markham, *Crime Laboratory Proficiency Testing Results, 1978–1991, I: Identification and Classification of Physical Evidence*, 40 J. FORENSIC SCI. 994 (1995); Joseph L. Peterson & Penelope N. Markham, *Crime Laboratory Proficiency Testing Results, 1978–1991, II: Resolving Questions of Common Origin*, 40 J. FORENSIC SCI. 1009 (1995).

21. See AMERICAN SOCIETY OF CRIME LABORATORY DIRECTORS/LABORATORY ACCREDITATION BOARD, <http://www.ascdl-lab.org/> (last visited Sept. 18, 2013) [hereinafter ASCLD/LAB ONLINE].

grams.<sup>22</sup> This program, however, was also voluntary. But the groundwork had been laid.

## II. THE ADVENT OF DNA PROFILING

DNA analysis was first introduced in a criminal investigation in the United Kingdom in 1985, and private laboratories in the United States began using it the following year.<sup>23</sup> At first, the technique was lionized.<sup>24</sup> It was not until *People v. Castro*<sup>25</sup> that the rush toward unquestioned acceptance was slowed. Eric Lander, a molecular biologist who was brought into the case, objected to how DNA profiling was used in *Castro*. In a subsequent article in *Nature*, he famously wrote: “At present, forensic science is virtually unregulated—with the paradoxical result that clinical laboratories must meet higher standards to be allowed to diagnose strep throat than forensic labs must meet to put a defendant on death row.”<sup>26</sup> This controversy led to calls for the National Academy of Sciences to review the technique.<sup>27</sup> In 1992, the NAS published a report, noting the importance of certain practices: “No laboratory should let its results with a new DNA typing method be used in court, unless it

22. Bashinski & Peterson, *supra* note 10, at 578.

23. For a thorough history of DNA in court, see DAVID H. KAYE, *THE DOUBLE HELIX AND THE LAW OF EVIDENCE* (2010).

24. One court called DNA evidence the “single greatest advance in the ‘search for truth’ . . . since the advent of cross-examination.” *People v. Wesley*, 533 N.Y.S.2d 643, 644 (Albany Cnty. Ct. 1988). The popular press trumpeted DNA evidence as “foolproof.” *DNA Prints: A Foolproof Crime Test*, *TIME*, Jan. 26, 1987, at 66; see also Anastasia Toufexis, *Convicted by Their Genes: A New Forensic Test is Revolutionizing Criminal Prosecutions*, *TIME*, Oct. 31, 1988, at 74.

25. 545 N.Y.S.2d 985, 996 (N.Y. Sup. Ct. 1989) (“In a piercing attack upon each molecule of evidence presented, the defense was successful in demonstrating to this court that the testing laboratory failed in its responsibility to perform the accepted scientific techniques and experiments . . . .”); see generally Jennifer L. Mnookin, *People v. Castro: Challenging the Forensic Use of DNA Evidence*, in *EVIDENCE STORIES* 207, 209 (Richard Lempert ed., 2006) (“The substance of the preliminary hearing in *Castro* stands for the idea that the standards of *research scientists* ought to be the standards of *forensic science*—an idea that, if taken to its logical extreme, could make many kinds of commonly-used forensic evidence, from fingerprint identifications to expert document examination to ballistics analysis inadmissible in court until additional research is done to establish the validity of the claims to which forensic experts routinely testify.”).

26. Eric S. Lander, *DNA Fingerprinting On Trial*, 339 *NATURE* 501, 505 (1989).

27. See, e.g., KAYE, *supra* note 23, at 98 (“The consensus report of the experts on the DNA testing in *Castro* called on the National Academy of Science to convene a committee to study emerging technology.”).

has undergone . . . proficiency testing via blind trials.”<sup>28</sup> In the end, this scrutiny resulted in the robust DNA technology that we take for granted today.<sup>29</sup>

The most important legal development occurred in 1994 with the passage of the DNA Identification Act (DNA Act)<sup>30</sup>—the first federal legislation regulating a forensic science. The DNA Act authorized the creation of a national database containing both the DNA profiles of convicted offenders and of crime scene profiles: the Combined DNA Index System (CODIS).<sup>31</sup> Establishing CODIS was a monumental endeavor, and its successful operation required an effective quality assurance program.<sup>32</sup> To effectuate this goal, the statute created a DNA Advisory Board (DAB) to promulgate quality assurance standards.<sup>33</sup> The Act also required proficiency testing for the FBI’s DNA analysts, as well as those in labs participating in the national database or receiving federal funding, which includes virtually all DNA analysts.<sup>34</sup> “The power of the DAB has been

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28. NATIONAL RESEARCH COUNCIL, DNA TECHNOLOGY IN FORENSIC SCIENCE 55 (1992). A second NAS report later addressed population statistics. See NATIONAL RESEARCH COUNCIL, THE EVALUATION OF FORENSIC DNA EVIDENCE (1996).

29. Even the DNA proponents subsequently conceded: “[M]ost would now agree that this extended debate has been good for the science.” IAN W. EVETT & BRUCE S. WEIR, INTERPRETING DNA EVIDENCE: STATISTICAL GENETICS FOR FORENSIC SCIENTISTS xiv (Sinauer Assocs., Inc. 1998); see also Richard Lempert, *Comment: Theory and Practice in DNA Fingerprinting*, 9 STATISTICAL SCI. 255, 258 (1994) (“[I]n this instance the importation of legal adversariness into the scientific world has spurred both valuable research and practical improvements in the way DNA evidence is analyzed and presented.”).

30. 42 U.S.C. § 14131(a), (c) (2012).

31. See *id.* § 14132.

32. OFFICE OF THE INSPECTOR GEN., U.S. DEP’T OF JUSTICE, AUDIT REPORT, THE COMBINED DNA INDEX SYSTEM ii (2001) [hereinafter 2001 IG REPORT] (“[T]he integrity of the data contained in CODIS is extremely important since the DNA matches provided by CODIS are frequently a key piece of evidence linking a suspect to a crime.”).

33. 42 U.S.C. § 14131(a), (b) (2012). The legislation contained a sunset provision; the DAB would expire after five years unless extended by the Director of the FBI. *Id.* at § 14131(b)(4). The DAB was extended for several months and then ceased to exist. See SCIENTIFIC WORKING GROUP ON DNA ANALYSIS METHODS, HISTORY OF SWGDAM 17–21 (2013), available at <http://www.swgdam.org/History%20of%20QA%20SWGDAM%20Jan%202013.pdf>. The Scientific Working Group on DNA Analysis Methods replaced the DAB when it expired. See *id.* at 21.

34. 42 U.S.C. § 14132(b)(2) (2006) (external proficiency testing for CODIS participation); 42 U.S.C. § 14133(a)(1)(A) (2004) (external proficiency testing for FBI examiners). DAB Standard 13 implements these requirements. DNA Advisory Board Standard 13.1 (1998) (“Examiners and other personnel designated by the technical manager or leader who are actively engaged in DNA analysis shall undergo, at regular intervals [ ] not to exceed 180 days, external proficiency testing

substantial, primarily because any agency requesting federal development funds for forensic DNA testing or DNA databasing must demonstrate compliance with the standards set by this group.”<sup>35</sup>

The DAB quality assurance standards prescribed corrective action procedures and laboratory audits.<sup>36</sup> The DAB also promulgated standards governing (1) analytical protocols, (2) equipment calibration and maintenance procedures, and (3) administrative and technical reviews of test results.<sup>37</sup> Among other requirements, labs were required to (1) review their “procedures annually or whenever substantial changes are made to protocol(s),” and (2) compare their results with available National Institute of Standards and Technology (NIST) reference materials or materials traceable to NIST standards.<sup>38</sup> Nevertheless, the DNA Act suffered from one significant drawback: it failed to require the accreditation of DNA labs.<sup>39</sup> This omission was fixed a decade later with the enactment of the Justice for All Act, which required all DNA programs to be accredited.<sup>40</sup> This, in turn, meant labs were subject to external audits.<sup>41</sup>

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in accordance with the standards. Such external proficiency testing shall be an open proficiency testing program.”). An open test is a non-blind test. NAS REPORT, *supra* note 1, at 207.

35. NORAH RUDIN & KEITH INMAN, AN INTRODUCTION TO FORENSIC DNA ANALYSIS 180 (2d ed. 2002).

36. See DNA Advisory Board Standard 15.1 (1998) (“The laboratory shall conduct audits annually in accordance with the standards outlined herein.”); DNA Advisory Board Standard 15.2 (1998) (“Once every two years, a second agency shall participate in the annual audit.”).

37. DNA Advisory Board Standard 9 (1998) (analytical procedures); DNA Advisory Board Standard 10 (1998) (equipment calibration and maintenance); DNA Advisory Board Standard 12 (1998) (administrative and technical review of all case files).

38. DNA Advisory Board Standard 9.5 (1998).

39. In an attempt to address this deficiency, the preface to the DAB Standards “recommend[ed] that forensic laboratories performing DNA analysis seek such accreditation with all deliberate speed.” Some states require accreditation of DNA labs. See, e.g., CAL. PENAL CODE § 297(d) (2007) (requiring accreditation by an organization approved by the National DNA Index System Procedures Board). Indiana, on the other hand, does not require accreditation, but does require a laboratory conducting forensic DNA analysis to implement and follow nationally recognized standards for DNA quality assurance and proficiency testing, such as those approved by ASCLD/LAB. IND. CODE ANN. § 10-13-6-14 (West 2013).

40. Pub. L. No. 108-405, 118 Stat. 2260 (2004).

41. The Justice for All Act amended the DNA Identification Act of 1994 to require accreditation “by a nonprofit professional association of persons actively involved in forensic science that is nationally recognized within the forensic science community” within two years and to “undergo external audits, not less than once every 2 years, that demonstrate compliance with standards established by the

Another important legislative initiative also occurred in 1994: New York created the first Forensic Science Commission.<sup>42</sup> The commission was created as the state was attempting to regulate DNA analysis, but its jurisdiction was not limited to DNA. The commission is authorized to (1) develop minimum standards and a program of accreditation for *all* state laboratories, (2) establish minimum qualifications for laboratory directors and other personnel, and (3) approve forensic laboratories for the performance of specific forensic methodologies.<sup>43</sup> This landmark legislation was the first to establish a commission and the first to require accreditation of all state crime labs.

### III. FORENSIC SCIENCE COMMISSIONS

Regrettably, only a few states followed New York and created commissions, and then, only as a result of major scandals.<sup>44</sup> This Section examines three states' commissions.<sup>45</sup>

#### A. *North Carolina*

North Carolina established a Forensic Science Advisory Board<sup>46</sup> after Greg Taylor became the first person freed by the state Innocence Inquiry Commission.<sup>47</sup> In the course of the innocence commission's investigation, the bench notes of the analyst who examined serological evidence in Taylor's original murder trial surfaced.<sup>48</sup> The serologist had prepared a lab report that was used at trial to connect the victim to Taylor's car.<sup>49</sup> The lab report stated that there were "chemical indications for the presence of blood."<sup>50</sup> However, the report revealed only the results of a preliminary (pre-

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Director of the Federal Bureau of Investigation." § 302, 116 Stat. at 2272-73 (codified as amended at 42 U.S.C. § 14132(b)(2)(A)-(B) (2011)).

42. N.Y. EXEC. LAW § 995-a (McKinney 1994).

43. *See id.* § 995-b.

44. *See infra* Part III.A (Greg Taylor scandal in North Carolina) and III.B (Houston crime lab scandal).

45. Of states with commissions, only Texas's and New York's have existed long enough to develop a track record.

46. N.C. Sess. Laws 2011-19 (codified at N.C. GEN. STAT. ANN. § 114-61 (West 2011)).

47. N.C. GEN. STAT. ANN. § 15A-1461 (West 2006); Paul C. Giannelli, *The North Carolina Crime Lab Scandal*, 27 CRIM. JUST., Spring 2012, at 1.

48. CHRIS SWECKER & MICHAEL WOLF, AN INDEPENDENT REVIEW OF THE SBI FORENSIC LABORATORY 2 (2010).

49. *Id.* at 3.

50. *Id.*

sumptive) test for blood.<sup>51</sup> In contrast, the bench notes showed that a subsequent confirmatory test was negative, but these results were not disclosed to the prosecution or the defense.<sup>52</sup> Surprisingly, the serologist followed standard procedure at the lab in not disclosing negative confirmatory tests.<sup>53</sup> An independent investigation concluded:

This report raises serious issues about laboratory reporting practices from 1987–2003 and the potential that information that was material and even favorable to the defense of criminal charges filed was withheld or misrepresented. The factors that contributed to these issues range from poorly crafted policy; lack of objectivity[;] the absence of clear report writing guidance; inattention to reporting methods that left too much discretion to the individual Analyst[;] lack of transparency; and ineffective management and oversight of the Forensic Biology Section from 1987 through 2003.<sup>54</sup>

In addition to creating the Forensic Science Advisory Board, the North Carolina legislature (1) removed ASCLD/LAB as the accrediting agency,<sup>55</sup> (2) specified that the laboratory’s “client” is the “public and the criminal justice system” rather than the “prosecuting officers of the State,”<sup>56</sup> and (3) made the willful omission or misrepresentation of lab information subject to disclosure a crime.<sup>57</sup>

51. *Id.*

52. *Id.*

53. Mandy Locke & Anne Blythe, *SBI to Review Old Lab Cases*, NEWS & OBSERVER (Raleigh, N.C.), Feb. 28, 2010, available at <http://www.newsobserver.com/2010/02/28/362437/sbi-to-review-old-lab-cases.html>.

54. SWECKER & WOLF, *supra* note 48, at 4.

55. The statute now provides:

A forensic analysis, to be admissible under this section, shall be performed by a laboratory that is accredited by an accrediting body that requires conformance to forensic specific requirements and which is a signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement For Testing for the submission, identification, analysis, and storage of forensic analyses.

N.C. Sess. Laws 2011-19 amending N.C. GEN. STAT. ANN. § 8-58.20(b) (West 2013).

56. N.C. Sess. Laws 2011-19 (codified as amended at N.C. GEN. STAT. ANN. § 114-16 (West 2011)).

57. N.C. Sess. Laws 2011-19 (codified as amended at N.C. GEN. STAT. ANN. § 15A-903(d) (West 2011)).

### B. Texas

Created in 2005, the Texas Forensic Science Commission's<sup>58</sup> first case involved Cameron Todd Willingham, who had been executed in 2004 for the arson-murder of his three young children.<sup>59</sup> Governor Rick Perry refused to stay the execution, despite serious questions about the arson testimony in the case.<sup>60</sup> The commission decided to consider the case after some of the nation's top arson experts reviewed the evidence and found it shockingly flawed.<sup>61</sup> In response, Perry and his allies launched a protracted campaign to prevent the commission from investigating the case, even going so far as to replace three members of the commission two days before a scathing report on the arson evidence was scheduled for consideration.<sup>62</sup> In the end, the commission issued a powerful report critiquing the type of arson evidence used in Willingham's case.<sup>63</sup>

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58. TEX. CODE CRIM. PROC. ANN. art. 38.01(4)(a)(3) (West 2013) (among other duties, the Commission should "investigate, in a timely manner, any allegation of professional negligence or professional misconduct that would substantially affect the integrity of the results of a forensic analysis conducted by a crime laboratory").

59. See Report of Dr. Gerald Hurst, *In re Cameron Todd Willingham*, Trial Court No. 24,4670(B), Dist. Ct., 366th Judicial Dist., Navarro Cnty., Tex., Feb. 13, 2004 ("The fire investigation report of the Texas State Fire Marshal's Office in this case is a remarkable document. On first reading, a contemporary fire origin and cause analyst might well wonder how anyone could make so many critical errors in interpreting the evidence."); see also David Grann, *Trial by Fire: Did Texas Execute an Innocent Man?*, NEW YORKER, Sep. 7, 2009; Christy Hoppe, *Some Experts Question Science in Texas Arson Cases*, CHARLESTON GAZETTE & DAILY MAIL, Sept. 20, 2009, at 11A ("Arson investigators in Texas have relied on old wives' tales and junk science to send men to prison, and perhaps even the death chamber, top experts on fire behavior say.").

60. See *supra* note 59.

61. See DOUGLAS CARPENTER ET AL., REPORT ON THE PEER REVIEW OF THE EXPERT TESTIMONY IN THE CASES OF STATE OF TEXAS V. CAMERON TODD WILLINGHAM AND STATE OF TEXAS V. ERNEST RAY WILLIS 3 (2006), available at <http://www.innocenceproject.org/docs/ArsonReviewReport.pdf> ("[E]ach and every one of the [arson] indicators relied upon have since been scientifically proven to be invalid.").

62. See CRAIG L. BEYLER, ANALYSIS OF THE FIRE INVESTIGATION METHODS AND PROCEDURES USED IN THE CRIMINAL ARSON CASES AGAINST ERNEST RAY WILLIS AND CAMERON TODD WILLINGHAM 51 (2009) ("The investigators had poor understandings of fire science and failed to acknowledge or apply the contemporaneous understanding of the limitations of fire indicators. Their methodologies did not comport with the scientific method or the process of elimination."); see generally Paul C. Giannelli, *Junk Science and the Execution of an Innocent Man*, 7 N.Y.U. J.L. & LIBERTY 221 (2013).

63. REP. OF THE TEX. FORENSIC SCI. COMMISSION, WILLINGHAM/WILLIS INVESTIGATION (Apr. 15, 2011), available at <http://www.newenglandinnocence.org/wp-content/uploads/2011/07/TFSC-Final-Report-Willingham-and-Willis.pdf>.

Importantly, the report pointed out that forensic disciplines have several obligations: “(1) A duty to correct; (2) [a] duty to inform; (3) [a] duty to be transparent; and (4) [a duty to] implement[ ] . . . corrective action” when new scientific knowledge develops.<sup>64</sup> More recently, the commission sought a review of microscopic hair evidence after the U.S. Department of Justice announced problems with related testimony.<sup>65</sup>

### C. *New York*

New York’s commission, the first in the country, has a mixed record. In 2005, the commission required external mid-cycle inspections, instead of the five-year cycle mandated by ASCLD/LAB.<sup>66</sup> This was an important development. But the commission’s supervision of the Nassau County Police Department’s forensic laboratory, which was closed after alarming deficiencies were reported in the lab’s testing for MDMA (Ecstasy), is troubling. The Nassau County lab was placed on probation by ASCLD/LAB twice in its eight-year history—in 2006 and in 2010.<sup>67</sup> According to the New York State Inspector General:

[T]he Forensic Commission disregarded its mandate by failing to provide the [the lab] the assistance and monitoring it desperately needed. In particular, the Forensic Commission failed to impose its own sanctions once it learned that the [lab] was placed on probation in 2006 by ASCLD/LAB; it neglected to conduct its own inquiry into the reasons for the probation, or even take the minimal step of notifying County Officials of the lab’s continued precarious status. Moreover, although the Forensic Commission possesses the authority to set forth requirements specifically tailored to promote uniformity, quality and excellence among forensic laboratories in New York State, it failed to do so. Instead, the Forensic Commission abdicated most, if not all, of its responsibility for oversight of the [lab]

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64. *Id.* at 41.

65. *See supra* text accompanying note 9. *See also* Hsu, *supra* note 9, at 2 (the Texas Forensic Science Commission “directed all labs under its jurisdiction to take the first step to scrutinize hair cases”).

66. ELLEN N. BIBEN, STATE INSPECTOR GENERAL INVESTIGATION INTO THE NASSAU COUNTY POLICE DEPARTMENT FORENSIC EVIDENCE BUREAU 160 (Nov. 2011) [hereinafter NEW YORK IG REPORT], available at <http://www.ig.state.ny.us/pdfs/Investigation%20into%20the%20Nassau%20County%20Police%20Department%20Forensic%20Evidence%20Bureau.pdf>.

67. *Id.* at 3–4.

and other forensic laboratories across the state to a private accrediting agency, ASCLD/LAB.<sup>68</sup>

In sum, the New York legal regime for oversight was merely a façade.

#### IV. ACCREDITATION

I have argued elsewhere that the ASCLD/LAB accreditation program was one of the most significant reforms in the pre-DNA era.<sup>69</sup> Accreditation meant that crime labs were, for the first time, subject to some external supervision. ASCLD/LAB introduced nationwide standards into forensic science—most importantly, it introduced quality assurance programs. As noted in Part III.C, it twice placed the Nassau County lab on probation. In addition, it issued critical reports in several laboratory scandals.<sup>70</sup> A recent scandal at an unaccredited laboratory underscores the importance of regulation.<sup>71</sup> Annie Dookhan, an analyst at the Massachusetts State Crime Laboratory, is facing criminal charges for falsifying drug tests.<sup>72</sup> She periodically recorded the results of negative drug tests as positive and contaminated samples to conform the results to her guesses;

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68. *Id.* at 6.

69. Giannelli, *Regulating Crime Laboratories*, *supra* note 11, at 75.

70. For example, based on an ASCLD/LAB investigation, a judicial inquiry in West Virginia concluded that, “as a matter of law, any testimonial or documentary evidence offered by [the former serologist] at any time in any criminal prosecution should be deemed invalid, unreliable, and inadmissible.” In re Investigation of the W. Va. State Police Crime Lab., Serology Div., 438 S.E.2d 501, 520 (W. Va. 1993). In the Earl Washington case, ASCLD/LAB made several negative findings, including that DNA tests had been interpreted erroneously. ASCLD/LAB LIMITED SCOPE INTERIM INSPECTION REPORT 16–17 (Apr. 9, 2005). In addition, “[p]ressures from outside the laboratory and excessive managerial influence from within the laboratory during the STR analyses phase had a detrimental affect [sic] on the analyst’s decisions, examinations and reports in this case.” *Id.* at 17. This pressure led to deviations from normal protocols. *Id.*

71. See generally GLENN A. CUNHA, OFFICE OF THE INSPECTOR GEN., INVESTIGATION OF THE DRUG LABORATORY AT THE WILLIAM A. HINTON STATE LABORATORY INSTITUTE 2002–2012 (2014) (summarizing the facts and findings of the Massachusetts Office of the Inspector General’s review of the lab where Annie Dookhan’s misconduct took place and recommending state action to prevent future drug lab scandals).

72. See Eugenie Samuel Reich, *Boston Scandal Exposes Backlog*, 490 NATURE, Oct. 2012 at 153; Sheri Qualters, *Judge Warns Lab Scandal Imperils Hundreds of Prosecutions*, NAT’L L.J. Oct. 22, 2012.

“[a]lready, nearly three hundred offenders have been released after evidence analyzed by Dookhan was questioned.”<sup>73</sup>

### A. *Resistance to Accreditation*

Because the ASCLD/LAB program was voluntary, many labs initially resisted accreditation. For example, the FBI Laboratory sought accreditation only after the release of a searing U.S. Department of Justice report on the laboratory’s explosive unit in 1997.<sup>74</sup> In that report, the Inspector General documented numerous deficiencies, including: (1) inaccurate testimony; (2) testimony beyond the competence of examiners; (3) improperly prepared laboratory reports; (4) insufficient documentation of test results; (5) inadequate record management and retention; and (6) failure to resolve serious and credible allegations of incompetence.<sup>75</sup> Among other things, the Inspector General recommended that the laboratory seek accreditation.<sup>76</sup> Similarly, Texas required accreditation only af-

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73. Scott Allen & Andrea Estes, *More Signs of Disarray in Closed State Drug Lab*, BOS. GLOBE, Apr. 2, 2013; see also Kay Lazar, *How a Chemist Dodged Lab Protocols: Close Supervision is Key in a Lab, Specialists Say, and Annie Dookhan’s Appeared to Lack It*, BOS. GLOBE, Sept. 30, 2012 (“Dookhan allegedly removed evidence from the lab’s secure area without authorization, forged colleagues’ initials on control sheets that record test outcomes, and intentionally contaminated samples to make them test positive, after they were sent back to her to re-check because she had ‘dry-labbed’ instead of completing the required preliminary tests. While colleagues were suspicious of her shoddy work habits and unusually high output and reported concerns to supervisors, little action was taken for more than a year, according to the police inquiry.”); Associated Press, *Massachusetts Chemist Arrested in Drug Lab*, HOUS. CHRON., Sept. 29, 2012 (“State police say she tested more than 60,000 drug samples involving 34,000 defendants during her nine years at the lab. . . . Dookhan later acknowledged to state police that she sometimes would take 15 to 25 samples and instead of testing them all, she would test only five of them, then list them all as positive. She said that sometimes, if a sample tested negative, she would take known cocaine from another sample and add it to the negative sample to make it test positive for cocaine . . .”).

74. See generally, OFFICE OF INSPECTOR GEN., U.S. DEP’T OF JUSTICE, THE FBI LABORATORY: AN INVESTIGATION INTO LABORATORY PRACTICES AND ALLEGED MISCONDUCT IN EXPLOSIVES-RELATED AND OTHER CASES (Apr. 1997) [hereinafter OIG LAB EXPLOSIVE UNIT REPORT]; see also JOHN F. KELLY & PHILLIP K. WEARNE, TAINING EVIDENCE 2 (1998) (“The findings were alarming. FBI examiners had given scientifically flawed, inaccurate, and overstated testimony under oath in court; had altered the lab reports of examiners to give them a pro-prosecutorial slant, and had failed to document tests and examinations from which they drew incriminating conclusions, thus ensuring that their work could never be properly checked.”).

75. OIG LAB EXPLOSIVE UNIT REPORT at Executive Summary Part I.A.

76. The report’s others recommendations included: (1) requiring examiners in the Explosives Unit to have scientific backgrounds in chemistry, metallurgy, or engineering; (2) mandating that each examiner who performs work prepare and

ter the Houston crime lab was shut down, causing a state senator to say, “[T]he validity of almost any case that has relied upon evidence produced by the lab is questionable.”<sup>77</sup> The same is true of Oklahoma, which mandated accreditation after the gross misconduct of an analyst, Joyce Gilchrist, was publicized.<sup>78</sup> It appears that Gilchrist

[U]sed her lab tests to confirm the detectives’ hunches rather than seek independent scientific results. She also tried to control the results of her tests . . . . She treated discovery requests with contempt and kept evidence from the defense. She systematically destroyed evidence at the very time when she knew that much of that evidence might be retested.<sup>79</sup>

The same resistance occurred in other states. As late as 2002—two decades after the accreditation program commenced—the President of the American Academy of Forensic Sciences wrote: “Unfortunately, while the ASCLD/LAB program has been successful in accrediting over 200 Laboratories, a large number of forensic laboratories in the U.S. remain unaccredited by any agency. . . .

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sign a separate report instead of a composite report “without attribution to individual examiners”; (3) establishing report review procedures by unit chiefs; (4) preparing adequate case files to support reports; (5) monitoring court testimony in order to preclude examiners from testifying to matters beyond their expertise or in ways that are “unprofessional”; and (6) developing written protocols for scientific procedures. *Id.* at Executive Summary Part VII.

77. Rodney Ellis, *Want Tough on Crime? Start by Fixing HPD Lab*, HOUS. CHRON., (Sept. 5, 2004), <http://www.chron.com/opinion/outlook/article/Want-tough-on-crime-Start-by-fixing-HPD-lab-1474986.php>. Similarly, the chair of the legislative committee investigating the lab has stated: “It’s a comedy of errors, except it’s not funny.” Adam Liptak, *Review of DNA Clears Man Convicted of Rape*, N.Y. TIMES, Mar. 11, 2003, available at <http://www.nytimes.com/2003/03/11/national/11DNA.html> (quoting state Representative Kevin Bailey).

78. *See Mitchell v. Gibson*, 262 F.3d 1036, 1064 (10th Cir. 2001) (“Ms. Gilchrist thus provided the jury with evidence implicating Mr. Mitchell in the sexual assault of the victim which she knew was rendered false and misleading by evidence withheld from the defense.”); *McCarty v. State*, 765 P.2d 1215, 1217 (Okla. Crim. App. 1988) (“Ms. Gilchrist’s delay and neglect in not completing her forensic examination and report until Friday, March 14, 1986 . . . was inexcusable, since she began her forensic examination in December of 1982.”).

79. MARK FUHRMAN, DEATH AND JUSTICE: AN EXPOSE OF OKLAHOMA’S DEATH ROW MACHINE 232 (2003); *see also* James E. Starrs, *The Forensic Scientist and the Open Mind*, 31 J. FORENSIC SCI. SOC’Y 111, 132–33 (1991) (“[I]n her missionary zeal to promote the cause of the prosecution she had put blinders on her professional conscience so that the truth of science took a back seat to her acting the role of an advocate.”).

Why have forensic laboratories . . . been so reluctant to become accredited . . . ?”<sup>80</sup>

Today, most labs are accredited. However, only a few states require accreditation,<sup>81</sup> and some delegate accreditation directly to ASCLD/LAB.<sup>82</sup> This is no small matter because, as with any accreditation program, the critical issue is the rigor of the regulatory regime and the efficacy of its enforcement mechanism. In other words, a private organization should not take the place of a public agency in setting standards. And, as discussed in Part IV.B, there are a number of defects in the ASCLD/LAB program.

### B. Problems with Accredited Laboratories

Accreditation is not, however, a panacea—even for DNA analysis.<sup>83</sup> In 2004, a Department of Justice report documented the malfeasance of Jacqueline Blake, who had been hired by the FBI in 1988 as a serologist and later worked as a DNA analyst.<sup>84</sup> From March 2000 to June 2002, she worked with DNA-Polymerase Chain Reaction (PCR).<sup>85</sup> For two years, while performing analyses on

80. Graham R. Jones, *President’s Editorial—The Changing Practice of Forensic Science*, 47 J. FORENSIC SCI. 437, 438 (2002).

81. As discussed in Part II *supra*, New York requires accreditation through its Forensic Science Commission. See *supra* notes 42–43 and accompanying text. See also N.C. GEN. STAT. ANN. § 8-58.20(b) (West 2013) (requiring accreditation “by an accrediting body that requires conformance to forensic specific requirements and which is a signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement For Testing”); TEX. CODE CRIM. PROC. ANN. art. 38.35 (2005) (requiring accreditation by the Department of Public Safety).

82. See, e.g., OKLA. STAT. ANN. tit. 74, § 150.37 (West 2011) (requiring accreditation by the ASCLD/LAB or the American Board of Forensic Toxicology).

83. DAB standards mandate annual internal audits and biannual external audits for DNA labs. DNA Advisory Board Standard 15.1 (1998) (“The laboratory shall conduct audits annually in accordance with the standards outlined herein.”); DNA Advisory Board Standard 15.2 (1998) (“Once every two years, a second agency shall participate in the annual audit.”). Nevertheless, a 2001 Department of Justice Report found that the audit procedures for CODIS were defective. See 2001 IG REPORT, *supra* note 32. A review of eight state and local laboratories “disclosed that four laboratories did not fully comply with the FBI’s quality assurance standards and national index requirements.” *Id.* at iii. In addition, unallowable or incomplete profiles had been entered into CODIS. *Id.* at iv. The problem stemmed from the fact that the audit did not review the actual DNA profiles, so labs could certify their own compliance instead of reporting the audit results directly to the FBI. See generally *id.*

84. OFFICE OF INSPECTOR GEN., U.S. DEP’T OF JUSTICE, THE FBI DNA LABORATORY: A REVIEW OF PROTOCOL AND PRACTICE VULNERABILITIES (2004) [hereinafter 2004 IG REPORT].

85. *Id.* at i.

crime scene evidence in more than 100 cases, she failed to complete negative control tests, a required part of the lab protocol designed to identify whether contamination has been introduced into the process.<sup>86</sup> This omission “rendered her work scientifically invalid and unusable in court.”<sup>87</sup> In addition, she falsified lab documents to conceal her misdeeds.<sup>88</sup> In May 2004, she pleaded guilty to a misdemeanor charge of providing false information in her lab reports.<sup>89</sup>

Although the FBI lab was accredited at the time and thus subject to audits, her misconduct was revealed by accident rather than through the established safeguards.<sup>90</sup> As the 2004 Inspector General’s report observed, “[W]eaknesses in DNA [Unit 1] procedures and protocols allowed a technician routinely to disregard required steps in the analysis of DNA, even while the Unit received clean audit reports from both internal and external auditors and while the Unit was accredited by ASCLD-LAB.”<sup>91</sup>

86. *Id.*

87. *Id.* at i. Blake was a technician, not an examiner, and therefore did not testify.

By itself, however, the failure to process the negative controls does not change the test results or lead to a particular testing outcome (e.g., creating a match between a known and unknown evidence sample). The retesting of evidence in Blake’s cases to date indicates that, while she did not properly conduct the contamination testing, the DNA profiles that she generated were accurate.

*Id.* In some cases, however, her testing consumed all of the available DNA in the case. *Id.*

88. *Id.*

89. *Id.* at ii.

90. *Id.* at ii (“In April 2002, a colleague of Blake was working late one evening after Blake had left the Laboratory for the day, and noticed that the testing results displayed on Blake’s computer were inconsistent with the proper processing of the control samples.”).

91. *Id.* at 21. Blake also failed to run the negative controls in her qualifying proficiency tests, but this was not detected. *Id.* at 40–41. Moreover, in reviewing the laboratory’s protocols, the 2004 Inspector General’s report identified several significant problems:

[I]n approximately 20 percent of the protocol sections we reviewed we identified one or more of the following deficiencies: 1) the protocol lacks sufficient detail; 2) the protocol fails to inform the exercise of staff discretion; 3) the protocol fails to ensure the precision of manual notetaking; and 4) the protocol is outdated.

*Id.* at 130.

In addition, the FBI’s response to this incident proved insufficient in some important respects. The agency’s audit covered only the two years when Blake worked as a PCR biologist, but should have extended to the prior twelve years, during which she was a serologist and then a Restriction Fragment Length Polymorphism (RFLP) analyst. *Id.* at 67. In addition, the Office of the General Counsel

Perhaps the worst reported scandal involved the Houston Police Department Crime Lab. A 2002 state audit revealed a dysfunctional organization with serious contamination issues and an untrained staff using shoddy science.<sup>92</sup> As described by a subsequent investigation,

[T]he DNA Section was in shambles—plagued by a leaky roof, operating for years without a line supervisor, overseen by a technical leader who had no personal experience performing DNA analysis and who was lacking the qualifications required under the FBI standards, staffed by underpaid and undertrained analysts, and generating mistake-ridden and poorly documented casework.<sup>93</sup>

Several defendants have been exonerated since the report. Indeed, Josiah Sutton was convicted of rape in 1999 based on flawed DNA evidence.<sup>94</sup> Retesting freed him.<sup>95</sup> As the Houston fiasco

(OGC) failed to appreciate the seriousness of the problem when informed of it. *Id.* at 65 (“[T]he laboratory did not receive the quality of legal services that one would expect from FBI OGC, and Laboratory management was not sufficiently assertive when soliciting legal advice.”).

92. QUALITY ASSURANCE AUDIT OF HOUSTON POLICE DEPARTMENT CRIME LAB—DNA/SEROLOGY SECTION (Dec. 12–13, 2002), *available at* <http://www.scientific.org/archive/Audit%20Document—Houston.pdf>; *see also* Nick Madigan, *Houston’s Troubled DNA Crime Lab Faces Growing Scrutiny*, N.Y. TIMES, Feb. 9, 2003, at L20, *available at* <http://www.nytimes.com/2003/02/09/us/houston-s-troubled-dna-crime-lab-faces-growing-scrutiny.html> (operations suspended in December 2002 after an audit found numerous problems, “including poor calibration and maintenance of equipment, improper record keeping and a lack of safeguards against contamination . . . . Among other problems, a leak in the roof was found to be a potential contaminant of samples on tables below.”).

93. MICHAEL R. BROMWICH, THIRD REPORT OF THE INDEPENDENT INVESTIGATOR FOR THE HOUSTON POLICE DEPARTMENT CRIME LABORATORY AND PROPERTY ROOM 5 (2005) [hereinafter THIRD REPORT], *available at* <http://www.hpdlabinvestigation.org>.

94. Sutton v. State, No. 14-99-00951-CR, 2001 WL 40349, at \*1–2 (Tex. Ct. App. Jan. 18, 2001) (denying appeal) (“Appellant filed a motion for new trial asserting ineffective assistance of trial counsel. At the hearing on the motion, appellant’s trial counsel, Charles Herbert, testified that before trial he suggested to appellant’s family that they obtain independent DNA testing. He stated that he collected some \$600 to \$650 from them, but told them they would need to raise a total of \$1200 to \$1500 for the testing. Herbert essentially testified that he never obtained DNA testing because: (1) appellant’s family did not come up with the additional money, and (2) he did not believe there were any unadulterated samples remaining for testing. Two of appellant’s family members contradicted Herbert, testifying that he took their money to have the test done but never told them they would need to pay more.”).

95. *See* Adam Liptak & Ralph Blumenthal, *New Doubt Cast on Crime Testing in Houston Cases*, N.Y. TIMES, Aug. 5, 2004, at A19, *available at* <http://www.nytimes>

demonstrated, internal audits are often not robust. That lab passed its internal audits with flying colors, only to be shut down following an external audit.<sup>96</sup>

Similarly, recent news accounts reported lapses at the New York Medical Examiner's DNA laboratory, one of the premier DNA facilities in this country. In more than 800 rape cases, "DNA evidence may have been mishandled or overlooked by a lab technician, resulting in incorrect reports being given to criminal investigators."<sup>97</sup> During an investigation, supervisors discovered another serious problem—cross-contamination: "Sixteen pieces of evidence, generally swabs sealed in paper envelopes, were found in the wrong rape kit, commingling DNA evidence from 19 rape investigations, according to a letter from the medical examiner's office."<sup>98</sup>

### C. *Inadequate Standards*

A related issue concerns ASCLD/LAB's standards and procedures, which have been criticized on several grounds.

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.com/2004/08/05/national/05houston.html ("[P]rosecutors in Mr. Sutton's case had used [DNA] to convict him, submitting false scientific evidence asserting that there was a solid match between Mr. Sutton's DNA and that found at the crime scene. In fact, 1 of every 8 black people, including Mr. Sutton, shared the relevant DNA profile. More refined retesting cleared him."); *see also* Roma Khanna & Steve McVicker, *Police Chief Shakes Up Crime Lab; 2 Officials Quit, Others Disciplined*, HOUS. CHRON., June 13, 2003, available at <http://www.chron.com/news/article/Police-chief-shakes-up-crime-lab-2-officials-quit-2108306.php> ("Christi Kim is a DNA analyst who tested the DNA used to convict Josiah Sutton . . . . Police investigators cited her for incorrectly documenting the results of DNA profiles, failing to report the full set of DNA results in an unnamed case and making an incorrect data entry in an unnamed capital murder case.").

96. An internal review "performed at the end of 2000 and 2001 described a very different picture of the state of that Section than did the DPS [external] audit in December 2002." THIRD REPORT, *supra* note 93, at 64.

97. Joseph Goldstein, *New York Sees Errors on DNA in Rape Cases*, N.Y. TIMES, Jan. 11, 2013, at A11, available at <http://www.nytimes.com/2013/01/11/nyregion/new-york-reviewing-over-800-rape-cases-for-possible-mishandling-of-dna-evidence.html>.

98. *Id.* at A19; *see also* Joseph Goldstein, *Mishandling of DNA Evidence Is Found in Over 50 Cases at Crime Lab*, N.Y. TIMES, Feb. 1, 2013, at A11, available at <http://www.nytimes.com/2013/02/01/nyregion/more-dna-problems-found-in-new-york-city-crime-lab.html> ("The latest disclosure comes as the medical examiner's office is concluding a nearly two-year review of its handling of 800 rape cases. That review began after supervisors discovered that a longtime technician had overlooked DNA evidence on items from at least 26 rape kits, incorrectly reporting that they contained no relevant evidence. In addition, the technician is believed to have misplaced 16 pieces of evidence, returning them to the wrong rape kits, according to documents describing the office's review.").

First, from its inception ASCLD/LAB has been criticized because the program was run by insiders—crime lab directors. This raised the specter of the fox guarding the chicken coop.<sup>99</sup> Moreover, because inspectors can be employed by crime labs that are themselves reviewed by ASCLD/LAB, there may be “a tendency among examiners to go along to get along.”<sup>100</sup> In other areas of law, the problem of “regulatory capture” is well established.<sup>101</sup> Regulatory capture often occurs over time. But here, it was built into the process from the beginning. In the long run, inspectors need to be independent.

Second, the five-year inspection cycle is inadequate for effective oversight.<sup>102</sup> Between inspections, ASCLD/LAB relies on annual self-audits. As noted in Part II, New York mandated a two-and-a-half-year cycle, and the American Bar Association’s Standards on DNA Evidence recommend a two-year cycle.<sup>103</sup> The Justice for All Act of 2004 dictates that DNA “external audits, not less than once every 2 years, . . . [must] demonstrate compliance with standards

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99. See Janine Arvizu, *Forensic Labs: Shattering the Myth*, CHAMPION, May 2000, at 18, 20 (“The ASCLD/LAB is essentially a trade organization of crime laboratory directors. The membership of the ASCLD/LAB delegate assembly consists solely of the laboratory directors of ASCLD accredited laboratories.”); Maurice Possley et al., *Scandal Touches Even Elite Labs: Flawed Work, Resistance to Scrutiny Seen Across U.S.*, CHI. TRIB., Oct. 21, 2004, available at <http://www.chicagotribune.com/news/watchdog/chi-041021forensics,0,3075697.story> (quoting James Durkin, a former Cook County prosecutor and former Republican state representative as saying, “I believe they are more of a fraternal organization than an authoritative scientific body”).

100. Editorial, *Overlooked*, NEWS & OBSERVER (Raleigh, N.C.), Aug. 29, 2010. Although the North Carolina crime lab had been accredited since 1988, a series of articles by *The News & Observer*, entitled “Agents Secrets,” raised serious questions about ASCLD/LAB’s accreditation procedures. See Mandy Locke & Joseph Neff, *Legislators: SBI Needs New Accrediting Agency*, NEWS & OBSERVER (Raleigh, N.C.), Sept. 17, 2010 at 1A; see also Joseph Neff & Mandy Locke, *Forensic Groups’ Ties Raise Concerns*, NEWS & OBSERVER (Raleigh, N.C.), Sept. 26, 2010 (“Two leaders of the accreditation agency are retired [N.C. crime lab] agents who had key management roles at the lab at the time problems persisted.”).

101. See, e.g., PREVENTING REGULATORY CAPTURE: SPECIAL INTEREST INFLUENCE AND HOW TO LIMIT IT (Daniel Carpenter & David A. Moss eds., 2014).

102. ASCLD/LAB has two accreditation programs. See *Accreditation Programs*, ASCLD/LAB, <http://www.asclcd-lab.org/accreditation-programs/> (last visited Sept. 18, 2014). The older one (“legacy” program) requires inspections every five years. ASCLD/LAB, POLICY ON SECOND ACCREDITATION CYCLE AND BEYOND SURVEILLANCE VISITS 1 (“Near the end of the first five-year cycle of accreditation a full reassessment of the accredited laboratory shall take place.”).

103. See *supra* notes 42–43 and accompanying text; ABA STANDARDS FOR CRIMINAL JUSTICE, DNA EVIDENCE § 3.1(a) (i) (3d ed. 2007).

established by the Director of the Federal Bureau of Investigation . . . .”<sup>104</sup>

Third, ASCLD/LAB procedures permit each analyst to select five cases for review during an audit. As the New York Inspector General observed, “such practice is susceptible to abuse and might not reliably represent the actual quality of work of a laboratory.”<sup>105</sup> Instead, the Inspector General recommended that the state forensic commission establish its own procedures—such as instituting random review.<sup>106</sup> This is not a new criticism. A newspaper editorial addressed the same point after the Gregg Taylor scandal in North Carolina:

In reviewing analysts’ work, ASCLD-LAB allows laboratory supervisors to pick cases to be examined at their labs. That saves time . . . but how likely would it be that a case involving, say, the SBI lab’s failure to report a test for human blood that didn’t pan out would be volunteered for outside review?<sup>107</sup>

Fourth, the New York Inspector General also criticized ASCLD/LAB’s policy of “requir[ing] inspectors to destroy their notes of inspections; only the reports are maintained.”<sup>108</sup> The Inspector General recommended that the Forensic Commission require ASCLD/LAB to maintain any and all documentation that relates to inspections conducted in the state.<sup>109</sup>

## CONCLUSION

There is no question that the regulation of crime labs has improved significantly, and the DNA regulatory regime has often provided a model. Most labs are now accredited by the ASCLD/LAB’s voluntary program, and ASCLD/LAB is switching over to a new program.<sup>110</sup> Nevertheless, several further steps are needed.

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104. 42 U.S.C. § 14132(b)(2)(B) (2006).

105. NEW YORK IG REPORT, *supra* note 66, at 162.

106. *See id.*

107. *Overlooked*, *supra* note 100.

108. NEW YORK IG REPORT, *supra* note 66, at 163.

109. *Id.*

110. *See Accreditation Programs*, *supra* note 102. (“In 1996, the ASCLD/LAB Board of Directors passed a resolution to encourage the movement of the accreditation program to ISO 25 which later became ISO 17025. After several years of research and presentations to the Delegate Assembly, the 2003 Delegate Assembly approved a transition from the longstanding accreditation Legacy program to an accreditation program based on ISO/IEC 17025 which would be supplemented with the essential forensic elements of the Legacy program. At the end of 2003, it was announced that effective April 1, 2004, ASCLD/LAB would offer accreditation under two programs for a period of five years to end on April 1, 2009. The plan

First, accreditation should be mandatory, not voluntary.

Second, accreditation should be the responsibility of a public agency. Thus, statutes mandating accreditation by ASCLD/LAB are insufficient.<sup>111</sup> While it makes sense to employ an organization, such as ASCLD/LAB, that has special expertise in forensic audits, especially when there are few alternatives,<sup>112</sup> the regulation of crime labs is a public function; it should not be delegated to a private organization such as ASCLD/LAB without oversight. The establishment of forensic commissions in each state is critical for accountability.

Third, forensic commissions should not accept the minimum standards of ASCLD/LAB. For example, improved standards should include a two-year inspection cycle, and inspections should require the random selection of casework for review.

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was called dual track accreditation under which a laboratory could elect to apply for accreditation under the Legacy program or under the ISO/IEC 17025 based program which was named the ASCLD/LAB-International Accreditation Program.”).

111. *See, e.g.*, OKLA. STAT. ANN. tit. 74, § 150.37 (West 2011) (requiring accreditation by ASCLD/LAB or the American Board of Forensic Toxicology).

112. After the Greg Taylor scandal, the North Carolina legislature amended its accreditation statute, no longer designating ASCLD/LAB as the accrediting agency. The statute now provides:

A forensic analysis, to be admissible under this section, shall be performed by a laboratory that is accredited by an accrediting body that requires conformance to forensic specific requirements and which is a signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement For Testing for the submission, identification, analysis, and storage of forensic analyses.

N.C. Sess. Laws 2011-19 (codified at N.C. GEN. STAT. ANN. § 8-58.20(b) (West 2013)).