

**REIGNING IN THE WILD WEST:  
THE NECESSARY OUTCOMES AND  
INEVITABLE PITFALLS OF REFORMING  
FORENSIC SCIENCE**

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## I. INTRODUCTION

In 2009, The National Academy of Sciences published a report announcing that forensic science is broken.<sup>1</sup> Although revealing in some respects, the NAS Report did not tell the forensic science industry, and its end users—the criminal justice system—anything new. The report did, however, shine a spotlight on the shortcomings that seem to transcend many areas of forensic science disciplines.<sup>2</sup> Moreover, it underscored a harsh truth: faulty forensic science has contributed to the conviction of innocent people.<sup>3</sup> Although impossible to quantify, the number of wrongfully convicted is at least in the hundreds.<sup>4</sup> Flawed science comes in many flavors: vague scientific protocols that make laboratory processes inconsistent and, as a result, unreliable.

With the exception of DNA, no single forensic technique has proven to have the ability to accurately and precisely verify a match between evidence samples.<sup>5</sup> For example, one of the core

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<sup>1</sup> See NAT'L ACAD. OF SCI., STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD (2009) [hereinafter NAS REPORT] (discussing serious flaws in the forensic science system).

<sup>2</sup> *Id.*

<sup>3</sup> *Id.* at 4.

<sup>4</sup> See e.g., Brandon L. Garrett & Peter J. Neufeld, *Invalid Forensic Science Testimony and Wrongful Convictions*, 95 VA. L. REV. 1, 12 (2009) (stating that more than one hundred wrongful convictions have resulted from flaws in forensic science).

<sup>5</sup> In *Law and Order* terms, accuracy, and precision are “two separate yet equally important” concepts. Felice F. Guerrieri, *Law and Order: Redefining the Relationship between Prosecutors and Police*, 25 S. ILL. U L.J. 353, 353 n.1 (2001). “Accuracy evaluates whether or not the [correct] result can be reached and what the strength of that result is” precision measures the repeatability or reproducibility of the same result. Jessica D. Gabel, *Probable Cause from*

tenants of fingerprint analysis is the all-too-familiar notion that no two fingerprints are alike. Indeed, fingerprints have general ridge patterns that make it possible to systematically classify and compare them, and the average fingerprint contains between fifty and 150 points of comparison (termed “friction ridge analysis”).<sup>6</sup> But fingerprint analysis does not involve a comparison of 150 or even fifty points of identification.<sup>7</sup> Rather, most jurisdictions in the United States do not require a minimum number of points of comparison between samples to sufficiently call the comparison a “match.”<sup>8</sup> Comparisons of six or eight points are enough for identification and, ultimately, conviction.<sup>9</sup> So, while it may be that, on the whole, no two fingerprints are alike, there is little to support that six, eight, or even ten points of comparison are a sufficiently discriminating way to identify a suspect.

Shortcomings in forensic science have harrowing implications. During the investigation of John McCormick’s murder in Seat Pleasant, Maryland, a police dog uncovered a stocking mask several blocks away from the crime scene.<sup>10</sup> The stocking contained thirteen hairs total.<sup>11</sup> Of the thirteen, the FBI concluded through hair analysis that one belonged to Santae Tribble, leading to his subsequent arrest.<sup>12</sup> Over the course of his three-day trial, Tribble took the stand in his own defense, urging the jury to accept the fact that he had no connection to

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*Probable Bonds: A Genetic Tattle Tale Based on Familial DNA*, 21 HASTINGS WOMEN’S L.J. 3, 22 (2010); *id.* (explaining that reliability is demonstrated when a test yields the same result each time it is performed).

<sup>6</sup> See generally DAVID R. ASHBAUGH, QUANTITATIVE-QUALITATIVE FRICTION RIDGE ANALYSIS: AN INTRODUCTION TO BASIC AND ADVANCED RIDGEOLOGY 109 (1999) (explaining the first steps to be taken in an analysis of a latent friction ridge print).

<sup>7</sup> See *id.* at 7 (“No scientific basis exists for requiring that a predetermined minimum number of friction ridge features must be present in two impressions in order to establish positive identification”).

<sup>8</sup> See, e.g., *Commonwealth v. Patterson*, 840 N.E.2d 12, 17 (Mass. 2005) (“[M]ost agencies in the United States no longer mandate any specific number [of matches]. Rather, the examiner uses his expertise, experience, and training to make a final determination.”).

<sup>9</sup> *But cf.* Robert Epstein, *Fingerprints Meet Daubert: The Myth of Fingerprint “Science” Is Revealed*, 75 S. CAL. L. REV. 605, 655 (2002) (discussing a case in which the fingerprint analysis expert admitted that finger print analysis based on six to eight points of similarity is “dangerous territory”).

<sup>10</sup> Spencer S. Hsu, *For D.C. Man, 28 Years Lost*, WASH. POST (Apr. 17, 2012), <http://www.pulitzer.org/files/finalists/2013/washpostps2013/washpostps03.pdf>.

<sup>11</sup> *Id.*

<sup>12</sup> *Id.*

McCormick's death.<sup>13</sup> Nevertheless, the jurors gave weight to the one allegedly matching hair and found Tribble guilty of murder, and the judge sentenced him to twenty years to life in prison.<sup>14</sup> In January of 2012, Sandra K. Levick, Tribble's lawyer, succeeded in having the evidence retested.<sup>15</sup> A private lab concluded through DNA testing that the hairs could not have belonged to Tribble.<sup>16</sup> However, a more thorough investigation short of DNA testing would have revealed the same result: the one "matching" hair had Caucasian characteristics, and Tribble is black.<sup>17</sup> Others have not been so lucky. One Texas man was sentenced to death, and subsequently executed, on faulty arson evidence.<sup>18</sup> Had the evidence been correctly analyzed from the outset, he never would have been eligible for the death penalty.<sup>19</sup>

The NAS Report concluded that these problems could "only be addressed by a national commitment to overhaul the current structure that supports the forensic science community in this

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<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*

<sup>16</sup> *Id.* The scientific and evidentiary limitations of hair microscopy analysis, as noted in the NAS Report, and the exoneration of three men, including Tribble, whose convictions rested on hair analysis that exceeded those scientific limitations, has led to a massive and unprecedented review of FBI cases to determine just how far the problem of forensic hair analysis reaches. Norman L. Reimer, *The Hair Microscopy Review Project: An Historic Breakthrough for Law Enforcement and a Daunting Challenge for the Defense Bar*, THE CHAMPION at 16 (2013). See also NAS REPORT, *supra* note 1, at 160–61 (noting the lack of standards for determining a "match" through hair analysis and the lack of scientific evidence that hair analysis can provide a positive identification); Spencer S. Hsu, *Convicted Defendants Left Uninformed of Forensic Flaws Found by Justice Dept.*, WASH. POST (Apr. 16, 2012), [http://articles.washingtonpost.com/2012-04-16/local/35453369\\_1\\_hair-and-fiber-fbi-lab-benjamin-herbert-boyle](http://articles.washingtonpost.com/2012-04-16/local/35453369_1_hair-and-fiber-fbi-lab-benjamin-herbert-boyle) (exonerations of Donald Gates, Kirk Odom, and Santae Tribble resulted from uncovering flawed hair analysis).

<sup>17</sup> Hsu, *Convicted Defendants*, *supra* note 16.

<sup>18</sup> *Fire Expert Criticizes Investigation That Led to Execution*, CNN (Jan. 7, 2011 9:41 PM), [http://articles.cnn.com/2011-01-07/justice/texas.willingham.commission\\_1\\_willingham-case-arson-expert-texas-forensic-science-commission?s=PM:CRIME](http://articles.cnn.com/2011-01-07/justice/texas.willingham.commission_1_willingham-case-arson-expert-texas-forensic-science-commission?s=PM:CRIME).

<sup>19</sup> See *id.* (discussing a statement by John DeHaan, California arson expert and author of a leading textbook on arson, which stated that the investigate methods employed by the Texas arson investigators were unreliable, but "typical of investigations carried out at that time."); see also Marc Price Wolf, *Habeas Relief from Bad Science: Does Federal Habeas Corpus Provide Relief for Prisoners Possibly Convicted on Misunderstood Fire Science?*, 10 MINN. J.L. SCI. & TECH. 213, 230–31 (2009) (analyzing the faulty science on which Willingham was convicted and subsequently executed).

country.”<sup>20</sup> Responding to this call to action, Representative Eddie Johnson introduced the Forensic Science and Standards Act of 2012, H.R. 6106, on July 12, 2012.<sup>21</sup> Senator John D. Rockefeller IV introduced companion legislation in the Senate.<sup>22</sup> The 2012 bill died in committee, but Representative Johnson introduced an updated version of the bill, H.R. 3064, on September 9, 2013.<sup>23</sup>

The Act is not the first legislative attempt at reform. The Consolidated Appropriations Act of 2004 required the National Institute of Justice to report to Congress on the needs of the entire forensic community.<sup>24</sup> That same year the Justice For All Act created a National Forensic Science Commission, which would have identified resource needs, made recommendations, disseminated best practices, and researched privacy issues around the use of DNA samples.<sup>25</sup> Although the bill passed, the Commission was never funded.<sup>26</sup>

Against this backdrop of failed attempts at reform, the Act is a laudable effort to repair a broken system. But, at bottom, it is plagued by being too narrow in some instances and overbroad in others; underfunded in some areas and elsewhere unrealistically expensive; and, ultimately, forked in too many directions to have any real impact. Most importantly, permissive language strips it of any enforcement power, undercutting its other achievements. This paper will first provide an overview of the legislative scheme. Then, it will discuss what the legislation does well, areas for improvement, and elements that should be struck from the legislation altogether. It concludes with recommendations for future legislation.

## II. THE FORENSIC SCIENCE AND STANDARDS ACT OF 2013: THE TOOTHLESS WONDER

The Forensic Science and Standards Act of 2013 (“FSSA”) aims

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<sup>20</sup> NAS REPORT, *supra* note 1, at xx.

<sup>21</sup> Forensic Science and Standards Act of 2012, H.R. 6106, 112th Cong. (2012).

<sup>22</sup> Forensic Science and Standards Act of 2012, S. 3378, 112th Cong. (2012).

<sup>23</sup> Forensic Science and Standards Act of 2013, H.R. 3064, 113th Cong. (2013).

<sup>24</sup> Kenneth E. Melson, *Embracing the Path Forward: The Journey to Justice Continues*, 36 NEW ENG. J. CRIM. & CIV. CONFINEMENT 197, 200 (2010).

<sup>25</sup> 42 U.S.C. § 14136c(b) (2006).

<sup>26</sup> Melson, *supra* note 24, at 201.

to fix forensic science by encouraging research, adopting standards, and creating accreditation requirements. Ultimately, however, the legislation is a chaotic assemblage of both new and existing organizations. The legislation calls for the creation of new entities under the auspices of the now-existing National Institute of Standards and Technology (“NIST”).<sup>27</sup> This section provides an overview of the four main components of the legislation: 1) The national forensic science research program; 2) organizations that will be formed under the National Science Foundation (“NSF”); 3) entities that exist under the NIST; and 4) the role of the Attorney General.

#### A. *The National Forensic Science Research Program*

The NAS Report observed that a lack of quality, peer-reviewed forensic science research stymies advancements in the field.<sup>28</sup> To address this deficit, the FSSA creates the National Forensic Science Research Program (“NFSRP”) that requires research efforts from both existing entities and new entities created under the Act.<sup>29</sup> The NFSRP is required to “improve, expand, and coordinate Federal research in the forensic sciences.”<sup>30</sup> The Act tasks the Director of the NIST with writing a report to identify and make recommendations regarding areas of forensic science that would benefit from further research.<sup>31</sup> It is unclear whether the NFSRP is an independent entity, committee, or guiding tenet.

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<sup>27</sup> See H.R. 3064 §§ 5(c), 7(b) (creation of research centers and expert working groups).

<sup>28</sup> See NAS REPORT, *supra* note 1, at 8 (“[T]here is a notable dearth of peer-reviewed, published studies establishing the scientific bases and validity of many forensic methods.”); see also Jennifer L. Mnookin et al., *The Need for a Research Culture in the Forensic Sciences*, 58 UCLA L. REV. 725, 726 (2011) (calling for a research culture in the forensic sciences that involves empiricism, transparency, and ongoing critical perspective). See generally NAS REPORT, *supra* note 1, at 112 (explaining that credibility is a building block in the scientific community and is established and enhanced as the work holds up under the scrutiny of their peers, which at times leads to replications of the experiments or results).

<sup>29</sup> H.R. 3064 § 4(b).

<sup>30</sup> *Id.* § 4(a).

<sup>31</sup> *Id.* § 4(c)(2)(A)(i).

*B. Entities Under The National  
Science Foundation's Umbrella*

1. The Grants Program

The Act leverages the now-existing NSF to bolster forensic science research. The Act creates a Forensic Science Research Grants Program,<sup>32</sup> responding to some experts' call for the establishment of a "research culture" in the forensic sciences.<sup>33</sup> Operating at a budget of \$34 million for fiscal year 2014 and increasing by \$3 million each year until 2018, the Research Program's funds are used to reward grants for forensic sciences research on a merit basis.<sup>34</sup> Although the 2012 version of the Act provided that the Grants Program support the publication of grant-based research in peer-reviewed journals, the 2013 version omits this step essential to creating an informed dialogue.<sup>35</sup>

2. New Research Centers

Perhaps the most ambitious aspect of the Act is the creation of new forensic science research centers, which will exist under the auspices of the NSF.<sup>36</sup> The Act establishes the research centers for four specific purposes. First, the research centers are the mechanism through which the national research strategy is carried out.<sup>37</sup> Second, the research centers "build relationships between forensic science practitioners and members of the research community."<sup>38</sup> Third, the research centers promote the education of individuals with the aim of creating leaders in the forensic sciences.<sup>39</sup> Lastly, the research centers disseminate their work.<sup>40</sup> No funds are specifically earmarked for the creation of the research centers. Rather, the general budget outlined above encompasses these expenses.<sup>41</sup>

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<sup>32</sup> *Id.* § 5.

<sup>33</sup> *See, e.g.*, Mnookin et al., *supra* note 28, at 726 (arguing that research culture needs to be valued within the forensic community).

<sup>34</sup> H.R. 3064 § 5(a).

<sup>35</sup> *Compare* Forensic Science and Standards Act of 2012, H.R. 6106, 112th Cong. § 5(c) (2012), *with* H.R. 3064 § 5.

<sup>36</sup> H.R. 3064 § 5(c)(1).

<sup>37</sup> *Id.* § 5(c)(1)(A).

<sup>38</sup> *Id.* § 5(c)(1)(B).

<sup>39</sup> *Id.* § 5(c)(1)(C).

<sup>40</sup> *Id.* § 5(c)(1)(D).

<sup>41</sup> *Id.* § 5(e).

*C. Entities Under The NIST's Umbrella*

In addition to housing the grants program at the NSF, the Act also calls for a variety of initiatives to exist at the NIST.

1. The National Forensic Science Coordinating Office

Under the Act, the NIST houses the National Forensic Science Coordinating Office (NFSCO).<sup>42</sup> The purposes of the NFSCO are to create a “unified Federal research strategy” that identifies and prioritizes research goals consistent with the NAS Report and to develop a roadmap to achieve those goals.<sup>43</sup> The roadmap outlines which governmental departments or agencies will execute each portion of the research strategy.<sup>44</sup> Specifically, the roadmap will establish the criteria that the NFSCO will use to assess the research’s progress.<sup>45</sup>

2. Standardizing Forensic Science

The act responds to the NAS Report’s documentation of disparate forensic science results by requiring the NIST to develop “forensic science standards to enhance the validity and reliability of forensic science activities.”<sup>46</sup> Such activities include creating uniform measurements and criteria both for the methods and tools forensic scientists use.<sup>47</sup> Further, the NIST will standardize the terminology forensic scientists use in their reports,<sup>48</sup> provide for inter-operability of forensic science databases,<sup>49</sup> and test and validate existing standards.<sup>50</sup> The prior version included a requirement to independently validate “forensic science measurements and methods,”<sup>51</sup> but that appears to be absent in the current legislation.

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<sup>42</sup> *Id.* § 4(c).

<sup>43</sup> *Id.* § 4(c)(2)(A)–(B).

<sup>44</sup> *Id.* § 4(c)(2)(B)(i)–(iii).

<sup>45</sup> *Id.* § 4(c)(2)(B)(iii).

<sup>46</sup> *Id.* § 7(a)(1)(B). The NAS Report addresses standardization issues in several contexts. *See* discussion *infra* Part III.C.

<sup>47</sup> H.R. 3064 § 7(a)(1)(A).

<sup>48</sup> *Id.* § 7(a)(1)(B)(iii).

<sup>49</sup> *Id.* § 7(a)(1)(B)(iv).

<sup>50</sup> *Id.* § 7(a)(1)(C).

<sup>51</sup> Forensic Science and Standards Act of 2012, H.R. 6106, 112th Cong. § 7(a)(1)(C) (2012).

### 3. The Forensic Science Advisory Committee

The NIST, in conjunction with the NSF and the Attorney General, oversees a Forensic Science Advisory Committee to advise federal departments, agencies, and offices.<sup>52</sup> The Advisory Committee's role is to advise the NIST and federal departments, including the Department of Justice.<sup>53</sup> The Committee employs an inter-disciplinary approach by representing both the forensic science disciplines and the fields that apply forensic science.<sup>54</sup>

To achieve these ends, the Director of the NIST is given free reign to establish working groups to “identify gaps, areas of need, and opportunities for standards development.”<sup>55</sup> The Act grants the Institute a budget of \$5 million for 2014, \$12 million for 2015, \$20 million for 2016, \$27 million for 2017, and \$35 million for 2018.<sup>56</sup>

#### *D. The Attorney General's Role*

The Attorney General is given meek enforcement powers under the Act. He must require federal forensic laboratories to adopt the forensic standards developed under the Act.<sup>57</sup> Yet he is only required to “encourage” non-federal labs to adopt these standards.<sup>58</sup> He also must “promote” certification and accreditation standards.<sup>59</sup>

### III. GOOD THINGS ABOUT THE LEGISLATION

Although the FSSA's broad brushstrokes deprive it of any real force, its attention-raising agenda is significant. It does this by: 1) identifying the need for research; 2) creating research centers; and 3) underscoring the need to adopt standards.

#### *A. Identifying the Need for Research: A “Serious Problem”*

The NAS Report characterized the current research situation

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<sup>52</sup> H.R. 3064 § 8(a)–(b).

<sup>53</sup> *Id.* § 8(b)(1)–(3).

<sup>54</sup> *Id.* § 8(e).

<sup>55</sup> *Id.* § 7(b)(1).

<sup>56</sup> *Id.* § 7(c).

<sup>57</sup> *Id.* § 9(1)(A).

<sup>58</sup> *Id.* § 9(1)(B).

<sup>59</sup> *Id.* § 9(2).

in forensic science as a “serious problem.”<sup>60</sup> The Report noted that although some research has been conducted in some disciplines, “[t]he simple reality is that the interpretation of forensic evidence is not always based on scientific studies to determine its validity.”<sup>61</sup> Many forensic evidence disciplines lack significant peer-reviewed research of the scientific bases and validity of the forensic methods.<sup>62</sup> Fingerprint identification is one such discipline where “sufficient data on the diagnosticity and reliability . . . do not exist . . . .”<sup>63</sup>

Unfortunately, not much has changed since the 2009 report revealed the dearth of research in the forensic sciences. As Paul Giannelli notes, the very government agencies tasked with research in the forensic sciences have manipulated their craft in the areas of DNA profiling, fingerprint analysis, and bullet lead analysis.<sup>64</sup> These scholarly shortcomings, he posits, may be attributable to tight budgets and a lack of training.<sup>65</sup> The FSSA therefore puts into the mind of legislators what scholars have known for years. Even if the bill never becomes law, legislators are now aware of the profound—and potentially dangerous—absence of peer-reviewed research in the forensic sciences.

### B. *Creating Research Centers*

Many of the issues with forensic science research stems from its lack of independence: any facility with a research capacity is often housed within the law enforcement agencies that

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<sup>60</sup> NAS REPORT, *supra* note 1, at 8.

<sup>61</sup> *Id.*

<sup>62</sup> *Id.*

<sup>63</sup> Jonathan J. Koehler, *Fingerprint Error Rates and Proficiency Tests: What They Are and Why They Matter*, 59 HASTINGS L.J. 1077, 1079 (2008).

<sup>64</sup> Paul C. Giannelli, *Daubert and Forensic Science: The Pitfalls of Law Enforcement Control of Scientific Research*, 2011 U. ILL. L. REV. 53, 57 (2011).

<sup>65</sup> Paul C. Giannelli, *Forensic Science: Why No Research?*, 38 FORDHAM URB. L.J. 503, 516 (2010). Justice Scalia observed how unsatisfactory training makes its way from the crime lab to the witness stand. In *Melendez-Diaz v. Massachusetts*, he noted that forensic science isn’t perfect, but that some of its shortfalls could be remedied through cross-examination. See *Melendez-Diaz v. Massachusetts*, 129 S.Ct. 2527, 2536 (2009). Scalia noted that, for example, an analyst with insufficient training could be confronted on the stand. *Id.* at 2537. Scalia did not take note of the fact that when such insufficient training is the norm, a jury would not likely be persuaded to discredit that expert’s testimony. *Id.* at 2538 (“Contrary to respondent’s and the dissent’s suggestion, there is little reason to believe that confrontation will be useless in testing analysts’ honesty, proficiency, and methodology—the features that are commonly the focus in the cross-examination of experts.”).

exacerbate the problems with forensic methodologies, analysis, and reporting.<sup>66</sup> The NAS Report concluded that these law enforcement agencies are “too wedded’ to the status quo” to make good candidates for carrying out a research agenda.<sup>67</sup> Indeed, the creation of funded, independent agencies to conduct forensic research may be the only way to bolster scholarly research in the field.

The legislation is therefore commendable for its creation of independent research centers that will promote education and broadly disseminate the results of their efforts.<sup>68</sup> The NAS Report reviled the forensic sciences for the absence of Ph.D. and Master’s degree programs.<sup>69</sup> Although the legislation does not specifically detail how these research centers will improve forensic science education,<sup>70</sup> it is undoubtedly a start in an area of work in which the apprenticeship system has been the educational norm.<sup>71</sup> Unfortunately, a \$190 million grant for four years may not be enough to establish the state-of-the-art research centers the FSSA contemplates.<sup>72</sup>

### C. *Emphasizing the Need to Adopt Standards*

The lack of standards has far-reaching effects. The NAS Report notes that forensic science training programs have no uniform

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<sup>66</sup> See Giannelli, *supra* note 64, at 56 (discussing the NAS report’s recommendation for the creation of an independent agency in order for the DOJ to properly accomplish its obligation of improving forensic science, since many of the federal agencies are too rooted in the status quo of things, and thus are “not good candidates to oversee the overhaul of the forensic science community).

<sup>67</sup> *Id.*

<sup>68</sup> Forensic Science and Standards Act of 2013, H.R. 3064, 113th Cong. § 5(c)(1)(C)–(D) (2013).

<sup>69</sup> See NAS REPORT, *supra* note 1, at 223; see also Mnookin et al., *supra* note 28, at 764 (noting the small number of individuals with Ph.D.s in the identification fields).

<sup>70</sup> See H.R. 3064 § 5(c)(1)–(3).

<sup>71</sup> NAS REPORT, *supra* note 1, at 26–27. The fingerprint community, for example, continues to herald apprenticeships as the best way to learn the trade. *Id.* at 140. Only by spending time with a seasoned fingerprint analyst, they argue, can an individual learn to identify rarities in fingerprints. *Id.*

<sup>72</sup> The Department of Defense’s four Centers of Excellence—institutions that research and treat health issues in veterans—operated at a budget of \$24 million in 2011 alone. DEF. HEALTH PROGRAM, FISCAL YEAR (FY) 2013 BUDGET ESTIMATES 1 (2012), available at [http://comptroller.defense.gov/defbudget/fy2013/budget\\_justification/pdfs/09\\_Defense\\_Health\\_Program/VOL\\_II/Vol\\_II-Sec\\_3G\\_R-2\\_RDTE\\_Program\\_Element\\_0603115\\_DHP\\_PB13.pdf](http://comptroller.defense.gov/defbudget/fy2013/budget_justification/pdfs/09_Defense_Health_Program/VOL_II/Vol_II-Sec_3G_R-2_RDTE_Program_Element_0603115_DHP_PB13.pdf).

standards, leading to uncertainty in both quality and relevance.<sup>73</sup> Moreover, there is no consistent standard for granting accreditation to crime labs.<sup>74</sup> And, even if those crime labs were uniformly accredited, there is no standard “language” for reporting results.<sup>75</sup> A “negative” fingerprint analysis, for example, could mean, “excluded,” “inconclusive,” or “unable to locate,” depending on the agency or individual conducting the analysis.<sup>76</sup> Similarly, reporting standards differ from laboratory to laboratory. Reports span from detailed accounts of tests and protocols performed to brief conclusory statements discussing only the results.<sup>77</sup>

The FSSA commendably attempts to tackle each of these shortcomings. First, it mandates standards for measurements, analysis, and interpretation.<sup>78</sup> This standardization would ensure that labs are uniform in their determination of what results mean. Second, it requires standardization in the products and services used by forensic scientists.<sup>79</sup> Such standardization would address the disparities that arise when labs employ different or obsolete equipment.<sup>80</sup> Lastly, the FSSA standardizes content, terminology, and parameters.<sup>81</sup> This would eliminate the need for juries and courts to muddle through translating a report with each new case.

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<sup>73</sup> NAS REPORT, *supra* note 1, at 237.

<sup>74</sup> *Id.* at 6.

<sup>75</sup> *Id.* at 21.

<sup>76</sup> *Id.* at 141. Similarly, a jury can hear terms describing a positive relationship between two samples—e.g., “match,” “consistent with,” “are identical,” “likely match”—without understanding what the terms really mean. *Id.* at 21. The NAS Report also states that such terms have “a profound effect on how the trier of fact in a criminal or civil matter perceives and evaluates scientific evidence.” *Id.* The Report does not say the jury hears without understanding, or that they could do so.

<sup>77</sup> *See id.* at 21 (explaining that although laboratory reports should be comprehensive, many times reports contain only simplified information).

<sup>78</sup> Forensic Science and Standards Act of 2013, H.R. 3064, 113th Cong. § (7)(a)(1)(B)(i) (2013).

<sup>79</sup> *Id.* § (7)(a)(1)(B)(ii).

<sup>80</sup> *See* NAS REPORT, *supra* note 1, at 6 (noting that under-funded crime labs are in dire need of up-to-date equipment and this necessarily leads to inconsistencies in results). Further, insufficient equipment maintenance is also a common problem facing labs. *Id.* at 59. Even the FBI lab, which holds itself out as using “cutting-edge science,” reported a need for upgraded equipment. *See id.* at 66 (noting the FBI’s request for additional equipment in 2004 to relieve their backlog of fingerprint analyses); *Laboratory Services*, FED. BUREAU OF INVESTIGATION, <http://www.fbi.gov/about-us/lab> (last visited Nov. 18, 2012).

<sup>81</sup> H.R. 3064 § (7)(a)(1)(B)(iii).

## IV. AREAS FOR IMPROVEMENT

The FSSA is rife with good ideas that need to be fine-tuned before they will have any positive impact on the forensic sciences. The FSSA can be improved in the areas of research, standards, and funding.

A. *The Research Agenda Lacks Direction*

## 1. The “Unified Federal Research Strategy” Is Consistent Only In Its Lack of Clarity

At the core of the FSSA is its repeated reference to a “unified federal research strategy” created by the Coordinating Office.<sup>82</sup> Although the FSSA explains that the federal research strategy should contain a roadmap for the next several years, it fails to specify precisely what the research strategy does. It is unclear whether the research strategy is an aspirational guiding principle or the conclusions of a concrete group of individuals setting research goals. The methods of implementation are also unclear. For example, the research strategy could be intended only for the research centers created under the Act,<sup>83</sup> or it could be a research agenda meant to apply nation-wide.

## 2. More Specificity for the Federal Research Centers

While the forensic research centers are granted existence by the FSSA,<sup>84</sup> where they exist is unclear. The centers are also required to “broadly disseminate” the results of their research efforts, but where and how they do this is a mystery.<sup>85</sup> Broad dissemination could be as simple as posting results on a website, as labor-intensive as publication in a scholarly journal, or as far-reaching as a new scholarly journal created specifically for publishing their results.

Similarly, there is no indication of who runs the research centers. Under the FSSA, each center could have its own director, or there could be one director overseeing all of the facilities.<sup>86</sup> Additionally, the FSSA is silent as to how a director is

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<sup>82</sup> *Id.* §§ 2(4), 4(c)(2)(A), 5(a), 6(a)(1), 8(b)(1).

<sup>83</sup> *Id.* § 5(c).

<sup>84</sup> *Id.*

<sup>85</sup> *Id.* § 5(c)(1)(D).

<sup>86</sup> *See* H.R. 3064 (providing no instruction regarding director assignments).

chosen.<sup>87</sup> In order for the research centers to attain success, they will require more specific direction.

### B. *The NIST's Role Is Unclear*

Undoubtedly, the lack of uniformity in laboratory equipment, procedures, and reporting must come to an end—and fast. The FSSA attempts to do this, but fails for lack of specificity. For example, the 2012 version of the Act required NIST to consult with testing laboratories and accreditation bodies to ensure that products and services meet “necessary performance levels.”<sup>88</sup> There is nothing mandating what these “necessary performance levels” are or how they are determined.<sup>89</sup> This is particularly troubling considering that the NAS Report outlined elements of a good accreditation program.<sup>90</sup>

Beyond its consultation requirement, NIST's role is murky. It is tasked with identifying *or* coordinating forensic science standards, meaning that it is not required to do both.<sup>91</sup> Similarly, the NIST is required to consult with “standards development organizations,”<sup>92</sup> but it is unclear who these organizations are, especially given the fact that the NIST itself is the preeminent standard-developing organization in the country.

### C. *The Money is Nonexistent or Unrealistic*

The 2012 version of the Act provided that the Forensic Science Research Program would operate at a budget of \$34 million for

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<sup>87</sup> *See id.* (providing no instruction regarding how a director is chosen).

<sup>88</sup> Forensic Science and Standards Act of 2012, H.R. 6106, 112th Cong. § 7(a)(2)(A)(ii) (2012).

<sup>89</sup> *See id.* § 3 (providing no definition of “necessary performance levels”).

<sup>90</sup> NAS REPORT, *supra* note 1, at 195. An accreditation program should include: “a national organization that can mediate the accreditation process; an application process with criteria by which organizations are eligible to apply; a process of self-evaluation; an external evaluation process, including site visits by external evaluators; an appeals process; a repeat cycle of evaluation and external evaluation; and a set of standards by which entities can be evaluated” and continuing education requirements. *Id.*

<sup>91</sup> H.R. 3064 § 7(a)(1)(B).

<sup>92</sup> *Id.* § 7(a)(2)(A)(i); *see also National Technology Transfer and Advancement Act*, NAT'L INST. OF STANDARDS & TECH., <http://gsi.nist.gov/global/index.cfm/L1-3/L2-6/A-166> (last visited Oct. 31, 2013) (discussing the directive of the NIST to “bring together federal agencies as well as state and local governments to achieve greater reliance on voluntary standards and decreased dependence on in-house standards.”).

fiscal year 2014 and increase by \$3 million each year until 2018.<sup>93</sup> This would have placed the budget at \$40 million for fiscal year 2016.<sup>94</sup> Under the 2012 Act, the forensic science research centers were each granted an award of \$10 million, for \$20 million total for the research centers.<sup>95</sup> These figures may have been unrealistic, but they were at least clear. The current version of the Act provides generally the same appropriations to “carry out this section.”<sup>96</sup> “This section,” in turn refers to both the NSF research grants program and the Forensic Science Research Centers.<sup>97</sup> The legislation lacks focus in its failure to appropriate those sums between the Forensic Science Research Centers and the grant program.

Under the 2013 version of the Act, NIST is granted a budget of \$5 million for 2014, \$12 million for 2015, \$20 million for 2016, \$27 million for 2017, and \$35 million for 2018.<sup>98</sup> Thus, for fiscal year 2014, the FSSA would demand Congress appropriate roughly \$99 million total.<sup>99</sup> The failed National Forensic Science Commission in 2004 was budgeted \$500,000 each year—or only 15% of the budget for the Forensic Science Research Program alone.<sup>100</sup> Given the current financial crisis, sequestration-induced panic, and lack of communication across the aisle in Congress, it is highly unlikely that the FSSA will pass.<sup>101</sup>

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<sup>93</sup> H.R. 3064, 113th Cong. § 5(e)(1)–(5).

<sup>94</sup> *Id.* § 5(e)(3).

<sup>95</sup> H.R. 6106, 112th Cong. § 5(d)(2)(C) (2012); *see id.* § 5(d)(1) (asserting that the “Director of the National Science Foundation shall establish 2 forensic science research centers”).

<sup>96</sup> H.R. 3064 § 5(e).

<sup>97</sup> *Id.* § 5.

<sup>98</sup> H.R. 3064 § 7(c)(1)–(5).

<sup>99</sup> The 2013 FSSA states that the combined budget for the NIST and NSF will be \$39 million dollars. *Id.* §§ 5(e)(1), 7(c)(1). The 2012 FSSA states implies that the research centers may receive grants up to \$20 million dollars. H.R. 6106 §§ 5(d)(1), 5(d)(2)(C).

<sup>100</sup> 42 U.S.C. § 14136c(d) (2004).

<sup>101</sup> The 112th Congress was historically deadlocked. *See* Juan Williams, *Opinion: Continuing Deadlock in Congress May Boost State Power*, THE HILL (Jan. 9, 2012 10:20 AM), <http://thehill.com/opinion/columnists/juan-williams/202995-opinion-continuing-deadlock-in-congress-may-boost-state-power> (providing an overview of the various political agendas on which the Democratic majority in the Senate and Republican majority in the House were “icily] divide[d]” on). Similarly, there is not much more hope for 113th Congress, either. *See* Jonathan Weisman, *In Congress, Gridlock and Harsh Consequences*, N.Y. TIMES, (July 7, 2013), <http://www.nytimes.com/2013/07/08/us/politics/in-congress-gridlock-and-harsh-consequences.html?pagewanted=all> (“Even in some of the worst years of partisan gridlock, a deadline has meant

## V. TRIMMING THE SEVEN-HEADED HYDRA

Although the FSSA makes some laudable changes, in several areas it completely misses the mark. At bottom, it is overbroad and has too many branches. Further, without a strong enforcement mechanism, it has no teeth.

A. *The Legislation Has Too Many Tentacles*

The NAS Report's cardinal recommendation was the creation of a National Institute of Forensic Science (NIFS), a single forensic science entity to promote an "aggressive, long-term agenda to help strengthen the forensic science disciplines."<sup>102</sup> The NIFS would be responsible for overseeing research and determining standards.<sup>103</sup> Nowhere did the NAS Report envision the creation of multiple organizations to achieve better forensic science.<sup>104</sup>

The legislation takes an ax to the NAS Report's streamlined approach and instead splinters it into four main areas.<sup>105</sup> First, the NIST manages the Coordinating Office,<sup>106</sup> which is tasked with developing the unified research strategy and its corresponding roadmap.<sup>107</sup> Second, the NIST heads up identifying or coordinating standards,<sup>108</sup> holding working groups at its discretion,<sup>109</sup> and consulting with stakeholders.<sup>110</sup> Third, the NIST, in conjunction with the NSF and the Attorney General, oversees the Forensic Science Advisory Committee.<sup>111</sup> The Committee must advise the NIST, federal departments, and the DOJ.<sup>112</sup> Fourth, the NSF manages the forensic grants program.<sup>113</sup> Lastly, the Attorney General promotes the adoption of standards

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something to Congress—until 2013. Drop-dead dates have come and gone this year, causing real-world consequences.”).

<sup>102</sup> NAS REPORT, *supra* note 1, at 16.

<sup>103</sup> *Id.* at 189–90.

<sup>104</sup> *See id.* at 77–83 (providing recommendations on ways to change the forensic science system, which do not include creating multiple organizations).

<sup>105</sup> H.R. 3064, 113th Cong. § 4(c)(1)–(4).

<sup>106</sup> *Id.* § 4(c)(1).

<sup>107</sup> *Id.* § 4(c)(2).

<sup>108</sup> *Id.* § 7(a)(1)(B).

<sup>109</sup> *Id.* § 7(b)(1).

<sup>110</sup> *Id.* § 7(a)(2)(A)(i).

<sup>111</sup> *Id.* § 8(a).

<sup>112</sup> *Id.* § 8(b)(1)–(3).

<sup>113</sup> *Id.* § 5(a).

developed by the NIST.<sup>114</sup> Creating multiple entities achieves exactly what the NAS Report warns against.<sup>115</sup> In discussing existing forensic science agencies the NAS Report noted that “it is not clear how these [professional] associations interact or the extent to which they share requirements, standards, or policies. Thus, there is a need for more consistent and harmonized requirements.”<sup>116</sup>

This question of interaction is precisely what is at issue with the FSSA. Its agencies and sub-agencies do not seem to have adequate means of communication. For example, there is no method by which the NIST is required to communicate its efforts to improve standardization to the NSF and its research facilities, which, as preeminent research bodies, would employ the standards the NIST creates.<sup>117</sup> It is unclear exactly what the Forensic Science Advisory Committee is advising about, or where they gather their information. And, with so many different organizations all attempting to reform forensic science, there is bound to be overlap and inefficiency.

*B. The Legislation Was Not Written  
From The Correct Perspective*

The FSSA is not written through the lens of admissibility and the realities of the criminal justice system. Forensic reform must bear in mind the judges and juries who will analyze and assess the information presented to them. In doing so, reformers must keep in mind that the judiciary is infamously opposed to change. As Jane Moriarty posits, even when science is clearly inadequate, judges have been so unwilling to rigorously examine forensic science evidence, because they are too set in their ways and “cannot seem to imagine” excluding evidence that commonly comes in.<sup>118</sup> In one case, where defense counsel challenged his

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<sup>114</sup> *Id.* § 9(1).

<sup>115</sup> See NAS REPORT, *supra* note 1, at 15–16 (stating that “[t]he forensic science enterprise also is hindered by its extreme disaggregation . . . . The fragmented nature of the enterprise raises the worrisome prospect that the quality of evidence . . . and its interpretation, can vary unpredictably according to jurisdiction.”).

<sup>116</sup> *Id.* at 16.

<sup>117</sup> See *generally id.* at 15–16 (describing the lack of uniformity between forensic organizations including methods of practice, professionalism, and education).

<sup>118</sup> Jane Campbell Moriarty, *Will History Be Servitude?: The NAS Report on Forensic Science and the Role of the Judiciary*, 2010 UTAH L. REV. 299, 300–10

client's conviction based on the NAS Report's condemnation of the validity of the science, the judge reasoned that the NAS Report "merely presents a general picture of the current processes and pitfalls of toolmark identification and identifies possible methods of improvement."<sup>119</sup> Other judges have noted that the NAS Report's recommendations are important, but have still refused to consider them.<sup>120</sup>

Any forensic science legislation needs to address the reality that courts are particularly resistant to change. Because *Daubert v. Merrell Dow Pharmaceuticals, Inc.* requires judges to act as gatekeepers, admitting "good science" into their courtrooms and turning away everything else,<sup>121</sup> forensic legislation should encourage the dissemination of forensic research to the judiciary in terms non-scientists can understand. Without judges grasping the faulty validity of many of the forensic sciences, they will continue to allow such evidence to be heard at trial.

### C. *The Legislation Allows The Coroner System To Remain Alive and Well*

There is no uniform method for investigating deaths in the United States. Individual state statutes determine whether a medical examiner or coroner investigates.<sup>122</sup> The coroner system refers to an antiquated practice in which officials would collect items after a death for the benefit of the crown.<sup>123</sup> Today, coroners are elected officials whose duties may range from administration to performing autopsies.<sup>124</sup> They need not be physicians and are required only to pass an exam (which varies depending on the jurisdiction).<sup>125</sup> On the other hand, medical

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(2010).

<sup>119</sup> *In re Trapp*, 165 Wash. App. 1003, 1006 (Wash. Ct. App. 2011) (No. 65393-8-1).

<sup>120</sup> *See, e.g., Commonwealth v. Gambora*, 933 N.E.2d 50, 60 (Mass. 2010) ("[T]he issues highlighted in the NAS report are important, and deserve consideration. Nevertheless, we do not take such consideration in this case.").

<sup>121</sup> *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 589-90 (1993) ("[U]nder the [Federal] Rules [of Evidence] the trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable.").

<sup>122</sup> NAS REPORT, *supra* note 1, at 243.

<sup>123</sup> *See generally id.* at 241 (discussing the history behind the occupation of coroner).

<sup>124</sup> *Id.* at 247.

<sup>125</sup> *Id.* Recently, a seventeen-year high school graduate passed the coroner exam and was subsequently elected to a corner position in Indiana. *Id.*; *see also*

examiners are almost always physicians.<sup>126</sup> Unlike coroners, they are appointed and are often pathologists.<sup>127</sup>

The NAS Report unequivocally calls for the abolition of the coroner system.<sup>128</sup> As the Report notes, efforts to eliminate the coroner system date back to the 1920s.<sup>129</sup> Although the FSSA contains a wish list of improvements in the forensic sciences, mandating a shift to medical examiner systems nation-wide is not on it.<sup>130</sup>

#### *D. The Legislation is Toothless*

No legislation is effective if it cannot be enforced. The FSSA's enforcement power lies with the Attorney General and requires federal labs to adopt the standards promulgated under the act.<sup>131</sup> But with regards to state-run crime labs the legislation loses its teeth; the Attorney General must only "encourage" adoption of standards, but is not required to do so.<sup>132</sup> Thus, the Attorney General functions more as a cheerleader and less as a cop.

Moreover, it is not the federal crime labs that need the most help.<sup>133</sup> Recent non-federal crime lab scandals underscore the urgent need for standardization and oversight. In 2008, Detroit shut down its crime lab when an audit revealed errors in ten percent of cases.<sup>134</sup> In 2010, an audit revealed that lab

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Lindsey Davis, *Amanda Barnett, Indiana's Youngest Death Investigator*, <http://www.wthr.com/story/6534514/amanda-barnett-indianas-youngest-death-investigator?redirected=true> (last visited Nov. 6, 2013) (article on the high school graduate who become a coroner).

<sup>126</sup> NAS REPORT, *supra* note 1, at 248.

<sup>127</sup> *Id.*

<sup>128</sup> *Id.* at 251.

<sup>129</sup> *See id.* at 242 (discussing recommendations by the 1928 National Research Council's Committee on Medical Legal Problems, one being the abolishment of the coroner system).

<sup>130</sup> Forensic Science and Standards Act of 2013, H.R. 3064, 113th Cong. (2013).

<sup>131</sup> *Id.* § 9(1)(A).

<sup>132</sup> *Id.* § 9(1)(B).

<sup>133</sup> Although federal crime labs are not perfect, they historically are more willing to self-police. The FBI, in conjunction with the Department of Justice recently undertook a review of thousands of cases. *See* Spencer S. Hsu, *Justice Dept., FBI to Review Use of Forensic Evidence in Thousands of Cases*, WASH. POST (July 10, 2012), [http://articles.washingtonpost.com/2012-07-10/local/35488079\\_1\\_new-review-fbi-laboratory-historical-cases](http://articles.washingtonpost.com/2012-07-10/local/35488079_1_new-review-fbi-laboratory-historical-cases) (article on FBI's review of thousands of criminal cases); Reimer, *supra* note 16.

<sup>134</sup> *Error-Prone Detroit Crime Lab Shuts Down*, USATODAY (last updated Sept. 25, 2008, 10:34 PM), [http://usatoday30.usatoday.com/news/nation/2008-09-25-crime-lab\\_N.htm](http://usatoday30.usatoday.com/news/nation/2008-09-25-crime-lab_N.htm). In response to the crime lab's scandal, a Detroit

technicians in a North Carolina lab provided false or misleading results in 190 murder or other serious cases.<sup>135</sup> In 2011, New York shut down a state crime lab after an investigation proved that the lab had engaged in flawed testing for MDMA (more commonly known as ecstasy)<sup>136</sup> triggering the review of 9,000 cases. Authorities were aware of issues with the crime lab as far back as 2008.<sup>137</sup> Just last year, a Massachusetts crime lab experienced scandal when Annie Dookhan, a chemist who was responsible for the lab's quality control,<sup>138</sup> tampered with 60,000 drug samples used in criminal cases.<sup>139</sup> Her gaffe implicated over thirty thousand defendants<sup>140</sup> and as many as two hundred cases, which federal officials now must review.<sup>141</sup>

The need for standard protocol and oversight in state-run crime labs has never been more apparent. Yet despite the media storm surrounding these recent crime lab scandals, the FSSA fails to grasp the urgency of the situation.

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prosecutor said, "As prosecutors, we completely rely on the findings of police crime lab experts every day in court, and we present this information to our juries. . . . [W]hen there are failures of this magnitude, there is a complete betrayal of trust. We feel betrayed, as prosecutors." *Id.*

<sup>135</sup> John Rudolf, *Scandal-Plagued North Carolina Crime Lab Sued by Exonerated Man*, HUFFPOST CRIME, [http://www.huffingtonpost.com/2011/06/30/north-carolina-crime-lab\\_n\\_887516.html](http://www.huffingtonpost.com/2011/06/30/north-carolina-crime-lab_n_887516.html) (last updated Aug. 30, 2011, 6:12 AM).

<sup>136</sup> ELLEN N. BIBEN, STATE OF N.Y.—OFFICE OF THE INSPECTOR GEN., INVESTIGATION INTO THE NASSAU COUNTY POLICE DEPARTMENT FORENSIC EVIDENCE BUREAU 1 (2011), *available at* <http://www.ig.state.ny.us/pdfs/Investigation%20into%20the%20Nassau%20County%20Police%20Department%20Forensic%20Evidence%20Bureau.pdf>.

<sup>137</sup> *See* BIBEN, *supra* note 134, at 143 (the Inspector General and his team reviewed the lab paperwork for negative controls for the years 2007–2009, and found blank cases for each year).

<sup>138</sup> Denise Lavoie, *Lawyers Expect Appeals in Mass. Crime Lab Case*, BOSTON.COM (Sept. 13, 2012), <http://www.boston.com/news/local/massachusetts/2012/09/13/lawyers-expect-appeals-mass-crime-lab-case/o7pkRZOdv1rakZ6ScYAkYP/story.html>.

<sup>139</sup> Conor Berry, *Mass. Crime Lab Scandal: Annie Dookhan, Former Chemist Accused of Tampering With Drug Evidence, Admits She "Screwed Up Big Time"*, THE REPUBLICAN (Sept. 27, 2012, 12:25 P.M.), [http://www.masslive.com/news/index.ssf/2012/09/annie\\_dookhan\\_former\\_state\\_che.html](http://www.masslive.com/news/index.ssf/2012/09/annie_dookhan_former_state_che.html) (last updated Sept. 27, 2012 12:39 PM).

<sup>140</sup> *Id.*

<sup>141</sup> Milton J. Valencia, *Top Judge: Mass. Crime Lab Scandal Could Have Substantial Impact on Cases in Federal Court in Boston*, BOSTON.COM (Oct. 11, 2012), <http://www.boston.com/metrodesk/2012/10/11/top-judge-mass-crime-lab-scandal-could-have-substantial-impact-cases-federal-court-boston/d676gzECY2t6rTFXb6D86H/story.html>.

## VI. CONCLUSION

The practice of forensic sciences in the United States can be a lawless land. There are few consistent rules, and even then there is no unified policing body to enforce them. The FSSA fails to reign in this wild west of forensic science. Making the Attorney General's enforcement role permissive rather than mandatory undermines everything else the statute achieves.

Nevertheless, forensic science legislation is not doomed to fail. Although effective reform will be expensive, it also has historically emerged on both Republican and Democratic agendas.<sup>142</sup> Legislative reform of the forensic sciences dates back to 1967, when President Lyndon Johnson's Crime Commission's work noted that "the great majority of police department laboratories have only minimal equipment and lack highly skilled personnel able to use the modern equipment now being developed."<sup>143</sup> In the 1970s, President Nixon created a crime lab commission that noted the same problems persisted.<sup>144</sup> In 2003, George W. Bush proposed a multi-disciplinary Forensic Science Commission to tackle these lingering issues.<sup>145</sup> Thus the political will for forensic science reform has existed on both sides of the aisle. Nevertheless, in 2013, over forty years after Lyndon Johnson's initial call for reform, the system remains broken.

Ultimately, we can do better. Future legislation should adopt the NAS Report's call for a centralized entity to improve efficiency, foster communication, and unify oversight. Forensic science legislation should bring all crime labs—not just federal ones—up to par. This effort should include tying federal funding to accreditation and the adoption of uniform standards.

Such an arrangement does not run afoul of constitutional requirements. The Supreme Court case *South Dakota v. Dole* is instructive. In that case, a federal law directed the Secretary of Transportation to withhold a percentage of highways funds from states that allowed the sale of alcohol to individuals under twenty-one.<sup>146</sup> The Supreme Court upheld the act and articulated

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<sup>142</sup> See generally Melson, *supra* note 24, at 199 (quoting PRESIDENT'S COMM'N ON LAW ENFORCEMENT & ADMIN. OF JUSTICE, THE CHALLENGE OF CRIME IN A FREE SOCIETY 255 (1967)).

<sup>143</sup> *Id.*

<sup>144</sup> *Id.*

<sup>145</sup> *Id.* at 200. The Commission was created as part of President Bush's "Advancing Justice Through DNA Technology," but never received funding. *Id.*

<sup>146</sup> *South Dakota v. Dole*, 483 U.S. 203, 203 (1987).

a test to determine whether such conditions are constitutional, focusing its inquiry on whether the condition promotes the general welfare and is reasonably related to a federal interest.<sup>147</sup> The Court laid out four restrictions: 1) any such “exercise of the spending power must be in pursuit of ‘the general welfare’”; 2) Congress must make its conditions on federal funds unambiguously; 3) any condition must relate “to the federal interest in particular national projects or programs”; and 4) no other constitutional provisions may create independent bars to Congress’s conditional grants.<sup>148</sup>

Given these constitutional parameters, conditioning federal funding for crime labs on the adoption of standards should present no challenge. The federal government has a well-settled interest in the preservation of human life.<sup>149</sup> Relatedly, convictions based on faulty forensics, which in some cases have led to the wrongful invocation of the death penalty, can be attributed to dysfunctional and unregulated crime labs.<sup>150</sup> Improving crime labs would directly correlate with keeping innocent defendants out of jail and, in some cases, alive.

There would also be an economic interest in conditioning federal funding on standardization. Elevating crime labs to acceptable standards would shield them from scandal and, in turn, make the forensic sciences a more attractive career choice. The second element—making the condition unambiguous—would be easily met with good drafting. Third, the restriction must relate to the federal interest. Here, the federal interest is not only the preservation of human life, but also improving the forensic sciences, which is clearly related to mandating forensic lab standards. Lastly, the legislation would not violate other constitutional provisions.

The number of individuals convicted based on false evidence is staggering.<sup>151</sup> Legislation needs to swiftly address this problem.

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<sup>147</sup> *Id.* at 206–08.

<sup>148</sup> *Id.* at 207–08.

<sup>149</sup> *See, e.g.*, *Cruzan v. Dir., Mo. Dep’t of Health*, 497 U.S. 261, 262 (1990) (noting that states have a legitimate interest in human life.)

<sup>150</sup> Mark Hanson, *Crime Labs Under the Microscope After a String of Shoddy, Suspect and Fraudulent Results*, ABA JOURNAL (Sept. 1, 2013, 4:20 AM), [http://www.abajournal.com/magazine/article/crime\\_labs\\_under\\_the\\_microscope\\_after\\_a\\_string\\_of\\_shoddy\\_suspect\\_and\\_fraudu/?utm\\_medium=email&utm\\_campaign=weekly\\_email&utm\\_source=maestro&sc\\_cid=130904BJ](http://www.abajournal.com/magazine/article/crime_labs_under_the_microscope_after_a_string_of_shoddy_suspect_and_fraudu/?utm_medium=email&utm_campaign=weekly_email&utm_source=maestro&sc_cid=130904BJ).

<sup>151</sup> *See, e.g.*, Garrett & Neufeld, *supra* note 4 (finding in their study on forensic testimony by prosecution experts in the trials of innocent persons, that

2014]

## REIGNING IN THE WILD WEST

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One of the FSSA's main downfalls is that it tries to accomplish too much. Legislation should prioritize to effectively accomplish its goals. Accepting the assumption that passing a wish list like the FSSA is unrealistic, Congress should focus on the following areas. First, it should require the NIST to establish standards that should be applied to all crime labs, whether state or federal. Second, it should condition federal funding for crime labs on accreditation and the adoption of those standards. In a time when crimes increasingly cross state, and even national, lines, standardization is all the more relevant. Only when all crime labs speak the same language, use the same methodologies and protocols, and all defendants know that their conviction would hold true regardless of the state in which the crime happened to occur, can we begin to reign in the wild west of forensic science.

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60% of those cases included invalid testimony by a forensic expert). For a list of individuals who have been exonerated—many after serving long-term prison sentences, see *Featured Exonerations Archive*, THE NAT'L REGISTRY OF EXONERATIONS, <http://www.law.umich.edu/special/exoneration/Pages/featured.aspx> (last visited Nov. 20, 2012).