

**SENATE STATE AND LOCAL GOVERNMENT COMMITTEE
SENATOR KRISTEN ROERS, CHAIR**

January 12, 2023
11:00 a.m. Room 216

**JUSTIN VINJE, ATTORNEY AT LAW
PRESENTING TESTIMONY IN OPPOSITION TO SB 2131**

Madam Chair and members of the Senate State and Local Government Committee, my name is Justin Vinje, and I live in District 30. I am an attorney in Bismarck, where I have practiced law for the past 17 years. I primarily represent defendants in the criminal justice system. However, I also work closely with law enforcement and am an attorney for the Fraternal Order of Police. I previously served as president of the North Dakota Association of Criminal Defense Lawyers and as a member of the North Dakota Commission on Legal Counsel for Indigents, where I served as chair for six years.

I testify on my own behalf today, and I oppose SB 2131, which is specifically intended to allow the North Dakota Bureau of Criminal Investigation to run the North Dakota Crime Lab. This proposal is a step backwards for our state, subjecting the Crime Lab's work to unnecessary criticism, real and perceived, while doing nothing to fix the core issue that we all know about—funding. Put simply, this bill will make it harder for prosecutors to prove their cases in court, cast doubt upon criminal convictions decades after trial, and cost every single one of us tax dollars and time dealing with completely avoidable problems.

Forensic evidence is simply evidence to be used in court. Evaluation of forensic evidence relies a great deal on human perception and decision-making. For instance, forensic laboratories evaluate fingerprints, DNA samples, impressions (such as those made from a shoe or tire), firearms, and handwriting, to name just a few disciplines. Every forensic evaluation involves an element of subjective inference, or opinion, by the forensic scientist. When a forensic laboratory is not independent, the scientist's results can be swayed by workplace bias, a desire for promotion (and to avoid demotion), and even direct influence by law enforcement or prosecuting attorneys. These problems are real, and they are discussed in specific detail in the articles attached to my testimony.

Let me offer some real-world examples. Joyce Gilchrist was a forensic scientist at the Oklahoma City Crime Laboratory. At least 1,200 cases spanning a period of twenty years had to be re-examined because she threw science to wayside in the pursuit of criminal convictions. This all happened in a lab directed by law enforcement. Do a Google search for her name. The Joyce Gilchrist I am speaking to you about is the number one result. She is disgraced for all time, and that disgrace will continue to haunt her lab and the Oklahoma City justice system for many years to come. People do not forget.

Similarly, 179 criminal convictions were overturned because of work done by the Houston Crime Lab, another lab directed by law enforcement. An audit found that the Houston Crime Lab analysts skewed their reports to fit police theories and ignored results that conflicted with police

expectations. In 2014, the City of Houston took the lab from law enforcement and placed it under the control of an independent board. The list goes on.

Let's think about this for a moment. Our late Attorney General, Wayne Stenehjem, had the foresight to require separation of crime labs from law enforcement—the very language that SB 2131 seeks to erase—all the way back in 2003. He was ahead of his time.

One may rightly question the words of a defense attorney testifying against this bill. Know that a defeat of this bill will not give me an edge in the courtroom. If anything, it will do the opposite, shutting down arguments that the Crime Lab is biased in favor of law enforcement.

I am here this morning because I have a profound respect for the American legal system, and I want the people of our state to respect it as much as I do. I am here because I believe the professionals who work at the Crime Lab would agree with me, even if they may have concerns about voicing their opinions publicly. I am here because I believe that the men and women of law enforcement, who work hard and put their safety on the line gathering evidence that will go to the lab, want an independent Crime Lab that we all can trust.

Madam Chair and members of the Senate State and Local Government Committee, for these reasons, I respectfully ask that you vote **DO NOT PASS** on Senate Bill 2131. If there are any questions, I am happy to take them.

NEWS | NORTH DAKOTA | Opinion

Crime lab employee speaks against AG Wrigley's push to put cops in charge of crime lab scientists

Rob Port reports: North Dakota law requires that the state crime lab be separate from Bureau of Criminal Investigation. Attorney General Drew Wrigley wants to change that law, and put BCI in charge of the lab, but one lab employee is saying that would jeopardize the independence of the scientists who work there.



North Dakota Attorney General Drew Wrigley speaks at a press conference in Fargo in September 2022.

David Samson/The Forum

By Rob Port

October 19, 2022 03:30 PM

MINOT, N.D. — Backlogs at North Dakota's crime lab have made headlines recently(<https://www.inforum.com/news/north-dakota/north-dakota-has-170-sexual-assault-kits-awaiting-for-possible-criminal-charges-as-state-backlog-grows>) , and Attorney General Drew Wrigley has made it clear that part of his plan to address that situation is to put the crime lab under the jurisdiction of law enforcement.

The North Dakota Bureau of Criminal Investigation, specifically.

Wrigley said in an interview that when he speaks to law enforcement, delays at the crime lab are "one of the biggest problems they talk about."

But Amber Moch, a forensic scientist who works in the crime lab, says that putting scientists under the administration of law enforcement is a bad idea because it will harm the independence of the lab while doing nothing to address delays in processing results.

Both the crime lab and the BCI are under the umbrella of Wrigley's office, but a separation between the two is mandated by state law.

A question of independence

Section 54-12-24 of the North Dakota Century Code(<https://ndlegis.gov/cencode/t54c12.pdf#nameddest=54-12-24>) states it bluntly: "The state crime laboratory must be administratively separated from the bureau of criminal investigation."

In researching the history of this statute, it appears this separation was put in place intentionally.

When this law was before the legislature in 2003, then-Attorney General Wayne Stenehjem told the Senate Appropriations Committee that the separation between BCI and the crime lab was a necessity.

"It is important that it be a separate division within our office so that we don't have that argument that comes up when somebody from the Crime Lab comes in to testify saying don't you work for the division that

investigated this crime which would lead to a possible conflict or a claim that there was a conflict," he said in response to questioning from committee members. "So what we propose in this legislation is that one of the 13 divisions will be the Crime Lab. It will be separate and distinct from BCI. And that's an important distinction to be sure we follow through with."



Former North Dakota Attorney General Wayne Stenehjem
File photo

In testimony before the Senate Judiciary Committee that same session, Sandi Tabor, then serving as deputy attorney general, told lawmakers that it was necessary that the crime lab "be segregated from BCI to ensure there is no undue influence or pressure plays on the crime lab in the work that they do."

Wrigley, who was appointed by Gov. Doug Burgum to replace Stenehjem, who died earlier this year, is dismissive of concerns about lab independence. "We're planning on asking the Legislature to amend

the statute to allow the lab to be situated under the umbrella of the BCI," he said. "At the same time, recognizing obviously the role of science and oversight and certifications, all those things, we'll maintain them."

"The average lab worker, the science techs, their work will remain completely unchanged by this," Wrigley continued. "We may have more emphasis on dealing with the drug backload, or the firearm backload, but the people doing the testing to get sound results and objectively verifiable results, those interests are going to be advanced by this."

A resource problem or an administration problem?

Moch, a graduate of the University of Maryland who has worked at the state crime lab for nearly 11 years, disagrees — and she's speaking up about it.

"I am passionate about science and forensics. Given my experience, I know that science should remain independent. I don't see how this change would benefit the lab when you take away its independence," she said in an interview.

She says the move would destroy the independence of the lab, and may result in some lab workers leaving.

"Part of our accreditation is, is there any undue pressure?" Moch said. "Would the cases of smaller agencies fall through the cracks while other cases are prioritized instead?"

Wrigley said the state's law enforcement community is backing this change.

North Dakota U.S. Attorney Drew Wrigley and Fargo Police Chief David Zibolski during a press conference at the Fargo federal courthouse on Tuesday, Jan. 19. Zibolski recently claimed that his department is waiting on 75 sexual assault kits to be tested by North Dakota's crime lab.
C.S. Hagen / The Forum

"Even before I was sworn in as attorney general, I was talking to men and women in leadership, there aren't a lot of 100% propositions, but 100% of the leadership in sheriff's departments and police departments are in favor of this," he said.

Moch wondered why crime lab personnel haven't been part of this discussion.

"Why wasn't the director of the crime lab at those meetings?" she asked, adding that she's spoken to officials in the law enforcement community as well as prosecutors who are opposed to an administrative change. She also said that Stenehjem "fought previous efforts to change the administration of the crime lab" while he was in office "in order to maintain that independence of the lab."

Moch directed me to a number of academic papers, including a 2009 report from the National Academy of

Sciences(<https://www.ojp.gov/pdffiles1/nij/grants/228091.pdf>) , arguing for independent crime labs. "It's like moving back in time. Most labs are moving in the other direction. Science under law enforcement would be a move backward."

But Deputy Attorney General Claire Ness, who spoke along with Wrigley during an interview, dismissed these arguments. "It's not something that's required for accreditation," she said. "It's not required by a licensing agency."

'The lab needs a lot of help'

It is clear that there's a problem at the crime lab. Forum reporter April Baumgartner has reported that over 250 rape kits are awaiting testing by the crime lab(<https://www.inforum.com/news/north-dakota/north-dakota-has-170-sexual-assault-kits-awaiting-for-possible-criminal-charges-as-state-backlog-grows>) .

Moch says the problem isn't administrative. She says the problem is funding.

"The only complaint from outside agencies is our turnaround time, but that's a resource issue, and we're aware of it," she said, pointing out that the legislature recently cut the budget for the crime lab.

"We don't have the ability to test firearms in North Dakota. Now every time there is an arrest for a firearm crime, instead of utilizing our crime lab here, we have to find someone around the United States to test it," Wrigley said.

Aaron Birst
Aaron Birst, executive director of the North Dakota
State's Attorneys' Association

Moch said that state of affairs is due to the budget. She said that one employee who left the lab recently was the one who handled firearms tests. Another handled latent fingerprints. Now the lab can't do either.

"We weren't very backlogged until the budget cuts when they pulled all of our employees," Moch said.

Aaron Birst, executive director of the North Dakota State's Attorneys' Association, an organization representing North Dakota's prosecutors, agreed with Moch that the problem is resources.

"The lab needs a lot of help, not from the administration, but from people in the trenches," he said. "It's been very hard to keep that expertise because of the low wages. There's just not a lot of them."

"If the Legislature doesn't invest in getting better staff and more bodies, it doesn't matter who is in charge of the lab," he continued.

The defense side is less ambivalent about the administration. While agreeing that the lab needs more resources, defense attorney Mark Friese, who works for the Vogel Law Firm in Fargo, said it needs to be away from law enforcement.

"It should be separate and independent from those that are investigating and enforcing the law," he said, "to protect the integrity of the underlying investigation. To avoid the appearance of impropriety. To ensure there are checks and balances in the process."

Horror stories

There are some anecdotes from other parts of the country which suggest that a lack of independence between a crime laboratory and law enforcement can create significant problems.

In Massachusetts, a crime lab employee named Annie Dookhan(https://en.wikipedia.org/wiki/Annie_Dookhan) was caught faking tests, and lying about results, in order to ingratiate herself with friends in law enforcement. Her fraud resulted in the dismissal of tens of thousands of drug cases in that state, and the fallout continues a decade later as new evidence(<https://www.nbcnews.com/news/us-news/massachusetts-crime-lab-drug-testing-scandal-rcna48940>) suggests that other crime lab employees there may have been engaged in inappropriate behavior as well.

In Houston, Texas, problems at the local crime lab were so prolific that, since 1993, there have been 179 convictions overturned(<https://www.law.umich.edu/special/exoneration/Pages/browse.aspx?View=%7Bb8342ae7-6520-4a32-8a06-4b326208baf8%7D&FilterField1=State&FilterValue1=Texas&FilterField2=Contributing%5Fx0020%5FFactors%5Fx0020&FilterValue2=False%20or%20Misleading%20Forensic%20Evidence&SortField=Exonerated&SortDir=Asc>) due to errors in the forensic science used in the convictions. Of those, 115 were in Harris County, which is home to Houston.

MORE FROM ROB PORT

Rob Port's author archive(<https://www.inforum.com/rob-port>)

COLUMNS([HTTPS://WWW.INFORUM.COM/OPINION/COLUMNS](https://www.inforum.com/opinion/columns))

Port: I'm worried that some left-wing enemies of income tax cuts are innumerate(<https://www.inforum.com/opinion/columns/port-im-worried-that-some-left-wing-enemies-of-income-tax-cuts-are-innumerate>)

(<https://www.inforum.com/opinion/columns/port-im-worried-that-some-left-wing-enemies-of-income-tax-cuts-are-innumerate>)

COLUMNS([HTTPS://WWW.INFORUM.COM/OPINION/COLUMNS](https://www.inforum.com/opinion/columns))

Port: What is America a beacon of now?
(<https://www.inforum.com/opinion/columns/port-what-is-america-a-beacon-of-now>)

(<https://www.inforum.com/opinion/columns/port-what-is-america-a-beacon-of-now>)

COLUMNS([HTTPS://WWW.INFORUM.COM/OPINION/COLUMNS](https://www.inforum.com/opinion/columns))

Port: Bill seeks to stick a needle in the balloon of North Dakota school administration(<https://www.inforum.com/opinion/columns/port-bill-seeks-to-stick-a-needle-in-the-balloon-of-north-dakota-school-administration>)

(<https://www.inforum.com/opinion/columns/port-bill-seeks-to-stick-a-needle-in>

the-balloon-of-north-
dakota-school-
administration)

In 2014, Houston took their crime lab out from under the administration of the local police department and put it under the control of an independent board. Peter Stout was hired by that board to run the lab, and I spoke with him about the debate here in North Dakota.

He was surprised that some in North Dakota are pushing to end the independence of the lab.

"Pretty much everywhere in the country people are scratching their heads on what to do to structure laboratories in a more objective fashion," he said. "I have conversations with many municipalities and jurisdictions about going in the other direction. It's actually ironic, you've actually had your laboratory separated from law enforcement since 2004, and just now the rest of the country is starting to say that's a pretty good idea."

"North Dakota has managed to achieve something a lot of places in the country are struggling with," he continued. "You're looking at going exactly the opposite direction of where most of the country is trying to get to."

Making this move will require the legislature to amend its current laws with respect to the crime lab. Wrigley says he expects he can get that done with backing from the law enforcement community, and is bolstered in that belief by conversations he's had with elected members of the Legislature.

"One hundred percent of the lawmakers I've spoken to were under the impression that the crime lab was already under the BCI," he said. "Their independence, their certifications, that will all stay the same."

The Legislature convenes for the 2023 session in January.

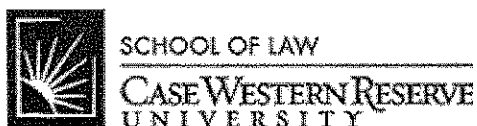
RELATED TOPICS: GOVERNMENT AND POLITICS NORTH DAKOTA PLAIN TALK
DREW WRIGLEY WAYNE STENEHJEM CRIME AND COURTS



By Rob Port

Rob Port is a news reporter, columnist, and podcast host for the Forum News Service. He has an extensive background in investigations and public records. He has covered political events in North Dakota and the upper Midwest for two decades. Reach him at rport@forumcomm.com. [Click here](#) to subscribe to his Plain Talk podcast.

 [Twitter](#)  [Facebook](#)



Case Western Reserve University School of Law Scholarly Commons

Faculty Publications

2010

Independent Crime Laboratories: The Problem of Motivational and Cognitive Bias

Paul C. Giannelli

Case Western University School of Law, paul.giannelli@case.edu

Follow this and additional works at: https://scholarlycommons.law.case.edu/faculty_publications



Part of the Evidence Commons, and the Litigation Commons

Repository Citation

Giannelli, Paul C., "Independent Crime Laboratories: The Problem of Motivational and Cognitive Bias" (2010). *Faculty Publications*. 603.

https://scholarlycommons.law.case.edu/faculty_publications/603

This Article is brought to you for free and open access by Case Western Reserve University School of Law Scholarly Commons. It has been accepted for inclusion in Faculty Publications by an authorized administrator of Case Western Reserve University School of Law Scholarly Commons.

INDEPENDENT CRIME LABORATORIES: THE PROBLEM OF MOTIVATIONAL AND COGNITIVE BIAS

Paul C. Giannelli*

INTRODUCTION

One of the most controversial recommendations in the National Academy of Sciences' report on forensic science, *Strengthening Forensic Science in the United States: A Path Forward* (NAS Report),¹ concerns the removal of crime laboratories from the administrative control of law enforcement agencies.² According to the NAS Report:

The best science is conducted in a scientific setting as opposed to a law enforcement setting. Because forensic scientists often are driven in their work by a need to answer a particular question related to the issues of a particular case, they sometimes face pressure to sacrifice appropriate methodology for the sake of expediency.³

For decades, scholars have commented on the “inbred bias of crime laboratories affiliated with law enforcement agencies”⁴—as have courts,⁵

* © 2010 Paul C. Giannelli, Albert J. Weatherhead III & Richard W. Weatherhead Professor of Law, Case Western Reserve University; University of Virginia, J.D., 1970, LL.M., 1975; George Washington University, M.S. Forensic Science, 1973.

¹ NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, *STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD* (2009) [hereinafter NAS REPORT]. The report's recommendation for an independent federal entity, the National Institute of Forensic Science, is also controversial. *Id.* at 19–20 (Recommendation 1).

² *Id.* at 24 (Recommendation 4). The report also states: “Scientific and medical assessment conducted in forensic investigations should be independent of law enforcement efforts either to prosecute criminal suspects or even to determine whether a criminal act has indeed been committed. Administratively, this means that forensic scientists should function independently of law enforcement administrators.” *Id.* at 23.

³ *Id.* at 23–24.

⁴ James E. Starrs, *The Seamy Side of Forensic Science: The Mephitic Stain of Fred Salem Zain*, 17 *SCI. SLEUTHING REV.* 1, 8 (1993); see also Paul C. Giannelli, *The Abuse of Scientific Evidence in Criminal Cases: The Need for Independent Crime Laboratories*, 4 *VA. J. SOC. POL'Y & L.* 439, 441 (1997) (“Too many experts in the criminal justice system manifest a police-prosecution bias, a willingness to shade or distort opinions to support the state's case.”); Randolph N. Jonakait, *Forensic Science: The Need for Regulation*, 4 *HARV. J.L. & TECH.* 109, 160 (1991) (“Another [problem] is the failure of forensic scientists to shield themselves from possible bias.”); Andre A. Moenssens, *Novel Scientific Evidence in Criminal Cases: Some Words of Caution*, 84 *J. CRIM. L. & CRIMINOLOGY* 1, 6 (1993) (stating crime labs “may be so imbued with a pro-police bias that they are willing to circumvent true scientific investigation methods for the sake of ‘making their point.’”); James E. Starrs, *The Ethical Obligations of the Forensic Scientist in the Criminal Justice System*, 54 *J. ASS'N OFFICIAL ANALYTICAL CHEMISTS* 906, 910 (1971) (noting that lab personnel “inevitably become part of the

legislators,⁶ prosecutors,⁷ investigators,⁸ and reporters.⁹ The NAS Report is not the first to acknowledge the problem of bias. The National Academy of Sciences' 1996 DNA Report observed that "[l]aboratory procedures should be designed with safeguards to detect bias and to identify cases of true ambiguity."¹⁰ Similarly, the ABA Standards on DNA Evidence contain a provision on bias.¹¹

The problem of bias in crime laboratories is not unique to the United States. According to a British court:

Forensic scientists may become partisan. The very fact that the police seek their assistance may create a relationship between the police and the forensic scientists. And the adversarial character of the proceedings tends to promote this process. Forensic scientists employed by the government may come to see their function as helping the police.¹²

effort to bring an offender to justice. And as a result, their impartiality is replaced by a viewpoint colored brightly with prosecutorial bias."'); *Symposium on Science and the Rules of Legal Procedure*, 101 F.R.D. 599, 642 (1983) (statement of Professor Joseph L. Peterson) (noting the factors that "raise a legitimate issue regarding the objectivity of laboratory personnel").

⁵ See *R v. Ward*, [1993] 96 Crim. App. 1, 68 (U.K.) ("Forensic scientists may become partisan.").

⁶ See Rodney Ellis, Editorial, *Want Tough on Crime? Start by Fixing HPD Lab.*, HOUS. CHRON., Sept. 5, 2004 ("When crime labs are operating within a police department, examiner bias can undermine the integrity of scientific results."). Ellis was a Texas state senator at the time he wrote the editorial. See *id.*

⁷ See Scott Bales, *Turning the Microscope Back on Forensic Scientists*, 26 LITIG. 51, 55 (2000) ("But whether nefarious or innocent, too close a connection between scientists and the law enforcement officers with whom they work creates a real danger of biased testimony."). As an assistant U.S. attorney, Justice Bales served on the team that produced the 1997 I.G. Report on the FBI lab. See *infra* text accompanying notes 38–39. He is now a justice on the Arizona Supreme Court.

⁸ See M.A. Thomson, *Bias and Quality Control in Forensic Science: A Cause for Concern*, 19 J. FORENSIC SCI. 504, 509–10 (1974) ("Is the witness who has his job and salary controlled by the State completely free from pressure, conscious or unconscious, to be entirely impartial?"). Captain Thomson was an Air Force investigator at the time he wrote this article. See *id.* at 504 n.1.

⁹ See Steve Mills et al., *When Labs Falter, Defendants Pay: Bias Toward Prosecution Cited in Illinois Cases*, CHI. TRIB., Oct. 20, 2004, at 1; Ruth Teichroeb, *Crime Labs Too Beholden to Prosecutors, Critics Say*, SEATTLE POST-INTELLIGENCER, July 23, 2004, at A13.

¹⁰ NATIONAL RESEARCH COUNCIL, THE EVALUATION OF FORENSIC DNA EVIDENCE 85 (1996). The report adds: "Bias in forensic science usually leads to sins of omission rather than commission. Possibly exculpatory evidence might be ignored or rejected." *Id.* at 84–85.

¹¹ AMERICAN BAR ASSOCIATION, ABA STANDARDS FOR CRIMINAL JUSTICE: DNA EVIDENCE 67 (3d ed. 2007) [hereinafter ABA DNA STANDARDS] ("Cognitive bias (e.g., observer effects) occurs because people tend to see what they expect to see, and this typically affects their decision in cases of ambiguity."), available at <http://www.abanet.org/crimjust/standards/dnaevidence.pdf>.

¹² *R v. Ward*, [1993] 96 Crim. App. 1, 68 (U.K.).

One commentator concluded that the miscarriages of justice in Britain constituted “unequivocal evidence that the pro-prosecution orientation of government scientists . . . had not adequately been countered in England.”¹³

Some commentators have proposed independent laboratories as the remedy for this problem,¹⁴ and in 2002, the Illinois Governor’s Commission on Capital Punishment proposed the establishment of an independent state crime laboratory.¹⁵ The Commission majority believed that “the overall quality of forensic services would be improved if the laboratory personnel were truly independent.”¹⁶ In contrast, the Department of Justice¹⁷ and the National District Attorneys Association oppose the NAS recommendation of independent laboratories.¹⁸

This Essay examines the issue of independent crime laboratories. Part I documents the problems that triggered the NAS Report’s recommendation, while Part II explores the counterarguments. Part III examines the NAS

¹³ Ian Freckelton, *Science and the Legal Culture*, 2 EXPERT EVID. 107, 112 (1993); see also David E. Bernstein, *Junk Science in the United States and the Commonwealth*, 21 YALE J. INT’L L. 123, 171 (1996) (“Many reformers in the United Kingdom believe that a large percentage of the problems that have arisen in the forensic science context are attributable to the fact that English forensic science is almost solely the province of the state.”); Paul Roberts, *Forensic Science Evidence After Runciman*, 1994 CRIM. L. REV. 780, 784 (commenting that “forensic scientists who run with the hounds cannot be expected to give a savaged fox the kiss of life”) (citing Russell Stockdale, *Running with the Hounds*, NEW L.J. 772 (June 7, 1991)).

¹⁴ See BARRY SCHECK ET AL., ACTUAL INNOCENCE: FIVE DAYS TO EXECUTION, AND OTHER DISPATCHES FROM THE WRONGLY CONVICTED 257 (2000) (stating laboratories should “function as an independent third force within the criminal justice system”); Giannelli, *supra* note 4, at 457–62 (arguing for labs associated with a medical examiner system); see also Ellis, *supra* note 6 (stating “crime labs should operate as a separate and independent third party force in the criminal justice system”).

¹⁵ REPORT OF THE GOVERNOR’S COMMISSION ON CAPITAL PUNISHMENT 52 (2002), available at http://www.idoc.state.il.us/ccp/ccp/reports/commission_report/chapter_03.pdf [hereinafter CAPITAL PUNISHMENT COMM.] (“An independent state forensic laboratory should be created, operated by civilian personnel, with its own budget, separate from any police agency or supervision.”). The proposal was never adopted.

¹⁶ *Id.*

¹⁷ *Strengthening Forensic Science in the United States: A Path Forward: Hearing Before the Subcomm. on Crime, Terrorism, and Homeland Security of the H. Comm. on the Judiciary*, 111th Cong. 13 (2009) (statement of Kenneth E. Melson, Acting Dir., Bureau of Alcohol, Tobacco, Firearms, and Explosives) (“DOJ also questions whether full independence of laboratories from law enforcement is advisable or feasible. . . . To be separated completely from interaction with investigative partners would likely cause missteps in decision-making that could result in either loss and/or destruction of evidence, or important analyses left undone.”).

¹⁸ National District Attorneys Association, NDAA Comments Provided to the Consortium of Forensic Sciences Regarding the National Academy of Sciences Report [hereinafter NDAA Statement] (“NDAA does not believe, as some have suggested, that all forensic labs must be ‘independent,’ that is, housed outside of a law enforcement or prosecution agency.”).

proposal as well as an alternative approach. Part IV sets forth additional measures that should protect forensic analyses from improper influence.

I. THE PROBLEM

A. Organizational Structure

Crime laboratories are “the oldest and strongest link between science and technology and criminal justice.”¹⁹ In the United States, crime laboratories developed in the 1920s as an adjunct of police departments.²⁰ A survey of approximately three hundred crime laboratories revealed that “[s]eventy-nine percent of all laboratories responding . . . are located within law enforcement/public safety agencies”²¹ and “[f]ifty-seven percent . . . would *only* examine evidence submitted by law enforcement officials.”²² Thus, it is not surprising that police norms would influence the laboratory culture. As one scholar observed: “[T]he police agency controls the formal and informal system of rewards and sanctions for the laboratory examiners.”²³

B. Types of Bias

Commentators have identified both motivational and cognitive bias as a concern in the forensic setting.²⁴ These classifications are not mutually exclusive, and cognitive bias comes in several forms.²⁵

¹⁹ PRESIDENT’S COMM’N ON LAW ENFORCEMENT & ADMIN. OF JUSTICE, THE CHALLENGE OF CRIME IN A FREE SOCIETY 255 (1967).

²⁰ See RICHARD SAFERSTEIN, CRIMINALISTICS: AN INTRODUCTION TO FORENSIC SCIENCE 6 (5th ed. 1995) (“The oldest forensic laboratory in the United States is that of the Los Angeles Police Department, created in 1923 by August Vollmer, a police chief from Berkeley, California.”); John I. Thornton, *Criminalistics—Past, Present and Future*, 11 LEX ET SCIENTIA 1, 23 (1975) (“In 1923, Vollmer served as Chief of Police of the City of Los Angeles for a period of one year. During that time, a crime laboratory was established at his direction.”); see also Bales, *supra* note 7, at 55 (“The tie between crime labs and law enforcement agencies is not inevitable. In part, it is a product of history: rudimentary crime labs were first established near the turn of the century by law enforcement agencies when officials began to recognize the possible application of science to criminal investigations. Since that time, the relationship between labs and law enforcement has flourished because of practical benefits—for example, streamlining tasks such as close and timely communication, the transfer of evidence, and record-keeping.”).

²¹ Joseph L. Peterson et al., *The Capabilities, Uses, and Effects of the Nations’ Criminalistic Laboratories*, 30 J. FORENSIC SCI. 10, 11 (1985).

²² *Id.* at 13.

²³ *Symposium on Science and the Rules of Legal Procedure*, 101 F.R.D. 599, 642 (1983) (statement of Professor Joseph L. Peterson).

²⁴ MIKE REDMAYNE, EXPERT EVIDENCE AND CRIMINAL JUSTICE 14 (2001) (“The psychological literature distinguishes motivational and cognitive bias.”).

²⁵ The leading article on the subject is D. Michael Risinger et al., *The Daubert/Kumho Implications of Observer Effects in Forensic Science: Hidden Problems of Expectation and Suggestion*, 90 CAL. L. REV. 1, 12–21 (2002) (describing

1. Motivational Bias

Motivational bias “is close to the popular notion of bias (the referee is biased because he wants one side to win).”²⁶ Several notorious examples seem to fit within this category. For example, Fred Zain, who became infamous because of his misconduct at the West Virginia state crime laboratory, routinely reported results that favored the prosecution.²⁷ An investigation by the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB), found that, “when in doubt, Zain’s findings would always inculpate the suspect.”²⁸ His replacement as director of serology described Zain as “very pro-prosecution.”²⁹ Zain was such a treasured witness that, even after he left the state to accept a position in a San Antonio crime laboratory, West Virginia prosecutors sent evidence to him for retesting.³⁰ The prosecutors relied on Zain because the remaining West Virginia serologists were incapable, in their view, of reaching the “right” results.³¹

While working at the Oklahoma City Crime Laboratory for nearly twenty years, Joyce Gilchrist repeatedly overstated test results, withheld evidence, and provided critical evidence for the prosecution.³² The Court of Appeals for the Tenth Circuit criticized Gilchrist for “provid[ing] the jury with evidence

several types of cognitive bias, including observer effects, anchoring effects, role effects, conformity effects, and experimenter effects).

²⁶ REDMAYNE, *supra* note 24, at 14.

²⁷ Zain falsified test results in as many as 134 cases from 1979 to 1989. *See In re Investigation of the W.Va. State Police Crime Lab., Serology Div.*, 438 S.E.2d 501, 510–11 (W.Va. 1993). In reviewing a judicial report on Zain’s decade of misconduct, the West Virginia Supreme Court spoke of “shocking and . . . egregious violations” and the “corruption of our legal system.” *Id.* at 508. The judicial inquiry concluded that “as a matter of law, any testimonial or documentary evidence offered by Zain at any time in any criminal prosecution should be deemed invalid, unreliable, and inadmissible.” *Id.* at 520; *see generally* Paul C. Giannelli, *Wrongful Convictions and Forensic Science: The Need to Regulate Crime Labs*, 86 N.C. L. REV. 163, 172–74 (2007) (discussing Zain’s conduct).

²⁸ *In re Investigation of W.Va.*, 438 S.E.2d at 512 n.9.

²⁹ *Id.* at 514 n.23.

³⁰ His work in Texas also proved troublesome: “In the case of Gilbert Alejandro, the expert, Fred Zain claimed a DNA match when in fact Zain had never conducted any testing beyond initial inconclusive testing, and final DNA testing conducted after the trial excluded Alejandro.” Brandon L. Garrett, *Judging Innocence*, 108 COLUM. L. REV. 55, 84 n.109 (2008).

³¹ According to Zain’s replacement, “several prosecutors expressed dissatisfaction with the reports they were receiving from serology and specifically requested that the evidence be analyzed by Zain.” *In re Investigation of W. Va.*, 438 S.E.2d at 513 n.16 (referring to deposition of T.S. Smith). “[Serologist] Myers also testified that after he had been unable to find blood on a murder suspect’s jacket, it was sent to Texas, where Zain found a bloodstain which tested consistent with the blood of the victim.” *Id.* at 512. “[Serologist] Bowles also testified that at least twice after Zain left the lab, evidence on which Bowles had been unable to obtain genetic markers was subsequently sent to Texas for testing by Zain, who again was able to identify genetic markers.” *Id.*

³² *See Mitchell v. Gibson*, 262 F.3d 1036, 1064 (10th Cir. 2001).

implicating [a defendant] in the sexual assault of the victim which she knew was rendered false and misleading by evidence withheld from the defense.”³³ As one author commented: “If [Gilchrist] were simply incompetent, her mistakes would have been all over the map. Instead, her mistakes benefited the prosecution.”³⁴

2. Cognitive Bias: Role Effects

If the motivation is subconscious, the bias can be classified as a type of cognitive bias called “role effect” bias.³⁵ In short, people’s perception of their role can influence their decisions, especially in cases of ambiguity. “Given what is known about reference group phenomena, the need that people have for social support of attitudes and conduct, and the process of socialization in occupational settings, it strains credulity to believe that these experts do not identify with prosecutors.”³⁶ According to a former laboratory director, “Many forensic scientists at the state police labs . . . saw their role as members of the state’s attorney’s team. ‘They thought they were prosecution witnesses[.]’ . . . ‘They didn’t understand they were just scientists.’”³⁷

In 1997, the Inspector General of the Department of Justice issued a report on the FBI laboratory’s explosives unit.³⁸ This report documented numerous deficiencies, including inaccurate testimony, testimony beyond the competence of examiners, improperly prepared laboratory reports, insufficient documentation of test results, inadequate record management and retention, and failure to resolve serious and credible allegations of incompetence.³⁹ In the

³³ *Id.*; see generally Giannelli, *supra* note 27, 174–82 (discussing Gilchrist’s conduct).

³⁴ MARK FUHRMAN, DEATH AND JUSTICE: AN EXPOSE OF OKLAHOMA’S DEATH ROW MACHINE 223 (2003). Fuhrman also wrote that Gilchrist “appears to have used her lab tests to confirm the detectives’ hunches rather than seek independent scientific results. . . . 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.” *Id.* at 232.

³⁵ See Risinger et al., *supra* note 25, at 18–19.

³⁶ MICHAEL J. SAKS & RICHARD VAN DUIZEND, THE USE OF SCIENTIFIC EVIDENCE IN LITIGATION 53 (1983).

³⁷ Mills et al., *supra* note 9 (quoting Don Plautz, a former director in the Illinois crime lab system); see also Teichroeb, *supra* note 9 (explaining that crime labs are often biased in favor of the prosecution).

³⁸ OFFICE OF INSPECTOR GENERAL, U.S. DEP’T OF JUSTICE, THE FBI LABORATORY: AN INVESTIGATION INTO LABORATORY PRACTICES AND ALLEGED MISCONDUCT IN EXPLOSIVES-RELATED AND OTHER CASES, Executive Summary, pt. I, sec. A (1997), available at <http://www.fas.org/irp/agency/doj/oig/fbilab1/fbill1toc.htm> [hereinafter 1997 I.G. REPORT].

³⁹ *Id.*; see also JOHN F. KELLY & PHILLIP K. WEARNE, TAINING EVIDENCE 2 (1998) (concluding that 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”); Bales, *supra* note 7, at 53 (“[T]he [1997 I.G. Report] did contain deeply disturbing findings of inadequate procedures, insufficient

Oklahoma City bombing case, the I.G. Report found that an examiner's conclusion about the identity of the explosive charge was "speculation" and "tilted in such a way as to incriminate the defendants."⁴⁰

3. Cognitive Bias: Contextual Bias

Another type of cognitive bias is contextual bias, which occurs when extraneous information influences a decision, typically in cases of ambiguity.⁴¹ When clinical trials for a new drug are conducted, "double blind" procedures are used—i.e., randomized clinical trials. Neither the patient nor the physician knows whether the patient is receiving the new drug or a placebo (the control). Numerous studies have demonstrated that physicians who know that patients are receiving a new drug tend to see positive results, even when there are none.⁴² In short, extraneous knowledge alters our expectations, which in turn affects our perceptions.⁴³

There is no shortage of examples: "[Professor] Peter DeForest has described investigators who responded to inconclusive results by saying to forensic examiners: 'Would it help if I told you we know he's the guy who did it?'"⁴⁴ One laboratory examiner "said she tried not to be swayed by detectives' belief that they had a strong suspect. 'We're all human,' she said. 'I tried not to

supervision, and improper conduct."); see generally Giannelli, *supra* note 27, at 195–96 (discussing the 1997 I.G. Report); David Johnston, *F.B.I. Lab Practices Faulted in Oklahoma Bomb Inquiry*, N.Y. TIMES, Jan. 31, 1997, at A1 (discussing poor scientific practices in the investigation of the Oklahoma City bombing).

⁴⁰ 1997 I.G. REPORT, *supra* note 38, at pt. III, sec. F.

⁴¹ REDMAYNE, *supra* note 24, at 15 ("It also appears that extraneous information supporting a hypothesis will affect our judgement of that hypothesis, and of the evidence for it, even when we know we should not take the extraneous information into account.")

⁴² See ROBERT J. LEVINE, ETHICS AND REGULATION OF CLINICAL RESEARCH 185 (2d ed. 1986) ("When it is feasible, a double-blind technique is employed. That is, neither the investigator nor the subject knows until the conclusion of the study who is in the treatment or control group. The purpose of double-blinding is to overcome biases on the part of both subjects and investigators . . .").

⁴³ Risinger et al., *supra* note 25, at 45 ("The simplest, most powerful, and most useful procedure to protect against the distorting effects of unstated assumptions, collateral information, and improper expectations and motivations is blind testing. An examiner who has no domain-irrelevant information cannot be influenced by it. An examiner who does not know what conclusion is hoped for or expected of her cannot be affected by those considerations.")

⁴⁴ See *id.* at 39. The psychological literature on lineups provides another illustration. Eyewitnesses with reservations about their identifications often become positive after learning that the person they identified was the prime suspect in the case. See REPORT OF THE ABA CRIMINAL JUSTICE SECTION'S AD HOC INNOCENCE COMM. TO ENSURE THE INTEGRITY OF THE CRIMINAL PROCESS, ACHIEVING JUSTICE: FREEING THE INNOCENT, CONVICTING THE GUILTY 37 (Paul C. Giannelli & Myrna Raeder eds., 2006) ("Ideally, the witness should never be told whether he selected the 'right man' so that his confidence is not artificially inflated by the time of trial.")

let it influence me. But I can't say it never does."⁴⁵ Joyce Gilchrist often received detectives' views on suspects before she conducted her examinations.⁴⁶ In another case, an FBI examiner identified a substance as being consistent with an explosive "based in part on the fact that pieces of cut detonation cord had been found in a garbage can outside the suspect's house."⁴⁷

4. Cognitive Bias: Confirmation Bias

Another type of cognitive bias known as "confirmation bias" concerns "the tendency to test a hypothesis by looking for instances that confirm it rather than by searching for potentially falsifying instances."⁴⁸ Confirmation bias played a role in the FBI's misidentification of Brandon Mayfield's fingerprints in the Madrid terrorist train bombing investigation.⁴⁹ According to an FBI review, the "power" of the automated fingerprint correlation "was thought to have influenced the examiner's initial judgment and subsequent examination."⁵⁰ Three other experts, one of whom was court-appointed, also confirmed the initial misidentification.⁵¹ These reviews were not conducted blind—i.e., the reviewer knew that a positive identification had already been made—and thus were subject to the influence of contextual/confirmation bias.⁵²

⁴⁵ Ruth Teichroeb, *Rare Look Inside State Crime Labs Reveals Recurring Problems: 23 Cases in 3 Years Had DNA Test Errors*, SEATTLE POST-INTELLIGENCER, July 22, 2004, at A1 (quoting lab expert Denise Olson).

⁴⁶ See FUHRMAN, *supra* note 34, at 91 ("When Cook and other homicide detectives gave Gilchrist hair samples from a suspect, they would often let her know that this was the person they wanted to arrest.").

⁴⁷ Bales, *supra* note 7, at 55 ("Of course, where the cord was found was irrelevant to the scientific examination of the residue on the knife and to the examiner's conclusions. . . . Based on recommendations by the OIG, the FBI has instructed its examiners not to base forensic conclusions on unstated assumptions or information that is collateral to the examinations performed."); *see also id.* at 52 (The 1997 I.G. Report "concluded that an examiner from the lab's explosives unit had erred by purporting to identify the particular explosives used in the [1993] World Trade Center and Oklahoma City bombings. The error stemmed from the examiner's reliance on information that was tied to suspects but not relevant to his scientific analysis.").

⁴⁸ Risinger et al., *supra* note 25, at 7; *see also* REDMAYNE, *supra* note 24, at 15 ("We tend to look for confirming, rather than disconfirming, evidence; we may judge evidence of better quality if it agrees with our theory, or worse quality if it does not; and our beliefs can persevere even after being discredited.").

⁴⁹ *See* Sara Kershaw, *Spain and U.S. at Odds on Mistaken Terror Arrest*, N.Y. TIMES, June 5, 2004, at A1 (Spanish authorities cleared Brandon Mayfield and matched the fingerprints to an Algerian national).

⁵⁰ Robert B. Stacey, *A Report on the Erroneous Fingerprint Individualization in the Madrid Train Bombing Case*, 54 J. FORENSIC IDENTIFICATION 706, 713 (2004).

⁵¹ *Id.* at 709–11.

⁵² *Id.* at 713.

5. *Cognitive Bias: Reconstructive Effects*

Another type of cognitive bias involves “reconstructive effects.”⁵³ When people rely on their memory, they tend to fill in gaps with what they believe should have occurred. One of the Inspector General’s reports on the FBI laboratory addressed this issue: “[C]ontemporaneous documentation is important to ensure that the case file accurately reflects the work performed on each evidence item that is tested. . . . [S]taff members may be unduly influenced by protocol requirements when relying on memory, and document what they know should have occurred when their recollection is vague.”⁵⁴

6. *Research*

Although the psychological literature on cognitive bias is well developed, research in forensic science has lagged.⁵⁵ One researcher performed a rudimentary experiment involving handwriting comparisons in 1984⁵⁶ and then followed up with a study on hair examinations in 1987.⁵⁷ Although Professor Jonakait mentioned the topic in a 1991 law review article,⁵⁸ the issue was thrust to the forefront when Professor Risinger and his colleagues published an extensive article on the subject in 2002.⁵⁹

As a result of the Mayfield case, British researchers devised a covert experiment to test contextual bias.⁶⁰ Five fingerprint examiners who were unfamiliar with the Mayfield prints were asked by colleagues to compare a crime scene print and suspect print.⁶¹ “They were told that the pair of prints

⁵³ Risinger et al., *supra* note 25, at 15–16 (providing the example of a “forensic scientist who takes poor notes during an examination and prepares a skimpy report, but then goes back to ‘spruce them up’ shortly before trial”).

⁵⁴ OFFICE OF INSPECTOR GENERAL, U.S. DEP’T OF JUSTICE, THE FBI DNA LABORATORY: A REVIEW OF PROTOCOL AND PRACTICE VULNERABILITIES 107 (May 2004), available at <http://www.justice.gov/oig/special/0405/final.pdf>.

⁵⁵ See Elizabeth F. Loftus & Simon A. Cole, Letter to the Editor, *Contaminated Evidence*, 304 SCI. 959, 959 (May 14, 2004) (“[F]orensic scientists remain stubbornly unwilling to confront and control the problem of bias, insisting that it can be overcome through sheer force of will and good intentions.”).

⁵⁶ Larry S. Miller, *Bias Among Forensic Document Examiners: A Need for Procedural Change*, 12 J. POLICE SCI. & ADMIN. 407, 410 (1984) (“The conclusions and opinions reported by the examiners supported the bias hypothesis.”).

⁵⁷ Larry S. Miller, *Procedural Bias in Forensic Science Examinations of Human Hair*, 11 L. & HUM. BEHAV. 157, 161 (1987). In the conventional method of hair examination, the examiner is given hair samples from a known suspect along with a report including information relating to the guilt of the suspect. In the study on hair examinations, the findings “raise some concern regarding the amount of unintentional bias among human hair identification examiners A preconceived conclusion that a questioned hair sample and a known hair sample originated from the same individual may influence the examiner’s opinion when the samples are similar.” *Id.* at 161.

⁵⁸ Jonakait, *supra* note 4, at 160–64.

⁵⁹ Risinger et al., *supra* note 25.

⁶⁰ Itiel E. Dror et al., *Contextual Information Renders Experts Vulnerable to Making Erroneous Identifications*, 156 FORENSIC SCI. INT’L 74, 75–76 (2006).

⁶¹ *Id.* at 75.

was the one that was erroneously matched by the FBI as the Madrid bomber, thus creating an extraneous context that the prints were a non-match.⁶² The participants were then instructed to ignore this information.⁶³ The prints, in fact, were not from the Mayfield case; they were from cases that each of the participants had previously matched.⁶⁴ Of the five examiners, only one still judged the print to be a match.⁶⁵ The other four changed their opinions; three directly contradicted their prior identifications, and the fourth concluded that there was insufficient data to reach a definite conclusion.⁶⁶ “This is striking given that all five experts had seen the identical fingerprints previously and all had decided that the prints were a sound and definite match.”⁶⁷

A follow-up covert study, which also involved experts, showed that fingerprint examiners could be biased toward a finding of identification if informed that the suspect confessed or toward a finding of exclusion if told that the suspect had an alibi.⁶⁸ Another investigation focused on the effects of emotions on decision making.⁶⁹

Because the research in the forensic field is in its nascent stage,⁷⁰ the NAS Report recommends further investigation of observer bias and other sources of

⁶² *Id.* at 76.

⁶³ *Id.*

⁶⁴ *Id.* at 75.

⁶⁵ *Id.* at 76.

⁶⁶ *Id.*

⁶⁷ *Id.* The authors of the study concluded the “study shows that it is possible to alter identification decisions on the same fingerprint, solely by presenting it in a different context. This does not imply that fingerprint and other forensic identifications are not a science, but it does highlight problems of subjectivity, interpretation, and other psychological and cognitive elements that interact and may distort any scientific inquiries.” *Id.* at 77.

⁶⁸ Itiel E. Dror & David Charlton, *Why Experts Make Errors*, 56 J. FORENSIC IDENTIFICATION 600, 608, 612 (2006); see also Itiel Dror & Robert Rosenthal, *Meta-analytically Quantifying the Reliability and Biasability of Forensic Experts*, 53 J. FORENSIC SCI. 900 *passim* (2008) (discussing a meta-analysis of both studies).

Another study concluded that external information had an effect but that its effects were more pronounced with novices than experts; the latter provided fewer definitive and erroneous judgments. As the researchers acknowledged, however, the examiners knew they were being tested. Glenn Langenburg et al., *Testing for Potential Contextual Bias Effects During the Verification Stage of the ACE-V Methodology When Conducting Fingerprint Comparisons*, 54 J. FORENSIC SCI. 571, 580–81 (2009).

⁶⁹ Itiel Dror et al., *When Emotions Get the Better of Us: The Effect of Contextual Top-Down Processing on Matching Fingerprints*, 19 APPL. COGNIT. PSYCHOL. 799, 806–07 (2005) (“The results of this study demonstrated that emotion and subliminal messages did influence decision making[,]” but not in clear-cut cases).

⁷⁰ For discussion of the research, see Itiel E. Dror & Simon A. Cole, *The Vision in ‘Blind’ Justice: Expert Perception, Judgment and Visual Cognition in Forensic Pattern Recognition*, 17 PSYCHONOMIC BULL. & REV. 161 (2010); see also Bruce Budowle et al., *A Perspective on Errors, Bias, and Interpretation in the Forensic Sciences and Direction for Continuing Advancement*, 54 J. FORENSIC SCI. 798, 803 (2009) (arguing that “[c]omplete ignorance to case specific information exhibits poor judgment and should not be considered”); D.E. Krane et al., Letter to the Editor, *Sequential Unmasking: A Means of Minimizing Observer Effects in Forensic DNA Interpretation*, 53 J. FORENSIC SCI. 1006, 1006 (2008) (“The interpretation of an

human error in forensic examinations.⁷¹ Cognitive bias is most likely a far greater danger than motivational bias precisely because it is a subconscious influence.⁷² Forensic techniques that have a substantial subjective component should be a special concern—e.g., fingerprint identifications,⁷³ firearms (ballistics) identifications,⁷⁴ and handwriting comparisons.⁷⁵

C. The Prosecutor

Of course, the police are not the only ones who may influence government experts.⁷⁶ Prosecutors also have pressured experts to slant their testimony.⁷⁷

evidentiary DNA profile should not be influenced by information about a suspect's DNA profile").

⁷¹ NAS REPORT, *supra* note 1, at 24 (Recommendation 5) ("Such programs might include studies to determine the effects of contextual bias in forensic practice (e.g., studies to determine whether and to what extent the results of forensic analyses are influenced by knowledge regarding the background of the suspect and the investigator's theory of the case).").

⁷² See REDMAYNE, *supra* note 24, at 14 ("Cognitive biases are potentially more problematic, for these result from unconscious reasoning strategies that can lead us to unwarranted conclusions."); Dror & Cole, *supra* note 70, at 162 ("Errors committed by well-intentioned experts are more problematic and dangerous . . ."); Risinger et al., *supra* note 25, at 11 (finding cognitive bias "far more pervasive but generally unnoticed" and "a problem in some respects more troublesome and troubling than the intentional misconduct").

⁷³ See *Commonwealth v. Patterson*, 840 N.E.2d 12, 16–17 (Mass. 2005) ("In the evaluation stage, . . . the examiner relies on his subjective judgment to determine whether the quality and quantity of those similarities are sufficient to make an identification, an exclusion, or neither."); Sandy L. Zabell, *Fingerprint Evidence*, 13 J. L. & POL'Y 143, 158 (2005) ("In contrast to the scientifically-based statistical calculations performed by a forensic scientist in analyzing DNA profile frequencies, each fingerprint examiner renders an opinion as to the similarity of friction ridge detail based on his subjective judgment.").

⁷⁴ See *United States v. Glynn*, 578 F. Supp. 2d 567, 571 (S.D.N.Y. 2008) ("[T]he Government did not seriously contest the Court's conclusions that ballistics lacked the rigor of science and that, whatever else it might be, its methodology was too subjective to permit opinions to be stated to 'a reasonable degree of ballistic certainty.'"); *United States v. Monteiro*, 407 F. Supp. 2d 351, 372 (D. Mass. 2006) ("Because an examiner's bottom line opinion as to an identification is largely a subjective one, there is no reliable statistical or scientific methodology which will currently permit the expert to testify that it is a 'match' to an absolute certainty, or to an arbitrary degree of statistical certainty.").

⁷⁵ See *United States v. Starzecpyzel*, 880 F. Supp. 1027, 1048 (S.D.N.Y. 1995) ("Such [overly fine] distinctions are certainly improper in forensic document examination, where it is conceded that conclusions are drawn, in large part, on subjective criteria.").

⁷⁶ ABA Criminal Justice Standards state that "[a] prosecutor who engages an expert for an opinion should respect the independence of the expert and should not seek to dictate the formation of the expert's opinion on the subject. . . . [T]he prosecutor should explain to the expert his or her role in the trial as an impartial expert" ABA STANDARDS FOR CRIMINAL JUSTICE, PROSECUTION FUNCTION AND DEFENSE FUNCTION 58 (Standard 3-3.3(a)) (3d ed. 1993), available at <http://www.abanet.org/crimjust/standards/prosecutionfunction.pdf>. A comparable

For more than a decade, a Texas pathologist worked closely with prosecutors and police “shad[ing] things to follow along with the police theory of the case.”⁷⁸ As the special prosecutor remarked: “If the prosecution theory was that death was caused by a Martian death ray, then that was what [the pathologist] reported.”⁷⁹

In one of Joyce Gilchrist’s cases, an appellate court wrote: “[W]e are greatly disturbed by the implications that the Oklahoma County District Attorney’s Office may have placed undue pressure upon Ms. Gilchrist to give a so-called expert opinion, which was beyond scientific capabilities”⁸⁰ In *Troedel v. Wainwright*,⁸¹ a capital murder case, the court found that a FBI expert shaped his testimony in a way that was “at the very least, . . .

standard applies to defense counsel. *See id.* at 188 (Standard 4-4.4(a)). The commentary to this standard elaborates: “Statements made by physicians, psychiatrists, and other experts about their experiences as witnesses in criminal cases indicate the need for circumspection on the part of lawyers who engage experts. Nothing should be done by a lawyer to cast suspicion on the process of justice by suggesting that the expert color an opinion to favor the interests of the client the lawyer represents.” *Id.* at 189.

⁷⁷ *See generally* Paul C. Giannelli & Kevin C. McMunigal, *Prosecutors, Ethics, and Expert Witnesses*, 76 *FORDHAM L. REV.* 1493, 1520–27 (2007) (discussing the problems associated with prosecutors and experts). Experts often are pressured by attorneys to “push the envelope”—not a surprising occurrence in an adversary system. *See* SCHECK ET AL., *supra* note 14, at 31 (“Most attorneys . . . like to let you know what their opinions of the facts of the case are — irrespective of the scientific conclusions.”) (quoting Dr. Robert Shaler, former head of N.Y.C. Medical Examiner’s DNA unit).

⁷⁸ Roberto Suro, *Ripples of a Pathologist’s Misconduct in Graves and Courts of West Texas*, *N.Y. TIMES*, Nov. 22, 1992, at A22 (quoting Tommy J. Turner, appointed by a state district judge to investigate Dr. Ralph R. Erdmann). “[A]ll the while [Dr. Erdmann] worked in close collaboration with many prosecutors and police officials, some of whom are now prominent in politics.” *Id.*; *see also* Roy Bragg, *Autopsy Record of Pathologist Who Quit Raises Many Eyebrows*, *HOUS. CHRON.*, Mar. 8, 1992, at A1 (Dr. Linda Norton, a former Dallas County assistant medical examiner, stated: “It’s as though there’s some sort of collusion between Dr. Erdmann and the DA.”).

⁷⁹ Richard L. Fricker, *Pathologist’s Plea Adds to Turmoil: Discovery of Possibly Hundreds of Faked Autopsies Helps Defense Challenges*, 79 *A.B.A. J.* 24, 24 (Mar. 1993) (quoting Tommy J. Turner); *see also* Chip Brown, *Pathologist Accused of Falsifying Autopsies, Botching Trial Evidence Forensics*, *L.A. TIMES*, April 12, 1992, at A24 (“[F]ormer Dallas County assistant medical examiner Linda Norton was quoted as saying Erdmann routinely performs ‘made-to-order autopsies that support a police version of a story.’”).

⁸⁰ *McCarty v. State*, 765 P.2d 1215, 1219 (Okla. Crim. App. 1988). There, the court ultimately held that despite these concerns, it “could not conclude . . . that appellant has established the prosecution’s knowing use of false or misleading evidence.” *Id.*; *see also* *Bank of Nova Scotia v. United States*, 487 U.S. 250, 258 (1988) (“The District Court further concluded that one of the prosecutors improperly argued with an expert witness during a recess of the grand jury after the witness gave testimony adverse to the Government.”).

⁸¹ 667 F. Supp. 1456 (S.D. Fla. 1986), *aff’d*, 828 F.2d 670 (11th Cir. 1987).

misleading.”⁸² The expert claimed that the prosecutor had “pushed” him to enhance his testimony, a claim the prosecutor substantiated.⁸³

Consequently, removing the crime laboratory from police control still leaves a problem of prosecutorial influence, albeit perhaps lessened.

II. COUNTERARGUMENTS

There are several criticisms of the proposal for establishing independent laboratories, which are discussed in this Part.

A. *Integration with Police Investigative Function*

A forensic laboratory may play an important role in the early stages of a criminal investigation. As two commentators have noted: “Increasing the laboratory’s geographical or organizational remoteness . . . can limit the effectiveness of the laboratory’s participation in the investigative phases of a case, when its scientific input may have the greatest chance of contributing to justice.”⁸⁴ This argument raises a serious concern. However, homicide

⁸² *Id.* at 1459. The expert’s report of a gunshot residue test concluded that swabs “from the hands of Troedel and Hawkins contained antimony and barium in amounts typically found on the hands of a person who has discharged a firearm or has had his hands in close proximity to a discharging firearm.” *Id.* at 1458. The expert testified in accordance with this report at Hawkins’s trial but enhanced his testimony at Troedel’s trial, where he testified that “Troedel had fired the murder weapon.” *Id.* In contrast, during federal habeas proceedings, the *same* expert testified in a deposition that “he could not, from the results of his tests, determine or say to a scientific certainty who had fired the murder weapon” and “the differences in the amount of barium and antimony on the hands of Troedel and Hawkins were basically insignificant.” *Id.* at 1459. In granting habeas relief, the court “conclude[d] that the opinion Troedel had fired the weapon was known by the prosecution not to be based on the results of the neutron activation analysis tests, or on any scientific certainty or even probability. Thus, the subject testimony was not only misleading, but also was used by the State knowing it to be misleading.” *Id.* at 1459–60.

⁸³ *Id.* at 1459 (“[A]s Mr. Riley candidly admitted in his deposition, he was ‘pushed’ further in his analysis at Troedel’s trial than at Hawkins’ trial. . . . [A]t the . . . evidentiary hearing held before this Court, one of the prosecutors testified that, at Troedel’s trial, after Mr. Riley had rendered his opinion which was contained in his written report, the prosecutor *pushed* to ‘see if more could have been gotten out of this witness.’”).

⁸⁴ Jan S. Bashinski & Joseph L. Peterson, *Forensic Sciences, in* LOCAL GOVERNMENT: POLICE MANAGEMENT 559, 581 (William Geller & Darrel Stephens eds., 4th ed. 2004). Bashinski and Peterson state: “Remoteness also makes the police department less able to direct the efforts of the laboratory toward the cases that the department considers most important” *Id.*; see also Bales, *supra* note 7, at 55 (“[T]he relationship between labs and law enforcement has flourished because of practical benefits—for example, streamlining tasks such as close and timely communication, the transfer of evidence, and record-keeping.”); NDAA Statement, *supra* note 18 (“We believe that laboratories housed within government agencies and whose mission is focused on public safety are likely to be more responsive and accountable to those community needs than those situated otherwise.”).

detectives work closely with medical examiner officials in death investigations, and medical examiner offices are typically independent of the police.

B. *Practicability*

According to a 2005 census, there are now 389 publicly funded crime laboratories in the United States: 210 state or regional laboratories, eighty-four county laboratories, sixty-two municipal laboratories, and thirty-three federal laboratories.⁸⁵ Some of these laboratories are quite small: “The median staff size in 2005 was 16.”⁸⁶ This suggests that some laboratories could probably not exist as an independent entity.

C. *Funding*

Because underfunding of crime laboratories in this country is chronic, resources are always an issue.⁸⁷ The minority report of the Illinois Capital Punishment Commission argued that funding for the state laboratory would be jeopardized if it were separated from the police:

This new agency will have to compete with other, larger agencies for scarce state resources. Retaining the forensic laboratory system as part of the Illinois State Police provides an opportunity for achieving economies of scale and administration, as well as security in funding and accountability that might not otherwise be available for a much smaller, stand-alone agency left to fend for itself.⁸⁸

In contrast, the NAS Report assumed that laboratory independence would protect a laboratory’s budget. According to the report, law enforcement control “leads to significant concerns related to the independence of the laboratory and its budget.”⁸⁹ Under this view, independence would mean “the forensic science laboratories would be able to set their own budget priorities and not have to compete with the parent law enforcement agencies.”⁹⁰

⁸⁵ See MATTHEW R. DUROSE, BUREAU OF JUSTICE STATISTICS, CENSUS OF PUBLICLY FUNDED FORENSIC CRIME LABORATORIES 8 (2005), available at <http://bjs.ojp.usdoj.gov/content/pub/pdf/cpffcl05.pdf>.

⁸⁶ *Id.* at 2.

⁸⁷ See PRESIDENT’S COMMISSION ON LAW ENFORCEMENT AND ADMINISTRATION OF JUSTICE, THE CHALLENGE OF CRIME IN A FREE SOCIETY 255 (1967) (“[T]he great majority of police department laboratories have only minimal equipment and lack highly skilled personnel able to use the modern equipment now being developed”); NATIONAL ADVISORY COMMISSION ON CRIMINAL JUSTICE STANDARDS AND GOALS, REPORT ON POLICE 304 (1974) (“Too many police crime laboratories have been set up on budgets that preclude the recruitment of qualified, professional personnel.”).

⁸⁸ CAPITAL PUNISHMENT COMM., *supra* note 15, at 54.

⁸⁹ NAS REPORT, *supra* note 1, at 183–84.

⁹⁰ *Id.* at 184; see also SCHECK ET AL., *supra* note 14, at 257 (“Crime laboratory budgets should be independent from the police”).

Because of the diversity of crime laboratories and their funding structures, it is almost impossible to predict how funding would be affected if laboratories became independent.

D. Efficacy of Reform

The minority report of the Illinois Capital Punishment Commission also argued that an independent laboratory would not solve the problem of police influence. Because police and prosecutors use crime laboratories far more than defense attorneys do, the minority believed that close relationships were inevitable.⁹¹ There is some merit in this position. Yet there is a difference between working with someone, even extensively, and working with someone who is a superior (or works for a superior) within the same organization.

III. THE NAS PROPOSAL

The NAS Report recommends only that “administrative control” of the laboratory be removed from law enforcement agencies or prosecutors.⁹² The report went on to explain:

Ideally, public forensic science laboratories should be independent of or autonomous within law enforcement agencies. In these contexts, the director would have an equal voice with others in the justice system on matters involving the laboratory and other agencies. The laboratory also would be able to set its own priorities with respect to cases, expenditures, and other important issues.⁹³

In other words, the goal is for a laboratory to have sufficient autonomy to protect the integrity of the laboratory’s findings. As a byproduct of a laboratory controversy,⁹⁴ the Virginia legislature in 2005 made the Division of Forensic Science a separate department under the Secretary of Public Safety.⁹⁵ The

⁹¹ CAPITAL PUNISHMENT COMM., *supra* note 15, at 53 (“The reality is that no matter how ‘independent’ this separate state agency is, the bulk of its work will still be for police agencies and prosecutors. As is true today for the vast majority of cases, the forensic experts will be called to testify by the prosecution and these experts will undoubtedly continue to be subject to cross-examination for that testimonial history. As a result, an ‘independent’ laboratory will be subject to criticism as a ‘police/prosecutor’ lab even if it is not under the direct control and management of a police agency, because of the nature of its day to day work.”).

⁹² NAS REPORT, *supra* note 1, at 24 (“Congress should authorize and appropriate incentive funds . . . for the purpose of removing all public forensic laboratories and facilities from the administrative control of law enforcement agencies or prosecutors’ offices.”).

⁹³ *Id.* at 184.

⁹⁴ See Giannelli, *supra* note 27, at 192–95 (discussing the Earl Washington Jr. case where a mentally retarded man had been convicted of a rape-murder and spent seventeen years in prison, only to be pardoned based on DNA evidence that was erroneously interpreted by experts).

⁹⁵ VA. CODE ANN. § 9.1-1100 (2005) (changing Division of Forensic Science into the Department of Forensic Science). A Forensic Science Board and Scientific

laboratory had previously been under the Department of Criminal Justice Services. Although perhaps not a major change, this reorganization did increase laboratory autonomy.

The American Society of Crime Laboratory Directors proposed a different approach. That organization recommended that crime laboratories should not be removed “from parent agencies if the parent agency is required to document how crime laboratories have scientific autonomy with the freedom to conduct testing and report results without pressure from [external] activity, interest, or influence.”⁹⁶

In sum, the critical issue is for law enforcement and crime laboratories to acknowledge the problem and then to take steps to insulate the laboratory from improper influence.

IV. ADDITIONAL MEASURES

The problems raised by the law enforcement-crime laboratory relationship should also be addressed by the implementation of additional measures,⁹⁷ many of which appear as other recommendations in the NAS Report. As one commentator noted: “To the extent that we are aware of our vulnerability to bias, we may be able to control it. In fact, a feature of good scientific practice is the institution of processes—such as blind testing, the use of precise measurements, standardized procedures, statistical analysis—that control for bias.”⁹⁸

First, case files need to document the laboratory analysis. The lack of bench notes was a significant problem in the laboratory scandals. For example, the Chicago,⁹⁹ Houston,¹⁰⁰ and FBI explosives unit¹⁰¹ investigations all found inadequate documentation in forensic case files.¹⁰²

Advisory Committee were created at the same time. VA. CODE ANN. § 9.1-1109 & 1111 (2005).

⁹⁶ An Open Letter from the American Society of Crime Laboratory Directors to Senator Patrick Leahy Regarding the NAS Report, (March 17, 2009), in FORENSIC MAG. (April/May 2009), available at <http://www.forensicmag.com/articles.asp?pid=269>.

⁹⁷ See *Strengthening Forensic Science in the United States: Hearings Before the Comm. on the Judiciary, U.S. Senate, 111th Cong., Sept. 9, 2009* (statement of Matthew Redle, County and Prosecuting Attorney, Sheridan County, Wyoming) (discussing the importance of implementing quality control measures in laboratories such as “laboratory accreditation and personnel certification programs . . . ; internal peer review procedures; maintenance of appropriate testing documentation to facilitate internal and external peer review of individual case testing; external and internal performance audits; regular proficiency testing as a check on both personnel and protocol performance; and corrective action procedures when proficiency testing or casework errors are discovered”).

⁹⁸ REDMAYNE, *supra* note 24, at 16 (footnote omitted).

⁹⁹ Letter from Professor George F. Sensabaugh, University of California at Berkeley, to Locke E. Bowman, The MacArthur Justice Center, University of Chicago Law School 5 (Oct. 16, 2003) (on file with author) (“Overall, the documentation of the lab work as described in the three pages of lab notes is inadequate and incomplete. Moreover, the formal lab reports describe results of testing for which there is no record

Second, bench notes should be recorded contemporaneously with the examination. Otherwise, the examiner is subject to “reconstructive effects.”¹⁰³

Third, protocols should address contextual bias by shielding examiners from information that is not germane to the examination.¹⁰⁴

Fourth, comprehensive laboratory reports are necessary.¹⁰⁵ Currently, laboratory reports often are “terse to the point of being indecipherable.”¹⁰⁶ For example, some laboratory reports provide only a brief statement of the results:

in the lab notes. In short, the documentation in this case falls short of accepted scientific standards.”)

¹⁰⁰ See MICHAEL R. BROMWICH, THIRD REPORT OF THE INDEPENDENT INVESTIGATOR FOR THE HOUSTON POLICE DEPARTMENT CRIME LABORATORY AND PROPERTY ROOM 28 (June 30, 2005) (“Among other problems it identified, the 2002 DPS audit found that no such written procedures [for case notes and lab reports] existed and identified numerous deficiencies in the documentation contained in the lab reports.”), available at <http://www.hpdlabinvestigation.org/reports/050630report.pdf>.

¹⁰¹ See 1997 I.G. REPORT, *supra* note 38 (recommending the preparation of adequate case files to support reports); Bales, *supra* note 7, at 57 (noting that one FBI examiner “testified that he had performed certain tests that were not described in his notes”).

¹⁰² See *Law v. State*, 307 S.E.2d 904, 908 (Ga. 1983) (Smith, J., dissenting) (“It is an insult to intelligent people to say that a scientific test was conducted from which absolutely no notes or records survive. . . . A basic principle of scientific testing is that careful records of test procedure and results are to be scrupulously maintained. A scientific test without an accompanying report of the testing environment, number of trials, raw results and analyzed data is in reality no test at all.”).

¹⁰³ See *supra* notes 53–54 and accompanying text.

¹⁰⁴ ABA DNA Standard 16-3.1(a)(v) recommends laboratories “follow procedures designed to minimize bias when interpreting test results.” ABA DNA STANDARDS, *supra* note 11, at 6. Additionally, “[c]ognitive bias (e.g., observer effects) occurs because people tend to see what they *expect* to see, and this typically affects their decisions in cases of ambiguity.” *Id.* at 67. See also NAS REPORT, *supra* note 1, at 26 (Recommendation 8: “Forensic laboratories should establish routine quality assurance and quality control procedures to ensure the accuracy of forensic analyses and the work of forensic practitioners. Quality control procedures should be designed to identify mistakes, fraud, and bias; confirm the continued validity and reliability of standard operating procedures and protocols; ensure that best practices are being followed; and correct procedures and protocols that are found to need improvement.”).

¹⁰⁵ ABA DNA Standard 16-3.3 recommends the use of comprehensive laboratory reports. ABA DNA STANDARDS, *supra* note 11, at 7. The Journal of Forensic Sciences, the official publication of the American Academy of Forensic Sciences, published a symposium on the ethical responsibilities of forensic scientists in 1989. Symposium, *Ethical Conflicts in the Forensic Science*, 34 J. FORENSIC SCI. 717 (1989). One article discussed a number of laboratory reporting practices, including (1) “preparation of reports containing minimal information in order not to give the ‘other side’ ammunition for cross-examination,” (2) “reporting of findings without an interpretation on the assumption that if an interpretation is required it can be provided from the witness box,” and (3) “[o]mitting some significant point from a report to trap an unsuspecting cross-examiner.” Douglas M. Lucas, *The Ethical Responsibilities of the Forensic Scientist: Exploring the Limits*, 34 J. FORENSIC SCI. 719, 724 (1989). Lucas was the Director of the Centre of Forensic Sciences, Ministry of the Solicitor General, Toronto, Ontario. *Id.* at 719.

¹⁰⁶ Bales, *supra* note 7, at 56.

“e.g., ‘The green, brown plant material in item # 1 was identified as marijuana.’”¹⁰⁷ In its recent decision, *Melendez-Diaz v. Massachusetts*,¹⁰⁸ the Supreme Court noted that the report in that case contained

only the bare-bones statement that ‘[t]he substance was found to contain: Cocaine.’ At the time of trial, petitioner did not know what tests the analysts performed, whether those tests were routine, and whether interpreting their results required the exercise of judgment or the use of skills that the analysts may not have possessed.¹⁰⁹

Fred Zain,¹¹⁰ Joyce Gilchrist,¹¹¹ and Pam Fish,¹¹² among others, omitted critical information from their reports.

Fifth, the reporting of test results should be accompanied by an explanation of the significance of any finding.¹¹³ A recent investigation of forensic testimony in DNA exoneration cases revealed that some experts gave misleading testimony by omitting critical information.¹¹⁴

¹⁰⁷ NAS REPORT, *supra* note 1, at 186.

¹⁰⁸ 129 S. Ct. 2527 (2009). The Court held that admission of a laboratory certificate identifying a substance as cocaine, in the absence of an opportunity to cross-examine the analyst, violated the Confrontation Clause. *Id.* at 2532.

¹⁰⁹ *Id.* at 2537 (citations omitted).

¹¹⁰ *In re Investigation of the W. Va. State Police Crime Lab., Serology Div.*, 438 S.E.2d 501, 503 (W. Va. 1993) (stating Zain “fail[ed] to report conflicting results” and “fail[ed] to conduct or to report conducting additional testing to resolve conflicting results”).

¹¹¹ *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, 1218 (Okla. Crim. App. 1988) (“[T]he forensic report was at best incomplete, and at worst inaccurate and misleading. . . . Gilchrist admitted at trial, however, that she failed to include her conclusion . . . in the forensic report given to Mr. Wilson. This significant omission, whether intentional or inadvertent, resulted in a trial by ambush”) (citations omitted).

¹¹² See SCHECK ET AL., *supra* note 14, at 125 (“Fish’s misleading testimony in the Willis case, which led to the conviction of an innocent man and allowed a predator to continue roaming the streets, shows why the state should have turned over all of Fish’s laboratory notes and data, rather than merely presenting her final report.”).

¹¹³ See FORENSIC ANALYSIS: WEIGHING BULLET LEAD EVIDENCE 110–11 (2004) (“The conclusions in laboratory reports should be expanded to include the limitations of compositional analysis of bullet lead evidence. . . . Moreover, a section of the laboratory report translating the technical conclusions into language that a jury could understand would greatly facilitate the proper use of this evidence in the criminal justice system.”).

¹¹⁴ See Brandon L. Garrett & Peter J. Neufeld, *Invalid Forensic Science Testimony and Wrongful Convictions*, 95 VA. L. REV. 1 (2009). The study identified several different types of invalid testimony: (1) presenting non-probative evidence as probative, (2) discounting exculpatory evidence, (3) using inaccurate frequencies or statistics, (4) providing a statistic without support, (5) providing non-numerical statements without empirical support, and (6) attributing the source of evidence to the defendant. *Id.* at 16–20.

Sixth, examiners should be prohibited from testifying beyond the laboratory report (unless a supplemental report is issued), a requirement that would protect against overreaching by prosecutors¹¹⁵ and preclude the opportunity for improper embellishments.

Finally, an enforceable code of ethics should be adopted.¹¹⁶

Enforcement of these procedures can be effectuated through accreditation. For example, the American Society of Crime Lab Directors/Laboratory Accreditation Board requires quality assurance programs—i.e., proficiency testing, technical reviews, audits, and corrective action procedures.¹¹⁷ The NAS Report recommends mandatory accreditation of laboratories and the certification of examiners.¹¹⁸

Legal procedures such as full pretrial discovery¹¹⁹ and the availability of defense experts also are important protections.¹²⁰ Not only do they serve due process norms, they also are quality control mechanisms. Laboratory personnel should understand that the required documentation generated by the examination will be turned over to the defense and may be reviewed by defense experts.

CONCLUSION

Law enforcement influence over laboratory decisions is a serious problem. In an ideal world, independent crime laboratories would be the solution. Crime laboratories, however, have historically developed within police agencies, and

¹¹⁵ See *supra* notes 76–83 and accompanying text.

¹¹⁶ See NAS REPORT, *supra* note 1, at 26 (Recommendation 9 urges the establishment of “a national code of ethics for all forensic science disciplines and encourage[s] individual societies to incorporate this national code as part of their professional code of ethics.”).

¹¹⁷ See ASCLD/LAB BYLAWS 1 (2008), available at http://www.asclclab.org/about_us/bylaws.html.

¹¹⁸ NAS REPORT, *supra* note 1, at 25 (Recommendation 7: “Laboratory accreditation and individual certification of forensic science professionals should be mandatory, and all forensic science professionals should have access to a certification process.”).

¹¹⁹ See generally PAUL C. GIANNELLI & EDWARD J. IMWINKELRIED, SCIENTIFIC EVIDENCE 145–211 (4th ed. 2007) (discussing shortcomings of criminal discovery).

¹²⁰ The minority report of the Illinois Capital Punishment Commission believed that instead of an independent lab, a better solution “would be provided by state funding for the creation of a permanent cadre of forensic experts available to defense attorneys for consultation and review of forensic and scientific evidence.” CAPITAL PUNISHMENT COMM., *supra* note 15, at 54. “Such a group of permanently retained experts would provide a ready and consistent resource for information and assistance to defense attorneys (both privately retained and publicly appointed) about complicated areas of science that are not usually taught in law schools or easily understood.” *Id.*; see generally Paul C. Giannelli, Ake v. Oklahoma: *The Right to Expert Assistance in a Post-Daubert, Post-DNA World*, 89 CORNELL L. REV. 1305 (2004) (discussing the need to bolster the right to defense experts).

decades of entrenchment make it difficult to remove laboratories completely from law enforcement control.¹²¹

This does not mean, of course, that the status quo should be preserved. If located within law enforcement agencies, forensic laboratories should be as autonomous as possible and should be run in accordance with scientific norms, including procedures to protect against all types of bias. The NAS Report was not the last messenger. Within months of the report's release, the Supreme Court wrote that "[f]orensic evidence is not uniquely immune from the risk of manipulation."¹²²

¹²¹ See Risinger et al., *supra* note 25, at 43 ("The establishment of freestanding government forensic laboratories, though occasionally advocated, would require such a revolution in thinking and organization, and diminish so many established bureaucratic empires, that it would take a generation of patient lobbying to have a chance of success.") (citation omitted).

¹²² *Commonwealth v. Melendez-Diaz*, 129 S. Ct. 2527, 2536 (2009) (citing the NAS Report).



**AMERICAN SOCIETY OF
CRIME LABORATORY DIRECTORS, INC.®**

65 Glen Road, Suite 123, Garner, NC 27529

November 8, 2022

ASCLD BOARD OF DIRECTORS

Jennifer D. Naugle, President
Wisconsin Division of Forensic Sciences

**Timothy D. Kupferschmid,
President-Elect**
NYC Office of Chief Medical Examiner

Jeffrey V. Nye, Secretary
Michigan State Police

Scott Ford, Treasurer
Midwest Regional Forensic Laboratory

Laura B. Sudkamp, Past President
Kentucky State Police Division of
Forensic Services

Lisa Burdett
Kansas Bureau of Investigation

Mike Cariola
Bode Technology

Claudine Carter Pereira
Broward Sheriff's Office

G. Scott Hummel
Kansas City Police Department

Sheri Lemons
West Virginia State Police Forensic
Laboratory

Henry Maynard
Defense Forensic Science Center

Tate Yeatman
Palm Beach County Sheriff's Office
Crime Laboratory

ASCLD STAFF

John A. Byrd, BG (Retired)
Executive Director

Ramona Robertson
Administrative Assistant

**ASCLD Position Statement
Parent Organizations of Forensic Laboratories**

The American Society of Crime Lab Directors (ASCLD) is a nonprofit professional society of over 700 forensic laboratory directors and forensic science managers across the United States and worldwide, dedicated to providing excellence in forensic science through leadership and innovation. The purpose of the organization is to foster professional interests, assist the development of laboratory management principles and techniques; acquire, preserve and disseminate forensic-based information; maintain and improve communications among forensic laboratory directors; and promote, encourage and maintain the highest standards of practice in the field.

ASCLD has released many position statements over the years in support of the National Academy of Sciences 2009 Report: Strengthening Forensic Science in the United States: A Path Forward. There are many recommendations in that report, including one that highlighted the importance of autonomy from the law enforcement and prosecutorial community (this is most often accomplished by removing crime labs from under the administrative control of such agencies).

ASCLD acknowledges that forensic science practice was started in and has grown out of law enforcement entities. Many forensic science techniques were developed to aid in the investigatory phase of law enforcement and then were adapted to the role of aiding the defense or prosecution by providing courtroom testimony. A perception exists that forensic science practitioners working in public forensic laboratories are seen as an extension of investigation and prosecutorial teams, not as part of an impartial, unbiased scientific field. Crime laboratories have taken steps since the NAS report was published in overcoming this perception and continuing to evolve. Forensic science practitioners and leadership acknowledge unconscious biases exist and leverage webinars, papers, and conference presentations to educate themselves on bias and human factors. Additionally, accredited laboratories follow accreditation standards on requirements regarding impartiality which includes a code of ethics.

ASCLD believes that forensic science must be built on a foundation of sound science, ethics, and objectivity. Forensic science serves the public and the criminal justice system but should not be influenced by political pressures. Regardless of whether a laboratory is currently part of a police or sheriff's

department, a local or state attorney's office, a medical examiner's office, or any other parent agency; laboratory directors, managers, and employees of forensic laboratories must avoid any activity, interest, influence, or association that interferes or appears to interfere with their independent ability to exercise professional judgment. ASCLD believes that a parent agency must be able to demonstrate that a forensic laboratory has the scientific and programmatic policy and procedural autonomy. This includes the freedom to operate, oversee programs, conduct scientific testing, report confidential results, and testify/provide testimony without pressure from political activity, biased interest, or undue influence. Importantly, a parent agency should be able to confidently demonstrate its support and commitment to providing sufficient funding to maintain and advance forensic services. To ensure the best service to the public, a parent agency should aim to maximize its support to a forensic laboratory while eliminating undue influence or pressure which ultimately will enhance public trust and confidence in both the parent agency and the forensic laboratory.

ASCLD believes that it is not required that a forensic science laboratory parent organization be a police or sheriff's department, a local or state attorney's office, a medical examiner's office, or an independent department. There are many well-functioning structures that currently exist and ASCLD supports those structures.

ASCLD is acutely aware of rising expectations and caseloads placed on overworked public forensic laboratory personnel. Therefore, ASCLD strongly recommends that parent agencies provide assistance and adequate funding for personnel, training, and equipment to perform their independent scientific analyses at peak levels.

A Review and Commentary on the Model Forensic Science Laboratory

Dean M. Gialamas

Crime Lab Director, Los Angeles County Sheriff's Department, Los Angeles, CA and Principal and Leadership Consultant, Cardea Enterprises Inc., Fullerton, California

ABSTRACT Forensic science is a unique discipline; it is like no other professional enterprise. First and foremost, our work is done in an adversarial system of the courts. In the United States, this poses a unique juxtaposition that places professionals in science and the law to debate truth versus justice. Secondly, the producers of forensic science deliverables are considered “high reliability organizations” or HROs. We are responsible for the production and transformation of information from raw materials that are insulted, degraded, and contaminated collected from non-pristine and non-controlled environments and have to turn that into “perfect” information. No other industry or enterprise has this level of difficulty or responsibility in producing its work product. This article is a response to the three model proposals in this issue, offering a commentary and vision of the future for a model forensic science laboratory.

KEYWORDS Forensic Science, forensic science reform, National Academy of Sciences, NAS Report, model crime lab, model forensic laboratory, strengthening forensic science

After having read the articles by these three well-respected and heavily awarded forensic scientists, I had the difficult task of not only commenting on the presentations made by the three experts but to ponder, debate, and discuss what I felt was the model forensic science laboratory if it was not already described in these three papers. When I was first asked to do this, I thought this would be rather straightforward; however, that proved wrong rather quickly. In reviewing these conceptual models, it becomes clear that the answer is not easy and certainly not straightforward.

In fact, it is quite difficult by the very nature of the responsibility we bear in this profession. Forensic science is a unique discipline; it is like no other professional enterprise. Period. Although this may seem self-serving or idealistic, forensic science is a profession—a science—that is truly unique. First and foremost, our work is done in an adversarial system of the courts. In the United States, this poses a unique juxtaposition that places professionals in science and the law to debate truth versus justice. The language is deliberate here, as the adversarial system, by nature, forces a process where truth is the means to justice; however, the pursuit of justice may or may not expose all the truth. Secondly, the producers of forensic science deliverables are considered “high reliability organizations” or HROs. HROs are entities (organizations) that must succeed in avoiding catastrophes in environments where normal accidents, mistakes,

Received 6 December 2013;
accepted 13 December 2013.

Address correspondence Dean M. Gialamas, 1800 Paseo Rancho Castilla, Los Angeles, CA 90032. E-mail: dmgialam@lasd.org

and errors can occur with grave consequences. Think, for example, about Naval aircraft carriers, surgery room tables, space rocket, or shuttle launches; small errors can lead to catastrophic problems or loss of life. HROs not only focus on strategies to perfect their work but also to create the goals and strategies to avoid mistakes—mistakes where the consequences of the work and results mean life and liberty decisions have been made regularly. Finally, workers within and contributors to the forensic enterprise are information producers; we are more than simple information providers. We are responsible for the production and transformation of information from raw materials that are insulted, degraded, and contaminated collected from non-pristine and non-controlled environments and have to turn that into “perfect” information. No other industry or enterprise has this level of difficulty or responsibility in producing its work product.

Armed with this background and with three insightful articles, together with my experience as a forensic scientist in both public and private laboratories, a current laboratory manager and crime laboratory director, and a passionate student and teacher of leadership and management principles, we will embark on a commentary and vision of the future for a model forensic science laboratory.

REVIEW ON THE ARTICLES

In trying to sort out my direction and because I am a very visual person when it comes to organization, I decided to document each of the key elements from each author on a spreadsheet and see how similar or differently they aligned. There were some very interesting outcomes.

The first observation I had was regarding the length of the articles: Fisher’s being the shortest, Lucas’ the longest (with a thorough review of forensic science disciplines), and Siegel’s somewhere in between in length. As it was discovered in my review, however, length had absolutely nothing to do with the content. In fact, the second observation was an interesting note about the key points that stood out to me from each author: Fisher had thirteen (13) key points, Lucas had nine (9) key points and Siegel had twelve (12) key points in each of their articles.

The third observation is that when I charted all of their key points that I took from their articles then grouped them based on similarity, the three authors ad-

ressed thirteen (13) areas of the Model Forensic Laboratory. All three authors had full agreement on five (5) areas, two out of three authors had agreement on four (4) areas, and an additional yet final four (4) areas were points raised by only one or another of the three contributing authors. Some of the key points were more generic in approach, while the others outlined very detailed and specific requirements for their ideal model.

Starting now with the five key points of similarity between all three authors, the model forensic science laboratory proposed by Fisher, Lucas, and Siegel included the following topic areas (in no particular order):

- **Operational Independence:** As brought up by the 2009 National Academies of Sciences Report, *Strengthening Forensic Science in the United States: A Path Forward* (herein “NAS Report”), all three authors stated that there is a need to create operational independence of forensic laboratories from the control of law enforcement, which I interpret and for the purposes of my article also includes prosecutorial offices. Siegel was rather emphatic about the move, stating that any entity seeking a designation as a model laboratory, must first seek independence from law enforcement. Moreover, Siegel’s independence also included the removal of all law enforcement and prosecutorial officials from the laboratory operation. Lucas and Fisher were somewhat softer in their approaches stating that independence was needed, but there was clearly a drawback in the political climate of government that would have a negative consequence to a forensic laboratory, particularly in obtaining funds. In fact, Lucas noted that at a practical level, law enforcement agencies provide critical support and infrastructure with human resources management, budget and capital expenses, purchasing, audits and the like.
- **Oversight and Mandates:** As noted by Fisher, there are several industries that require oversight, but one public service deliverable that does require regulation of employees or their facilities is forensic science. Although there is considerable debate about the type and level of review, oversight or regulation, the NAS report was clear on the issue of accreditation and certification—both are required. Siegel was quite direct in his key points and charged that all staff must be certified or licensed to perform work and that all labs must be accredited as well. Fisher and Lucas touched on the issue with covering arguments on both sides

of the issue but never came out with a formal statement on accreditation or certification requirements for a model forensic laboratory. With respect to the broader category of oversight, however named, Fisher was clear that it is needed for forensic science.

- **Forensic Laboratory Funding:** All three authors noted in some fashion that the costs of forensic operations need to be tied to the criminal justice system needs and expectations. All three also indicated some level of difficulty with not only obtaining but also in maintaining funding in a fee-for-service or pay-as-you-go model. Lucas and Siegel favored public or private funding with a priority toward independent funding which is tied to operational independence. Of note was a perspective by Lucas and Siegel that allows access to forensic laboratories by any stakeholder needing forensic services—law enforcement, prosecutors, other government legal or regulatory agencies and accused individuals. Lucas did touch on the issue questioning whether an objective and impartial government-funded operation should provide services to just one party of an adversarial side. Fisher noted that forensic labs are woefully underfunded and Siegel echoed with similar comments; but as Lucas quite correctly pointed out, “Forensic science is labor intensive and therefore expensive.”
- **Management and Leadership:** There was clear and unequivocal support by all three authors for the need for leaders with strong technical skills and better managerial training. They noted critical needs for continuing education and training in leadership and business for laboratory managers and directors. All three agreed that the model forensic laboratory would be run by a scientist with advanced degrees in science and demonstrate a high degree of leadership ability with additional coursework in business or management programs. As Fisher noted in his article, the FBI offers an intensive 11-week management program for senior police managers and law enforcement administrators but forensic science has difficulty underwriting a single one-week course for its supervisors, managers and administrators.
- **Forensic Science Delivery:** As noted in the NAS report and by all three authors, the delivery of forensic science across the United States has been fragmented. There are hundreds of laboratories and forensic service providers that operate typically at many levels of government’s law enforcement. The services offered by these entities range from single services, like crime

scene investigation or latent fingerprint development and comparisons to large, complex operations offering a multitude of disciplines of examination and analysis within forensic science, often dubbed “full-service” laboratories. Fisher discussed the challenges of service delivery issues. His discussion included the difficulty in determining indicators of success, determining the appropriate level of service, what constitutes generally accepted procedures and the appropriate type of case prioritization (noting the universal “squeaky wheel management” when it comes to prioritizing cases). Fisher also touched on the fact that there is little formal coordination among laboratory services offered on a regional level and that many services can be consolidated on a regional level for cost savings. He also noted that there is no single entity that oversees the forensic science delivery system in the United States. Lucas described minimum core services that must be offered to be considered a model lab, which ideally would be offered within one facility or operational entity. However, he noted that external issues impacting laboratories like demographics, local politics, jurisdictional court decisions as well as internal issues like who should deliver forensic science services (government versus private), and at what level core services should be offered if it is within government were all considerations that could impact “core services.” Siegel was unequivocal that a model laboratory must be full-service and must offer and provide all the forensic services for that jurisdiction.

Moreover, as noted by Fisher, no one to date has defined what the generally accepted levels of forensic science service should be for the criminal justice community. Lucas agrees and in fact notes that the current state of forensic science was never really a planned or designed system. Lucas goes on to state that “there never has been a conceptual model for an ideal effective, efficient, reliable forensic science delivery system” for the United States. He describes a model that would be a substantial change by requiring an effort from knowledgeable stakeholders to build a forensic delivery system “from scratch” that would be developed by stakeholders for a particular jurisdiction.

All three authors seemed to agree that changes are needed; however, there was no clear consensus on how services should be delivered to reduce the fragmented nature of forensic science delivery.

As we progress to the next series of similar traits that are within the model forensic laboratory, a second set of key points of similarity emerged from Fisher, Lucas, and Siegel where at least two of the authors were independently in agreement. These included the following subject areas:

- **Accreditation:** Although most “full service” crime labs (usually defined as large city, regional, state, or federal laboratory systems with dozens to hundreds of employees) are accredited, most providers of forensic science services typically housed within small to medium size police departments are not. Fisher noted that accreditation is currently voluntary. Siegel, however, was emphatic that accreditation must become mandatory. In Siegel’s view, there is no option for any entity providing forensic services—they must be accredited. Furthermore, he added that a model laboratory must also have a quality manager (and a quality manual for that matter).
- **Research:** As noted in the NAS report, forensic science is in dire need of more research. Fisher noted the areas of patterned evidence, such as fingerprints, firearms, tool marks, shoeprints, and tire impressions, as areas that need more research and more funding. Fisher noted that there is only paltry amount of funding, and, without grants, universities are not likely to look into these areas. Fisher suggested that academics and practitioners needed to join forces to address these challenged areas of forensic science. Siegel, too, noted the paucity of federal funding for research in forensic science and also noted that there is no single entity in the United States that drives research initiatives. He proposed the idea of making research activities in crime labs an aspirational goal in all laboratories. From a community perspective, this is one area that has been a priority agenda item on sides of the stakeholder fence.
- **Best Practices in the Laboratory:** Both Fisher and Siegel weighed in on the ideals of best practices for crime labs. Fisher introduced the notion that even without oversight, some entity must take the lead to develop a best practices document suggesting what steps crime labs can take to enhance their reliability, efficiency, and effectiveness. He offered the creation of privately held centers of excellence to train laboratory managers, bring together stakeholders for focus groups, to consider current and emerging issues in forensic science. Siegel noted that many of the best

practices ideas that have been presented over the years have been incorporated into accreditation standards but his writing suggests that it may not be enough. In addition to operational best practices, Siegel brought forth the issues related to bias and sources of errors in science. Spending time discussion situational bias, cognitive bias and confirmation bias, he clearly believes that there is more we can do to improve best practices in forensic science.

- **Staffing/Training and Qualifications:** Accredited crime laboratories across the United States are already well tuned in to the issues regarding training and staffing. However, even with those who readily understand and support the accreditation and accrediting body amplification documents, there is a great deal of specificity that was introduced by both Lucas and Siegel in their model laboratory. Both addressed topics related to the concepts of “specialist” versus “generalist,” mandatory education and training, mandatory continuing education and mandatory staffing.

Lucas noted that as the sciences have become more complex and as the demands placed upon the laboratories become more intense, the trend has been toward specialization. Lucas correctly noted, however, “Increased specialization leads to a narrower approach to problem solving.” Siegel touched on the issue briefly when he described the need for certification in a variety of disciplines, potentially indicating his support for a more well-rounded, generalist-like approach.

Both Lucas and Siegel took considerable efforts to describe the need for mandatory education and training and mandatory continuing education. Both addressed the need for strong scientific backgrounds of all technical personnel working in the laboratory and the need for advanced degrees. Minimum requirements would be baccalaureate degrees in appropriate disciplines of natural or physical science, such as biology, chemistry or a related field. Siegel went further also requiring some forensic science and law courses in degree programs and felt that internships or practical experience in a scientific laboratory was also required. Siegel also described specific educational and degree requirements based on the position held within a laboratory in order to support the functional role of the position.

Additionally, both Lucas and Siegel were also in agreement that laboratories must have minimum

staffing in certain key positions and that all personnel must have a component of continuing education requirements as part of the laboratory operations—with particular emphasis on quality and technical management. As mentioned earlier, Siegel added that no law enforcement or prosecutorial officials should be part of the laboratory management or part of the laboratory’s reporting line.

And finally, the remaining four areas of discussion surrounded key points of which there was only an independent presentation, and hence no similarity, among the authors’ proposals but were important in the context of the model forensic science laboratory proposed by either Fisher, Lucas, or Siegel. At least one of these three authors proposed the following:

- **Aspirational Goals:** Siegel took a novel approach to the presentation of the model forensic requirements and was something that resonated very well with me when I read the concept. Siegel presented the need to create a framework of a model forensic laboratory that had two types of criteria that would comprise his model: (i) a non-negotiable, mandatory requirement and (ii) an aspiration requirement that a laboratory could work towards. Modeled after the Leadership in Energy and Environmental Design (LEED) program of rating facilities for their efforts in green (renewable) certification, he proposed a single designation for a “model laboratory.” It was a simple, yet effective way to delineate both need and importance of his key points. Perhaps not by coincidence, this also models the older “legacy” accreditation system program from the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB) that specified essential, important and desirable criteria.
- **Mandatory Annual Reporting:** In describing the benefits and needs of oversight for forensic science, Fisher noted that even just the simple requirement of mandatory annual reporting from each laboratory within a jurisdiction or State would provide tremendous benefit to the community and stakeholders. Fisher noted that the report would be a public document and would be a potential catalyst for change and improvement, though he did not describe the details required in such a report.
- **Communications:** Fisher described the need for better communications between a model forensic laboratory’s management and both external stakehold-

ers (“clients”) and agency heads. Fisher noted that in relation to funding and expectations, laboratory services were disadvantaged where there was a lack of communication. He additionally added that since laboratories are often positioned within other government entities, the laboratory management often could not easily and directly communicate with the agency head. These result in lab matters potentially not being addressed appropriately. [It is noted that communication with an agency head may be in conflict with the ideals of operational independence as described above.]

- **Forensics Not Perceived as a Critical Criminal Justice System Element:** Fisher described the current status of forensic science as “not perceived by the larger criminal justice system as a critical element of the system.” As such, he notes that it is only after large-scale catastrophes or crises occur that government leaders and policy makers begin to address the needs of forensic science. Fisher notes that the damage, loss of confidence, and the costs associated with fixing the problem could be prevented with some of the ideals of a model forensic laboratory.

COMPILATION OF KEY POINTS FOR THE MODEL FORENSIC SCIENCE LABORATORY AND AUTHOR’S REVIEW

As I begin to examine what a model forensic science laboratory would be, it becomes clear to me that in compiling the key points from Fisher, Lucas and Siegel, the model forensic science laboratory begins to take shape. Grouping the key points above easily begins to drive what the model would look like. In fact, the visual nature of charting the key points and grouping them based on similarity of general concepts almost creates an ideal list of attributes that the model forensic science laboratory must have.

Siegel’s work presented the concept of “Mandatory” and “Aspirational” goals. As noted earlier, this resonated very well with me in my review and I believe that it would be a key component in addressing the model forensic science laboratory. I also believe that in addressing the model forensic science laboratory one must also consider the ability for a laboratory to control that attribute or goal. If a laboratory cannot directly control an attribute, it cannot, in fairness, be a mandatory

requirement. Therefore, in borrowing the concept that Siegel offered, the framework for the model forensic science laboratory should be created with “Mandatory” (non-negotiable, must haves) and “Aspirational” (highly desirable, yet optional or long-term) characteristics in mind.

For presentation purposes, the **MANDATORY** attributes will be in **bold text** and the ASPIRATIONAL attributes in underlined text. If I feel that any additional attributes that were not discussed need to be included, they will be in *italic text* and their mandatory or aspirational status indicated appropriately with *bold* or *underlined* text.

In order to properly describe a model forensic science laboratory, we first need to have a clear definition of what constitutes a forensic science laboratory. For the purposes of this article:

A “forensic science laboratory” is defined as any entity having at least one full-time analyst, however named, who examines physical evidence in criminal and/or investigative matters and provides reports or opinion testimony to such evidence in a United States court of law.

This definition does not limit or require a laboratory minimum size (which is in contrast to the opinions presented by Lucas and Siegel). Furthermore, it does it distinguish between which party in the adversarial process the laboratory is assisting. Whether the laboratory is managed by government or a private entity and whether the laboratory is called into service by the prosecution or the defense, all the principles below must apply and all forensic science laboratories, as clearly defined above, must comply without exception.

Thus, based on the grouped requirements and the opinions presented by Fisher, Lucas, and Siegel, along with my own input in a few areas, our model forensic science laboratory will have the following attributes.

- **Operational Independence:** A model forensic science laboratory **must** be operationally independent from law enforcement and prosecutorial offices. Operational independence is defined as laboratory directors (whose specific credentials are defined below) having complete autonomy over budget, technical personnel selection, quality management, and all technical operations from any parent agency or governing body. Operational independence, in my point of view, can be achieved either by being completely independent of a parent agency or by being within a

parent agency but giving the complete authority to the laboratory director for autonomous decisions regarding budget, technical personnel selection, quality management, and technical operations. Operational independence also means that the laboratory director must report to the highest level of agency or governmental authority, on parity with other governmental departments or agency major functional groups, and must have direct access to the highest governmental or elected authority to which it is assigned.

- **Laboratory Accreditation:** A model forensic science laboratory **must** be accredited to ISO 17025 international standards and to appropriate forensic science amplification documents, such as ASCLD/LAB’s Supplemental Requirements or ILAC G19.
- **Robust Quality Management System:** A model forensic science laboratory **must** have (i) a robust quality management system with documented policies and procedures and validated technical methods (usually described in more detail in accreditation programs), and (ii) adequate staff that have the requisite time to fulfill their duties in the laboratory as laboratory director(s), quality manager, and discipline specific technical leaders. For example, in a small laboratory of two or three personnel with only one discipline of forensic science services offered, one properly qualified person may successfully fulfill the role of laboratory director, quality manager, and technical leader. However, in a large laboratory with several disciplines of forensic science services, it may take a dozen or more properly qualified staff to fulfill these three critical role areas.
- **Stakeholder Advisory Body:** A model forensic science laboratory **must** host or actively participate in an advisory body comprised of key stakeholders in the service delivery community that must minimally include representatives from forensic science laboratories, public safety agencies (e.g., law enforcement and fire), prosecutors, defense attorneys, judiciary, academia, innocence or post-conviction centers, and local elected officials or policy makers. The participants must include the top officials from the participant agencies and participant agencies must not be allowed to delegate meeting authority to lower, mid-level managerial staff. The stakeholder advisory body (however named) must meet on a regular basis, ideally not less than four times per year, in order to maintain clear and open lines of communication and to address forensic issues relevant to the service delivery

- in a particular jurisdiction. Such topics could include but are not limited to: emerging issues in forensic science; coordination of jurisdictional forensic science delivery efforts; review of court case decisions and their impacts to service delivery; policy coordination among stakeholder participants; impacts of legislation and national forensic science guidance efforts; issues and trends within the crime laboratory that can affect stakeholders; and coordinated training efforts.
- **Trained and Certified Management:** A model forensic science laboratory **must** have properly trained laboratory directors and upper management that have (i) education, training and experience as a forensic scientist, (ii) certification in general forensic science methods, (iii) education or experience in business such as (e.g., business, leadership or management courses), and (iv) requirements for annual continuing education in both forensic science and in business, leadership or management. An intensive leadership program for forensic scientist managers would be very beneficial, something similar to the FBI's National Academy, to strengthen the knowledge, skills and abilities of scientist to take on business operations and leadership roles within the crime lab.
 - **Trained and Certified Technical Personnel:** A model forensic science laboratory **must** have properly trained technical staff and technical supervisors that have (i) at least a baccalaureate degree in a physical science with elective coursework in forensic science and the law, (ii) rigorous training and experience in discipline specific areas, (iii) certification in general forensic science methods (i.e., not discipline specific), and (iv) requirements for annual continuing education in forensic science. Certification in general forensic science methods **must** be required of all personnel to avoid the potential for a narrowed approach to casework and problem solving in an environment where specialization is increasing rapidly. Advanced scientific degrees and certification in discipline-specific areas are aspirational for supervision and lead technical roles within laboratory.
 - **Best Practices in Forensic Science Delivery:** A model forensic science laboratory **must** take a leadership role and define the best practices in forensic science for its jurisdictional area. This may include a blend of mandatory and aspirational attributes that include but may not be limited to:
 - **Professional Onboarding:** A model forensic science laboratory **must** have an organized and deliberate system by which new employees acquire the necessary skills, knowledge, and behaviors to become effective and contributing professionals in forensic science. Onboarding programs must minimally include a review of professional obligations and responsibilities such as the need for rigorous training, research, involvement with professional organizations and a commitment to move the profession forward, and a review of professional responsibilities as a forensic scientist (e.g., review of the "ASCLD/LAB Guiding Principles of Professional Responsibility for Crime Laboratories and Forensic Scientists" document). An aspirational goal would be to have the professional onboarding conducted and delivered by the laboratory director to demonstrate the importance and significance of the principles.
 - **Reporting:** A model forensic science laboratory **must** deliver a consistent report and work product such that all written reports contain key elements needed by all stakeholders. Such reporting and interpretation guidelines and requirements must include proper case identification; a statement of the work request; a list of evidence received with a notation as to which items were analyzed; the work performed with appropriate data included and the methodology used; a clear and unambiguous test result with clearly delineated and appropriately qualified report conclusions, interpretations, or statistical evaluations; chain of custody information; a layman's description of the test procedure, the test capabilities and test limitations such that a non-technical reader can clearly understand the significance of the result and the author's opinion or interpretation; and a statement indicating that additional notes and supporting data exist in the case file at the laboratory.
 - **Research:** A model forensic science laboratory should partner with universities with forensic science programs to enhance its research and development capabilities. The research areas would include new technology and techniques; advancing or improving current technology and techniques; the effects of bias in case approach, conclusions and interpretations (such as contextual bias, cognitive bias, and conformational bias); and whether these or other research areas need to be addressed or included in laboratory quality manuals for analytical methods.

- Regional Coordination: A model forensic science laboratory should coordinate its activities and efforts with other forensic service providers in the same jurisdictional area to maximize the use of available funding and to drive efficiency of local forensic science service delivery.
- Responding to Consumers of Forensic Science: A model forensic science laboratory should be able to provide services to any client or user needing an examination of physical evidence in criminal and/or investigative matters. For a professional enterprise that champions impartiality and maintaining objectiveness in all matters of professional work, forensic science services should be available to anyone in the criminal justice system, whether it be the prosecution, defense or the courts.
- **Annual Reporting and Census Data**: A model forensic science laboratory **must** be willing to (i) produce annual reports to stakeholders about successes, issues and concerns, future direction, and review its performance metrics and trends, and (ii) to participate in annual census data submissions for intra-laboratory comparisons (similar to the West Virginia University FORESIGHT program). Stakeholders and users of forensic services have a right to know about the public funds used to support a model forensic science laboratory. However, in order for the annual reports to be truly transparent and reflective of the current laboratory status, laws must be enacted to prevent the reports, particularly those with an overview of corrective action activity, from being used in court.
- Sustainable and Adequate Funding: A model forensic science laboratory should have adequate and sustainable funding to deliver the services based upon the demands placed upon it. It is, of course, dependent on the parent government structure to provide such funding. As all three authors noted, the costs of forensic operations are expensive and need to be tied to the criminal justice system needs and expectations. If the needs and expectations cannot be met with the funding and resources available, then client agencies may need to look into either providing direct financial assistance to the forensic science laboratory or negotiate enhanced level service contracts that can be used to hire additional staff to directly meet a specific client agency needs. “Pay-as-you-go” fee-for-service work and annual fee-for-service contracts to provide all

forensic services, though successful in some jurisdictions, have demonstrated some significant hurdles and challenges in many jurisdictions and, in the case of the Forensic Science Service in the UK, demonstrated catastrophic permanent and negative effects to the UK criminal justice system.

- **Professional Credentialing**: A model forensic laboratory **must** be credentialed to work in the criminal justice system. Although an oversight body may be needed for reasons described by Fisher, Lucas, and Siegel, oversight is typically a private industry or governmental function and one that is usually not left to the entity actually providing the service. Therefore, oversight really cannot be addressed fairly as a mandatory or aspirational attribute of a model forensic science laboratory. That is best left to the criminal justice system and policy makers. Although I have commented on the benefits of oversight in other work and presentations, I agree with many of the comments on oversight from Fisher, Lucas, and Siegel. I see and believe in the major merits of oversight systems here in the United States; however, A model forensic science laboratory cannot drive, direct, or control an oversight model or system.

However, I believe that all of the attributes above could be placed into credentialing program managed by an oversight body. According to the Institute of Credentialing Excellence in Washington, DC:

- Accreditation—is a time-limited recognition by a non-governmental entity to an institution, organization, business or entity after verifying that it has met established criteria;
- Certification—is a time-limited recognition by a non-governmental entity to an individual after verifying that he or she has met predetermined and standardized criteria;
- Registration—is a time-limited status for an individual on a registry maintained by a governmental entity, determined by knowledge-based requirements, allowing an individual to practice, similar but licensure.

A system of “forensic science credentialing” must be created for our professional enterprise that would act as an umbrella quality rating system for a model forensic science laboratory that involves the following components:

- **Credential**—is a time-limited recognition by a governmental entity to forensic science laboratory (as defined above) after verifying that it has met established criteria for accreditation and certification and offers a title for those who meet the criteria.
- **Registration**—is a time-limited status for a forensic science laboratory (as defined above) on a registry maintained by a governmental entity, determined by criteria based requirements, allowing forensic science laboratory to practice with a recognized title.

Therefore, the newly developed National Commission on Forensic Science (NCFS) or some other yet-to-be-defined governmental entity, would offer the following recognition to a forensic science laboratory:

- **Gold Credential:** A time-limited recognition by the NCFS (or other appropriate entity) that a forensic science laboratory has met all of the mandatory and all the aspirational goals in their entirety as outlined above. This Gold Credential title would be the highest level of recognition that a laboratory can receive and would be maintained on a public government registry.
- **Silver Credential:** A time-limited recognition by the NCFS (or other appropriate entity) that a forensic science laboratory has met all of the mandatory goals as outlined above. This Silver Credential title would recognize that a laboratory had taken extraordinary efforts to demonstrate professional commitment and would be maintained on a public government registry.
- **Registered Credential:** A time-limited recognition by the NCFS (or other appropriate entity) that a forensic science laboratory is (i) ISO 17025 accredited by an approved accrediting body using an appropriate amplification document for forensic science and (ii) is committed to pursuing a Silver or Gold Credential. This Registered title would recognize that a laboratory is taking efforts to demonstrate professional commitment and would be maintained on a public government registry.

Therefore, and in fact, working backwards from the 10 attributes distilled and refined from Fisher, Lucas, and Siegel that have been suggested above, a model forensic science laboratory need only meet one criteria:

The Model Forensic Science Laboratory *must* meet one of the three credential ratings above in order to examine physical evidence in criminal and/or investigative matters and provide reports or opinion testimony to such evidence in a United States court of law. Moreover, one of the three credential ratings can also be required in order to apply for federal funding or assistance, which would provide the incentive needed to drive a change forward in forensic science delivery.

SUMMARY AND CONCLUSIONS

Since the introduction of modern sciences into law enforcement in the late 1920s, a tremendous revolution in the application of technology to fight and prevent crime has occurred. Forensic science has become an essential tool and aids in solving investigations in ways traditional investigative approaches could not. Tremendous change has occurred in the forensic sciences in the decades that have passed; however, with these technological changes, greater scrutiny has come of forensic science. With the release of the NAS Report and the pending activity in Congress, the White House and certain federal agencies, along with the newly created but yet untested National Commission on Forensic Science, forensic science in the United States will change. I applaud the work and efforts by Fisher, Lucas, and Siegel, to create a vehicle to share experiences and opinions on improving forensic science delivery. These mandatory and aspirational attributes described above must be integrated into our laboratory operations and can even be done so without waiting for Congressional funding. Now more than ever, laboratory executives and staff, stakeholders, and policy makers will need to come together to discuss, debate, and define what the future of forensic science must be in order to enhance our ability to serve a justice system that holds accountable those who are responsible for crimes and exonerates those who have been wrongly accused.

DISCLAIMER

Mr. Gialamas wrote this article and presented it for publication in December 2013, prior to his appointment as a Commissioner to the National Commission on Forensic Science (NCFS). Although it is being published after the commencement of the NCFS's work, this article reflects the opinions of Mr. Gialamas only, and not the opinions or plans of the NCFS or the Los Angeles County Sheriff's Department.

In Texas, Oversight for Crime Labs Is Urged

By Ralph Blumenthal

Jan. 5, 2005

Correction Appended

HOUSTON, Jan. 4 - Facing two recently freed prisoners who each spent 17 years behind bars because of false scientific evidence, Texas senators on Tuesday pointed fingers of blame and urged oversight that could position the state at the forefront of national efforts to prevent wrongful convictions.

With the Houston Police Department still working its way through 280 boxes of misplaced evidence from 8,000 cases dating from the 1970's and discovered last August, members of the Senate Committee on Criminal Justice sparred with the police chief and district attorney over issues that included the advisability of a moratorium on executions, the pace of reform and the openness of laboratory operations.

News accounts in November 2002 first exposed the Houston crime laboratory's shoddy procedures and sloppy conditions, among a wave of similar scandals at laboratories in Virginia, Montana, Ohio and even the F.B.I. The Houston laboratory was shut down for a time and its DNA work given to an outside contractor. Several top staff members were fired or resigned, but grand juries voted no indictments.

"I've been in washateria cleaner than the crime lab," Senator Thomas D. Williams, Republican of The Woodlands, north of Houston, said at a hearing at Houston Community College. "It's a spaghetti bowl."

Another critic, the panel's longtime chairman, Senator John Whitmire, Democrat of Houston and the chamber's longest-serving member, asked Chief Harold L. Hurtt why it would take until at least March or April to select a project manager to begin reviewing the laboratory's actions, going back to 1978.

"Am I missing your sense of urgency?" Mr. Whitmire asked. He also complained that the police laboratory itself was retesting evidence and that no outside monitor has been reviewing the work. "Who's going to grade your paper?" he asked.

Chief Hurtt, who inherited the scandal when he arrived from Phoenix in March and has been generally praised for his leadership under difficult conditions, said, "We're trying the best we can, partnering with the D.A." He estimated that 62 percent of the boxes had been opened and cataloged but said that progress was slow because evidence from different cases had been mixed together.

Senator Kyle Janek, Republican of Houston, could not resist. "I've got some of those drawers in my house," Mr. Janek said.

Chief Hurtt assured the lawmakers that "no evidence to date has been found relating to any active investigation" but was less willing than the Harris County district attorney, Charles A. Rosenthal Jr., to predict that none would be found.

Mr. Hurtt also said, after some pressing by the senators, that he favored a moratorium on executions, "on a case-by-case basis," until all the evidence had been cataloged.

Mr. Rosenthal said: "I don't think we should have a moratorium. But you have to be very judicious."

Mr. Whitmire said that when the Legislature convened next week he would consider creating a state agency to independently investigate charges of misconduct at laboratories. Under the Justice for All Act signed in October, no state can receive federal forensic science grants without such an agency. If it acts this year, Texas would be one of the first, officials said.

Watching from the audience and then the witness table were two men who, their lawyer, Barry Scheck said, "represent the human face of forensic error and misconduct."

One, Brandon Moon, was released from prison two weeks ago after serving nearly 17 years on a rape conviction that was overturned as based on a faulty DNA test.

The other, George Rodriguez, was freed in October after also spending 17 years in prison on a rape conviction also based on false DNA evidence. In Mr. Rodriguez's case, Mr. Rosenthal said he was considering whether to refile charges.

Mr. Scheck, co-director of the Innocence Project, which focuses on wrongful convictions, said that a third client, Ernest R. Willis, released from death row after a tainted arson conviction was thrown out, was "afraid to come into the state."

Mr. Moon, who said his ordeal had cost him an Air Force flying career, told the senators that he had felt powerless in prison. "I had no method of enforcing procedures," he said. "I could file all the motions I wanted, but I couldn't get heard."

Mr. Rodriguez did not want to say anything at first. Then he said, "I just hope the lab gets better."

Correction: January 8, 2005, Saturday An article on Wednesday about efforts to reform the Houston police crime laboratory misstated the nature of flawed evidence in the trials of Brandon Moon and George Rodriguez, who were convicted of rape. The prosecution relied on serology evidence. (DNA testing was not available at the time, and was later used to overturn the conviction.)

Steps to Take to Resolve Crime Lab Problems

There Needs to be a Wall of Separation Between Forensic Science and Law Enforcement

By **ROGER G. KOPPL, E. JAMES COWAN**

May 21, 2012

Also published in *The National Law Journal*

On April 17, Indianapolis' police chief stepped down after his department botched the handling of evidence in a high-profile case involving one of its own: an officer who may have been legally drunk when he drove his police car into two motorcycles stopped at a red light. The tainted blood sample has fueled allegations of a possible police cover-up in the case.

The Indianapolis incident provides another reminder that there needs to be a wall of separation between forensic science and law enforcement.

One city that's on the right track is Houston, where Mayor Annise Parker has called for an independent crime lab, which would report to an independent board, rather than the police or prosecutor's office.

Parker has the right idea—first, and foremost, because it matters who's boss.

If you work for the police, you tend to see things from that point of view. Same goes for the prosecution. Usually, it is not a conscious thing. You want to be fair and unbiased, and you think you are. But when the boss hopes you'll find evidence to support her point of view, your mistakes may lean in that direction.

That's what happened in Houston, where an independent audit in 2006 found several cases in which forensic scientists in the crime lab had skewed reports—perhaps unintentionally in most cases—to fit the police theory of the cases.

Intentional or not, mistakes that incriminate the innocent—or gloss over the culpability of the guilty—are a real problem, and every reasonable action must be taken to prevent them from happening.

You get this sort of problem whenever a crime lab is a part of law enforcement. That's why an important 2009 report commissioned by Congress recommended that crime labs be removed from law enforcement agencies.

According to the report, produced by the National Academy of Sciences, "Forensic scientists who sit administratively in law enforcement agencies or prosecutors' offices, or who are hired by those units, are subject to a general risk of bias." This "risk of bias" helps explain how you get cases like that of Houston's Josiah Sutton, who was convicted of rape at 16 years old. Sutton's conviction turned on DNA evidence later revealed to be wrong. After Sutton spent more than four years in prison, a proper DNA test showed he could not have been one of the rapists. Putting the crime lab under the police may have set the stage for this error, which supported the police theory.

That's why it's time to change the relationship between crime labs and law enforcement.

Some disagree. For example, a Houston-area official, Harris County Commissioner Steve Radack, has argued for a regional crime lab, which would fall under the jurisdiction of the Harris County Medical Examiner's Office.

That sounds fair enough—except, the mission statement of the M.E.'s office says its objective is to provide “the highest analytical support” to the county's medical examiners and law enforcement. Thus, putting the crime lab under the M.E. would do little to reduce the disproportionate influence of law enforcement on the scientific analysis of criminal evidence.

Crime labs should produce unbiased scientific evidence. In order to be as unbiased as possible, they should report to independent boards. The boards should represent a diverse group of stakeholders, including a local prosecutor, a prominent defense attorney, a representative from the public defender's office, a traditional scientist working, perhaps, at a university, and a forensic scientist from another jurisdiction.

Board members would have both oversight responsibilities for the laboratory and the ability to hire and fire the laboratory director. With a board running the crime lab, the “boss” represents several interests and several points of view. When mistakes are made, they will be less biased.

No organizational structure can prevent all mistakes or eliminate every source of bias. But if crime labs answer to a broad constituency, rather than just law enforcement, we should have fewer Josiah Sutton convictions, fewer mishandled blood samples and more justice.



ROGER G. KOPPL is a Research Fellow at the Independent Institute and Professor of Finance in the Whitman School of Management of Syracuse University.

 [Email](#)

E. JAMES COWAN is a Professor of Economics and Finance at Fairleigh Dickinson University and the Associate Director of its Institute for Forensic Science Administration.

Civil Liberties and Human Rights

Crime, Criminal Justice, and Prisons

Law and Liberty

Litigation

Policing

Oklahoma Retraces Big Step in Capital Case

By Jim Yardley

Sept. 2, 2001

See the article in its original context from
September 2, 2001, Section 1, Page 12 Buy Reprints

[VIEW ON TIMSMACHINE](#)

TimesMachine is an exclusive benefit for home
delivery and digital subscribers.

The Rev. Charles Story has been a spiritual adviser for several death row inmates in Oklahoma, counseling them in the hours before their executions. In all but one of those cases, Mr. Story said, the inmates confessed their crimes and asked for forgiveness. The exception was Malcolm Rent Johnson.

"He said, 'I'm innocent, and I've got peace in my heart, and I'm ready to go home,' " said Mr. Story, a part-time chaplain who was among the last people to speak with Mr. Johnson before his execution on Jan. 6, 2000.

The question of Mr. Johnson's guilt or innocence, and the possibility that he was wrongly executed, is one of the issues arising from a broad investigation of Joyce Gilchrist, the Oklahoma City police scientist whose work in roughly 1,200 cases is being scrutinized by state officials.

Ms. Gilchrist, who has denied any wrongdoing, has been the focus of the expansive inquiry since March, when a report by the Federal Bureau of Investigation criticized her work. In May, Jeffrey Pierce, who was imprisoned for 15 years on a rape conviction, was released after DNA testing disproved Ms. Gilchrist's pivotal testimony against him.

Mr. Johnson is one of 12 people who have been put to death in Oklahoma after Ms. Gilchrist's testimony helped convict them. Another 11 inmates she testified against remain on death row. Attorney General Drew Edmondson expressed confidence in May that none of

the executed inmates had been wrongly put to death, with one exception: he said he wanted to review Mr. Johnson's case. He later said the evidence had convinced him that Mr. Johnson was guilty, too.

This week, though, internal police memorandums have raised questions about Ms. Gilchrist's testimony in Mr. Johnson's 1982 trial. During the trial, Ms. Gilchrist said Mr. Johnson's blood type matched sperm collected from a bedspread and a pillowcase in the victim's apartment. The samples were on six slides.

But an examination of the slides on July 30 contradicted Ms. Gilchrist's findings, one memorandum said, and concluded that the slides actually contained no sperm at all. The memorandum, first reported by The Daily Oklahoman and The Associated Press, was written by the Oklahoma City Police Department's DNA laboratory manager, Laura Schile, and was endorsed by three other chemists in the laboratory. Ms. Schile resigned this month because of what her lawyer has described as a hostile work environment.

"It certainly does concern me when you have different chemists saying different things," said Mr. Edmondson, who played down the significance of Ms. Gilchrist's testimony in winning the conviction. "It does not shake my confidence that Malcolm Rent Johnson was guilty of that murder. The other evidence is overwhelming."

However, Robert Ravitz, who represented Mr. Johnson during his trial, said Ms. Gilchrist's testimony was essential because the other evidence was largely circumstantial.

"I don't know if Malcolm Johnson committed the crime or not," said Mr. Ravitz, who now leads Oklahoma City's public defender office. "I know that absent of Gilchrist's testimony, there would have been no way he would have been convicted."

The crime in question was the rape and murder of Ura Alma Thompson, a 76-year-old woman who lived alone in an Oklahoma City apartment. Her nephew discovered her body in the apartment on Oct. 27, 1981. Initially her death appeared to have been from natural causes, but the medical examiner ruled that it was a homicide after discovering bruises and evidence of rape.

Mr. Johnson was arrested the same day on a weapons charge. In his apartment, officers discovered two sets of keys, a wristwatch, a necklace and a hand-painted vase – all items that belonged to Ms. Thompson. Investigators also learned that Mr. Johnson had twice been convicted of rape in Illinois. Finally, two other elderly women identified him as the man who had raped them, while three other people said he had attacked them.

It was a seemingly strong case, but circumstantial. Ms. Gilchrist's testimony, however, enabled prosecutors to put Mr. Johnson inside the apartment during the rape. She said that the semen samples matched Mr. Johnson's blood type and that hairs found at the apartment

matched his. She also said a blue coloration on hairs found at the apartment matched cotton fibers collected from Mr. Johnson's shirt.

In his closing argument, the Oklahoma County district attorney, Robert H. Macy, defended Ms. Gilchrist's testimony, saying Mr. Ravitz had unfairly sought to undermine her credibility. "He had to attack Joyce Gilchrist, because Joyce Gilchrist gave him the testimony that firmly erased any reasonable doubt, any doubt at all in this case," Mr. Macy said.

"You look at her testimony," he added. "And sure she's young; you've got to start sometime. But she's good and she's thorough, and you heard her!"

At the time, Ms. Gilchrist was in her second year as chemist for the police; in 1994 she was promoted to a supervisory position and stopped doing laboratory work.

Mr. Ravitz asked the judge to authorize money for the defense to hire a forensic expert to counter Ms. Gilchrist's testimony. He was denied. At the time, Oklahoma law did not authorize such expenditures, though it does today.

During Mr. Johnson's later appeals, two forensic experts hired by the defense were harshly critical of Ms. Gilchrist's conclusions, particularly on the blue-colored hairs.

"An assessment such as this has little value due to the ubiquitous nature of blue cotton," one of the experts, Dr. Peter R. DeForest of Ardsley, N.Y., wrote in 1997. "Inexplicably Gilchrist's testimony seems to confound, confuse," Dr. DeForest added, noting that matching the shirt with blue-tinged hairs "seems doubtful."

Evidence in Mr. Johnson's case is expected to be analyzed by a private laboratory.

In July, a local defense lawyer, Douglas Parr, sued the Police Department on the Johnson case, seeking to open additional records, and he has requested that DNA tests be conducted on the evidence. For now, Mr. Parr and city officials are sparring over which private laboratory will analyze the evidence, assuming there is enough evidence to analyze.

Mr. Edmondson, the district attorney, said he did not "think we're in disagreement that there needs to be some testing." He said the local police would turn over the evidence to the Oklahoma State Bureau of Investigation for safekeeping. The immediate emphasis, Mr. Edmondson said, was to examine current cases to make certain that no inmates are wrongly incarcerated.

Today, state officials announced that 600 of the roughly 1,200 cases linked to Ms. Gilchrist had received initial reviews. Of that total, 99 have been marked for further examination, including the cases of three death row inmates. Meanwhile, Ms. Gilchrist, who is on

administrative leave, is in the midst of a confidential personnel hearing to determine whether she will be fired. It is expected to last until next week.

"She was extremely important to the Oklahoma County district attorney's office," Mr. Parr said. "She was one of their star witnesses."

You have 2 more free articles available this month. **Subscribe today**
(/subscribe/digital/).



🌸 (/subscribe/digital/) Widespread Failures at Crime Labs Continue to Plague Criminal Justice System

Loaded on DEC. 7, 2016 by Derek Gilna (/news/author/derek-gilna/) published in Prison Legal News December, 2016 (/news/issue/27/12/), page 22

Filed under: Police Misconduct (/search/?selected_facets=tags:Police%20Misconduct), Prosecutor/Attorney General Misconduct (/search/?selected_facets=tags:Prosecutor/Attorney%20General%20Misconduct), Evidence (/search/?selected_facets=tags:Evidence), DNA Testing/Samples (/search/?selected_facets=tags:DNA%20Testing/Samples), Wrongful Conviction (/search/?selected_facets=tags:Wrongful%20Conviction), FBI (/search/?selected_facets=tags:FBI). Location: United States of America (/search/?selected_facets=locations:998).

Crime labs nationwide continue to face seemingly intractable problems – particularly in terms of unreliable forensic evidence testing and being influenced by law enforcement and prosecutorial bias. Despite efforts at reform, and efforts to implement technological advances, the field of criminal forensic science seems mired in incompetence and corruption.

In July 2013 the Innocence Project and the National Association of Criminal Defense Lawyers (NACDL) entered into an agreement with the U.S. Department of Justice (DOJ) and Federal Bureau of Investigation (FBI) to review criminal cases that involved microscopic hair comparison analysis (commonly referred to as hair microscopy), based on reports that testimony about such evidence by crime lab analysts was often erroneous and may have resulted in wrongful convictions.

The joint review was initiated following a damning evaluation of hair microscopy by the National Academy of Sciences, which released a report in 2009 essentially finding the practice to be a form of “junk science.” The FBI had admitted as early as 1984 that microscopic hair comparison could not be used as a definitive means of identifying an individual. Nevertheless, the FBI and DOJ fully integrated the practice into their canon of investigative techniques, relying heavily on hair microscopy to obtain convictions in both federal and state prosecutions.

Through the joint review process, almost 3,000 cases resulting in convictions prior to 2000 (the year in which DNA evidence displaced hair microscopy in terms of evidentiary emphasis by the FBI) were identified as being potentially flawed. Typically, the flaws consisted of improper testimony by FBI crime lab analysts concerning the statistical likelihood that hair comparison analysis had matched a hair or fiber sample to a specific defendant.

In March 2015, referring to the first batch of cases to have been reviewed, the FBI admitted that “in the 268 cases where examiners provided testimony used to inculcate a defendant at trial, erroneous statements were made in 257 (96 percent) of the cases.”

At the time of that disclosure, the FBI also reported that of the 35 death penalty cases it had reviewed, 33 contained similar erroneous testimony related to hair microscopy. For some death row prisoners that information came too late; nine had already been executed while another five had died while awaiting execution.

In an April 20, 2015 press release, the FBI, DOJ, Innocence Project and NACDL announced that “the FBI has concluded that the examiners’ testimony in at least 90 percent of trial transcripts the Bureau analyzed as part of its Microscopic Hair Comparison Analysis Review contained erroneous statements. Twenty-six of 28 FBI agent/analysts provided either testimony with erroneous statements or submitted laboratory reports with erroneous statements.”

The joint review of convictions potentially tainted by improper testimony from FBI crime lab analysts remains ongoing. “The [DOJ] and FBI have devoted considerable resources to this effort and will continue to do so until all of the identified hair cases are addressed,” the press release stated. Several cases involving hair microscopy testimony have already resulted in exonerations and, in at least three cases, wrongfully convicted prisoners received multi-million dollar damage awards. [See: PLN, Sept. 2016, p.38].

As previously noted by Prison Legal News, “the FBI lab was tarnished when allegations of sloppiness, exaggerated results and poor science was first reported in the mid-1990s.... when Fredrick Whitehurst, an FBI chemist, revealed that he had seen colleagues contaminate evidence and exaggerate their results.” [See: *PLN*, April 2015, p.1].

Yet it took almost twenty years before the FBI, under intense pressure from prisoners’ rights groups, including the Innocence Project, finally acknowledged the errors committed by its crime lab. According to Whitehurst, those mistakes were not innocent errors but a calculated effort to help prosecutors win convictions.

“There was a great deal of pressure put upon me to bias my interpretation” of forensic tests performed in criminal cases, he said. “You get patted on the head if you’re the guy who saves the case. They get promoted.... A scientist who asks a question and doesn’t go along, he gets isolated.”

Paul Neufeld, co-founder of the Innocence Project, said there could be hundreds of flawed convictions nationwide based on FBI crime lab errors.

“The first order of business, frankly, is the FBI and DOJ [have] to redouble their efforts to get the transcripts of the hundreds and hundreds of cases of people where FBI agents gave exaggerated testimony,” he declared.

State crime labs across the country have also had problems with flawed forensic testing. This should come as no surprise, since the same FBI analysts whose work is now under review taught between 500 to 1,000 state and local crime lab employees, generally in two-week training programs.

As part of its investigation into evidentiary errors related to hair microscopy cases, the FBI examined more than 21,000 federal and state files involving its hair and fiber comparison unit from 1972 to 1999. That review identified approximately 2,500 files requiring further inspection because analysts had testified about hair matches.

According to the Innocence Project, “the FBI has agreed to provide free DNA testing where there is either a court order or a request for testing by the prosecution.... [and] in federal cases, DOJ will not raise procedural objections, such as statute of limitations and procedural default claims, in response to defendants’ petitions seeking a new, fair trial because of the faulty evidence.”

In response to the initial findings of the joint review of FBI crime lab cases, U.S. Senator Richard Blumenthal asked, “The question is why this was permitted to continue, and that’s a question the FBI has to answer after an investigation, a systemic analysis of the root causes. Why did it happen?”

In 2014, George Perrot, convicted in 1992 of charges related to a burglary and rape, was serving two concurrent life sentences plus a concurrent 33- to 45-year sentence in a Massachusetts state prison when he received a letter.

The letter was from the FBI, which had written to inform Perrot that his case was one of those found to have involved erroneous hair microscopy testimony. To Perrot this was not necessarily a revelation, as both he and his alleged rape victim had maintained his innocence through both the trial and his subsequent 30 years in prison.

Represented by counsel from the Innocence Project and the law firm of Ropes & Gray, LLP, Perrot filed for a new trial. Following evidentiary hearings, Bristol County Superior Court Judge Robert Kane overturned Perrot’s conviction on January 26, 2016, stating, “Justice may not have been done [...] because of the introduction of hair evidence that in numerous and material respects exceeded the foundational science.”

Further, the ruling reflected the judge’s belief that the FBI crime lab analyst who presented faulty testimony at Perrot’s trial had been unduly influenced by an overzealous prosecutor.

While the Massachusetts court’s decision is not binding on courts in other jurisdictions, the overturning of Perrot’s conviction – the first such case not involving DNA evidence to undergo judicial review following the review of the FBI crime lab cases – provides a ray of hope for other prisoners in similar circumstances.

“The fact that George has served three decades in prison for a rape that the victim, Mary Prekop, repeatedly told authorities he didn’t commit is beyond tragic,” said Florence Graves, founding director of the Schuster Institute for Investigative Journalism, which had investigated Perrot’s claims of innocence since 2011. “Moreover, George’s case showcases the devastating impact of a criminal justice system that takes decades to acknowledge that thousands of people have been found guilty based on deeply flawed forensic science.”

“These findings are appalling and chilling in their indictment of our criminal justice system, not only for potentially innocent defendants who have been wrongly imprisoned and even executed, but for prosecutors who have relied on fabricated and false evidence despite their intentions to faithfully enforce the law,” added Senator Blumenthal.

In some cases tainted by flawed hair microscopy testimony, DNA testing – applied to hair evidence, for example – may serve a role in freeing the wrongfully convicted. However, crime labs across the county have experienced problems with DNA testing, too.

In 2015, the Texas Forensic Science Commission (TFSC), which sets the standards for physical evidence used in Texas prosecutions, determined that protocols used in state crime labs for certain DNA tests were deeply flawed. The protocols in question included those used to identify DNA from samples containing genetic material from multiple people. Such mixed DNA evidence is fairly common in criminal cases.

TFSC's findings noted that, under protocols in place for use by Texas crime labs, the degree of certainty applied to a genetic match varied greatly from degrees of certainty found when the same evidence was subjected to newer DNA testing protocols.

Texas defense attorney Roberto Torres, speaking to National Public Radio (NPR) in October 2015, explained that under existing protocols, the testing of crime scene DNA may result in a match with a million-to-one degree of certainty. However, when retested using newer methods, a match may still be returned but only with a degree of certainty of 30 or 40 to one.

Such inconsistencies may potentially impact thousands of cases, which are now being investigated by Texas officials. Following the TFSC's findings, state prosecutors have begun the process of reviewing convictions dating as far back as 1999.

"We have to go back and identify which of those cases involved DNA mixtures where the lab may have given incorrect results," Galveston District Attorney Jack Roady told NPR. "It's going to be a Herculean task, but we're gonna do it."

"There was sometimes moments of collective gasps," he added. "The fact that this science may not have been done correctly in the past gives us great pause."

Due to the scope of the review process, a log jam has formed in state crime labs, greatly increasing the wait times for evidence processing.

By summer 2016 the Austin crime lab had been asked to review less than 100 of the potentially flawed DNA convictions – and even with that minimal caseload, the lab essentially found itself unable to function. As such, it requested more than \$200,000 so it could hire two additional analysts. Then in June 2016, the Austin crime lab temporarily shut down over concerns that protocols used at the lab were not appropriate.

Texas is not alone. In October 2015, a whistleblower employed at a crime lab in Boynton Beach, Florida came forward with complaints related to DNA testing by the Broward County Sheriff's Office.

The complaint, filed with the American Society of Crime Lab Directors' Laboratory Accreditation Board (ASCLD-LAB) by forensics expert Tiffany Roy, said she was tasked with re-testing a DNA sample obtained from a knife handle, which previously had been tested by the Broward crime lab. She was disturbed to find her results were inconclusive rather than providing a positive identification.

Following the complaint, Roy articulated her concerns to the Broward Palm Beach New Times. The crux of her complaint was simple – she believed the Broward County Sheriff's Office was using inconclusive DNA evidence to level criminal charges against people who may be innocent.

Roy told the New Times she believed it was likely that the Broward crime lab had not updated its practices, even though industry-wide protocols for DNA testing had been made more rigorous in 2011.

As stated by the New Times, the ASCLD-LAB investigation resulted in adverse findings for the Broward crime lab in April 2016. The Broward County Sheriff's Office has since appealed the accreditation board's findings.

"Whether it's police officers or the crime lab, they put on their blinders and turn a blind eye to questionable evidence. They're hellbent on getting a conviction, and if that means questionable evidence is used, they move for it," Broward Assistant Public Defender Gordon Weekes told the New Times. "That is not justice. It's a bastardization of the criminal justice system."

In a May 2015 Washington Post op-ed, University of California at Irvine criminology professor William Thompson expressed serious doubts about the motives behind the firings of managers in charge of the District of Columbia's Department of Forensic Sciences ("DFS," the D.C. crime lab).

Thompson noted the public perception was that the managers had been terminated due to a dispute with the U.S. Attorney's Office, ostensibly over the handling of certain types of DNA evidence.

But Thompson – who is also a member of the Human Factors Subcommittee of the National Commission on Forensic Science, and vice-chair of the Human Factors Committee of the Organization of Scientific Area Communities (the federal entity responsible for setting standards and guidelines on forensic science) – raised significant concerns as to the real motives behind the firings.

He observed that the methods of DNA analysis employed by DFS were standard and used by crime labs nationwide.

Speaking to what he believed was a more plausible motive for the firings of the managers, Thompson noted that in 2009, the National Academy of Sciences issued a recommendation that crime labs be separate entities, held apart from law enforcement agencies and prosecutors, citing undue pressure exerted by the police and prosecutors on the results of forensic testing. The District of Columbia heeded this recommendation and established DFS as an independent entity in 2011.

Reforms then took place. Most notably, according to Thompson, DFS director Max Houck and his chief counsel "ended a policy that had allowed prosecutors to have preferential access to laboratory information and to control what defense lawyers were allowed to see. Under the new administration, prosecutors and defense lawyers were given equal access."

Prior to the firings, a number of private meetings took place between the U.S. Attorney's Office and the group tasked with auditing DFS. The D.C. Public Defender Service asked to be included in the meetings but was denied.

When the firings occurred (and among those terminated was the attorney who had worked with Houck in implementing DFS's separation from law enforcement agencies), Thompson suggested they had been less about a dispute over DNA analysis and more about bringing "an independent laboratory back under law enforcement control...."

Further, in New York, three former employees of the State Police crime lab have filed a lawsuit alleging they were terminated in retaliation for voicing concerns over how DNA evidence was being processed at the lab.

The State Police had been trying to implement TrueAllele, a DNA analytical system intended to guarantee the accuracy of DNA test results. The former lab employees claimed the agency had scrapped the system in favor of less accurate test results that could be manipulated to favor prosecutors.

“[T]here are people that are very pro-prosecution. They were putting pressure on scientists to reach conclusions that were not scientifically valid. That’s what my clients were objecting to,” John Bailey, an attorney for the former employees, told Raw Story.

And in February 2016, the former director of the New York City Office of the Chief Medical Examiner Forensic Toxicology Laboratory, Marina Stajic, filed suit against her former employer.

Stajic claimed she was forced out of her position, being told that she could either retire or be fired, as a direct result of having raised concerns over the reliability of DNA testing techniques employed by the medical examiner’s office.

Recently, another form of forensic testing has been debunked as junk science: bite-mark analysis, in which self-proclaimed experts testify they can match bite marks left on victims or crime scene evidence to specific defendants. On September 20, 2016, the President’s Council of Advisors on Science and Technology released a report that found a number of forensic testing methods lacked scientific validity, including bite-mark analysis. The report will be covered in greater detail in a future PLN article.

The FBI – despite having acknowledged problems with its own crime lab – issued a statement saying it “disagree[d] with many of the scientific assertions and conclusions of the report,” claiming the Council’s findings included “broad, unsupported assertions regarding science and forensic science practice.”

And so it goes. Despite systemic problems with crime labs that go back over a decade, incompetence, misconduct and deficiencies related to forensic practices in criminal cases continue to be ongoing concerns. [See: PLN, Oct. 2010, p.1].

Apparently, prosecutors and law enforcement agencies have relied on biased forensic testing as a way to obtain convictions for so long that they are reluctant to level the criminal justice playing field – even if that means ignoring the truth, resisting reforms and retaliating against whistleblowers.

Sources: www.nbcnews.com, www.washingtonpost.com, www.theatlantic.com, www.motherjones.com, www.cbsnews.com, www.timesunion.com, www.npr.org, www.browardpalmbeach.com, www.rawstory.com, www.brandeis.edu, www.mystatesman.com, www.crimefeed.com, www.theintercept.com, www.whitehouse.gov, www.fbi.gov

As a digital subscriber to Prison Legal News, you can access full text and downloads for this and other premium content.

[Subscribe today \(/subscribe/digital/\)](/subscribe/digital/)

Already a subscriber?

[Login \(/users/login/\)](/users/login/)