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Via FedEx and E-mail

June 24, 2021

U.S. Department of Justice
Office of the Attorney General
Office of Legal Policy
950 Pennsylvania Avenue NW
Washington, DC 20530-001

Re: *Request for Correction Under the Information Quality Act*

To whom it may concern:

On behalf of the Union of Concerned Scientists, Democracy Forward Foundation respectfully submits this Request for Correction of Information pursuant to the Information Quality Act. We request that the U.S. Department of Justice retract an unsigned statement entitled “United States Department of Justice Statement on the PCAST Report: *Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods*,”¹ which was posted to the DOJ website with a press release on January 13, 2021.²

The DOJ Statement criticizes a 2016 Report by the President’s Council of Advisors on Science and Technology, or “PCAST,” which assessed the state of forensic science, found certain forensic techniques to be insufficiently supported by scientific studies, and offered recommendations to improve their validity.³ Of particular significance, the PCAST Report determined that bitemark analysis is

¹ United States Department of Justice Statement on the PCAST Report: *Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods*, available at <https://www.justice.gov/olp/page/file/1352496/download> (“DOJ Statement” or “Statement”).

² Press Release, DOJ Office of Public Affairs, Justice Department Publishes Statement on 2016 President's Council of Advisors on Science and Technology Report (Jan. 13, 2021), available at <https://www.justice.gov/opa/pr/justice-department-publishes-statement-2016-presidents-council-advisors-science-and> (“DOJ Press Release”).

³ See PCAST, *Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods* (Sept. 2016), available at https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_forensic_scienc_e_report_final.pdf (“PCAST Report” or “Report”).

severely flawed and unlikely to be able to be scientifically validated. The DOJ Statement purports to show that recommendations in the Report about how forensic science should be classified as a discipline and that commonly accepted scientific criteria should be used to validate forensic techniques are “fundamentally incorrect.” But the DOJ Statement is *not* a substantive, scientific response to the PCAST’s recommendations. It does not defend any forensic techniques based on merit or data, offer any scientifically based alternative approach, or even recognize the scientific problems identified in the Report. Instead, the Statement focuses on the margins, fixating on the Report’s terminology and a handful of inconsequential citations. This is not a legitimate way to engage in scientific disagreement, much less under the auspices of the Department of Justice.

These flaws render the Statement unlawful under the Information Quality Act—which requires information promulgated by the government to be accurate, objective, and unbiased—and inconsistent with President Biden’s recent scientific integrity memorandum requiring agencies to fairly represent scientific disagreement.⁴ In response to this request, the IQA requires DOJ to thoroughly review the information contained in the Statement and determine what corrective action is warranted. Given the errors that pervade the Statement, immediate withdrawal of the Statement is required.

I. The DOJ Statement is Subject to the IQA.

The DOJ Statement is subject to the standards set forth in the Information Quality Act. The Information Quality Act requires that information disseminated to the public by federal agencies—including DOJ—be accurate, reliable, and unbiased. The IQA therefore directs the Office of Management and Budget to promulgate guidance to federal agencies “for ensuring and maximizing the quality, objectivity, utility, and integrity of information” they disseminate.⁵ And, in turn, federal agencies must issue guidelines promoting those same values and establishing administrative mechanisms allowing “affected persons to seek and obtain correction of information maintained and disseminated by the agency that does not comply with the guidelines.”⁶ Pursuant to these directives, both OMB⁷ and

⁴ Joseph R. Biden, Jr., Mem. on Restoring Trust in Government Through Scientific Integrity and Evidence-Based Policymaking (Jan. 27, 2021), <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/memorandum-on-restoring-trust-in-government-through-scientific-integrity-and-evidence-based-policymaking/> (“Science Integrity Memo”); Executive Order 14,007, President’s Council of Advisors on Science and Technology (Jan. 27, 2021).

⁵ Consolidated Appropriations Act, FY 2001, Pub. L. No. 106-554, § 515(a), 114 Stat. 2763, 2763A-153 & 154, 44 U.S.C. § 3516, note.

⁶ *Id.* § 515(b)(2).

⁷ See Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies; Republication, 67 Fed. Reg. 8451 (Feb. 22, 2002); OMB, M-05-03, Final Information Quality Bulletin for Peer Review (Dec. 16, 2004), <https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2005/m05-03.pdf> (“OMB

DOJ⁸ have promulgated guidelines establishing information quality standards. The DOJ guidelines state that they “appl[y] to all information disseminated by DOJ, and DOJ-initiated or sponsored dissemination of information.”⁹

Under these standards, the IQA applies to the DOJ Statement. The Statement not only appears on DOJ’s website; its public dissemination was heralded by a press release.¹⁰ Because the Statement contains information disseminated by the Department—and none of the ten listed exemptions apply¹¹—the Statement is subject to the IQA.

As such, the Statement must meet certain quality standards, encompassing objectivity, utility, and integrity. DOJ has defined “objectivity” to require that information is “accurate, reliable, and unbiased as a matter of presentation and substance.”¹² “Utility” refers to “how users might use the data, whether for its intended use or other purposes.”¹³ And “integrity” ensures that the information is “protected from unauthorized access, corruption, or revision.”¹⁴

The Statement, moreover, is subject to “additional scrutiny” because it contains “‘influential’ information.”¹⁵ Under the DOJ guidance, “[i]nfluential information is scientific, financial, or statistical information expected to have a genuinely clear and substantial impact at the national level, or on major public and private policy decisions as they relate to federal justice issues.”¹⁶ A “clear and substantial impact,” in turn, is “one that has a high probability of occurring.”¹⁷ As DOJ’s own press release makes clear, DOJ intended for the Statement to have a “clear and substantial impact” on courts’ use of the PCAST report to evaluate expert witness testimony.¹⁸ Indeed, the press release frames the Statement specifically as a response to court action.¹⁹ The Statement is therefore subject to additional

Bulletin”); OMB, M-19-15, Improving Implementation of the Information Quality Act (Apr. 24, 2019), <https://www.whitehouse.gov/wp-content/uploads/2019/04/M-19-15.pdf>.

⁸ U.S. Dep’t of Justice, Information Quality (Oct. 13, 2020), <https://www.justice.gov/information-quality> (“DOJ Guidelines”).

⁹ *Id.*

¹⁰ DOJ Press Release, *supra* n.2.

¹¹ *See* DOJ Guidelines, *supra* n.8.

¹² *See id.*

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ *See* DOJ Press Release, *supra* n.2.

¹⁹ *Id.*; *see also* DOJ Statement, *supra* n.1, at 2 & n.9.

scrutiny, including compliance with OMB’s Information Quality Bulletin for Peer Review.²⁰

II. The DOJ Statement, a “Response” to the 2016 PCAST Report, Raises Scientific Integrity Concerns.

The PCAST is “an advisory group of the Nation’s leading scientists and engineers,” appointed to provide the President and federal agencies with input from non-government experts.²¹ The PCAST provides scientific analyses and recommendations for which an understanding of science, technology, and innovation would strengthen government policy decisions.²² It was originally established in 2001 by then-President Bush and has been re-chartered several times, most recently by President Biden.²³

Over the years, the PCAST has generated reports on such matters as government-owned broadband technology,²⁴ reengineering the influenza vaccine to prevent pandemic,²⁵ and the use of science to ensure access to safe drinking water.²⁶ The work of the PCAST has been broadly supported by the scientific community.²⁷

²⁰ DOJ Guidelines, *supra* n.8; *see also* OMB Bulletin, *supra* n.7.

²¹ *See* PCAST Report, *supra* n.3, at iv.

²² Office of Science and Technology Policy, About PCAST, <https://obamawhitehouse.archives.gov/administration/eop/ostp/pcast/about> (last visited June 8, 2021).

²³ Executive Order 13,226 § 1 (Sept. 30, 2001); Executive Order 13,539 § 1 (Apr. 21, 2010); Executive Order 13,895 § 2 (Oct. 22, 2019); Executive Order 14,007 §§ 1, 2, 3(a) (Jan. 27, 2021) (instructing all agencies to seek advice from the PCAST’s “scientists, engineers, and other experts” on “the best available science” and “matters involving scientific and technological information that is needed to inform public policy”).

²⁴ PCAST, Realizing the Full Potential of Government-Held Spectrum to Spur Economic Growth (July 2012), *available at* https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/pcast_spectrum_report_final_july_20_2012.pdf.

²⁵ PCAST, Report to the President on Reengineering the Influenza Vaccine Production Enterprise to Meet the Challenges of Pandemic Influenza (Aug. 2010), *available at* <https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST-Influenza-Vaccinology-Report.pdf>.

²⁶ PCAST, Science and Technology to Ensure the Safety of the Nation’s Drinking Water (Dec. 2016), *available at* https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_drinking_water_final_report_20161221.pdf.

²⁷ The American Society of Mechanical Engineers, “Biden Re-Establishes the President’s Council of Advisors on Science and Technology (PCAST)” (Feb. 1, 2021), <https://www.asme.org/government-relations/capitol-update/biden-re-establishes-the-presidents-council-of-advisors-on-science-and-technology> (favorably referencing PCAST work concerning use of engineering principles in public policy).

A. *The 2016 PCAST Report Found that Some Forensic Techniques Are Not Rooted in Sound Scientific Principles and Recommended Areas for Improvement.*

In 2009, the National Research Council published a report on the state of forensic science.²⁸ The report “described a disturbing pattern of deficiencies common to many of the forensic methods routinely used in the criminal justice system, most importantly a lack of rigorous and appropriate studies establishing their scientific validity.”²⁹ In response to the report, DOJ and the National Institute of Standards and Technology (NIST) established the National Commission on Forensic Science, a group of 32 people tasked with advising the Attorney General on forensic science.³⁰ Around this time, investigative reporting likewise revealed serious flaws in the use in criminal prosecutions of certain forensic science techniques, such as hair analysis, which involved an examiner visually comparing a hair found at a crime scene to a sample from a known source.³¹ This led DOJ and the FBI to entirely abandon hair analysis, acknowledging that “nearly every examiner in an elite FBI forensic unit gave flawed testimony in almost all trials in which they offered evidence against criminal defendants over more than a two-decade period before 2000,” including cases that resulted in thirty-two defendants being sentenced to death.³²

Building on these efforts, President Obama asked the PCAST to explore ways to strengthen forensic science, with a focus on its use in the legal system.³³ In September 2016, the PCAST issued its report, assessing several forensic “feature-comparison” methods—“that is, methods that attempt to determine whether an evidentiary sample (e.g., from a crime scene) is or is not associated with a potential ‘source’ sample (e.g., from a suspect), based on the presence of similar patterns, impressions, or other features in the sample and the source.”³⁴ After an extensive review of 2,000 studies and input from forensic scientists, judges, prosecutors, defense attorneys, and others, the PCAST determined that some forensic techniques

²⁸ Nat’l Research Council of the Nat’l Academies, *Strengthening Forensic Science in the United States: A Path Forward* (2009).

²⁹ PCAST Report, *supra* n.3, at 22.

³⁰ *Id.*

³¹ News Hub, *Investigative Reporter Hsu Discusses ‘Uncovering Forensic Flaws’ at Law Review Symposium* (Apr. 6, 2018), <https://news.gsu.edu/2018/04/06/investigative-reporter-hsu-discusses-uncovering-forensic-flaws-at-law-review-symposium/>.

³² Spencer S. Hsu, *FBI admits flaws in hair analysis over decades*, Wash. Post (Apr. 18, 2015), https://www.washingtonpost.com/local/crime/fbi-overstated-forensic-hair-matches-in-nearly-all-criminal-trials-for-decades/2015/04/18/39c8d8c6-e515-11e4-b510-962fcfab310_story.html?utm_term=.dca012c7f043.

³³ PCAST Report, *supra* n.3, at 22.

³⁴ *Id.* at 1

used in criminal investigations and trials are not rooted in sound scientific principles.³⁵

The PCAST Report had two primary goals. First, the Report provided recommendations for scientific standards that should be used to determine the validity and reliability of feature comparison techniques.³⁶ The PCAST recommended a set of criteria, including that the technique be subjected to empirical testing that is “repeatable and reproducible” and that estimates a technique’s accuracy.³⁷ For “objective” techniques (i.e., procedures that use standardized and quantifiable detail such that little human judgment is involved), the Report found that validity could be established by measuring the technique’s accuracy, reproducibility, and consistency.³⁸ For “subjective” techniques (i.e., those involving human judgment, such as visually comparing evidence to determine if it matches a sample), the Report cautioned that careful scrutiny is necessary because “they are especially vulnerable to human error, inconsistency across examiners, and cognitive bias.”³⁹ According to the Report, subjective techniques should be validated using “black box” studies in which many examiners review the same evidence so that an error rate can be determined.⁴⁰ Without estimates of accuracy rates, the Report found that an examiner’s statement that one sample is similar to another is scientifically meaningless.⁴¹

Second, the Report evaluated specific forensic methods to assess whether they have been scientifically established to be valid and reliable.⁴² For some techniques—namely, DNA analysis, latent fingerprints, and firearms analysis—the Report identified strengths and weaknesses in the literature and recommended areas for improvement, including additional research and options for converting subjective techniques to objective ones.⁴³ The Report found other techniques to be lacking in sufficient scientific support to establish their validity. For example, the PCAST identified no reliable study showing the validity of methods for determining that a footprint came from a *specific* piece of footwear (as opposed to class characteristics of the shoe, like its size).⁴⁴

³⁵ *Id.* at 2.

³⁶ *Id.* at 1.

³⁷ *Id.* at 5.

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ *Id.* at 5–6.

⁴¹ *Id.* at 6.

⁴² *Id.* at 1.

⁴³ *Id.* at 7–10.

⁴⁴ *Id.* at 12–13.

The Report found bitemark analysis to be particularly problematic.⁴⁵ This is because “[f]ew studies” and “no appropriate black-box studies” have been conducted to show the technique’s validity.⁴⁶ Of the studies that have been conducted, “the observed false-positive rates were very high” and several of the studies were designed in a way “likely to *underestimate*” the rate of false positives.⁴⁷ The Report further noted that “available scientific evidence strongly suggests that examiners not only cannot identify the source of bitemarks with reasonable accuracy, they cannot even consistently agree on whether an injury is a human bitemark.”⁴⁸ The PCAST found “the prospects of developing bitemark analysis into a scientifically valid method to be low.”⁴⁹

Although the PCAST Report built on prior studies criticizing weaknesses in the scientific underpinnings of forensic feature comparison techniques, the Report garnered significant attention from scientists, lawyers, and judges. The director of the Center for Statistics and Applications in Forensic Evidence encouraged DOJ to work with a large group of independent scientists to “push the science forward.”⁵⁰ Legal experts called on courts to more carefully scrutinize courtroom use of forensic evidence.⁵¹ The Fordham University School of Law convened a symposium on how the Judicial Conference Advisory Committee should respond to challenges in the reliability of feature-comparison expert testimony, such as latent fingerprints, ballistics, and bitemark analysis.⁵² And Daniel Capra, a professor at Fordham University, proposed a revision to the Federal Rules of Evidence that would require an expert testifying based on forensic analysis to prove that the method used is repeatable, reproducible, and accurate for its intended use.⁵³ DOJ, too, took notice. In a statement to the Wall Street Journal, then-Attorney General Loretta Lynch said that DOJ “will not be adopting the recommendations related to the admissibility of forensic science evidence,” but acknowledged the PCAST Report’s “contribution to the field of scientific inquiry.”⁵⁴ And President Obama emphasized

⁴⁵ *Id.* at 8–9.

⁴⁶ *Id.* at 9.

⁴⁷ *Id.* (emphasis in original).

⁴⁸ *Id.* (emphasis omitted).

⁴⁹ *Id.*

⁵⁰ Nicole Wetsman, *Most Forensic Science Is Bogus. Will New Federal Rules Help?*, Gizmodo (Mar. 16, 2018), <https://gizmodo.com/most-forensic-science-is-bogus-will-new-federal-rules-1823801909>.

⁵¹ Innocence Project, “Legal Experts to Courts: ‘We Must Do a Better Job’ Scrutinizing Forensic Evidence Before Considering Admissibility” (July 24, 2017), <https://innocenceproject.org/ninth-circuit-judicial-conference/>.

⁵² Daniel J. Capra, *Foreword: Symposium on Forensic Expert Testimony, Daubert, and Rule 702*, 86 Fordham L. Rev. 1459 (2018).

⁵³ *Id.* at 1460.

⁵⁴ Gary Fields, *White House Advisory Council Report Is Critical of Forensics Used in Criminal Trials*, The Wall St. J. (Sept. 20, 2016), <https://www.wsj.com/articles/white-house-advisory-council-releases-report-critical-of-forensics-used-in-criminal-trials-1474394743>.

the need to “improve the reliability of forensic evidence and assure that justice is served.”⁵⁵

B. *The DOJ Statement Purports to Show That Scientific Claims in the PCAST Report Are Incorrect Without Invoking Any Scientific Basis for Its Criticisms or Responding to the Report’s Primary Conclusions.*

In 2017, the Department moved away from its reliance on scientific experts for improving forensic science. DOJ allowed its National Commission on Forensic Science to terminate—over the objections of several commissioners⁵⁶—and replaced the thirty-two experts (including thirteen scientists)⁵⁷ on that federal advisory committee with a single career prosecutor, Ted Hunt, as a “Senior Advisor on Forensics.”⁵⁸ Soon afterward, Mr. Hunt published an article purporting to “clarify the DOJ’s position” in response to the PCAST Report.⁵⁹ The article criticized the PCAST Report’s “use of the term foundational validity, its views on error rates, and the proposed application of these concepts to forensic feature-comparison methods.”⁶⁰

On January 13, 2021, the Department issued the DOJ Statement that is the subject of this request as a link in a press release.⁶¹ The Statement is unsigned and unattributed. On its face, the Statement responds to scientific statements in the PCAST Report. It does not, however, state whether scientists contributed to or reviewed the Statement. It appears to have been written, at least in part, by a lawyer.⁶²

After noting that “a number of recent federal and state court opinions have cited the [PCAST] Report as support for limiting the admissibility of

⁵⁵ Barack Obama, *The President’s Role in Advancing Criminal Justice Reform*, 130 Harv. L. Rev. 811, 860 (2017).

⁵⁶ *Scientists on national commission urge panel be renewed in letter to Attorney General*, Wash. Post (Apr. 6, 2017), <http://apps.washingtonpost.com/g/documents/local/scientists-on-national-commission-urge-panel-be-renewed-in-letter-to-attorney-general/2404/>.

⁵⁷ See PCAST Report, *supra* n.3, at 22.

⁵⁸ DOJ Archives, National Commission on Forensic Science, <https://www.justice.gov/archives/ncfs> (last visited Apr. 29, 2021); DOJ Press Release, “Justice Department Announces Plans to Advance Forensic Science” (Aug. 7, 2017), <https://www.justice.gov/opa/pr/justice-department-announces-plans-advance-forensic-science>.

⁵⁹ Ted Robert Hunt, *Scientific Validity and Error Rates: A Short Response to the PCAST Report*, 86 Fordham L. Rev. 24, 26 (2017).

⁶⁰ *Id.*

⁶¹ DOJ Press Release, *supra* n.2.

⁶² See *infra* III.C.

firearms/toolmarks evidence in criminal cases,”⁶³ the Statement purports to show that three claims that it ascribes to the PCAST Report are “fundamentally incorrect”:

1) that traditional forensic pattern comparison disciplines, as currently practiced, are part of the scientific field of metrology; 2) that the validation of pattern comparison methods can only be accomplished by strict adherence to a non-severable set of experimental design criteria; and 3) that error rates for forensic pattern comparison methods can only be established through “appropriately designed” black box studies.⁶⁴

These criticisms are based on quibbles over terminology and a handful of citations. While the Statement nibbles around the edges of the PCAST Report, it never directly responds to the Report’s recommendations for improving validation of forensic techniques or its conclusion that bitemark analysis is too flawed to be validated at all.

III. The DOJ Statement Fails to Satisfy the Objectivity, Utility, or Integrity Standards of the IQA.

The DOJ Statement is impermissible under the IQA and must not bear the imprimatur of DOJ. It fails by any measure of objectivity because it contains information that is inaccurate, unreliable, and biased in both presentation and substance. These errors permeate the Statement. The Statement additionally fails the utility test because it purports to undermine scientific analyses and recommendations while not addressing the Report’s fundamental critiques and is highly susceptible to misuse by prosecutors and judges. Finally, the Statement fails to meet the integrity standard because it is unsigned and unverifiable. Taken together, these errors render the Statement unusable as a summary of scientific information or a response to a scientific document.

A. *The Statement Inaccurately Represents the Content, Conclusions, and Purpose of the PCAST Report.*

The Statement is replete with factual errors that mischaracterize the PCAST Report and sow needless confusion about the scientific basis of the Report’s conclusions.

⁶³ DOJ Statement, *supra* n.1, at 1–2; *see also* DOJ Press Release, *supra* n.2 (noting that “several courts have recently limited the scope of opinion testimony”).

⁶⁴ DOJ Statement, *supra* n.1, at 1 (emphasis omitted).

First, the Statement generally attacks the PCAST Report’s recommendations for improving validation of forensic techniques and determining their error rates, but without addressing the Report’s key analytic points, offering any alternatives or even acknowledging the problem that gave rise to the PCAST Report in the first place.⁶⁵ The PCAST Report—along with the National Academy of Sciences and President Obama—identified a serious problem with the quality of forensic evidence used in criminal prosecution.⁶⁶ Without disputing the existence of that problem, the DOJ Statement simply attempts to sweep away the PCAST Report’s contributions.⁶⁷ Taken together, this gives the false impression that improved validation methods and more accurate information about the error rates of forensic techniques are not desirable as a way to elevate forensic science to a discipline accepted by the wider scientific community. It implies that *no* recommendations from that Report should be implemented.

This ignores the National Academy of Sciences’ conclusion that “[m]uch forensic evidence . . . is introduced in criminal trials without any meaningful scientific validation, determination of error rates, or reliability testing to explain the limits of the discipline.”⁶⁸ The Statement’s unwillingness to engage with—or even admit to—the problem that led to the analysis in the PCAST Report undermines the objectivity of the Department’s conclusion. The Statement fails to acknowledge that forensic science—like any other scientific discipline—is subject to uncertainties and may need to change and develop over time.

The Statement likewise criticizes some of the PCAST Report’s recommendations for being unsupported by precedent in the forensic field without acknowledging that the Report has, necessarily, made recommendations for practices that are not yet in place. For example, the Statement complains that the Report does not “cite a single authority” requiring the recommended validation methods for forensic techniques.⁶⁹ But complaints that the PCAST Report does not sufficiently cite to examples where these practices already exist fundamentally miss the point of the Report: that such practices are missing. The Statement cannot undermine the PCAST’s conclusion that additional steps are necessary by pointing out that those steps have not been taken before. Such argument fails to meet the standards of the IQA.

Second, the Statement responds to what it claims is the PCAST Report’s conclusion that error rates for feature comparison analysis should be solely

⁶⁵ *Id.* at 9–21.

⁶⁶ *See generally id.*

⁶⁷ *See generally id.*

⁶⁸ Nat’l Research Council, *Strengthening Forensic Science in the United States: A Path Forward* 107–08 (2009).

⁶⁹ DOJ Statement, *supra* n.1, at 5, 11.

determined using black box studies.⁷⁰ Relying on a “well-known academic psychologist,” the Statement argues that “no single error rate is generally applicable to all laboratories, all examiners” in the forensic science context, that a reference error rate does not necessarily reflect the error rate in actual practice, and that this “raises larger questions about the overall external validity of black box studies.”⁷¹

This inaccurately characterizes the PCAST Report as requiring a single error rate applicable to all laboratories, all examiners, and all cases.⁷² It does not. Rather, the PCAST Report recommended that the validity of subjective methods of feature comparison analysis can be established through a single *method*: empirical black box studies.⁷³ In such studies, numerous examiners are asked to compare samples, and the study tracks the overall error rate of that practice across examiners and samples.⁷⁴ The point is not to assume that every examiner will behave precisely the same way; if that were the case, there would be no need to have such a large number of examiners for any given black box study.⁷⁵ Rather, a black box study is useful to demonstrate whether a particular field of comparison study can be reliable as a baseline. For instance, if a properly run black box study showed a 75% error rate in ballistic comparison, that would be probative information. The overall error rate would not necessarily undermine every use of ballistic analysis, but it could provide context. An individual ballistics analyzer could argue, for example, that she is in the upper quartile of her colleagues. The Statement improperly collapses those two steps of analysis. Across scientific disciplines, there are accepted practices and standard protocols across laboratories: suggesting that individual labs should be able to validate their own methods, as the Statement does, is simply not how science works.⁷⁶

Third, the Statement’s criticisms of the PCAST Report’s recommended criteria for scientifically valid studies are based on an inaccurate representation of the PCAST’s sources. The Statement takes issue with the PCAST Report’s six recommended criteria for appropriately designed black box studies that should be used to validate forensic techniques (e.g., that the examiners should lack advance

⁷⁰ *Id.* at 15.

⁷¹ *Id.* at 15–17.

⁷² See DOJ Statement, *supra* n.1, at 15, 22.

⁷³ PCAST Report at 49.

⁷⁴ *Id.* at 49–50.

⁷⁵ For instance, the PCAST report cites an FBI study involving 169 examiners and 744 pairs of fingerprints for comparison. *Id.* at 50.

⁷⁶ Indeed, an author of one of the papers the DOJ Statement cites in support of its position has subsequently disavowed the DOJ Statement, noting that “[a]ttacking the use of error rates is attacking scientific measurement,” and suggesting that the DOJ is “giving up on science.” See Jules Epstein, “*Trumpian*” Forensics, Advocacy & Evidence Resources, Temple University Beasley School of Law, <https://www2.law.temple.edu/aer/trumpian-forensics/> (quoting Itiel Dror).

access to the correct answer, and that their conclusions should be reproducible).⁷⁷ In this regard, the Statement acknowledges that none of these six criteria are themselves “novel or controversial”;⁷⁸ indeed, they are basic scientific method processes.⁷⁹ Nevertheless, the Statement complains that the PCAST Report is wrong to propose all six of those non-controversial criteria be used together at the same time because, the Statement argues, requiring those criteria is “inconsonant” with an FDA document, a guideline from the International Organization for Standardization (“ISO”), and other generally accepted academic standards.⁸⁰ This is untrue.

Setting aside the question of whether any inconsistency with a single FDA document could undermine a set of recommendations for improving forensic research, the Statement is simply wrong to say there is an inconsistency in the first place. Under the FDA’s guidance, “no single experimental design is either essential or required,” and the evidence required may vary according to different characteristics.⁸¹ That view is fully consistent with the broad criteria the PCAST Report recommends. Under the PCAST Report’s criteria, there is room for variation, including, for instance, the precise sample size.⁸² Setting forth uncontroversial boundaries—such as requiring that studies be conducted by disinterested parties—to improve evidence unrelated to FDA’s statutory scheme is hardly creating a template for a “single experimental design.”

Similarly, the Statement does not identify any real inconsistency with the ISO’s requirements for testing laboratories, known as ISO 17025.⁸³ The Statement argues that “[i]n contrast to the PCAST’s prescriptive stance, ISO does not dictate *how* labs must validate their methods, *which* criteria must be employed, or *what* experimental design must be followed.”⁸⁴ But again, the Statement overstates the degree to which the baseline criteria the PCAST Report recommends would hem in a lab’s experimental design: the recommendations would provide a floor, not a ceiling. For example, the recommendation that a sample collection be “large enough to provide appropriate estimates of the error rates” does not set a specific number or

⁷⁷ DOJ Statement, *supra* n.1, at 10–15.

⁷⁸ *Id.* at 11.

⁷⁹ See generally Scott E. Maxwell, Harold D. Delaney & Ken Kelley, *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (3d ed. 2018).

⁸⁰ DOJ Statement, *supra* n.1, at 10–15.

⁸¹ *Id.* at 12.

⁸² See PCAST Report, *supra* n.3, at 153 (noting that “[t]he confidence bound for proportions depends on the sample size in the empirical study”).

⁸³ See Int’l Org. for Standardization, *ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories* (2017), available at <https://www.iso.org/publication/PUB100424.html>.

⁸⁴ DOJ Statement, *supra* n.1, at 13 (emphasis in original).

experimental design.⁸⁵ And a lack of more exacting criteria in *existing* lab standards is wholly consistent with the PCAST’s mission to *improve* a field of science it found to be lacking in rigorous standards. The fact that ISO guidelines—which apply to all sorts of labs outside the feature comparison field—could be construed to have less stringent guidance does not undermine the validity of the PCAST’s recommendations. The Statement’s suggestion otherwise is misleading.

As part of this criticism, the Statement also reports that the American Association for the Advancement of Science “disagreed with PCAST’s premise.”⁸⁶ This is verifiably false: in fact, the AAAS issued a statement specifically clarifying its “complete agreement” with the PCAST Report “on the necessity of direct empirical testing to assess the accuracy of a forensic science method.”⁸⁷

Fourth, the Statement quibbles over whether feature comparison techniques constitute metrology (that is, “the science of measurement and its application”⁸⁸). The Statement asserts that feature comparison methods are not metrology⁸⁹—and then concludes that, because that premise is incorrect, the PCAST report’s guidance for standards for scientific validity fall, too.⁹⁰ This is inaccurate and misleadingly suggests that only the field of metrology must meet standards for scientific validity.

As an initial matter, the Statement is incorrect in its conclusion that forensic feature comparison methods cannot constitute “metrology.” It ignores not only the expertise of the PCAST itself, but also a growing body of literature addressing that very question.⁹¹ As one scientist recently put it, the DOJ Statement’s claim “that

⁸⁵ *Id.* at 10.

⁸⁶ *Id.* at 15.

⁸⁷ William C. Thompson, Am. Ass’n for the Advancement of Science, *AAAS, PCAST and Validation: Questions and Answers*, 1, <https://www.aaas.org/sites/default/files/QA%20AAAS%20and%20PCAST%20Reports.pdf?vxYqKK65CN0k0FKrAiDtUE64PdZuw5YT>.

⁸⁸ See PCAST Report, *supra* n.3, at 23 (quoting *International Vocabulary of Metrology – Basic and General Concepts and Associated Terms* (VIM 3d ed. 2012)).

⁸⁹ DOJ Statement, *supra* n.1, at 9.

⁹⁰ *Id.* at 2.

⁹¹ See, e.g., Giuseppe Schirripa Spagnolo et al., *Forensic Metrology: Uncertainty of Measurements in Forensic Analysis*, 20th Int’l Measurement Confederation TC4 Int’l Symposium, 391 (2014), <https://www.imeko.org/publications/tc4-2014/IMEKO-TC4-2014-367.pdf> (“The uncertainty associated with forensic scientific investigation . . . is an emerging Branch in Metrology.”); Anne L. Plant & Robert J. Hanisch, *Reproducibility in Science: A Metrology Perspective*, Harvard Data Sci. Rev. Issue 2.4, 2 (Dec. 16, 2020), <https://hdsr.mitpress.mit.edu/pub/0r4v4k4z/release/1> (noting that although “[m]easurement science has been traditionally applied to physical measurements . . . the thought process of measurement science is broadly applicable”); John Song & Xianping Liu, *A Review of NIST Projects in Surface and Topography Metrology for Firearm Evidence Identification in Forensic Science*, 1 J. Sci. & Ind. Metrology, no. 4, 2016, <https://metrology.imedpub.com/a-review-of-nist-projects-in-surface-andtopography-metrology-for-firearm-evidenceidentification-in-forensic->

visual patterns are not measured by the human brain” is a “surprising scientific assertion.”⁹² To “those uninformed about how sensory systems actually work, the process of feature comparison looks as though nothing has actually been measured and the result is attributed to unaccountable ‘visual analyses.’”⁹³ But the measurement “operations performed by a pattern examiner’s brain” and a forensic instrument “are functionally identical.”⁹⁴ “Forensic science thus surely qualifies as metrology.”⁹⁵ And, of course, comparing a forensic sample to a standard exemplar necessarily requires some degree of measurement.⁹⁶ For example, “every time a firearms examiner talks about the 1950s article on the six marks in series, that’s essentially a quantitative assessment, and all the discussion of 3D technology is all quantitative as well.”⁹⁷ So, at minimum, feature comparison relies on at least some component of metrology.

But more critically, the Statement is incorrect in its suggestion that the PCAST report’s conclusions rise and fall with a question of categorization. Even if forensic feature comparison methods are not metrology (and the Statement never says which scientific field, with its concomitant standards and protocols, they do fit within), that categorization cannot and does not obviate the application of rigorous scientific standards recommended by the PCAST. Instead, it underscores the problem the Report illuminates: the necessity of those standards to provide a context for the appropriate evaluation of forensic conclusions.⁹⁸ The core point of the PCAST Report is that the current feature comparison methods require more rigor. And the Statement ignores those possibilities.⁹⁹ The Statement’s dodge of

science.pdf (describing NIST’s development of standard reference bullets and cartridge cases as “metrology”).

⁹² Thomas D. Albright, *The US Department of Justice stumbles on visual perception*, 118 PNAS No. 24, at 2 (2021).

⁹³ *Id.* at 3.

⁹⁴ *Id.* at 4.

⁹⁵ *Id.*

⁹⁶ See Int’l Laboratory Accreditation Cooperation, *Guidelines for Forensic Science Laboratories* § 5.4.5.1 (2002),

http://www.sadcmet.org/SADCWaterLab/Archived_Reports/2006%20Reports%20and%20Docs/Ilac-g19.pdf (explaining that “[a]ll technical procedures used by a forensic science laboratory must be fully validated before being used on case-work” and that “[m]ethods may be validated by comparison with other established methods using certified reference material . . . or materials of known characteristics”).

⁹⁷ Testimony of David Faigman (Feb. 5, 2021), *People v. Auimatagi*, Case No. 19-4995 (Yolo County, Cal. Super. Ct.), at 82:12–15.

⁹⁸ See *id.* at 82:8–11 (“So there’s sort of opening critiques about it not being, you know, quantitative really misses the point, and that is that it ought to be quantitative.”).

⁹⁹ For example, NIST is developing metrological techniques relating to how fingerprints change over time, see NIST, *Forensic technique to measure mechanical properties of evidence*, ScienceDaily (Nov. 1, 2016), <https://www.sciencedaily.com/releases/2016/11/161101111628.htm>, and researching solutions to “fundamental metrological barriers” to three-dimensional ballistic imaging, see Nat’l Inst. of Justice, *A Metrology Foundation for 3D Ballistics Imaging* (Dec. 15, 2020),

any meaningful evaluation of the rigor of current feature comparison methods undermines its objection about terminology.¹⁰⁰

B. *The Statement Is Misleading as a Purported Representation of Scientific Disagreement.*

Taken together, the Statement merely tugs at the edges of the PCAST Report, quibbling with some of its citations.¹⁰¹ As laid out above, many of these criticisms are themselves unsubstantiated and factually inaccurate. But more troublingly, these minor challenges are presented as if they are cause for disavowal of the PCAST’s entire project. The Statement purports to show that certain claims of a scientific nature in the PCAST Report are “fundamentally incorrect,”¹⁰² suggesting to the ordinary reader that the Statement is simply another entry in a longstanding scientific debate among experts. But in reality, the Statement is not responding to science in scientific terms, but with legal argumentation about subsidiary points. The Statement does not propose any data-driven defense of current forensic techniques, nor propose any alternative to the PCAST recommendations for ensuring the accuracy of feature comparison methods used in the courtroom. The Statement thus carries a significant risk of misleading the public as to the current state of scientific discourse regarding forensic techniques, which consistently calls for greater investigation and ever-more-developed techniques for accuracy, and as to the degree to which currently used forensic techniques have been sufficiently validated.

C. *The Statement Is Unsigned, Unattributed, and Unverifiable.*

The DOJ Statement is also inherently unreliable because it is unsigned, unattributed, and unverifiable. It does not bear a signature, like other typical Department documents (such as a Guidance Document or Policy Statement).¹⁰³ A

<https://nij.ojp.gov/funding/awards/2016-dnr-6257-2>. See also John M. Butler et al., *NIST Scientific Foundation Reviews*, NIST (Dec. 18, 2020), <https://www.nist.gov/publications/nist-scientific-foundation-reviews> (describing NIST’s plans to conduct reviews of DNA mixture interpretation, bitemark analysis, digital evidence, and firearms examination to identify information supporting current methods and practices, as well as knowledge gaps).

¹⁰⁰ See Itiel E. Dror & Nicholas Scurich, *(Mis)use of scientific measurements in forensic science*, *Forensic Sc. Int’l: Synergy* 2 (2020) 333, 333 (“Without quantification, science is restricted, perhaps even non-existent Not only is quantification a basic requirement to conduct scientific inquiry, but it is also critical for communicating the finds. This is especially important in a domain such as forensic science, where science is used as evidence in court. . . . One critical measurement metric in all sciences, and in forensic science in particular, are error rates . . .”).

¹⁰¹ DOJ Statement, *supra* n.1, at 2.

¹⁰² *Id.* at 1.

¹⁰³ *E.g.*, DOJ, Guidance Documents, <https://www.justice.gov/guidance> (last visited June 9, 2021); Randolph D. Moss, Acting Assistant Attorney General, Office of Legal Counsel, “Authority of the

reader cannot determine the extent—if any—of scientists’ involvement in the drafting, and therefore cannot assess whether the Statement’s criticisms of the PCAST Report are rooted in scientific disagreement or legal advocacy (much less whether the Statement underwent the peer review required by the OMB IQA guidelines). The public, and courts, are therefore prevented from confirming the expertise of any contributor or understanding the extent to which these opinions are shared by scientists.

And these concerns are compounded here because portions of the Statement are verbatim or nearly identical to large portions of the law review article published by the career prosecutor who replaced DOJ’s scientific advisory committee.¹⁰⁴ The Statement’s failure to acknowledge authorship prevents the public from understanding whether and to what extent it is engaged in a scientific—or legal—debate. It is, therefore, biased “as a matter of presentation” and fails the integrity standard because the public has no appropriate opportunity to analyze whether scientists’ views were taken into account. And the possibility that it was in fact written by a lawyer with a prosecutorial agenda renders the Statement susceptible to corruption.

D. *The Statement Is Highly Influential and Susceptible to Misuse.*

The Statement avers that its purpose is for the Department to “offer[] its view on” the allegedly incorrect claims in the PCAST Report.¹⁰⁵ It does not expressly say whether the Department believes that any of the forensic techniques discussed are valid or that additional research is discouraged. Yet, that is exactly the takeaway of some prosecutors, courts, and even foreign countries. And the Statement is already having a “genuinely clear and substantial impact” in the courtroom and beyond.¹⁰⁶

Although the Statement has been available for only four months, prosecutors across jurisdictions in the United States have already identified it to courts as supporting the validity of forensic techniques they seek to introduce. Prosecutors in

United States to Enter Settlements Limiting the Future Exercise of Executive Branch Discretion” (June 15, 1999), *available at* <https://www.justice.gov/file/19516/download> (the “Moss Memo”).

¹⁰⁴ Compare, e.g., DOJ Statement, *supra* n.1, at 13 (“ISO generally defines validation as ‘confirmation, through the provision of objective evidence, that the requirements for a specific intended use or application have been fulfilled.’” and “In contrast to PCAST’s prescriptive stance, ISO does not dictate *how* labs must validate their methods, *which* criteria must be employed, or *what* experimental design must be followed.”) with Hunt, 86 Fordham L. Rev. at 29 (“ISO generally defines validation as ‘confirmation, through the provision of objective evidence, that the requirements for a specific intended use or application have been fulfilled.’” and “In direct contrast to PCAST’s validation litmus test, the ISO does not prescribe *how* labs must validate their methods, *which* criteria must be included, or *what* experimental design must be used.”).

¹⁰⁵ DOJ Statement, *supra* n.1, at 2.

¹⁰⁶ See DOJ Guidelines, *supra* n.8.

at least five cases, ranging from New York to Chicago to Oregon, have already cited the DOJ Statement or introduced it into evidence.¹⁰⁷ And so, in turn, have courts. In one of those cases, prosecutors filed a motion asking the court to pre-approve the wording of certain phrases they intended to elicit from their firearms examiners at trial—one of which was supported by a citation to the DOJ Statement—and the court granted the motion.¹⁰⁸ Prosecutors can misuse the Statement precisely because of its connection to DOJ.¹⁰⁹

The misuse of the Statement is not limited to the United States: foreign legal systems are also treating the Statement as an authoritative validation of forensic techniques, in reliance on DOJ's reputation. For example, an Israeli committee on the prevention of false convictions recently published an interim report on forensic science. The Israeli report noted that, although it had reviewed the PCAST report, it did so bearing in mind the recent criticisms from the DOJ Statement.¹¹⁰

As long as the Statement remains on the DOJ website and appears to carry the Department's support, the number of these examples will continue to grow. And as courts rely on the Statement's erroneous content, it will become enshrined into precedent, where the Statement's inaccuracies will affect not merely scientific discourse, but the liberty of criminal defendants. And in doing so, the Statement is likely to amplify the inequity that already pervades our criminal justice system.¹¹¹ A complete and swift retraction is therefore necessary to prevent misuse of the Department's work.

¹⁰⁷ See, e.g., *People v. Auimatagi*, Case No. CR-2019-4995-1 (Yolo County, Cal. Super. Ct.) (Feb. 4, 2021); *State v. Barquet*, Case No. 18CR77354 (Multnomah County, Or. Cir. Ct.); *People v. Hopkins*, Case No. 4258-2016 (N.Y. Sup. Ct.); *People v. Williams*, Case No. 20CR0369401 (Cook County, Ill. Cir. Ct.); *People v. Winfield*, Case No. 15CR14066-01 (Cook County, Ill. Cir. Ct.).

¹⁰⁸ See State's List of Proposed Expert Opinion Statements; Second Motion to Clarify Ruling on Defense Motion No. 21, at 4 & n.9, *State v. Barquet*, Case No. 18CR77354 (Feb. 8, 2021 Multnomah County, Or. Cir. Ct.); Order Clarifying November 12, 2020 Order on Defense Motion to Limit or Ban Testimony by State's Firearms Examiners (Defense Motion #21), at 2, *State v. Barquet*, Case No. 18CR77354 (Apr. 15, 2021 Multnomah County, Or. Cir. Ct.).

¹⁰⁹ See Tr. of Evidentiary Hearing (Feb. 4, 2021), *People v. Auimatagi*, Case No. 19-4995 (Yolo County, Cal. Super. Ct.), at 58:23–25 (“So that’s the United States Department of Justice issuing criticism for what PCAST said would need to qualify for foundational validity; is that correct?”).

¹¹⁰ See Israeli Public Committee on the Prevention of False Convictions and Their Correction, *Interim Report on Forensic Evidence* (March 2021).

¹¹¹ See, e.g., The Sentencing Project, *Report to the United Nations on Racial Disparities in the U.S. Criminal Justice System*, 1 (Apr. 19, 2018), <https://www.sentencingproject.org/publications/un-report-on-racial-disparities/> (noting that African-American adults are 5.9 times as likely to be incarcerated than white adults).

IV. The Union of Concerned Scientists Is an Affected Person.

Any “affected person” is entitled to request correction or retraction of agency documents that fail to meet the IQA’s standards.¹¹² Both the OMB and DOJ guidelines have interpreted the IQA to allow any member of “the public” to submit a request for correction.¹¹³ As a member of the public, the Union of Concerned Scientists is an affected person under the IQA.

The DOJ Guidelines further require the requester to explain how it is harmed and how correction will benefit the requester. The Union of Concerned Scientists is a science advocacy organization that works to promote the rigorous, independent use of science to solve the world’s problems, and the Center for Science and Democracy within UCS has a mission of working to ensure that independent science can inform public decision-making without interference or undue influence. The DOJ Statement undermines the basic scientific principles that the Union of Concerned Scientists promotes and threatens the work of its members, including forensic scientists and researchers. Retraction will ensure that rigorous and independent forensic science can appropriately inform legal decisions without the confusion caused by the seemingly authoritative, but misleading, DOJ Statement.

V. Under a Recent Presidential Memorandum, the Department Is Also Required to Review the Statement Because It Distorts the Conclusions of the PCAST Report and Fails to Fairly Represent or Resolve Scientific Disagreements.

Within days of taking office, President Biden reestablished the federal government’s commitment to scientific integrity through multiple government memoranda and Executive Orders. One memorandum in particular requires the Department to reassess the DOJ Statement in light of scientific integrity concerns, independent of the review required under the IQA. President Biden’s Science Integrity Memo announced the Administration’s official policy of “mak[ing] evidence-based decisions guided by the best available science.”¹¹⁴ As relevant here, heads of agencies must review and, if necessary, update “any website content,” “agency reports,” or “other agency materials issued or published since January 20, 2017, that are inconsistent with the principles set forth in this memorandum and that remain in use by the agency or its stakeholders.”¹¹⁵

As explained above, the DOJ Statement is inconsistent with the Administration’s principles because it distorts the scientific analyses and

¹¹² See Pub. L. No. 106-554, § 515(b)(2)(B).

¹¹³ See OMB Bulletin, M-19-15, *supra* n.7, at 9; DOJ Guidelines, *supra* n.8.

¹¹⁴ Science Integrity Memo, *supra* n.4.

¹¹⁵ *Id.* § 3(c)(iv).

conclusions in the PCAST Report and fails to fairly represent or resolve disagreements about its scientific methods and conclusions. Because this “agency material[]” is still in use both by DOJ prosecutors and other parties (including judges, state prosecutors, and foreign governments) that rely on DOJ materials, the Department must review and rescind it.

VI. Conclusion and Relief Requested

“[I]t has become increasingly clear that forensic practices that rely on human judgment often implicate the wrong people. . . . Indeed, thousands of innocent person-years have been spent behind bars for this reason, the majority of these quashed lives being men of color.”¹¹⁶ It is thus especially important that DOJ ensure that the forensic techniques it relies upon, as well as those it endorses, are based on the best available science. This means the Department should take seriously concerns like those raised in the PCAST Report. And when the Department disagrees with a recommendation, it should engage with the scientific community based on data and a transparent acknowledgement of the limitations of techniques currently in use. The DOJ Statement fails to do that.

* * *

Under the IQA, in response to this request for correction, DOJ is required to “[c]onduct a thorough review of the information being challenged, the processes that were used to create and disseminate the information and the conformity of the information and processes with OMB, DOJ and SLO & HoC policy, guidelines, and procedures,” and “[p]rovide a point-by-point response addressing data quality arguments.”¹¹⁷ DOJ must further determine what corrective action is warranted, taking into account the “nature and timeliness of the information and factors, [sic] such as the significance and magnitude of the error.”¹¹⁸

Given the Statement’s failure to comply with the IQA, the large-scale errors that permeate the Statement, and the significant risks that the misinformation it distributes will undermine confidence in our criminal justice system, the Union of Concerned Scientists requests that the Department fully retract the Statement within 120 days. Should you have any questions, please do not hesitate to contact us at jmorton@democracyforward.org, sspence@democracyforward.org, or (202) 448-9090.

¹¹⁶ Albright, *supra* n.92, at 1.

¹¹⁷ DOJ Guidelines, *supra* n.8.

¹¹⁸ *Id.*

Sincerely,

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