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The Mismatch Between Probable Cause and Partial Matching

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In mid-December, as one of the outgoing Bush Administration's last minute regulations, the Department of Justice radically expanded the category of persons from whom federal officials are now required to collect DNA. The rule requires federal officials to collect and retain DNA not only from persons convicted of a federal offense, but also from those merely *arrested* on suspicion of being involved in a federal offense.[1] Among its other flaws, this rule exacerbates the tension between the shared nature of genetic information and the standards justifying DNA collection and retention. By linking DNA collection to probable cause, the new regulation threatens to destabilize our understandings about what constitutes probable cause and to put millions of never-arrested individuals under perpetual genetic suspicion.

The Department of Justice justified the rule by pointing to the significant crime-detection and crime-prevention gains that expansion of the Combined DNA Index System (CODIS) will yield. CODIS includes genetic information collected by all fifty states, as well as by federal law enforcement, and its genetic profiles are available to any state that wishes to access it for crime-detection purposes.[2]

The government also explained its rule through extended analogy to other biometric information collected at the time of arrest, namely fingerprints. The rule calls the thirteen "core loci" that make up a CODIS profile a "genetic

1. DNA-Sample Collection and Biological Evidence Preservation in the Federal Jurisdiction, 73 Fed. Reg. 74,932, 74,932 (Dec. 10, 2008) (directing federal agencies to "collect DNA samples from individuals who are arrested, facing charges, or convicted, and from non-United States persons who are detained under the authority of the United States," subject to certain limitations and exceptions). The focus of this article is on federal arrestees.

2. *Id.* (noting that all fifty states participate in CODIS).

fingerprint[],"[3] describes the "practical uses" of DNA profiles as "similar in general character to those of actual fingerprints,"[4] and refers to the acceptability of collecting fingerprints at the time of arrest in responding to comments critical of the expansion of DNA collection to arrestees.[5] The rule further states, "the quantum of information sufficient to warrant an arrest—probable cause that the individual has committed a crime—is deemed a sufficient basis for the collection of certain biometric information, including DNA."[6]

The analogy to fingerprints, however, is deceptive. CODIS takes advantage of minute genetic differences to build profiles that may pinpoint a specific individual whose genetic information is stored in its database.[7] But the individual from whom genetic material is taken is not the only person who may be identified using a particular CODIS profile. Rather, because close genetic relatives have similar "genetic motifs,"[8] a partial match between a crime scene sample and a stored genetic profile may also implicate family members. A "partial" or "familial" match refers to two complete genetic profiles—one derived from a crime scene sample and the other from CODIS—that share some, but not all, of the thirteen core DNA loci.[9]

A partial match excludes the individual with whom the match is made because that individual's DNA clearly differs from the crime scene sample at one or more of the CODIS loci. Such a match, however, may inculpate close genetic relatives not otherwise in the relevant database who, like the crime scene sample, share some but not all of the examined loci with the individual whose CODIS profile provided the partial match. The information derived from a partial match where two nonmatching profiles share rare genetic markers will be particularly suggestive of a relative's involvement in a crime.[10]

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3. *Id*. at 74,933.

4. *Id*.

5. *See, e.g.*, *id*. at 74,937 (analogizing "DNA identification information" to fingerprints, as well as photographs of arrestees, in responding to comments on the scope of sample collection); *id.* (referring to "genetic fingerprints" in responding to comments on privacy); *id.* at 74,941 ("[C]ollecting DNA samples from federal arrestees on the same footing as fingerprints is the approach most conducive to public safety and is not overly broad.").

6. *Id*. at 74,939.

7. *Id*. at 74,933 (explaining that a genetic profile in CODIS "can be used to identify an individual uniquely").

8. Thomas M. Reid et al., *Use of Sibling Pairs To Determine the Familial Searching Efficiency of Forensic Databases*, 2 FORENSIC SCI. INT'L: GENETICS 340, 340 (2008).

9. For present purposes, I exclude matches that occur where a crime scene sample yields an incomplete genetic profile, such that no match may be more than "partial."

10. Marjan Sjerps & Ate D. Kloosterman, *On the Consequences of DNA Profile Mismatches for Close Relatives of an Excluded Suspect*, 112 INT'L J. LEGAL MED. 176, 176 (1999).

Thus, even where a particular individual has been excluded as the perpetrator of a crime, a partial match may indicate that a close family relative of the individual whose profile provided the match was involved in the offense under investigation.[11]

Partial matching of this kind is currently in use in several states.[12] In April 2008, California adopted the "most aggressive approach in the nation" to partial matching, regularizing the practice in its pursuit of information in criminal investigations.[13] As participants in CODIS, California and other states not only contribute genetic profiles to the national genetics database, but also have the ability to use it in their own law enforcement efforts.[14]

California's partial matching policy, and the use of partial matching by other states, is inconsistent with a key tenet of the Executive's new rule. The rule explicitly identifies probable cause as the appropriate level of suspicion that must exist for the collection and use of an individual's genetic information for database purposes.[15] Probable cause is an exacting standard, in most instances requiring at least individualized suspicion.[16] Before entering an individual's DNA into CODIS, the government must have probable cause to believe that that individual committed a crime. This question may be independent of whether the government has probable cause to investigate a person for the *particular crime* for which it is using partial matching. Under either inquiry, however, no probable cause can be said to exist for a previously arrested individual's close relatives prior to the discovery of a partial match.[17]

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11. *See* Reid et al., *supra* note 8, at 340; Sjerps & Kloosterman, *supra* note 10, at 176.

12. *See* Memorandum from Michael Chamberlain, Deputy Att'y Gen. of Cal., to Edmund G. Brown, Jr., Att'y Gen. of Cal., DNA Data Bank Program: Reporting "Partial Matches" to Law Enforcement 2 (June 6, 2007). In July 2006, the FBI reversed longstanding policy to permit states to disclose to other states the identity of database offenders who may not be the perpetrator, but who represent a partial match to a crime scene DNA sample. *Id.*

13. Maura Dolan & Jason Felch, *State Offers Police Extra DNA Tool*, L.A. TIMES, Apr. 26, 2008, at A1. *See generally* Memorandum from Edmund G. Brown, Jr., Att'y Gen. of Cal. to All Cal. Law Enforcement Agencies and Dist. Att'ys Offices, DNA Partial Match (Crime Scene DNA Profile to Offender) Policy (Apr. 25, 2008).

14. At present, California's partial matching policy involves only its own state database of genetic profiles. Dolan & Felch, *supra* note 13.

15. 73 Fed. Reg. 74,932, 74,939.

16. *See, e.g.*, Michigan v. DeFillippo, 443 U.S. 31, 37 (1979); *cf.* Terry v. Ohio, 392 U.S. 1, 21 & n.18 (1968).

17. It is by no means clear, of course, that a partial DNA match represents anything close to probable cause for arrest either.

Nevertheless, partial match data has been used to request DNA from relatives of individuals with profiles in the CODIS database.[18]

Indeed, while a partial match search may return hits for individuals whose DNA profiles were encoded in the database pursuant to probable cause, those individuals are explicitly not the targets of such a search. This is especially clear where an exact match search has failed to yield a match. Rather, partial matching methods are designed to yield information about individuals not in the applicable database—individuals for whom no probable cause has yet existed with respect to *any* crime.

Moreover, partial matching methods presently have a substantial rate of false positives—supposed relatives who, upon analysis, turn out not to be related.[19] Thus close genetic relatives of federal arrestees will become subject to unnecessary investigations when partial matching incorrectly suggests that the perpetrator is related to an individual whose DNA profile is stored in CODIS.

The government has thus far ignored the incompatibility and interrelation between the Executive's probable cause standard and partial match searching. Indeed, in responding to comments regarding partial matching submitted in reaction to this rule when initially proposed, the Department of Justice stated: "[T]he concern raised by these commentators [does not] have any obvious relationship to the matters addressed in the rule."[20] On one level, the Department of Justice is correct: partial matching is problematic whether the profiles to which it is applied come only from convicts or also from arrestees. As explained above, however, partial matching is inconsistent with present formulations of probable cause, the standard emphasized in justifying the collection and use of genetic information from federal arrestees. The Executive's new rule thus puts a finer point on the mismatch between search standards and the expanding use of partial matching in criminal investigation.

Ignoring the connection between these two issues and permitting them to proceed apace threatens to radically expand what "probable cause" means. Partial matching can create a causal loop, whereby the existence of a partial match may create the suspicion that was necessary to justify the search in the first place. Courts have, at least nominally, rejected this kind of circular logic.[21]

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18. *See* Ellen Nakashima, *From DNA of Family, a Tool To Make Arrests*, WASH. POST, Apr. 21, 2008, at A1.

19. *See, e.g.*, Reid et al., *supra* note 8, at 342.

20. 73 Fed. Reg. at 74,938.

21. *See, e.g.*, Devenpeck v. Alford, 543 U.S. 146, 152 (2004) ("Whether probable cause exists depends upon the reasonable conclusion to be drawn from the facts known to the arresting officer at the time of the arrest."); Arizona v. Evans, 514 U.S. 1, 17 (1995) (O'Connor, J., concurring) ("It is axiomatic that hindsight may not be employed in determining whether a prior arrest or search was made upon probable cause.") (internal quotation marks omitted).

The move from presearch suspicion to nonindividualized probabilities is therefore not inconsequential. Such a move should not be accomplished through inattention and without opportunity for public discussion and contestation.

If the Executive is serious about establishing probable cause as the relevant baseline for the collection and use of genetic information for law enforcement purposes—and, with its extensive analogies to fingerprinting, this seems likely—then it ought to ensure that partial match searching is not conducted using the samples it enters into CODIS. A prohibition on such searching should necessarily include not only searches by federal law enforcement officials, but by state officials as well.[22] The costs of moving in the other direction—abandoning any probable cause standard for genetic searching in order to preserve the potential usefulness of partial matching methods—are too great.

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22. Prohibiting partial match searches may substantially impact state practices in genetic identification. A full exploration of the interrelationship between federalism and genetic identification, however, will have to await another day.