

# STATEMENT OF DAVID H. KAYE ON SENATE BILL 775

Submitted to the Judiciary Committee  
of the Senate of the General Assembly  
of the Commonwealth of Pennsylvania

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(revised March 18, 2011)

Senate Bill 775 updates the Commonwealth's law enforcement DNA database system. It proposes two major changes—arrestee and kinship searching—that involve sensitive judgments about public security and individual liberties. This Statement takes no firm position on the merits of these changes. Its purpose is to place these matters in perspective and to supply information on the constitutionality of these changes. In addition, this Statement proposes modifications to the portion of the bill concerning the release of DNA information.

Before addressing these issues, I should describe my interest in the bill. As a law professor at Penn State University, I teach and write in the fields of forensic genetics, evidence, and criminal procedure. I have written several books and many articles that discuss DNA evidence and DNA databases. I have worked with or as a member of the National Academy of Sciences' second committee on forensic DNA science; the U.S. Department of Justice's National Commission on the Future of DNA Evidence; and the state of Arizona's Forensic Sciences Advisory Council. Before entering academia, I served as a federal prosecutor and as defense counsel in private practice. The views expressed here are, of course, my own and not those of any organization. My sole purpose in submitting them is to help ensure that the General Assembly's deliberations are based on accurate and relevant information.

## **I. DNA Sampling on Arrest**

The federal government and approximately half of the states have laws requiring individuals to submit DNA samples prior to a conviction for a crime. So do many foreign countries.<sup>1</sup> Some jurisdictions retain the identifying DNA profiles (just as they retain photographs or fingerprints) even after an arrestee is acquitted or charges are dismissed. SB 775 does not go to this extreme, but neither

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<sup>1</sup> GENETIC SUSPECTS: GLOBAL GOVERNANCE OF FORENSIC DNA PROFILING AND DATABASING (Richard Hindmarsh & Barbara Prainsack eds. 2010).

does it make removal of DNA samples and profiles in the absence of a conviction automatic. The amended § 2321 places the burden of requesting expungement and producing supporting documentation on arrestees. SB 775 is also more moderate than some other DNA-on-arrest laws in that the amended § 2316 requires a judicial finding of probable cause (or a defendant's waiver of the preliminary hearing) before DNA can be collected.

The efficacy of arrestee sampling is difficult to assess. Although there are reports of specific murders and other crimes that might have been prevented had DNA been taken and matched to crime-scene traces coming from individuals not yet convicted of any crime for which their DNA was on file, I have seen no study of how often collecting DNA from arrestees leads to convictions that would not have otherwise have been obtained. If Pennsylvania implements arrestee sampling, it should track and make public statistics on the effectiveness of system. Financing an expansion in the databank is obviously an important issue. In the absence of adequate data on the effectiveness of DNA sampling on arrest, a cost-benefit analysis of the proposal is all but impossible.<sup>2</sup>

The constitutionality of arrestee sampling is the subject of ongoing litigation. The highest appellate courts to consider the question have upheld the practice.<sup>3</sup> An intermediate appellate court in Minnesota and a federal district court in Pennsylvania have taken the opposite position.<sup>4</sup> Academic commentary is divided, but the arguments in favor of constitutionality are strong.<sup>5</sup> They would be

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<sup>2</sup> Over ten years ago, the National Commission on the Future of DNA Evidence avoided taking a stand on arrestee sampling on that ground that with large backlogs of crime-scene and offender samples awaiting analysis, adding arrestee samples was premature. The Commission suggested that the issue be readdressed in 2005.

<sup>3</sup> *United States v. Pool*, 621 F.3d 1213 (9th Cir. 2010) (federal arrestee law upheld under "totality of circumstances" balancing test); *Anderson v. Commonwealth*, 650 S.E.2d 702 (Va. 2007) (state arrestee law upheld under unspecified balancing test and analogy to fingerprinting as a booking procedure); *see also Haskell v. Brown*, 677 F.Supp.2d 1187 (N.D.Cal. 2009) (denying plaintiffs' motion for a preliminary injunction against felony arrestee DNA sampling mandated by California law), *app. pending*.

<sup>4</sup> *United States v. Mitchell*, 681 F.Supp.2d 597 (W.D. Pa. Nov. 6, 2009) (federal law held unenforceable as per se unreasonable under the Fourth Amendment), *app. pending*; *In re Welfare of C.T.L.*, 722 N.W.2d 484 (Minn. Ct. App. 2006) (state arrestee law struck down as per se unreasonable without probable cause and a warrant).

<sup>5</sup> *See* D.H. Kaye, *The Constitutionality of DNA Sampling on Arrest*, 10 CORNELL J.L. & PUB. POL'Y 455-508 (2001) (arguing that a statute with sufficient protections of private, nonidentifying information is constitutional under the special needs exception); David H. Kaye, *Who Needs Special Needs? On the Constitutionality of Collecting DNA and Other Biometric Data from Arrestees*, 34 J.L. MED. & ETHICS 188 (2006) (proposing a "biometric information exception" to the warrant requirement); Tracey Maclin, *Is Obtaining an Arrestee's DNA a Valid Special Needs Search Under the Fourth Amendment? What Should (and Will) the Supreme Court Do?*, 34 J.L. MED. & ETHICS 165, 178-82 (2006) (predicting that the Supreme Court will uphold taking DNA from arrestees under a balancing test but that it should reject the practice as per se unreasonable).

stronger still if the DNA *samples* (as opposed to the identification profiles derived from them) were not retained indefinitely. But even if the Supreme Court of the United States or the Pennsylvania Supreme Court were to deem arrestee sampling an unreasonable search or seizure, under *Illinois v. Krull*,<sup>6</sup> the result would not jeopardize the admission of evidence previously obtained pursuant to SB 775.

## II. Kinship Searching

In genetics and forensic science, “kinship analysis” refers to comparing DNA profiles from different individuals to see if one individual might be a close relative of another. It is done all the time in child-support and missing-remains cases. It is done in criminal cases when a rape victim has a child or aborted fetus.<sup>7</sup> Using the same principles of genetics, kinship searches can be conducted in a law enforcement database of identifying DNA profiles. For brevity, we can call the convicted offenders whose DNA profiles are recorded in a database “database inhabitants.” The profile derived from a crime-scene can be compared with all the database profiles to see (1) if a database inhabitant’s profile is an exact match (the usual “cold hit”) or (2) if there is a close enough match (as shown by kinship analysis) that the crime-scene DNA may have come from a very close relative of a database inhabitant.

One group of scientists estimated that kinship searching could generate thousands of useful investigative leads nationally.<sup>8</sup> The technique has had some highly publicized successes, although it is rarely used. Until a state implements a well designed form of kinship matching in a large number of cases, the real-life efficacy of the technique will not be known. A study in the United Kingdom

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<sup>6</sup> 480 U.S. 340 (1987) (Fourth Amendment exclusionary rule does not apply to evidence obtained by police who acted in objectively reasonable reliance upon statute authorizing warrantless administrative searches, but which is subsequently found to violate Fourth Amendment).

<sup>7</sup> A father transmits a random half of his DNA to his offspring. A suspect can be tested to see whether his DNA includes the DNA inherited by the child or fetus. This logic underlies paternity testing in civil cases. David H. Kaye, *The Probability of an Ultimate Issue: The Strange Cases of Paternity Testing*, 75 IOWA L. REV. 75 (1989).

<sup>8</sup> Frederick R. Bieber et al., *Finding Criminals Through DNA of Their Relatives*, 312 SCIENCE 1313 (2006).

reportedly "found that, out of 100 searches, more than a dozen led to a suspect."<sup>9</sup> California has made arrests in two of the 13 cases in which it has performed kinship searches.<sup>10</sup>

Although several states conduct kinship searches on an ad hoc basis or as specified in administrative guidelines, no state has yet adopted kinship searching by statute.<sup>11</sup> Arguably, Pennsylvania's existing DNA database law already permits kinship searching,<sup>12</sup> but SB 775's authorization of "modified DNA searches" removes any doubt about the proper reading of the statute.<sup>13</sup> The bill prescribes procedures for the police to follow and limits the use of kinship analysis with database records.

The constitutionality of kinship searching is fairly clear.<sup>14</sup> In a dictum in *United States v. Pool*,<sup>15</sup> the Ninth Circuit Court of Appeals explained that

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<sup>9</sup> Ken Miguel, The Controversies Surrounding 'Partial DNA,' ABC7 News, Nov. 13, 2007, [http://abclocal.go.com/kgo/story?section=news/drive\\_to\\_discover&id=5760664](http://abclocal.go.com/kgo/story?section=news/drive_to_discover&id=5760664), last accessed Feb. 20, 2011.

<sup>10</sup> Office of the Attorney General, State of California, News Release, Santa Cruz Sex Assault Suspect Identified Through Same DNA Technology Used in Grim Sleeper Case, Mar. 15, 2011, [http://ag.ca.gov/news/alerts/print\\_release.php?id=2051](http://ag.ca.gov/news/alerts/print_release.php?id=2051).

<sup>11</sup> Natalie Ram, *DNA Confidential: State Law Enforcement Policies for Genetic Databases Lack Transparency*, SCIENCE PROGRESS, Nov. 2, 2009, at <http://www.scienceprogress.org/2009/11/dna-confidential/>.

<sup>12</sup> Currently there is confusion in Pennsylvania over whether disclosure of near matches to local officials is permissible. The state police have been quoted as stating that "[a]lthough familial searching has the potential to be a great investigative tool, implementation at this early stage, without direct legislative approval and a standard national policy, is premature." Faye Flam, *Colorado D.A. Offers Philadelphia Help in Kensington Strangler Case*, PHILADELPHIA INQUIRER, Jan. 10, 2011. As a matter of constitutional law, however, the notion that no state should act before "a standard national policy exists" is somewhat strange. See *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting) ("It is one of the happy incidents of the federal system that a single courageous state may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country.").

<sup>13</sup> SB 775's amendment to § 2303 uses the term "modified DNA search" for a kinship search. The definition of a "modified DNA search" makes it clear that these modified searches are not what the FBI calls "partial match" searches that can link a record in the National DNA Index System (NDIS) to a crime scene when there is ambiguity in the crime-scene profile. Although the FBI uses the phrase "partial match" in this specialized sense, the term normally includes kinship searching. See, e.g., NATIONAL COMMISSION ON THE FUTURE OF DNA EVIDENCE, THE FUTURE OF FORENSIC DNA TESTING: PREDICTIONS OF THE RESEARCH AND DEVELOPMENT WORKING GROUP 65 (2000).

<sup>14</sup> Jules Epstein, "Genetic Surveillance"—*The Bogeyman Response to Familial DNA Investigations*, 2009 U. ILL. J.L. TECH. & POL'Y 141 (2009).

<sup>15</sup> 621 F.3d 1213 (9th Cir. 2010).

The concern with familial comparisons or partial matching is that a review of CODIS may disclose an individual whose DNA does not match precisely to crime scene DNA from a perpetrator, but is close enough to create a probability that the perpetrator is a close relative to the identified individual. The familial match is not implicated: by definition the match is not perfect, so the government knows that the match is not the perpetrator. It is questionable whether the rights of the perpetrator (if ultimately identified through the use of familial comparisons) are violated. This seems somewhat analogous to a witness looking at a photograph of one person and stating that the perpetrator has a similar appearance which leads the police to show the witness photos of similar looking individuals, one of whom the witness identifies as the perpetrator. It is questionable whether the person whose photograph helped focus the inquiry, or whose familial comparison helped focus the inquiry, has suffered any invasion of his or her constitutional right to privacy.<sup>16</sup>

One recent law review article questions the structure of current Fourth Amendment law that leads to this conclusion,<sup>17</sup> but, as with arrestee searches, even if the U.S. Supreme Court were to depart from current doctrine, cases up to that point involving evidence made possible by SB 775 would not be affected.<sup>18</sup>

SB 775 separates the issues of kinship and arrestee searching by prohibiting kinship searches with arrestee samples prior to conviction. Furthermore, it limits kinship searches to certain cases as a last resort. The strongest advocates of kinship searching would maintain that these restrictions deprive the technique of its full power. Opponents of kinship searching raise a variety of “genetic privacy” objections, that are well articulated in recent writing.<sup>19</sup> The more extreme rhetoric condemns kinship searching as “permanent genetic surveillance.”<sup>20</sup> However, kinship searching is neither genetic in the sense of revealing sensitive genetic information (such as hereditary diseases) nor surveillance in the sense of continuously monitoring an individual’s movements.<sup>21</sup>

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<sup>16</sup> *Id.* at 1221.

<sup>17</sup> Erin Murphy, *Relative Doubt: Familial Searches of DNA Databases*, 109 MICH. L. REV. 291 (2010).

<sup>18</sup> *See supra* note 6.

<sup>19</sup> *Id.*; Sonia M. Suter, *All in the Family: Privacy and DNA Familial Searching*, 23 HARV. J.L. & TECH. 309 (2010).

<sup>20</sup> Jennifer Steinhauer, *'Grim Sleeper' Arrest Fans Debate on DNA Use*, N.Y. TIMES, July 9, 2010, at A14 (quoting law professor Jeffrey Rosen).

<sup>21</sup> David H. Kaye, "Familial Searching": Ten Questions and Answers, July 17, 2010, available at <http://www.personal.psu.edu/dhk3/blogs/DoubleHelixLaw/2010/07/familial-searching-ten-questions-and-answers.html>.

In sum, SB 775 is progressive in directly tackling the issue of kinship searching and restrained in the extent of kinship searching that it allows. But none of this means that the bill is perfect and could not be improved. Parts could be written more economically and precisely, but I shall not address most of these technical details here.

### III. Undue Restrictions on Releasing Information

Section 2319 governs the release of information. It lacks an explicit provision for the release of case-specific information to criminal defendants. In addition, subsection (c), on population databases, unduly restricts the sharing of scientific information. As amended by SB 775, the section would read as follows:

§ 2319. DNA data base exchange.

(a) Receipt of DNA samples by State Police. \* \* \* The results of the DNA profile of individuals in the State DNA Data Base shall be made available:

(1) to criminal justice agencies or CODIS-participating DNA laboratories which serve these agencies; or

(2) upon written or electronic request and in furtherance of an official investigation of a criminal offense or offender or suspected offender.

(b) Methods of obtaining information.--The State Police shall adopt guidelines governing the methods of obtaining information from the State DNA Data Base and CODIS and procedures for verification of the identity and authority of the requester.

(c) Population data base.

(1) The State Police may establish a separate population data base comprised of DNA samples obtained under this chapter after all personal identification is removed.

(2) The State Police may share or disseminate the population data base with other criminal justice agencies or CODIS-participating DNA laboratories that serve to assist the State Police with statistical data bases.

(3) The population data base may be made available to and searched by other agencies participating in the CODIS system.

To make it clearer that defendants are entitled to see the evidence against them and to have the state reveal any other matches (if there are any) in the offender database, subsection (a)(2) could read “(2) upon written or electronic request *from an agency or criminal defendant* and in furtherance of an official investigation *or trial* of a criminal offense or offender or suspected offender.”

Subsection (c) has two somewhat technical flaws. These drafting issues involve the use of the word “data base” for a collection of “samples,” and the reference to “searching” a “population database.” The term “database” normally refers to a collection of “records”—in this case, DNA identification profiles. Physical samples, on the other hand, comprise a “repository” or “data bank.” Once the DNA profile is extracted from a sample, it goes into the offender database as a DNA “record” to be compared to crime-scene profiles for ordinary cold hits or for kinship matches.

In contrast, a population database does not normally consist of offender records. It comes from a sample of the general population. It is used to estimate how common the markers (the technical term is “alleles”) that make up the identification DNA profiles actually are. These estimates are then used in computing the probability of a match to an unrelated individual. This “random match probability” indicates how powerful the DNA match in a particular case is. Because the population database is itself not used to identify anyone, it is odd to speak of searching it.

More fundamentally, because the information in a population database is useful only for statistical purposes, there is no reason to limit access to other CODIS-laboratories. Any researcher—indeed, any defendant—who wants to examine these de-identified lists to verify the accuracy of the state’s computations of the random-match probability should be allowed to do so. The same principle should apply to the offender database. The entire database could serve as a “population database.” With personally identifying information removed, the offender profiles pose no threat to personal privacy and could be used to further establish (or, conceivably, to impeach) the accuracy of the estimates of random-match probabilities.<sup>22</sup> The refusal of CODIS laboratories to provide de-identified records to defendants has produced pointless litigation<sup>23</sup> and unwarranted suspicion.<sup>24</sup> Limiting the sharing of an anonymous databases to “CODIS-participating laboratories” and “agencies participating in the CODIS system” unnecessarily restricts the sharing of anonymous data.

To remedy these terminological and functional problems, § 2319(c) could be revised to read as follows:

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<sup>22</sup> E.g., David H. Kaye, *Trawling DNA Databases for Partial Matches: What Is the FBI Afraid Of?*, 19 CORNELL J. L. & PUBLIC POL’Y 145 (2009); Dan E. Krane et al., *Time for DNA Disclosure*, 326 SCIENCE 1631 (2009) (letter).

<sup>23</sup> Kaye, *supra* note 22.

<sup>24</sup> E.g., Sarah M. Ruby, *Checking the Math: Government Secrecy and DNA Databases*, 6 I/S: J. L. & POL’Y INFORMATION SOC’Y 257 (2010).

(c) Population data base.

(1) The State Police may establish a data base for statistical analysis composed of DNA profiles obtained under this chapter or from other sources with all personal identification removed.

(2) The State Police may share or disseminate this reference data base with other criminal justice agencies, CODIS-participating DNA laboratories, and scientific researchers.

### **Conclusion**

I hope that these comments will be of some benefit to the Committee and the General Assembly in its deliberations on SB 775. I would be happy to answer questions that Committee members might have.