



**NYCLU**  
NEW YORK CIVIL LIBERTIES UNION

## **Unanswered Questions about Proposals to Expand the State's DNA Databank:**

**Questions about public safety, about flawed prosecutions and wrongful convictions, about cost and efficiency, about race and the criminal justice system**

June 15, 2010

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In a news release issued on June 1, Governor Paterson announced that he has submitted legislation that would compel all New Yorkers – including youthful offenders – convicted of any penal offense, including low-level misdemeanors, to submit a DNA sample for inclusion in the state's databank.

The governor's proposal to expand its size and scope has been advanced without a single legislative hearing, without a word of public debate, and without a showing of findings or data regarding the proposal. The governor announced his proposal with 11 days remaining in the legislative calendar.

It is fair to assume that a political calculation has been made there is not much to talk about. In this information void, the guiding policy prescription regarding the databank has been reduced to simplistic policy formulation: The more DNA, the better.

The matter is not so simple. There is an emerging body of research and empirical findings that raise important questions about the state's maintenance of a rapidly expanding DNA databank: questions about inefficiency and error, about quality assurance standards and protocols, about oversight and accountability in the operation of crime labs.

There are two fundamental state interests at issue: the protection of public safety; and, in pursuit of that objective, the obligation to protect the privacy and due-process rights of those whose DNA is in the state's custody.

Following is a highly condensed analysis of several salient questions relevant to this inquiry.

■ **Will the proposed expansion of the state’s DNA databank make New Yorkers safer?**

New York established its DNA Identification Index in 1994. Today, some 15 years into this public policy experiment, there has been no comprehensive, rigorous, independent study of these questions:

How many “cold hits” – that is, crime-scene DNA evidence that matches a sample in the databank – lead to criminal investigations? How many of those investigations lead to prosecutions? And how many of those prosecutions lead to convictions?

In other words, how many crimes has a DNA *cold hit* helped to solve? (The “cold hit” scenario is quite different from testing a known suspect against crime-scene evidence – which does not require, or rely upon, a databank.) And how many additional crimes may be solved by expanding the DNA databank? Bruce Budowle, one of the nation’s preeminent experts on forensic DNA and until 2009 one of the FBI’s top DNA scientists, asserts that there is insufficient data on which to determine the actual value of DNA databanks in solving crimes.<sup>1</sup>

Budowle was one of the architects of the national DNA database, known as CODIS (Combined DNA Index System). In a declaration submitted in federal litigation he states that:

“A better accounting of how well CODIS performs is needed. Certainly there are software deficiencies and training needs for CODIS examiners that are known and yet to be addressed. If CODIS hits are not translating into investigative leads or convictions, then a study should be carried out to identify the weak links in the process. Questions to ask: . . . Are the hits meaningful (i.e., leading to new leads)? Are the hits helpful in the disposition of cases? . . . Are the number and types of genetic markers sufficient? Are crime laboratories overworked? Do the police understand the value of a hit? Are there sufficient resources for the policy to carry out investigations from CODIS hits? Should more information be linked to the hits for better evaluation?”<sup>2</sup>

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<sup>1</sup> See Declaration of Bruce Budowle in Support of Motion for Preliminary Injunction, *Elizabeth Aida Haskell, et al. v. Edmund G. Brown, Jr.*, No. 09-4779 CRB (filed in N.D. Cal.) (declaration executed Oct. 29, 2009).

<sup>2</sup> *Id.* at paragraph 30. Prof. Frederick R. Bieber, a medical geneticist at Harvard Medical School, has written that in order to assess the effectiveness of forensic databanks policy makers must establish regulatory standards regarding that include 1) comprehensive audit and review procedures; 2) best practices for laboratory throughput and data entry, as well as communication of results; 3) systematic collection of data on outcomes of DNA hits 4) systems of performance management. See “Turning Base Hits into Earned Runs: Improving the Effectiveness of Forensic DNA Data Bank Programs,” *Journal of Law, Medicine & Ethics*, Summer 2006, p. 222.

In his court declaration, Budowle adds that "... when expansion of a database is being considered and privacy and other issues are at issue, those risks should be weighed with a look towards the value of [a DNA databank] and whether it is highly effective."<sup>3</sup>

His statement suggests that policy makers fail to use reliable metrics for evaluating the costs of the DNA databank – both in terms of tax dollars allocated and the diminution of constitutional rights – in relation to the public safety benefits. New York law makers must address these issues *before* expanding the databank.

### ■ **Could a larger DNA databank make law enforcement less effective?**

Here are the conclusions (in summary) reached by a study published in the British Journal of Criminology regarding the United Kingdom's ever-expanding DNA databank:

"... DNA evidence remains marginal in terms of assisting with overall criminal detections and experts now suggest that the massive national DNA database expansion has not resulted in the improvement in detection rates originally anticipated. This paper also suggests potential concerns over the 'tactical' use of DNA evidence during suspect interviews, and the risk of abbreviated police investigations.

"Insufficiently 'forensically aware' police officers may resort to DNA evidence in lieu of proper detective work. . . . [L]iterature on 'case construction' inform[s] analysis of potential pitfalls of early reliance on DNA results, which may increase the risk of 'tunnel vision' in criminal investigation . . . a phenomenon recognized as a cause of wrongful convictions."<sup>4</sup>

Even with the proposed expansion, New York's databank would be far smaller than the United Kingdom's. But in light of the British study it is incumbent upon policy makers in New York to analyze how the scale of the databank may affect the efficiency and effectiveness of law enforcement.

### ■ **But DNA is a highly precise forensic tool, isn't it?**

Under optimum circumstances DNA evidence is extraordinarily reliable. However, the collection and analysis of DNA evidence is a human endeavor. It is susceptible to human fallibility – and venality – and this scientific fact has not been given sufficient consideration in the debate over the size and scope of the state's DNA databank.<sup>5</sup>

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<sup>3</sup> *Id.* at paragraph 27.

<sup>4</sup> Carole McCartney, "The DNA Expansion Programme and Criminal Investigation," *British Journal of Criminology*, October 25, 2005. [Published by Oxford University Press on behalf of the Centre for Crime and Justice Studies (ISTD)]

<sup>5</sup> See, e.g., Maura Dolan and Jason Felch, "DNA: Genes as Evidence, The Danger of DNA: It Isn't Perfect," *latimes.com*, December 26, 2008; and John Tierney, "Bad Science in Court," *TierneyLab, New York Times*, August 14, 2008

Prof. William C. Thompson<sup>6</sup> has documented an unexpectedly high incidence of error and fraud in the collection, handling and analysis of DNA evidence: mislabeling of samples, cross contamination of samples, misinterpretation of results, misrepresentation of results.<sup>7</sup> Thompson has documented these problems in labs across the country, including the DNA lab operated by New York City's medical examiner.<sup>8</sup> In that case an analyst was caught "faking the result of control samples designed to detect instances in which cross-contamination" has occurred.<sup>9</sup>

According to Thompson, we are not seeing a sudden deterioration in the quality of DNA testing, but the identification of problems that have long existed – problems that occur even in the best labs – but have been successfully hidden.<sup>10</sup>

In a 2009 report, the National Academy of Sciences issued a sweeping critique of the nation's crime labs, observing that forensic scientists with law enforcement agencies "sometimes face pressure to sacrifice appropriate methodology for the sake of expediency."<sup>11</sup> New York is not immune to these problems. The state's inspector general published a report last year that concluded a forensic analyst with the New York State Police crime lab had falsified test results over a 15-year period.<sup>12</sup> The analyst had not been properly trained; his superiors not only condoned the fraudulent conduct, but attempted to conceal it.

The Inspector General's office exposed a similar problem in the NYPD's crime lab. A 2007 report concluded that police department lab analysts had falsified forensics tests and that the NYPD had failed to adequately investigate and report that evidence had been compromised.<sup>13</sup>

The creation of a massive DNA databank that facilitates the routine use of forensic DNA in criminal investigations and prosecutions poses novel and complex challenges to the

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<sup>6</sup> J.D., Ph.D, Department of Criminology, Law & Society, University of California, Irvine.

<sup>7</sup> See William C. Thompson, "Tarnish on the 'Gold Standard': Recent Problems in Forensic DNA Testing," *The Champion*, January/February 2006.

<sup>8</sup> *Ibid.*, pp. 11-12.

<sup>9</sup> *Ibid.*, p. 11.

<sup>10</sup> Thompson and other experts have observed that "[L]aboratory data frequently reveal[ ] limitations or problems that would not be apparent from the laboratory report, such as inconsistencies between purportedly 'matching' profiles, evidence of additional unreported contributors to evidentiary samples, errors in statistical computations and unreported problems with experimental controls that raise doubts about the validity of the results." See William C. Thompson, Simon Ford, Travis Doom, Michael Raymer and Dan E. Krane, "Evaluating Forensic DNA Evidence: Essential Elements of a Competent Defense Review," *The Champion*, April 2003. (Part 2 of this article appeared in the May 2003 issue of *The Champion*.)

<sup>11</sup> Adam Liptak, "Justices Rule Lab Analysts Must Testify on Results," *New York Times*, June 26, 2009.

<sup>12</sup> See New York State Office of the Inspector General, *Report of Investigation of the Trace Evidence Section of the New York State Police Investigation Center* (December 2009).

<sup>13</sup> New York State Office of the Inspector General, *Investigation of Drug Test Irregularities at the NYPD Forensic Laboratory in 2002* (December 2007).

integrity of the criminal justice system.<sup>14</sup> A former assistant district attorney in Manhattan put the issue this way:

“DNA databanks do help apprehend dangerous criminals (and thereby prevent crime). But most people aren’t violent criminals and never will be, so putting their DNA on file exposes them to risks that they otherwise wouldn’t face. First, people who collect and analyze DNA can make mistakes (witness the Houston Police Department Laboratory, whose slapdash DNA procedures led to at least one wrongful conviction). Second, people can be framed by the police, a rival or angry spouse. Third, DNA is all about context; there may be innocent reasons for a person’s DNA to be at a crime scene, but the police are not always so understanding.”<sup>15</sup>

### ■ Does New York have sufficient safeguards against error and fraud in the collection and analysis of forensic DNA?

There are serious questions about the capacity of the existing oversight system to ensure the integrity of the procedures by which forensic DNA is utilized. The New York State Commission of Investigation has identified a number of these issues: an increasing risk of tainted or cross-contaminated samples due to the enhanced sensitivity of testing techniques; concerns expressed by lab managers that there are insufficient funds to hire and train qualified forensic analysts; and the lack of statewide standards for the collection and handling of DNA evidence.<sup>16</sup>

The state has failed to address these concerns. For example, the use of external, blind proficiency testing – conducted by independent, anonymous technicians and scientists – can prevent errors such as cross-contamination. The National Research Council recommended this practice in 1992; many scientists believe it is an essential quality control measure.<sup>17</sup> However, under existing New York law, such testing is discretionary and contingent.<sup>18</sup>

State laws and policies also fail to recognize that DNA labs must be protected from undue influence of law enforcement agencies that may bias or otherwise compromise the

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<sup>14</sup> The governor’s proposal would add tens of thousands of additional DNA samples to the databank annually. The state’s Department of Criminal Justice Services reports an average of approximately 150,000 misdemeanor convictions for the years 2005-2008. In 2006 the legislature increased the number of predicate offenses, including a limited number of misdemeanors, that required submission of a DNA sample. At the end of 2008 there were 330,527 DNA samples in the databank, almost double the 157,506 samples in the databank at the end of 2005. See [crimestat@DCJS.state.ny.us](mailto:crimestat@DCJS.state.ny.us).

<sup>15</sup> Harlan Levy, “Caught Up in DNA’s Growing Web,” *New York Times* (op ed), March 17, 2006.

<sup>16</sup> Commission of Investigation of the State of New York, *DNA and the Criminal Justice System* (2006), pp. 37-39.

<sup>17</sup> See Radley Balko and Roger Koppl, “C.S. Oy: Forensic Science is Badly in Need of Reform. Here Are Some Suggestions,” *SLATE*, Aug. 12, 2008, [http://www.slate.com/id/2197284/pagenum/all/#page\\_start](http://www.slate.com/id/2197284/pagenum/all/#page_start). See also Maura Dolan and Jason Felch, “DNA: Genes as Evidence, The Danger of DNA: It Isn’t Perfect,” *latimes.com*, December 26, 2008

<sup>18</sup> See Executive Law, §995-b.2(c)

objectivity of laboratory procedures. Dr. Roger Koppl, director of the Institute for Forensic Science Administration at Fairleigh Dickinson University, and investigative reporter Radley Balko have recommended that crime labs and DNA labs should not be housed within the same bureaucracy that includes district attorneys and police agencies.<sup>19</sup> The problem with this arrangement has been documented in the research of Prof. William C. Thompson and other scientists. These studies find that forensic scientists typically fail to take measures to “blind” themselves to the expected outcome of their analysis – when faced with ambiguity in the information presented in a DNA sample, crime lab analysts frequently fit their interpretations to support the prosecution’s theories.<sup>20</sup>

Those who defend the adequacy of existing quality-control measures challenge skeptics to identify a criminal prosecution that has been overturned due to error or abuse related to DNA.<sup>21</sup> But this defense poses the wrong question. The pertinent question is this: Are there sufficiently rigorous and independent oversight procedures to ensure that error and abuse will be discovered – and that if it is, rigorous case review will follow, along with sanctions and discipline if negligence or wrongdoing is involved? The answer is no. Policy makers must account for the fact, as documented in the Innocence Project’s record of exonerating the wrongfully convicted, that prosecutorial misconduct is often a factor in wrongful convictions.<sup>22</sup> The advent of DNA only makes more complex the challenge of identifying the unlawful manipulation of evidence.

When a system of testing and archiving DNA undergoes massive expansion, as is already underway in New York, the potential for error and abuse that is inherent to that system also increases. Following its review of the nation’s crime labs, the 2009 report by the National Academy of Sciences, *Strengthening Forensic Science in the United States*, called for a “new, strong and independent entity . . . objective and free of bias . . . to implement a fresh agenda” of regulatory standards and oversight.” New York should heed this call.

## ■ **Are issues of race and ethnicity implicated by the proposed expansion of the state’s DNA databank?**

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<sup>19</sup> See Radley Balko and Roger Koppl, *supra*, n. 15.

<sup>20</sup> Citing a case that involved a crime-scene sample with DNA from two individuals, Prof. Thompson observes: “We often see indications, in the laboratory notes themselves, that the analysts are familiar with facts of their cases, including information that has nothing to do with genetic testing, and that they are acutely aware of which results will help or hurt the prosecution team. A DNA analyst in one case wrote: . . . ‘Death penalty case. Need to eliminate [other individual] as a possible suspect.’” See William C. Thompson, Simon Ford, Travis Doom, Michael Raymer and Dan E. Krane, “Evaluating Forensic DNA Evidence: Essential Elements of a Competent Defense Review,” *The Champion* (April 2003), p. 4.

<sup>21</sup> See, e.g., Denise O’Donnell, “A DNA Databank, and Justice for All,” *Albany Times Union*, June 20, 2007. (O’Donnell was then-Commissioner of the New York State Division of Criminal Justice Services.)

<sup>22</sup> See, The Innocence Project, “Murder Case against Ralph Armstrong after Prosecutor Hid Evidence of His Innocence” [“Prosecutorial misconduct has played a role in scores of wrongful convictions that were later overturned with DNA testing. . . . Among 241 people nationwide who were exonerated through DNA testing, fully 25 % cited prosecutorial misconduct in their appeals or civil lawsuits. In 38 % of those cases, prosecutors were accused of withholding evidence that could prove innocence.”]

It is well documented that there are gross racial and ethnic disparities in the nation's prison population: Incarceration rates for blacks and Latinos are now more than six times higher than for whites; 60 percent of America's prison population is either black or Latino. And the disparities in the prison population are reflected in the population of whose DNA is in the databank.

The racial and ethnic disparities in New York State's prison population are more stark: 77 percent of those incarcerated are black or Latino.<sup>23</sup> These racial disparities in the prison population do not necessarily reflect higher rates of offending among those groups in the general population.<sup>24</sup> However, to the extent there is racial bias and ethnic bias in the criminal justice system, the use of forensic DNA databanks will have a tendency to exacerbate this bias. And to the extent error and fraud is involved in the use of forensic DNA, the individuals harmed will most often be persons of color.

### ■ **What is “familial searching”? And how would a larger DNA databank facilitate this investigative technique?**

On December 11, 2009, the New York State Commission on Forensic Sciences approved (by a sharply divided vote) a policy that authorizes law-enforcement to investigate the family members of an individual whose DNA does not precisely match crime-scene evidence, but is a near match. The Commission intends to promulgate a regulation implementing this proposal in the coming months.

The scientific rationale for this practice is that a “partial match” between a crime-scene sample and the DNA of someone in the state's databank may implicate a blood relative of that individual.

Adding DNA from all misdemeanants to the state's databank significantly broadens the scope of the familial searching policy: As the number of individuals whose DNA is in the state's databank increases, there will be a far greater increase in the numbers of blood relatives of those individuals who may be implicated in a criminal investigation – solely because a family member has a DNA sample in the state's databank.

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<sup>23</sup> New York State Department of Correctional Services, *Under Custody Report: Profile of Inmate Population Under Custody on January 1, 2009* (Aug. 2009) p. II.

<sup>24</sup> For example: Whites use and sell drugs at the same rate as blacks and Latinos, but approximately 90 percent of those imprisoned in New York for drug offenses are persons of color. NYS Department of Correctional Services data, as reported to the Correctional Association of New York, available at [http://www.correctionalassociation.org/publications/download/ppp/factsheets/DTR\\_Fact\\_Sheet\\_2009.pdf](http://www.correctionalassociation.org/publications/download/ppp/factsheets/DTR_Fact_Sheet_2009.pdf). The same disparity occurs in NYPD marijuana misdemeanor arrests. Whites use and sell marijuana at higher rates than blacks or Latinos, but 87 percent of persons arrested for marijuana in 2009 were black or Latino. See Harry G. Levine, *New York City's Marijuana Arrest Crusade... Continues* (Sept. 2009).

And the greater the representation of a racial or ethnic group in the DNA databank, the greater the possibility that members of those groups will become the focus of a familial search: This law-enforcement strategy will be enforced primarily in communities of color.<sup>25</sup>

It is the NYCLU's position that this partial-match familial searching technique all but invites the abuse of privacy and due process rights. The Commission's proposal provides for no judicial supervision; there are no guidelines or protocols as to how law enforcement may conduct familial searches. What's more, the Commission's action regarding this proposal constitutes the making of substantive law. This authority is solely within the purview of the legislature – which has been silent on the proposed familial searching policy approved by the Commission on Forensic Sciences.

■ **What should law makers do to ensure the integrity of the DNA databank, and the lawful and effective use of forensic DNA by law enforcement?**

**1. Establish an independent, expert Task Force on Forensic DNA.**

Charge this body with undertaking a comprehensive study – to be completed within 12 months – that analyzes policies and practices related to the collection, analysis, storage and use of DNA specimens for law enforcement purposes in light of authoritative scientific and legal research. This study must address:

- Quality assurance standards and protocols, including independent audit and testing procedures, used to ensure the accuracy and reliability of techniques and procedures employed by laboratories that analyze forensic DNA evidence;
- Standards of accreditation and review regarding the competence and job performance of scientists and technicians;
- Empirical models and methodologies for documenting and evaluating the outcome and resolution of criminal investigations and prosecutions that involve the use of reference samples in the DNA databank and/or crime-scene DNA evidence;
- Protection of privacy and due process rights of those who become the subject of a criminal investigation based upon DNA evidence;

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<sup>25</sup> Stanford Professor Henry T. Greely estimates that if the national database were used to conduct familial searching, about one-third of the black population would be “put under surveillance.” See Ellen Nakashima, “From DNA of Family, a Tool to Make Arrests,” *Washington Post*, April 21, 2008. Another scholar observes that familial DNA testing “will disproportionately affect the Hispanic community” because the technique “uses biological relatedness as the trigger for criminal investigation and DNA extraction, [which] ensures that groups with more children and large families relative to other groups will be at higher risk for genetic surveillance.” See Daniel J. Grimm, “The Demographics of Genetic Surveillance: Familial DNA Testing and the Hispanic Community,” *Columbia Law Review*, Vol. 107:1164 (2007).

- Analysis of the racial and ethnic disparities in the population whose DNA profile is in the state's custody and the implications of these disparities for law enforcement policies and practices and for the integrity of the criminal justice system; and
- Financial costs related to the collection, analysis and retention of DNA samples.

## **2. Reconstitute the Commission on Forensic Sciences**

The 1994 legislation authorizing the creation of the state's DNA databank also established the Commission on Forensic Sciences. The commission, as presently constituted, is inadequate to the task with which it is charged, particularly as regards the use of forensic DNA. This is related, in part, to limitations prescribed by statute: The commission does not have a dedicated budget or staff; its members, who serve pro bono, meet only periodically.

A new commission must be afforded greater independence and autonomy; it must be allocated the staff and resources to provide rigorous and routine oversight of the collection and use of forensic DNA. The commission must be mandated to establish and implement best-practice protocols as related to scientific methodology and laboratory procedures, including the authority to inspect and evaluate forensic DNA laboratories; develop test and audit procedures; review lab reports and test results; audit the outcome of criminal investigations involving DNA evidence; provide direct oversight regarding the management and operation of DNA laboratories.