



**FORENSIC DNA
DATABASE EXPANSION**

**GROWING RACIAL INEQUITIES
ERODING CIVIL LIBERTIES
DIMINISHING RETURNS**

FORENSIC DNA DATABASE EXPANSION | CONTENTS

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ACKNOWLEDGEMENTS

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Generations Ahead would like to thank the many contributors to this report: Truc Nguyen, Gwen D’Arcangelis, Tara Ghadjar and Michael Risher.

ABOUT GENERATIONS AHEAD

Generations Ahead brings diverse communities together to expand the public debate and promote policies on genetic technologies that protect human rights and affirm our shared humanity.

By looking at the benefits and risks of these technologies for different communities we promote policies that ensure full respect and human rights for all people. We work to increase the public awareness of the many social implications of genetics and build the capacity of organizations and leaders to develop more informed positions. By facilitating critical conversations between multiple stakeholders we have increased the number of perspectives and voices involved in the national discussions on human genetic technologies.



EXECUTIVE SUMMARY

There is little doubt that DNA plays an important role in the criminal justice system. Many of us are familiar with the heart-wrenching stories of people exonerated through DNA evidence after serving years in prison for crimes they did not commit, or the survivors of sexual assault whose assailants were apprehended thanks to DNA matches.

These examples are powerful reminders of the utility of DNA, but they only tell part of the story of DNA in the criminal justice system. Forensic DNA databases, first introduced in the 1990s to track convicted violent felons, today store and permanently retain the DNA of 10 million people, many of whom have never been convicted of a crime.

This paper focuses on three key social justice concerns that demand more public discussion and policy debate:

- **Further entrenchment of racial and ethnic inequities.** Blacks and Latinos have a greater and unequal probability of having their DNA collected and

stored. Given the existing racial bias in other aspects of the criminal justice system, we need to ensure that DNA databases do not unfairly and disproportionately affect communities of color.

- **Erosion of civil liberties.** Currently, 25 states collect the DNA of all people who are arrested for—not just convicted of—a felony, and a new technique called familial searching is being used to investigate relatives of suspects who have an existing profile in a DNA database. We need to promote public safety without threatening civil liberties.

- **A system undermined by a backlog of DNA sample processing.** Evidence from violent sexual offenses often takes months or years to

test due to the backlog caused by the expansion of DNA databases. We need to ensure that the criminal justice system can integrate new DNA technology without harming efficiency and even justice itself.

In addition to exploring key social justice concerns, this paper outlines important steps that state governments

Forensic DNA databases, first introduced in the 1990s to track convicted violent felons, today store and permanently retain the DNA of 10 million people, many of whom have never been convicted of a crime.

should take to safeguard fairness, accuracy and effectiveness in the use of forensic DNA databases:

- Implement California’s policy for familial searching that stipulates that requiring DNA samples from suspects’ family members can be used only in cases of rape or murder where there is a serious risk to public safety, and that a committee of attorneys and forensic experts evaluate all requests to use the technique. This policy, currently does not, but should include a protocol that requires a judge to sign-off after finding that all the requirements are met and the government should also submit an annual report stating how many times it applied for authority to search and how many were approved.
- Destroy each DNA sample after a DNA profile has

been created, and expunge both the DNA sample and the profile of innocent individuals.

- Limit the use of forensic DNA databases to cases that involve violent crimes so that offenders can be caught quickly.
- Require independent and transparent oversight of both state and federal DNA testing labs to ensure the integrity and quality of the process and results.

To keep from repeating mistakes that led to current inequities in the criminal justice system, it is critical that we engage in a robust public dialogue about how to use new DNA technologies while also ensuring that these technologies contribute to and do not hinder effectiveness, efficiency and, most of all, justice.

INTRODUCTION

Since its inception in 2008, Generations Ahead has worked at the intersection of genetics and social justice to bring diverse communities together to expand the public debate and promote policies on genetic technologies that protect human rights and affirm our shared humanity. One genetic technology that has experienced explosive growth in the past twenty years is the use of forensic DNA databases in the criminal justice system. As with other innovative advances in the field of genetics, these databases seem to promise exciting genetic solutions to serious social problems: if we can use DNA to track and convict offenders, we will all be safer. But, as with other genetic innovations, the expansion of these databases is moving at a rate much faster than society’s and policy makers’ ability to comprehend, analyze and control. And history shows us that new technologies can produce unforeseen consequences, including further inequality.

Champions of DNA databases claim that they provide a vital tool to help exonerate those wrongfully convicted and exculpate those who are wrongfully accused, that they

prevent future crimes by identifying offenders earlier in their lifecycle of crime, and that if offenders know their DNA is in a database, it will serve as a crime deterrent.

There is little doubt that forensic DNA databases are a useful tool, but we must shine a light on the serious social justice and human rights implications of this highly advanced technology.

Opponents purport that some of the ways in which the use of the databases has expanded—for instance, the collection and storage of DNA from individuals arrested but not convicted—violates the fundamental premise of our legal system that individuals are innocent until found guilty. Further, the permanent storage of DNA from these individuals leaves them under potential genetic surveillance

for the rest of their lives. Opponents also point out that the expansion of DNA databases is compounding the problem of the extraordinary racial and ethnic disparities in arrest and incarceration rates, brought to us in part by the failed 40-year war on drugs. For instance, despite studies that show African Americans, who make up roughly 13 percent of the population and account for only about 14 percent of drug users, they represent roughly 37 percent of those arrested for drug offenses.¹ As we will explore in this paper, similarly disturbing disparities exist in the implementation of forensic DNA databases.

There is little doubt that forensic DNA databases are a useful tool, but we must shine a light on the serious social justice and human rights implications of this highly advanced technology. Our DNA contains vastly more information

than a mere fingerprint. It carries the code to everything about who we are. What are the implications of the government storing our genetic information? Are there adequate safety measures in place to protect our privacy? What is the effect on public safety that laboratories around the country are dealing with yearlong backlogs in processing samples? What about problems such as human error, racial profiling and fraud that cannot be remedied through the use of DNA?

This paper will consider these questions by focusing on three fundamental social justice concerns regarding the expansion of DNA databases in the criminal justice system: further entrenchment of racial inequities, erosion of civil liberties, and a system undermined by a backlog leading to diminishing returns on safety.

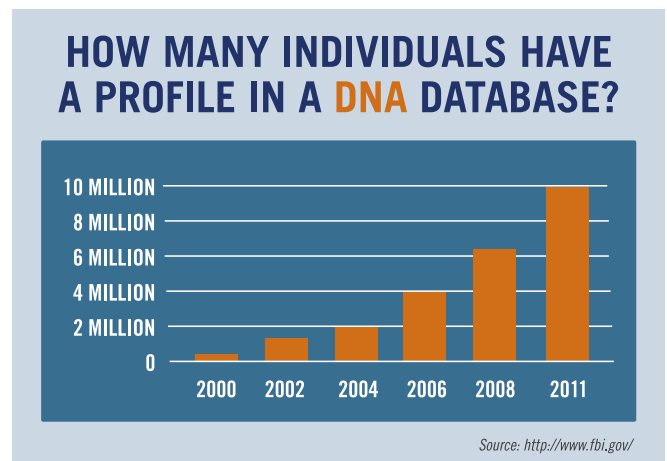
BACKGROUND

The intent for creating forensic DNA databases in the 1990s was to aid in investigations of violent crimes. By creating a genetic surveillance system of individuals who had been convicted of violent offenses, law enforcement created a system that would enable them to identify repeat offenders quickly. This system was justified by an assumption in law enforcement about high rates of recidivism among violent offenders and the likelihood that they would leave DNA at crime scenes.²

The federal DNA Identification Act of 1994 (see attachment A) paved the way for the creation of a centralized national Combined DNA Index System (CODIS) that enabled federal, state and local forensic laboratories to store and compare DNA profiles electronically by using an algorithm to search various indexes against one another to look for a match.

A story of expansion

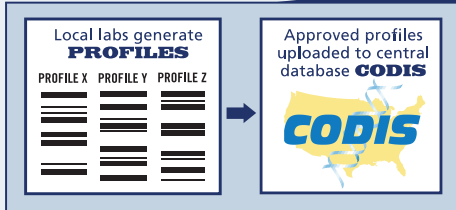
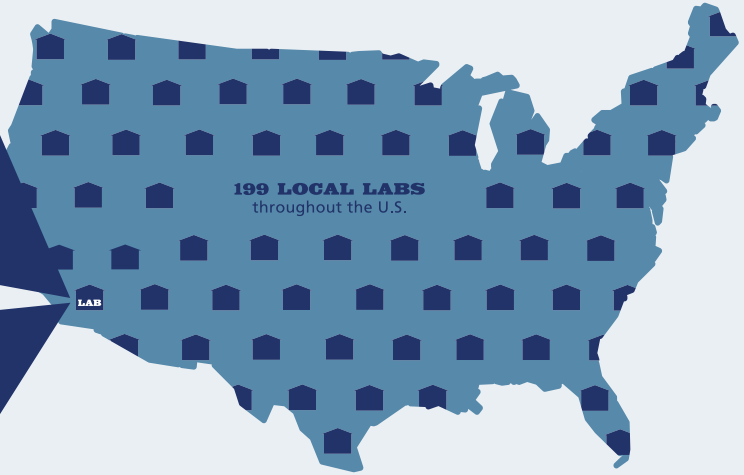
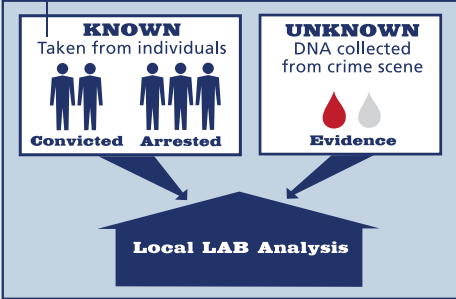
In the 20 years since the first forensic DNA database, using CODIS, was piloted in Virginia in 1989, the story has been one of continuous expansion. By 1999,



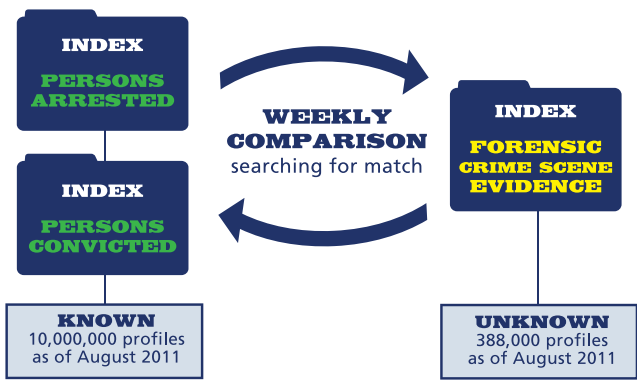
all 50 states had passed legislation authorizing forensic DNA databases. Initially, DNA was collected only from individuals convicted of a violent felony; soon they expanded to include anyone convicted of any felony. Today, 25 states have expanded their collection categories to include anyone arrested for, not necessarily convicted of or charged with, certain felony offenses.³ The list of qualifying offenses continues to expand.⁴ However, research reveals that 62 percent of

UNDERSTANDING DNA COLLECTION, STORAGE AND USE

*Each state has specific 'qualifying offenses' that determine whose DNA is collected.



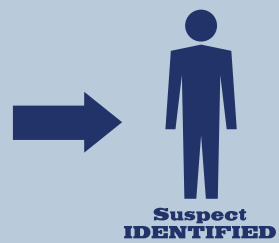
Central DNA Profile Database



Profile MATCH

CRIME SCENE PROFILE	SUSPECT 1	SUSPECT 2	SUSPECT 3
=====	=====	=====	=====
=====	=====	=====	=====
=====	=====	=====	=====
=====	=====	=====	=====
=====	=====	=====	=====

A match is considered a 'hit' by the FBI. There have been 158,000 hits as of August 2011.



those arrested and prosecuted for a felony have no prior felony conviction of any kind.⁵

The following gives a snapshot of the current state of forensic DNA database use:

- All 50 of the state laws on databases cover offenders **convicted of felony sex offenses**.
- Forty-eight states, the District of Columbia, the federal government, and the Department of Defense are now authorized to collect from **all felony offenders**.
- Forty-nine states collect DNA samples from **felony offenders on probation** as well as those incarcerated in state and local correctional facilities.
- Thirty-five states collect DNA samples from offenders **convicted of misdemeanor sex offenses**.
- Twenty-five states collect DNA samples from **individuals arrested** on felony charges.
- Thirty-two states include **juvenile felony offenders** in their DNA sample collection and database programs.

WHOSE DNA IS BEING COLLECTED BY HOW MANY STATES?

FELONY CONVICTIONS	MISDEMEANOR CONVICTIONS	ARRESTS
All Convicted Felons 49 STATES	Sex Crimes Misdemeanors 37 STATES	Murder Arrestees 24 STATES
Juvenile Adjudications 32 STATES	Numerous Misdemeanors 4 STATES	Sex Crimes Arrests 24 STATES
Jail & Probation 49 STATES	All Misdemeanors 0 STATES	Burglary Arrests 22 STATES
Retroactive Jail & Probation 39 STATES		All Felony Arrests 24 STATES

Source: www.dnaresource.com

FEDERAL EXPANSION AND FUNDING

LEGISLATION	SUMMARY
DNA Identification Act of 1994	Authorized \$40 million for the establishment of CODIS.
DNA Analysis Backlog Elimination Act of 2000	Authorized \$170 million over four years to include DNA analyses of samples taken from individuals and crime scenes; and to increase the capacity of laboratories.
Justice for All Act of 2004	Authorized \$755 million over five years to test the backlog of over 300,000 rape kits and other crime scene evidence under the Debbie Smith Act of 2004. Authorized \$500 million over five years for programs to improve the capacity of crime labs to conduct DNA analysis, reduce non-DNA backlogs, train examiners, and support sexual assault forensic examiner programs.
Debbie Smith Reauthorization Act of 2008	Amends the DNA Analysis Backlog Elimination Act of 2000 to authorize appropriations for DNA analysis grant programs under such Act through FY2014. Amends the DNA Sexual Assault Justice Act of 2004 to reauthorize through FY2014 grant programs: (1) DNA training and education for law enforcement, corrections personnel and court officers; and (2) the sexual assault forensic exam program.
Katie Sepich Enhanced DNA Collection Act Of 2010 (Pending)	Authorizes \$75 million for state governments who require DNA samples from adults arrested for certain serious crimes.

In addition, in 2006 Congress authorized federal officials to collect DNA samples from individuals who are arrested, facing charges, or convicted and from individuals detained by federal officials who are not U.S. citizens or lawful permanent residents.⁶ This includes everybody arrested for a misdemeanor, including misdemeanor traffic offenses and any type of immigration related detention.

Millions of individuals are being added to forensic DNA databases—some of whom have never been charged with or convicted of any crime. As of August 2011, the FBI

had a DNA database of 10 million profiles.⁷ FBI officials say they expect to accelerate the growth from 80,000 new entries a year in 2009 to 1.2 million by 2012⁸; and they also expect DNA processing backlogs—which now stand at more than 600,000 cases—to increase significantly.⁹

So we see the major waves of this extraordinary expansion: During the 1990s the focus was on violent

convicted felons, moving to all convicted felons; In 2000 began the collection of DNA from individuals arrested for a felony. Today, we are seeing the emergence of the next major wave: the collection of DNA from individuals convicted of misdemeanors. Ten years from now, states may be collecting DNA of anyone who is arrested for any reason—felony or misdemeanor—regardless of innocence. The federal government already has the mandate to do this.¹⁰

EXACERBATING RACIAL AND ETHNIC INEQUITIES

When the Global Commission on Drug Policy recently declared the international war on drugs a failure with “devastating consequences for individuals and societies around the world,” it added another layer of burden on those defending the criminal justice system in the United States.¹¹ The commission’s damning report comes at a time when many states are watching their budgets plummet and prison populations soar. At every step in the criminal justice system, there are structural policies or laws that result in racial inequities. As Michael Risher from the American Civil Liberties Union puts it: “Racial disparities fluctuate depending on the stage of the criminal proceeding, from the high-level initial decision to make certain acts criminal, to a police officer’s decision to contact or arrest an individual, to the decisions made by prosecutors, judges, jurors, and defense lawyers.”¹²

The most publicized example of the system’s racial bias is sentencing guidelines. Until recently, possession of one gram of crack cocaine (considered a “Black drug”)

resulted in the equivalent sentence as possession of 100 grams of regular cocaine (considered a “white drug”).¹³

The sentencing guidelines have been adjusted, but still carry an 18 to 1 differential.¹⁴ Furthermore, Blacks and Latinos are disproportionately represented at every phase in the criminal justice system.¹⁵ By every measure, these disparities determine whose DNA goes into the databases, and with every wave of expansion these disparities become greater.

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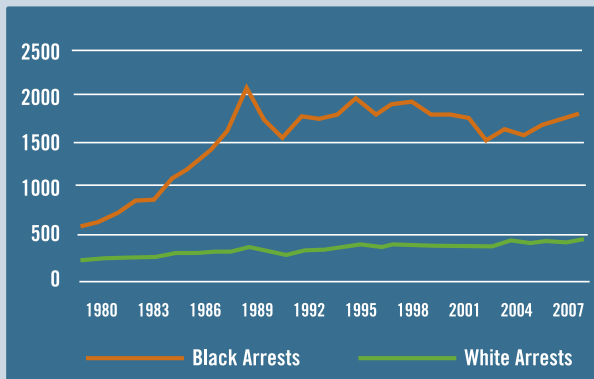
Coupled with racial profiling, the war on drugs has been especially devastating to Blacks and Latinos, who are more likely to be suspected, searched, arrested and convicted of drug possession and use than whites.¹⁶ Many of these people are juveniles whose

only offense is using drugs and getting caught. For undocumented immigrants, their crimes are often simply being in the country without proper documentation. What all of these people of color have in common are unequal rates of arrests and racial biases in the criminal justice system.

War on Drugs

Collecting DNA from arrestees disproportionately penalizes Blacks and Latinos, especially younger men, a demographic cohort that has higher arrest rates than its white equivalent. The explosive growth in incarceration rates between 1975 and 2000—a 500 percent increase over the previous 30 years—was driven primarily by the increased use of incarceration for non-violent drug offenses.¹⁷ These arrest rates for drug charges reflect racial inequities nationwide.

U.S. RATES OF ADULT DRUG ARRESTS BY RACE, 1980-2007



Source: Human Rights Watch, "Decades of Disparity, Drug Arrests and Race in the United States", March 2009

DRUG ARRESTS PER 100,000 BY RACE, 1980-2003

RACE	1980	2003	GROWTH
White	387	658	70%
Black	684	2221	225%

Source: The Sentencing Project, "Disparity By Geography, The War on Drugs in America's Cities", May 2008

Between 1980 and 2007, arrest rates were 2.8 to 5.5 times higher for Blacks than whites, even though research shows higher rates of drug use among whites than Blacks.¹⁸ These existing racial biases in arrest are then translated into disproportionate inclusion in DNA databases, especially in states where DNA is collected upon arrest.

Human Error and Bias

Nearly 70 percent of individuals exonerated for crimes they did not commit are people of color.¹⁹ Some of the causes of wrongful convictions have pointed to improper forensic testimony, forensic misconduct, laboratory mistakes and the absence of scientific standards.²⁰

Contrary to popular belief, DNA evidence is not infallible. It is susceptible to contamination, misconduct and human error just as other forensic technologies that have been used for decades. The grossly egregious errors of the Houston DNA crime lab serve as a sobering reminder that DNA in the criminal justice system is imperfect and far from the panacea that will guide us to a more just criminal justice system.²¹ Three years after the Houston Police Department shut down the DNA section of its crime laboratory in 2003 due to serious deficiencies in the lab's procedures, an investigator found that analysts skewed reports to fit police theories in several cases.²²

Juveniles

The U.K. provides us with a glimpse into what happens when DNA databases expand without proper checks and balances: 77 percent of young Black men, compared to 22 percent of young white men, have profiles in the U.K. National DNA database; and roughly 400,000 juveniles under 15 have their genetic profiles stored.²³ In the United States, minors are required to provide DNA samples upon felony conviction in 35 states. In some cases, the collection of DNA from juveniles applies to arrests in addition to convictions, and for misdemeanors in addition to felony offenses—just as it does for adult arrestees.

Non-U.S. Residents

The collection of DNA from detained immigrants—authorized by the DNA Fingerprint Act of 2005²⁴—is perhaps even more noteworthy given the fact that these violations do not constitute criminal offenses at all. The transgressions—lacking legal documentation for U.S. residency—are adjudicated in civil rather than

criminal courts. This Act has serious implications for Latinos who represent about 16 percent of the population and who last year committed 40 percent of federal offenses—nearly half of them immigration-related.²⁵ Requiring individuals who are detained, even briefly, to submit their DNA will have a chilling effect on communities throughout the country.

As policy makers move towards reforming the criminal justice system to address racial and ethnic bias, it is

important that adequate guidelines and policies be in place with regard to forensic DNA databases so that the system does not continue to deepen inequalities. Some examples of steps that should be taken include (1) implementing stricter guidelines for and reviews of whom police are arresting, given that DNA is being collected upon arrest; and (2) creating a system that takes DNA samples only after judicial and prosecutorial review.

TARGETING FAMILIES THROUGH FAMILIAL SEARCHING

Assuming that Blacks and Latinos continue to be arrested at rates that are vastly disproportionate to their population size, any expansion of DNA databases that includes individuals merely arrested will result in DNA databases that reflect these ethnic disparities. This skewed accounting distorts notions of fairness and justice in the use of DNA databases. Compounding these disparities even further is a new technique called familial searching, used to investigate innocent relatives of individuals with an existing profile in a DNA database. By expanding the search of potential suspects to include families, entire communities of Blacks and Latinos could find themselves under a cloud of suspicion and genetic surveillance for the remainder of their lives, despite having never been arrested or convicted of any crime.

Familial searching involves analyzing the DNA of a suspect's relatives in hopes of finding a genetic match. When using DNA databases to identify unknown perpetrators, law enforcement looks for an exact match between the DNA from a crime scene and

DNA of individuals in the database. If they don't find an exact match, they can expand their search for profiles that partially match those of family member who are then investigated. Once family members have been identified, law enforcement uses public records to find them.

Given the racial and ethnic biases already described, this profiling of extended familial networks will result in an unprecedented expansion of racially and ethnically

skewed genetic surveillance and an increased probability of the incarceration of Blacks and Latinos.

California has developed a strong foundation for other states to build upon in order to avoid creating a cloud of suspicion over thousands of innocent individuals simply because of their relationship to someone in a database.

The California Attorney

General instituted strict rules that limit familial testing to major violent crimes where there is a serious risk to public safety, and prohibits its use unless all other investigative leads have been exhausted.²⁶ California's

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procedures also require that a committee of attorneys and forensic scientists evaluate each request.²⁷ Using this structure to engage in familial searching, in 2010

California police identified and arrested a man, the “Grim Sleeper,” who is suspected of murdering at least 10 people over a span of 25 years.

DRAGNETS

Familial searching is a newer form of a controversial practice known as a DNA dragnet. In traditional DNA dragnets, law enforcement targets a group of individuals who resemble a criminal suspect and are living in a specific geography (e.g., Black males living within a 10-block radius of a violent crime), and go door-to-door asking individuals to voluntarily submit a DNA sample for analysis in hopes that one will match the DNA from the crime scene.

There have only been about a dozen DNA dragnets conducted in the United States; most notable about them is their focus on specific racial and ethnic groups.²⁸ A notorious example is a DNA dragnet case in Miami in which almost all of the men who were asked for DNA samples were Black, and their DNA samples were permanently stored.²⁹ These broad sweeps have quieted due to negative publicity, as well as their lack of success.

DNA PHENOTYPING (RACIAL DNA PROFILING)

The emerging field of DNA phenotyping refers to the use of DNA samples to predict a suspect's ancestry or physical characteristics. Though the scientific community widely accepts that race is a social construct and not a scientific classification, a few researchers are claiming to use DNA to predict people's physical characteristics. These scientists claim to have developed a method for determining age, hair and eye color to a high degree of accuracy³⁰, claims other scientists find questionable.

Genetics, crime and racial profiling are a dangerous combination that points to the re-emergence of scientific racism in the form of genetic determinism. Given this country's ugly history of using race as a biological fact, any stamp of scientific objectivity and veracity makes debatable DNA phenotyping all the more dangerous.

ERODING CIVIL LIBERTIES

The collection and permanent storage of DNA from individuals who are arrested and not convicted is fundamentally changing the way we view our fellow citizens and raising a myriad of concerns involving civil liberties and privacy. The Fourth Amendment of the United States Constitution guarantees that citizens have a right to be free from unreasonable searches and seizures.³¹ It is supposed to protect people from being

swept into criminal investigations unless there is a probable suspicion that they have broken the law.

In a growing number of states, if you are arrested for a felony, your DNA will be collected and profiled even if you are innocent. Your DNA will remain in a database for the remainder of your life unless you go through the legal process of expunging (deleting) your profile, a cumbersome process that can often take years.

Privacy

Unlike with fingerprinting, the privacy stakes with DNA are extremely high. DNA contains private information such as genetic risks for inheritable diseases, physical attributes and the ability to trace family members. Congress attempted to address these kinds of privacy issues by passing the Genetic

The late Senator Edward Kennedy stated at the time, “It is difficult to imagine information more personal or more private than a person’s genetic makeup.”

Information Nondiscrimination Act of 2008, GINA.³²

The Act establishes protections for the public against genetic discrimination only from employers and health insurance companies, but not other public or private organizations. The Senate vote was 95-0 and the House was 414-1. The late Senator Edward Kennedy stated at the time, “It is difficult to imagine information more personal or more private than a person’s genetic makeup. Just as our nation addressed discrimination based on race, we must now prevent discrimination based on genetic information.”³³

Despite the overwhelming federal support for protecting individuals from discrimination by employers and insurance companies, Massachusetts allows for the disclosure of criminal DNA database records to be used for “advancing other humanitarian purposes”; Alabama’s statute permits the use to “provide data relative to the causation, detection and prevention of disease or disability” and to “assist in ... educational research or medical research or development.”³⁴

Familial Searching

As mentioned before, the ongoing expansion of DNA databases to include DNA from individual merely arrested is now expanding to include innocent family members of individuals with DNA profiles stored in a database. The notion that family members can now

become subjected to genetic surveillance not because of what they have done but rather whom they are related to, is a chilling realization that there are currently no lines being drawn based on civil liberties, privacy and freedom from unreasonable searches. As the databases grow, these lines will be continually blurred for more and more categories of people, and especially vulnerable populations.

Spit and Acquit

In Orange County, California, under a program named “spit and acquit,” defendants charged with low-level drug offenses can go free after arraignment if they agree to provide a DNA sample to the District Attorney’s office. Critics of this practice have raised the question of whether such programs create incentives for law enforcement to arrest individuals simply to collect their DNA.

Some of the “spit and acquit” charges have included simple possession of heroin, cocaine and methamphetamine, and low-level misdemeanors, such as petty theft and driving with a suspended license.³⁵ In the U.K., whose DNA database program the U.S. often points to in building its case for expansion, the Human Genetics Commission—made up of some of Britain’s leading scientists and academics—recently claimed that police are arresting innocent people to acquire as many DNA samples as possible. Its chairman, Professor Jonathan Montgomery, claims that people were arrested to retain the DNA information even though they might not have been arrested in other circumstances.³⁶

A simple solution to this problem is to destroy the DNA samples after a profile has been created and to automatically expunge the profiles of individuals who are ultimately not convicted of a crime. This will easily prevent the storage and genetic surveillance of people who have committed no crime and protect their Fourth Amendment rights against unreasonable search and seizure.

DIMINISHING RETURNS ON SAFETY

The continuous expansion of DNA collection from convicted violent offenders to all convicted felony offenders and now on to individuals arrested for a felony, is having repercussions beyond those involving civil liberties and ethnic disparities. An unintended result of this expansion is that the number of individuals' samples going into these databases is growing at rates that states themselves cannot keep up with. Unbeknownst to the public, this has created a tremendous problem with no end in sight: A growing backlog of hundreds of thousands of DNA samples sits waiting—months and even years—for processing.

Advocates for expansion claim that a larger database leads to a greater number of offenders that can be brought to justice. As a result, many law enforcement leaders have been quoted saying they are trying to grow their databases as fast as possible. And they often have the support of victims' groups who see the expansion of databases as a way to identify sexual offenders faster.

But even though crime laboratories are processing more cases than ever before, their expanded capacity has not been able to meet the increased demand.³⁷ This backlog often results in years of processing delays of some untested DNA samples, most notably from sexual assault and rape kits. According to a recent FBI report, "At the current rate of work, the forensic DNA case backlog would require about 2 years to complete, even without the addition of any new cases."³⁸

A comprehensive study of Los Angeles County revealed that in 2009, there were over 12,000 sexual assault forensic exam (SAFE) kits that had never been sent for forensic testing. The backlog problem in L.A. County, estimated to go back to the early 1990s, was not revealed until 2002 when an LA Times reporter discovered that 1,100 untested kits had been destroyed due to police believing—often erroneously—that they had passed the statute of limitations for sexual assault.³⁹ In Houston, about 16,000 rape kits sit unprocessed in the police department's property room.⁴⁰

For victims of sexual assaults, the backlogs have meant that violent sexual offenders, who may have been identified quickly through DNA testing, have gone unidentified for years, if not indefinitely. Across the

WHY IS DEMAND INCREASING?

Increasing Awareness	Knowledge of the potential of DNA evidence to solve cases has grown exponentially in recent years, not just among professionals in the criminal justice system but also among the general public.
Property Crimes	The number of samples from property crime cases being sent for DNA testing is skyrocketing, and property crimes are considerably more common than violent crimes. (Most laboratories require violent crime cases to be worked before property crime cases.)
Scientific Advances	Thanks to scientific advances, we can test smaller DNA samples than ever before, such as "touch DNA" samples, which occur when DNA is transferred by the simple touching of an object. This has led to more requests for DNA testing of guns (to find out who may have handled the weapon) and the swabbing of steering wheels from stolen cars to try to identify the last driver of the car.
Cold Cases	Many older and unsolved cases from the "pre-DNA" era are being reopened and subjected to DNA testing with the hope of solving them.
Post-Conviction Testing	Numerous older, pre-DNA cases that resulted in a conviction have been reopened so DNA testing can be done.

Source: U.S. Dept. of Justice, "Making Sense of DNA Backlogs—Myth vs. Reality", June 2010

nation, at least 350,000 samples from murder and rape cases, many of them involving sexually abused children, remain untested, and much of the surge can be traced to new federal and state laws requiring law enforcement to collect DNA samples from people convicted of or simply arrested for nonviolent crimes.⁴¹

Some law enforcement agencies have attempted to address this DNA backlog by purchasing equipment and hiring and training more personnel.⁴² But, despite these efforts and the disbursement of over \$300 million in federal grants, a significant backlog remains and will continue to grow as states expand the categories of people requiring DNA sample collection for forensic databases.

FUNDING FOR DNA BACKLOG REDUCTION PROGRAM

2004	2005	2006
\$66,567,851	\$48,440,841	\$55,412,877
2007	2008	2009
\$44,239,199	\$53,245,922	\$62,271,832

TOTAL: \$330,178,522

Source: U.S. Dept. of Justice, "Making Sense of DNA Backlogs—Myth vs. Reality", June 2010

Human Lab Errors

In addition to the unequal genetic surveillance and policing of certain groups, some argue that if one's profile is in the database, that person faces a higher risk than others of being falsely linked to a crime. Professor William Thompson from the Department of Criminology, Law and Society at University of California, Irvine, has been documenting shoddy DNA laboratory work for many years. He highlights the quality control and quality assurance procedures that are followed religiously in some labs and ignored or followed intermittently in others.⁴³ According to Thompson "You are at higher risk of false incrimination by coincidental DNA matches, by laboratory error and by intentional planting of DNA...Database inclusion increases this risk, the only question is how much."

At every step in the process—collecting, processing and handling—DNA evidence is susceptible to human error that can result in mislabeling and contaminating samples, and misrepresenting test results. Analysts with overburdened workloads are creating human mistakes that often lead to wrongful convictions. Many analysts are under-trained and there is often a lack of uniformity in their work processes, leaving much of their interpretation to subjective decision-making.

As examples, Tania Simoncelli recounts, "Josiah Sutton spent nearly five years in prison, starting at the age of 16, for a rape he could not have committed, as a result of an error made by an analyst at the Houston Crime

Lab. In another case, a 26-year-old man faced life in jail and was incarcerated for over a year because the Las Vegas police crime lab mistakenly switched the label on his DNA sample with that of his cellmate. Timothy Durham of Tulsa, Oklahoma spent four years in prison on the basis of a misinterpreted DNA test, despite having alibi witnesses who placed him in another state at the time of the rape."⁴⁴

In addition to human errors, DNA testing is also susceptible to systemic errors—false positives. When DNA from a single person is compared to DNA from a single crime scene, the result should have a high level of accuracy, assuming it has not been contaminated. However, when DNA from millions of people gets compared to DNA from millions of crime scenes, it is no longer as accurate due to the increased likelihood of coincidental matches.

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It is critical that states pass legislative safeguards to protect both the rights of individuals and the integrity of the databases. The entire process should be independently audited and peer reviewed by the scientific community. And, to ensure that our communities are safe from the most violent offenders, we should eliminate the backlog by narrowing the use of DNA databases to violent crimes.

FUTURE TRENDS

The same technological advances that are driving the introduction of faster, smaller and less expensive electronic devices that we use in our every day lives are also paving the way for advancements in DNA technology in many facets.

Automation

Automation of DNA testing in the criminal justice system is rapidly increasing in speed and reliability, allowing lab technicians to test DNA samples at much faster rates, in hours rather than days, with the ultimate goal of being able to process in minutes. This has the potential to eliminate existing backlogs, yet it also makes it appealing for police departments to engage in collecting DNA samples from more and more people.

Portability

In summer 2011, the Department of Homeland Security began evaluating the use of a portable DNA device to determine the relationship between parents and children in the cases of refugees and asylum seekers. In the near future, these devices will likely be used to test DNA at crime scenes, potentially providing police with immediate

information on who the offender is. Technology that makes it easier to test DNA at a crime scene will also makes it easy to test DNA from suspects out in the streets. These portable technologies are headed for yet another collision course with privacy and civil liberties concerns.

Property Crimes

Techniques for handling minute amounts of crime-scene DNA are leading to an expanded use of DNA for non-violent crime scenes such as burglaries. DNA profiles can essentially be created from cells obtained through the residue found in fingerprints, and a growing number of states are using DNA testing to solve nonviolent crimes.

Most of the focus on DNA testing and collection has involved violent crimes, a relatively small percentage—roughly 10 percent of all crimes in the United States. The ability to identify a higher percentage of individuals who commit property crimes through the use of DNA testing has arrived at a time when prisons, courtrooms and DNA laboratories are overcrowded and under-resourced.

PROMISING MODELS OF LEGISLATION

California, an early adopter of familial searching, understood the threat to privacy and civil liberties and as a result developed stringent rules for using familial searching. Not only does it have to be an ongoing threat to public safety, but there is also a committee who evaluates the request.

Virginia and Texas, after scandals in their laboratories, passed legislation to create an independent commission to oversee forensic laboratories. In Houston, an audit found serious inadequacies in the laboratories' procedures and identified analysts who were writing misleading reports and courtroom testimony. This audit ultimately resulted in the closure of the laboratory and

the release of two wrongly accused individuals.

In Virginia, a high-profile case of a man on death row who questioned evidence that was presented in a misleading way led to the passage of a law that creates a scientific review panel with the authority to review laboratory operations, adopt qualification standards, and establish an audit process to be used when errors occur.

New York created an independent oversight board to regulate forensic laboratories. New York's model ensures the integrity and quality of the process and results. The board sets standards for accreditation and investigates cases of neglect or misconduct. It also makes tampering with a DNA sample a felony offense.

RECOMMENDATIONS AND CONCLUSION

The collection and use of DNA in the criminal justice system is developing far faster than the comprehension of politicians, jurors and the general public. There is a strong need for public debate that includes community advocates and that takes into consideration the justice and fairness implications involved in the expansion of DNA databases. DNA databases can only be a valuable tool if they are used to identify violent offenders expeditiously, eliminate racial disparities and protect civil liberties.

Though DNA databases have become powerful tools in the criminal justice system, it is becoming increasingly clear that unfettered expansion is expensive, unfair and does not necessarily lead to increased community safety.

In 2009, Generations Ahead convened community advocates from racial justice, criminal justice, civil liberties and immigrant rights organizations to discuss the social justice implications of forensic DNA databases. Advocates voiced concern over the lack of public debate and the negative impacts that the expansion of DNA databases is having in their communities. Many see the use of DNA as an expansion of police power and further criminalization of their communities. As a whole, the group saw forensic DNA collection as a potential serious violation of human rights that serves to place more individuals in the criminal justice system and increases the probability of those in the databases being implicated in future investigations.⁴⁵

Though DNA databases have become powerful tools in the criminal justice system, it is becoming increasingly clear that unfettered expansion is expensive, unfair and does not necessarily lead to increased community safety. We must carefully consider how to use this tool most effectively for all.

The following recommendations provide a way forward to balance safety and security with justice and freedom. At a minimum, state governments should consider, and community leaders should advocate for, adopting the following:

Implement policies for familial searching that limit the reach of the search. California's policy is a strong model for the appropriate use of familial searching. It stipulates that familial searching can only be used in cases of rape or murder where there is a serious risk to public safety, and a committee of attorneys and forensic experts evaluate all requests.

Destroy all DNA samples taken from individuals after a DNA profile has been created, and automatically expunge DNA samples and profiles of innocent people. Biological samples of known offenders should be destroyed after a profile has been created to ensure they are never used for purposes beyond criminal identification. Furthermore, states should automatically expunge DNA samples and profiles from those arrestees who were never charged or convicted of a crime, rather than require innocent people to petition for the expungement of their DNA.

Limit and prioritize the use of DNA databases to cases that involve only violent crimes. If a violent offender with a DNA profile in a database commits a violent crime and is not identified for months or years because the DNA left behind at the crime scene is waiting in line to be tested, we are defeating the original intent of the DNA databases: identifying violent offenders quickly. States should focus on reducing their backlogs, most notably of violent sexual offenses, and identifying violent offenders to help make communities safer.

Implement clear and transparent oversight of all DNA labs. New York's model ensures the integrity and quality of the process and results. The board sets standards for accreditation and investigates cases of neglect or misconduct. It also makes tampering with any DNA sample a felony offense. 📄

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