

**Report on the Collection &  
Use of DNA Samples  
Under P.L. 1994, c. 136,  
N.J.S.A. 53:1-20.17 et seq.**

Attorney General of New Jersey  
Division of Criminal Justice  
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## Introduction

This report assesses the implementation of New Jersey's CODIS (Combined DNA Index System) Program under the September 22, 2003 amendment to the "DNA Database and Databank Act of 1994" (DNA Act), P.L. 2003, c. 183, codified at N.J.S.A. 53:1-20.17 et seq. Specifically, the report covers a four-year period beginning on the effective date of the amendment, September 22, 2003, through September 22, 2007. This program assessment examines the collection and use of DNA samples under the DNA Act, and evaluates the effectiveness, including cost effectiveness, of having the samples available to further police investigations and other forensic purposes, as mandated by N.J.S.A. 39:5-41g.

New Jersey's DNA Act has proven critical to the effective administration of criminal justice in the 21st century. In adopting the DNA Act, the Legislature declared that "DNA databanks are an important tool in criminal investigations and in deterring and detecting recidivist acts." N.J.S.A. 53:1-20.18. The DNA Act, as amended, requires every adult convicted of a crime and every juvenile adjudicated delinquent for an act that, if committed by an adult, would constitute a crime, or found not guilty by reason of insanity of a crime, to provide a DNA sample. As of April 30, 2008, 171,195 searchable DNA profiles have been uploaded to the National DNA Index System (NDIS) since the inception of the CODIS Program and 165,625 of these are convicted offender profiles. New Jersey has the tenth highest number of convicted offender profiles uploaded to the NDIS in the country.

The power of DNA to help fight and solve crime is undeniable. Because of DNA's unique ability to identify and distinguish among individuals, it has been termed the "genetic fingerprint" of the 21st century. Deoxyribonucleic acid (DNA) is in virtually every cell in the human body and can be frequently found in biological evidence recovered from a crime scene or crime victim (e.g., skin, hair, blood, saliva, semen, vomit, or other bodily fluids). Since DNA is unique to each individual (except in the case of identical twins), DNA analysis is now used as a method of forensic identification, as fingerprints have been used for the last century. DNA collection and analysis - truly as significant as, but technologically superior to, the use of fingerprint data - represent a revolutionary and fundamental advancement toward enhancing overall public safety by helping identify the guilty, as well as ensuring that true justice is served by exonerating the innocent.

New Jersey's DNA Act assists in solving and preventing crime by establishing a database of DNA profiles from convicted offenders that is compared against DNA profiles from crime scenes to identify suspects and generate investigative leads. The DNA database assists law enforcement in solving crime by:

- identifying "cold hits," where a profile from crime scene evidence is matched with a profile of an offender in the database who was not a suspect;
- identifying links between crimes, such as in the case of evidence left at the scene of the crime by serial offenders;
- the rapid exclusion from the investigation of suspects who are already in the database and whose profiles do not match

As of April 30, 2008, New Jersey's DNA Database has identified a total of 1,715 hits or matches that assisted law enforcement agencies in New Jersey and throughout the country in their investigations.

New Jersey's DNA Act extends beyond the borders of our state. In 1990, the FBI established CODIS to store DNA information obtained from federal, state and local agencies. The Federal DNA Identification Act of 1994, 42 U.S.C. §14132, codified the FBI's authority to maintain a DNA database for law enforcement purposes. NDIS became operational in 1998. The Federal CODIS program facilitates an electronic exchange of DNA profiles collected from crime scenes and convicted offenders from the federal government and all fifty states. By comparing DNA evidence collected from crime scenes to DNA profiles in the CODIS database, law enforcement agencies in New Jersey and throughout the country can assist each other in solving crimes and locating offenders.

As this report will illustrate, the contribution of DNA is greater than the single piece of evidence in a case. The advancements in DNA technology are breathing new life into old, cold, or unsolved cases. Evidence that was previously unsuitable for DNA testing because a biological sample was too small or degraded may now yield a DNA profile. The influence of New Jersey's DNA Act extends beyond solving cases today to its ability to reach into the past to help solve those criminal cases where traditional methods have not been successful. It is also an investment in tomorrow, as DNA profiles entered today may reach forward to link future crimes and convicted offenders, exonerate others who may have wrongfully been convicted, and deter others from committing new crimes.

### **Legislative Background – Database Expansion**

Recognizing the great potential utility of DNA in solving and preventing crime, in 1994, the Legislature enacted the "DNA Database and Databank Act of 1994."

The undeniable success of New Jersey's DNA Act has resulted in several expansions, as summarized in the box to the right.

1994	The DNA Act required only persons convicted of certain sexual offenses to provide a blood sample for DNA profiling. <u>P.L. 1994, c.136</u> .
1997	The DNA Act was expanded to require blood samples from juveniles adjudicated delinquent for acts which, if committed by adults, would constitute one of these sexual offenses, as well as from defendants and juveniles found not guilty by reason of insanity, or adjudicated not delinquent by reason of insanity, of one of these same sexual offenses. <u>P.L. 1997, c. 341</u> .
2000	The DNA Act was amended again to expand the list of covered crimes and also to provide that biological samples other than blood would be utilized for DNA sampling. <u>P.L. 2000, c. 118</u> .
2003	The DNA Act was amended to broaden the categories of persons from whom DNA samples must be taken. The amendment requires DNA samples of all adult and juvenile offenders who have been convicted or found not guilty by reason of insanity of a crime (or, in the case of the juvenile, of an act which, if committed by an adult, would constitute a crime). The amendment also requires DNA sampling of convicted adults and delinquent juveniles whose crimes and criminally delinquent acts preceded the enactment date - September 22, 2003 - if, on that date, they were serving a sentence of imprisonment, probation, parole, or other form of supervision. <u>N.J.S.A. 53:1-20.20(g) and (h) (as amended by P.L. 2003, c. 183, § 3)</u> .

The progression of New Jersey's DNA Act has been vital in allowing law enforcement to utilize the profiles of offenders convicted of major as well as less serious crimes. The current DNA Act is grounded in the high rate of recidivism among convicted offenders in that persons already convicted of indictable crimes are likely to have committed past crimes and/or are likely to commit future offenses. Research conducted on career criminals suggests that many offenders who commit minor crimes also commit more serious ones. In other words, criminals are versatile and do not specialize.

A 2004 report from the United States Department of Justice reported that 69.1% of non-violent felons were re-arrested within three years of release, of which 19.9% were re-arrested for violent offenses, 33.7% were re-arrested for property offenses, 32.6% were re-arrested for drug offenses, and 28.6% were re-arrested for public-order offenses. U.S. Dept. of Justice, Bureau of Justice Statistics, Profile of Nonviolent Offenders Exiting State Prisons (October 2004), at <http://www.ojp.usdoj.gov/bjs/pub/pdf/pnoesp.pdf>. It is precisely such repeat offenders that DNA databases are established to identify to enable timely intervention and the prevention of new crimes by such recidivists. Given the high likelihood that offenders will re-offend, the potential for New Jersey's DNA Act to help solve and prevent crime is substantial.

### **Convicted Offender Sample Collection**

The CODIS Compliance Unit (CCU) within the Division of Criminal Justice provides administrative oversight of the convicted offender sample collection under the DNA Act. Biological DNA samples from convicted offenders are collected by those who have been specifically trained to do so. Biological DNA samples can be collected in one of two ways:

- 1) The primary method of convicted offender biological DNA sample collection in New Jersey is by buccal swab. A buccal swab is a disk-shaped foam applicator on a stick. The DNA sample is taken by inserting the applicator between the teeth and cheek of the offender and rubbing the applicator against each cheek, and then placing the swab under the tongue for ten seconds. The recommended method in New Jersey is to have the offender swab himself or herself. The wet swab is then pressed and rolled onto a micro-card that indicates a color change when the sample has been transferred from the swab to the micro-card. The swab itself is disposed of in a regular waste receptacle, and the micro-card, together with a completed DNA databank specimen submission form that contains the biographical data of the offender and plain impression ink prints of the offender's index fingers, is sent to the New Jersey State Police Office of Forensic Sciences, DNA Laboratory.

- 2) Blood samples are taken only in rare and very specific circumstances. If a DNA sample must be obtained by force, which would occur only pursuant to court order, the offender's finger would be pricked while he or she is restrained, and a blood sample would thereby be obtained. Additionally, the Department of Health and Senior Services, which supervises those found not guilty by reason of insanity, may elect to take a blood sample rather than a buccal swab sample.



The CCU was awarded the 2004 Attorney General's Innovation Award because of the Unit's ability to develop and implement successful approaches to the DNA collection and the verification processes.

### **DNA Testing Process**

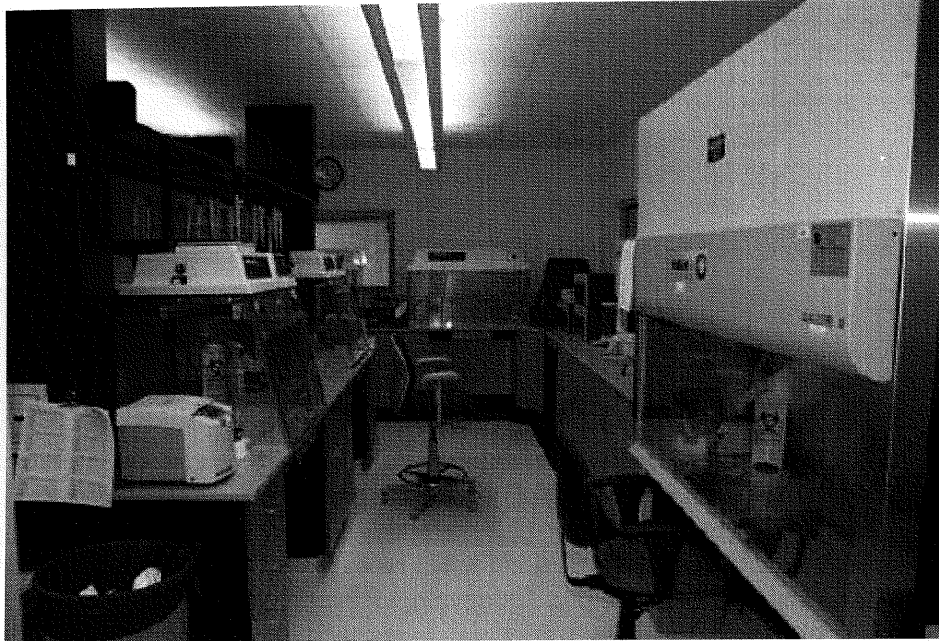
Biological DNA samples collected from convicted offenders are submitted to the DNA Laboratory of the New Jersey State Police at the New Jersey Forensic Science Technology Center, to be processed into DNA profiles. The DNA Laboratory is the State's CODIS Laboratory. The sample is logged in to the Laboratory Information Management System by barcode. The information on the DNA databank specimen submission form is then verified by the State Police, State Bureau of Identification (SBI), and sent to the CODIS Compliance Unit for further verification, data entry, and tracking. After the DNA sample is tested and a DNA profile is generated and verified, the profile is entered into the State DNA Indexing System (SDIS) and is further uploaded electronically to NDIS. The NDIS, SDIS, and, where applicable, the Local DNA Index System (LDIS – for states that have county or municipal labs that feed up to the state CODIS laboratory) together comprise CODIS.

CODIS is a software program containing a collection of data files that permit comparison of biological evidence recovered at crime scenes to other crime scenes and to DNA profiles of known offenders. The system has two main indices, the Forensic Casework Index, containing DNA profiles developed from biological evidence recovered at crime scenes; and the Convicted Offender Index, consisting of DNA profiles developed from known samples taken from qualified convicted offenders. The Forensic Casework Index and the Convicted Offender Index are searched against each other, and investigative leads are generated. The DNA profiles in the Forensic Casework Index are also searched against other profiles in the Index. The Unidentified Human Remains Index is also searched against the Convicted Offender Index. Within SDIS, the searching is done at the Forensic Science Technology Center with only those samples entered in New Jersey. At NDIS, the searching includes the information from all state and federal CODIS laboratories, thus allowing searches of crime scenes, qualified convicted offenders (and arrestees from those states allowing such searches), and unidentified human remains from the entire country.

### **Cutting Edge Technology**

Robotic technology plays an important role in the timely processing and analysis of convicted offender DNA samples. Short tandem repeat (STR) technology is a forensic analysis that evaluates specific regions (loci) that are found on nuclear DNA. STRs are known to vary widely between people by virtue of the variations in their length and thus are ideal for identification purposes. Thirteen core loci were selected for use in CODIS. These thirteen STR loci are each found on so-called "junk DNA" - that is, non-coding regions not presently recognized as being responsible for trait coding - and were purposely selected because they are not associated with any known physical or medical characteristics. This test cannot be used to determine any personal information, individual characteristics, or health conditions within any individual. Use of these thirteen loci is the national standard in DNA testing. This test is highly discriminating and is considered the most reliable test for identification known in forensic

science today. STR technology permits the development of a profile from very small biological samples, less than one nanogram. The saliva on the stamp of a stalker's threatening letter, the perspiration on a rapist's mask, or the skin cells on the ligature of a strangled child may hold the key to solving the crime.

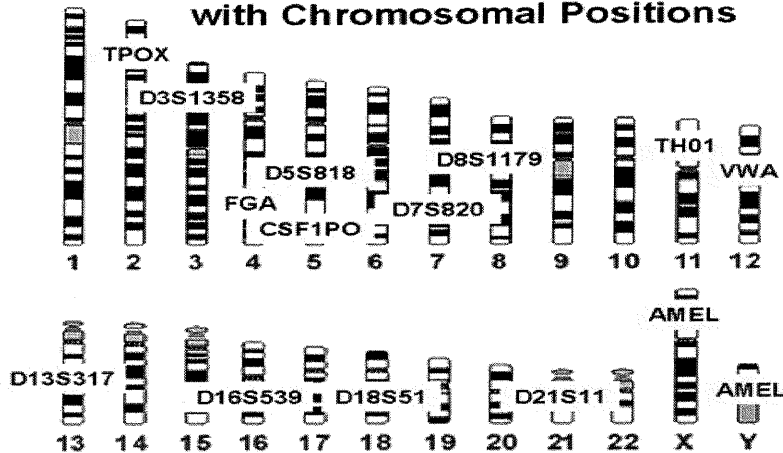


### **Privacy Protections**

The DNA Act provides that all DNA profiles and samples shall be treated as confidential, N.J.S.A. 53:1-20.27, and any unauthorized disclosure is a disorderly persons offense, N.J.S.A. 53:1-20.26. As previously noted, the convicted offender profiles are identified simply by a barcode number. The CODIS System does not include information relating to a person's biographical data (name, date of birth, address, etc.). It contains only the DNA profile and the relating identification number (in New Jersey, a bar code is used). The biographical data of a convicted offender is stored in a separate system housed within the Department of Law and Public Safety. The actual DNA sample is retained by the New Jersey State Police Office of Forensic Sciences, DNA Laboratory.

The DNA Act strictly limits the permissible uses of the DNA profiles to purposes specified in the Act. These purposes are law enforcement identification; development of a population database; support of identification research and protocol development of forensic DNA analysis methods; identification of human remains from mass disasters or for other humanitarian purposes; research, administrative and quality control purposes; judicial proceedings; criminal defense purposes; and such other purposes as may be required under federal law as a condition for federal funding. N.J.S.A. 53:1-20.21.

### 13 CODIS Core STR Loci with Chromosomal Positions



A DNA profile is a set of numeric values representing the number of tetra nucleotide repeats at each of the tested loci. Because each person gets half of his or her genetic information maternally, and half paternally, at each locus is found either two numeric values (one provided by the mother and the other by the father) or one value (mother and father each provided the same information at that locus). Thus, a CODIS Convicted Offender DNA profile consists of thirteen sets of numbers, each set consisting of one or two numbers that is unique to that individual.

#### An Example of a Computerized DNA Profile From A DNA Designated Offender

Locus	D3S158	vWA	FGA	D8S1179	D21S11
Alleles	11,12	11,13	24,25	12,14	28,30
Locus	D18S51	D5S818	D13S317	D7S820	D16S539
Alleles	15,16	13	11,13	9,11	11
Locus	TH01	TPOX	CSF1PO		
Alleles	8	9,11	11,12		

"Junk" DNA: No one can determine your eye, skin or hair color, or pre-disposing health risks from these 13 loci or markers used for analysis in all offenders.

#### Impact on Forensic Casework

Until the establishment of the CODIS database, crimes with unknown suspects largely remained unsolved. Laboratories were unable to dedicate adequate resources to the extremely labor-intensive and time-consuming task of searching for biological evidence in cases where there were no known reference samples for comparison. Consequently, a powerful law enforcement investigative tool like DNA was underutilized.

With the establishment of the CODIS database in 1994, the demand for analysis of DNA evidence collected from crime scenes increased. The laboratories within the New Jersey State Police Office of Forensic Sciences (OFS) had to use existing resources to meet the expanding demands of the Forensic Biology (DNA) program. This caused long turnaround times and casework backlogs in other units, such as Drug and Toxicology, to rise to unacceptable levels. With the establishment of the "New Jersey Forensic DNA Laboratory Fund" (DNA account) in 2003 and the \$2.00 surcharge, the OFS was able to hire additional staff for the DNA laboratory

and re-allocate lost positions in the Drug and Toxicology Units. This dedicated account, along with funding obtained from several federal grants, established the groundwork for improved services, reduced forensic casework backlogs, and decreased turnaround times in all disciplines in the laboratories within OFS.

The impact of funding from the DNA account has been dramatic. This is illustrated by looking at forensic casework backlogs and turnaround times before the funds became available and the substantial improvements that have resulted from the available resources over the past four years.

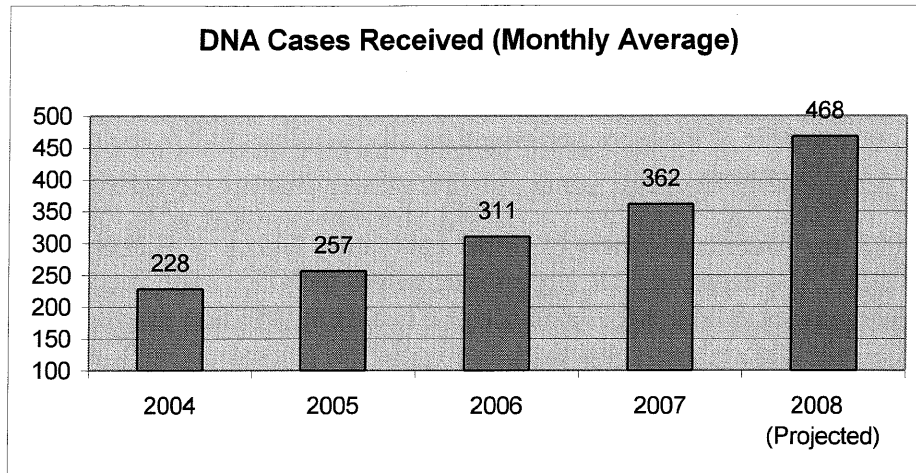
As illustrated in the following table, in January 2004, the number of pending drug cases was 3,991 and the number of pending toxicology cases was 645. By the end of December 2007, the number of pending drug cases was reduced to 1,024 and the number of pending toxicology cases was reduced to 463. For the same time period, the turnaround time for drug and toxicology cases significantly declined from 66 to 17 days, and 64 to 32 days, respectively. This dramatic improvement in analysis and turnaround time occurred despite an increase in workload.

<b>Improvement in Drugs and Toxicology Cases</b>				
<b>Type of Case</b>	<b>Drugs</b>		<b>Toxicology</b>	
	<b>January 2004</b>	<b>December 2007</b>	<b>January 2004</b>	<b>December 2007</b>
Cases Received Annually	25,849	29,520	4,569	5,210
Cases Pending Analysis	3,991	1,024	645	463
Turn Around Time (Days)	66	17	64	32

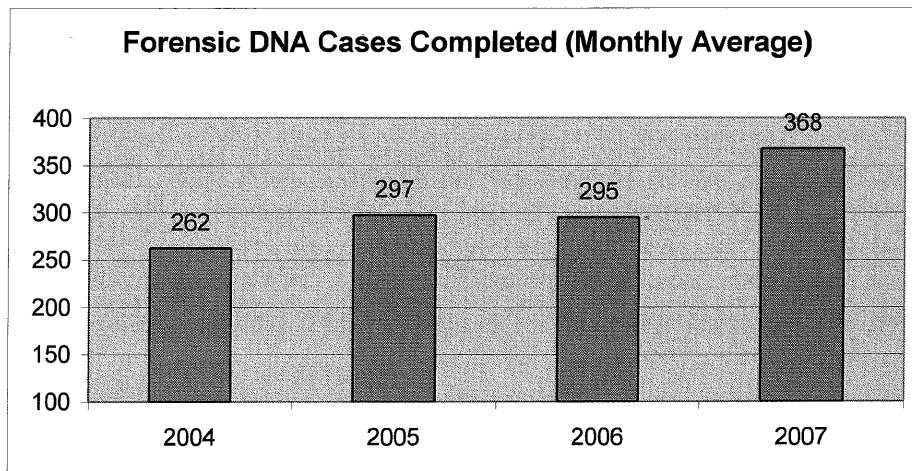
As illustrated in the following table, the improvement in servicing of DNA cases is also extremely significant. In January 2004, 1,117 cases were pending with potential DNA evidence; by the end of April 2008, only 571 such cases were pending. Additionally, turnaround time also decreased dramatically from an average of 141 days in January of 2004 to an average of 63 days at the end of April 2008. Faster case processing times assist law enforcement more efficiently throughout the criminal investigative process.

<b>Improvement in DNA Cases</b>		
	<b>January 2004</b>	<b>April 2008</b>
Cases Received Annually	2,736	5619 (Estimate)
Cases Pending Analysis	1,117	571
Turn Around Time	141	63

The unit has achieved these dramatic improvements even as it processes an increasing number of cases with potential DNA evidence. The number of forensic DNA cases has risen by about 105% from an average of 228 per month in 2004 to an average of 468 per month at the end of April 2008.



As a result of the additional resources that became available from the funding provided by this legislation and federal grants, the lab has also increased the number of DNA cases completed per month.



The law enforcement community in New Jersey is taking advantage of powerful DNA technology by investigating crime scenes with a keener eye toward collection of biological evidence. OFS has met this demand of the law enforcement community through significantly improved services. The funding for the DNA Act not only supports the very successful DNA program but also allows OFS to ensure that all other disciplines in the crime labs have resources to maintain a minimum turnaround time and keep backlogs to their lowest levels in years. All units within the OFS contribute to the success of the established DNA CODIS program.

New Jersey has already seen successes. A perfect case to illustrate this success is a five-year old homicide from Gloucester County. The DNA profile developed from the vaginal swab of the victim in the case was uploaded to the CODIS database in 2002 and there was no hit until 2007, when a match was found with a convicted offender. This individual had been previously arrested and convicted for possession of 0.39 grams of cocaine. The questioned drug sample was processed at the South Regional Drug Lab in a timely manner, and the positive results led to the conviction of the defendant, requiring him to provide a DNA sample under the DNA Act. This sample led to the subsequent and very important lead for investigators in the homicide case. This is just one example of the work performed by all disciplines that is so crucial to the success of the entire CODIS process.

In 2003, the American Society of Crime Laboratory Directors - Laboratory Accreditation Board (ASCLD-LAB) accredited all laboratories within the OFS. The successful accreditation of all OFS laboratories validates the existence of a quality system that safeguards the integrity of the evidence with procedures, practices and policies consistent with acceptable national standards. To maintain this accreditation, the OFS must remain vigilant to the mission of providing timely forensic services of irrefutable quality on behalf of the citizens of the State of New Jersey. The continued success of the laboratory system depends on the continued access to funds from the DNA account to provide the necessary resources needed to maintain a sound quality system.

### **Legal Matters**

The CODIS Compliance Unit (CCU) in conjunction with the Corrections and State Police Unit in the Division of Law successfully defended the DNA Act against a constitutional challenge by the American Civil Liberties Union and by the Office of the Public Defender. On January 24, 2007, a unanimous New Jersey Supreme Court upheld the constitutionality of the DNA Act in State v. O'Hagen, 189 N.J. 140 (2007) and A.A. & Allah v. Attorney General, 189 N.J. 128 (2007). The Supreme Court rejected all challenges to the DNA Act under the Federal and State Constitutions and rejected claims that juveniles are entitled to special protections under the DNA Act and that the State is prohibited from using DNA samples collected pursuant to the DNA Act for investigating crimes committed prior to taking the DNA sample.

While recognizing that a blood test or cheek swab for purposes of obtaining a DNA sample is a search, the New Jersey Supreme Court found that it is a very minor physical intrusion upon the person, no more intrusive than the fingerprint procedure and the taking of one's photograph that a person must already undergo as part of the normal arrest process. The Supreme Court held that the taking of a DNA sample under the DNA Act fits within the "special needs" doctrine. The Court held that the DNA Act's purposes - identification; development of a population database; support of identification research and protocol development of forensic DNA analysis methods; identification of human remains from mass disasters or for other humanitarian purposes; research, administrative, and quality control purposes; judicial proceedings; criminal defense purposes; and such other purposes as may be required under

federal law as a condition for federal funding - demonstrated "special needs" beyond ordinary law enforcement. State v. O'Hagen, 189 N.J. at 158-59.

The New Jersey Supreme Court found that the primary purpose of the DNA Act is the creation of a DNA database to assist in the identification of persons at a crime scene and that these are long-range special needs that do not have the immediate objective of gathering evidence against the offender. Id. at 160. Weighing the State's interests against the offender's privacy interest, the Court found that the scale tipped heavily in favor of the State. Id. at 163. Notably, the Court analogized DNA sampling for identification purposes to taking fingerprints in that the intrusions on a person's privacy interest occasioned by the DNA test are akin to the intrusions a convicted person will already undergo in the taking and maintaining of fingerprints and a photograph. Id. at 163.

DNA statutes similar to New Jersey's statute have been enacted in all 50 states. Constitutional challenges brought against these statutes uniformly have been rejected. See R. Miller, Validity, Construction, and Operation of State DNA Database Statutes, 76 A.L.R. 5<sup>th</sup> 239 (2000) (courts have uniformly expressed the view that DNA database statutes do not violate the Fourth Amendment).

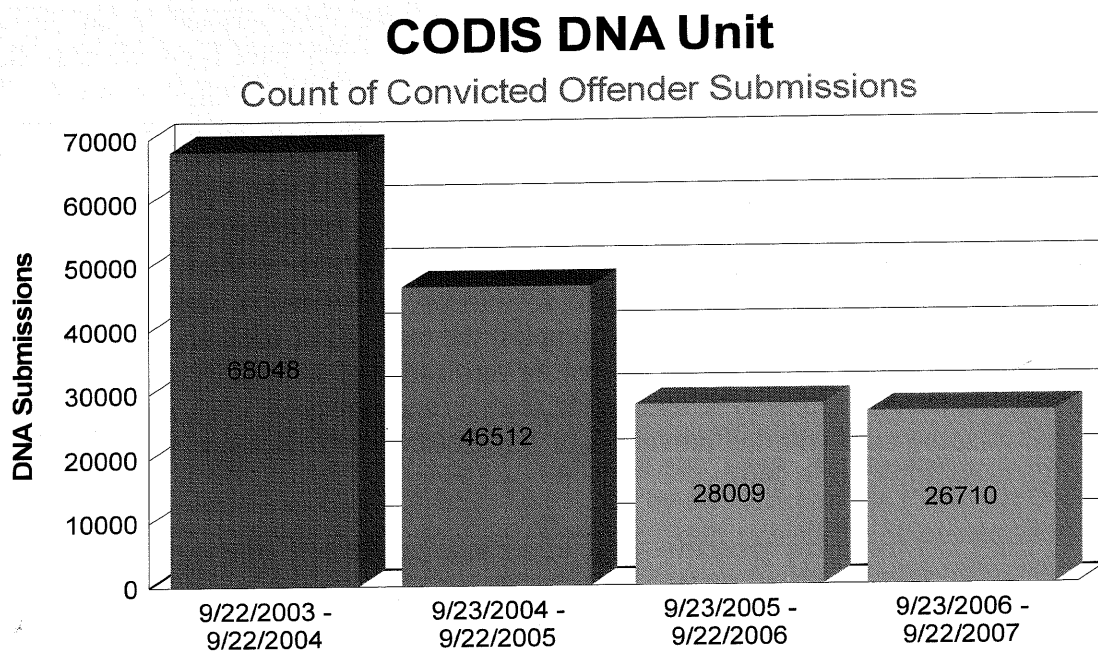
The CCU recently promulgated rules mandated by the DNA Act. N.J.S.A. 53:1-20.23; N.J.S.A. 53:1-20.24b; N.J.S.A. 53:1-20.37b. These rules establish methods and standards for administering the DNA Act as it relates to the submission, identification, analysis and storage of DNA samples and typing results of DNA samples; the methods of obtaining information from the State database and CODIS; the procedures for verification of the identity and authority of the requester; and the procedures to be used in the analysis and storage of DNA profile information obtained in accordance with the provisions of P.L. 2001, c. 377 (N.J.S.A. 2A:84A-32a). See N.J.A.C. 13:81, eff. Dec. 3, 2007.

The CCU has taken proactive steps to enforce compliance with the DNA Act and to ensure collection of mandated DNA samples. The CCU has pursued legal action to compel DNA samples from those offenders who have expressly refused to provide a sample or have failed to appear at the time and place scheduled for sampling. The CCU is coordinating efforts with probation and parole officers throughout the State and country to ensure DNA collection from those active probationers and parolees who still owe DNA samples. The CCU developed and implemented an automated computer system to identify those eligible offenders who still owe DNA samples and can be located in county jails or have pending criminal cases. As of April 30, 2008, 8,130 additional samples have been collected that might have been missed without this system.

The CCU closely monitors DNA collection for eligible convicted offenders to ensure that all eligible offenders provide the legally-required DNA samples as soon as possible. As of April 30, 2008, there were 8,807 retroactive convicted offender samples that are "owed" to the system - that is, previously-sentenced offenders who became eligible through the 2003 legislative expansion to provide a DNA sample but have not done so. The CCU continues to allocate its resources to ensure that DNA samples are collected from eligible offenders. The CCU has also instituted quality control mechanisms to ensure the integrity and quality of the database.

## New Jersey's Convicted Offender DNA Submissions

The CODIS Compliance Unit works with State, local, and out-of-state agencies to ensure collection of DNA from all eligible offenders. The most recent expansion of the DNA Act significantly expanded the number of convicted offenders required to submit a DNA sample. It also included retroactive application to those persons in custody or under supervision on the effective date of the law. Accordingly, the following graph demonstrates the number of buccal swabs taken for each one-year period beginning on September 22, 2003, and ending on September 22, 2007.

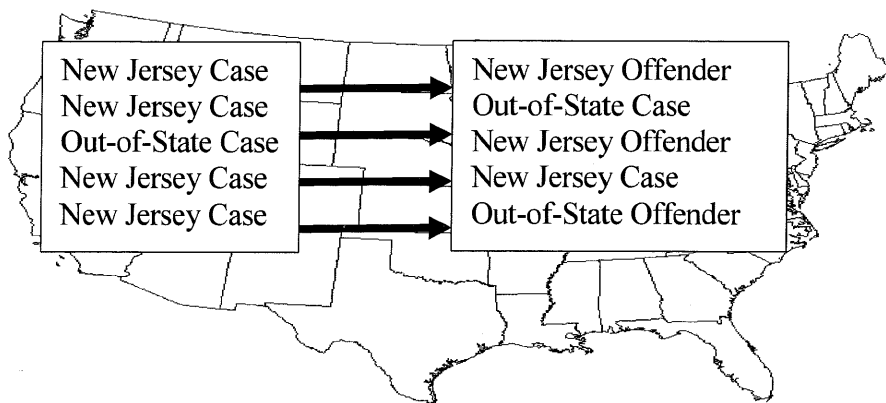


- The DNA Database is dynamic and constantly increasing in size.
- From 9/22/03 to 9/22/04, the collections dramatically increased, due to the expansion of the DNA Act and the collection of DNA from previously-sentenced offenders who became immediately eligible through the legislative amendments.
- As of September 22, 2007, the DNA database contained a total of 169,279 DNA submissions.
- All of the above DNA submissions were taken by the buccal swab method.
- It is anticipated that approximately 26,000 new DNA submissions will be added each year.

## MEASURING SUCCESS

### DNA Hits

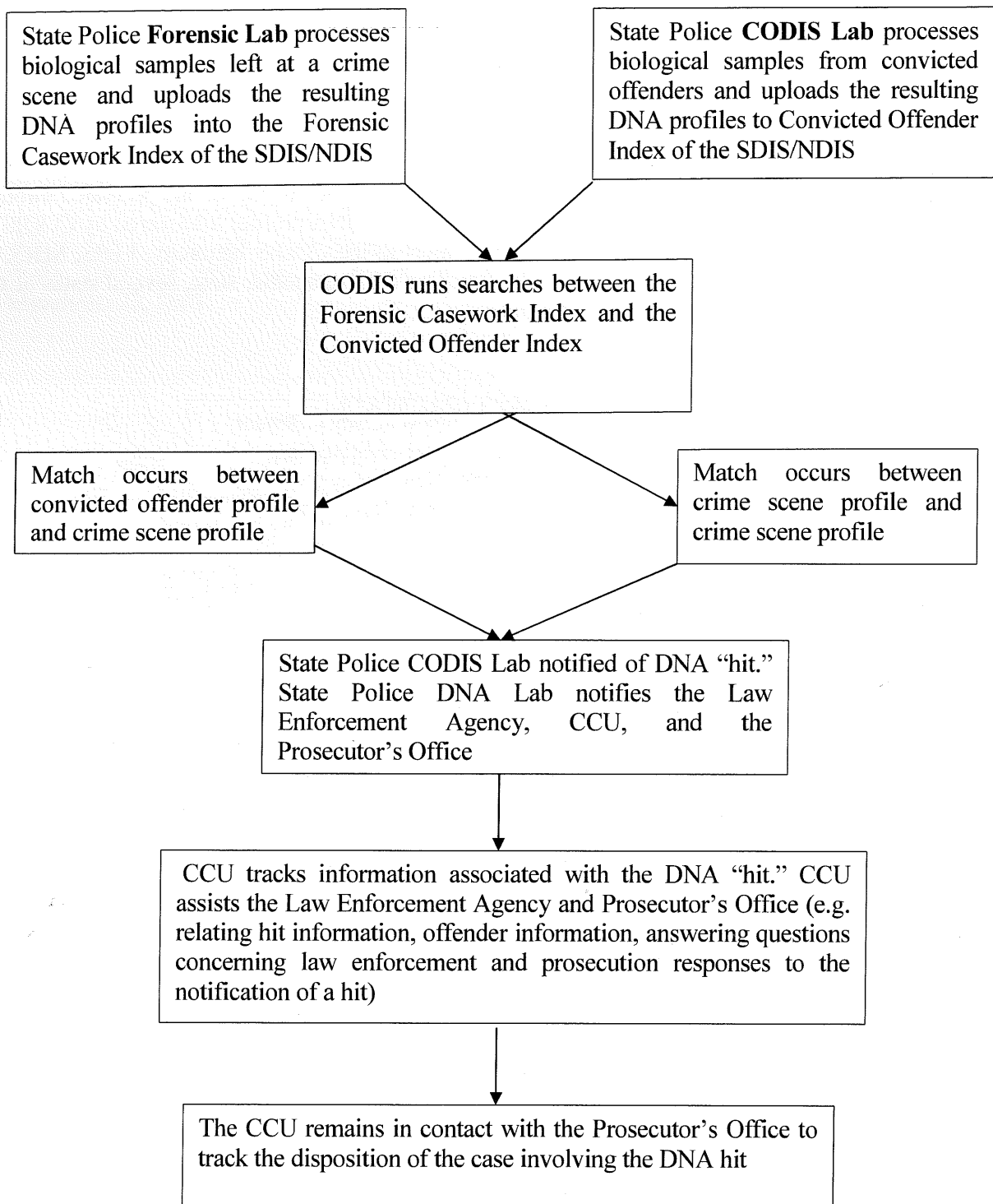
One measure of the effectiveness of the DNA Act is the number of hits generated through CODIS. A hit is a confirmed match between two or more DNA profiles discovered by CODIS at a single instant in time. Hits may occur at any level in the CODIS hierarchy, LDIS, SDIS, or NDIS. Hits may occur entirely within New Jersey or involve another state, several states or the federal government, as the following illustrates.



There are two categories of hits:

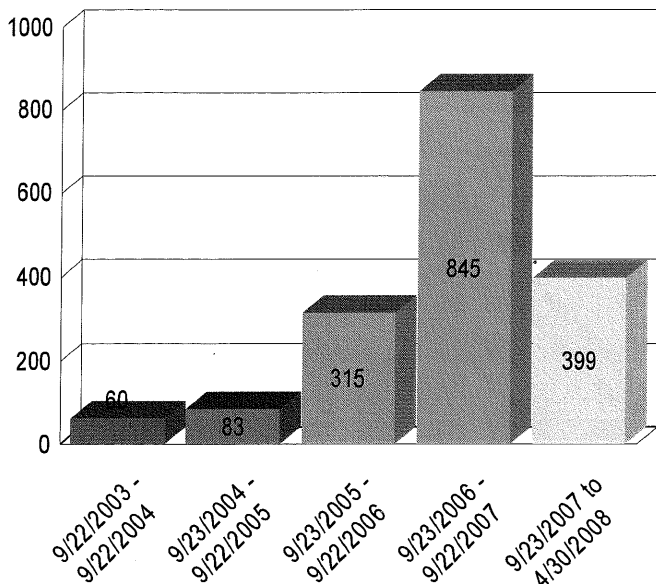
- 1) An Offender Hit occurs when one or more forensic samples are linked to a convicted offender sample at SDIS or NDIS. Offender hits are sometimes called case-to-offender hits.
- 2) A Forensic Hit occurs when two or more forensic samples are linked at LDIS, SDIS, or NDIS. Forensic hits are sometimes called case-to-case hits.

The following flowchart illustrates the hits process within the CODIS architecture. DNA profiles generated from biological material found at crime scenes are compared with each other and also with DNA profiles from convicted offenders. When a hit occurs in CODIS, notification is made to the respective law enforcement agencies. The CODIS Compliance Unit (CCU) continues to monitor and track the disposition of the hits.



## CODIS DNA Hits

Per Year

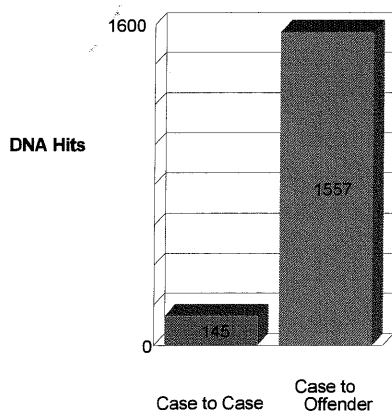


This graph demonstrates the dramatic increase in the number of hits during the years 2005/2006 and 2006/2007.

A record breaking 845 hits were achieved in 2006/2007, a 268% rise from the previous year.

- New hits are being generated daily. In the first two months of 2008, CODIS generated a record breaking 150 DNA hits.
- As the number of DNA profiles in the database continues to grow, the number of DNA hits also increases.

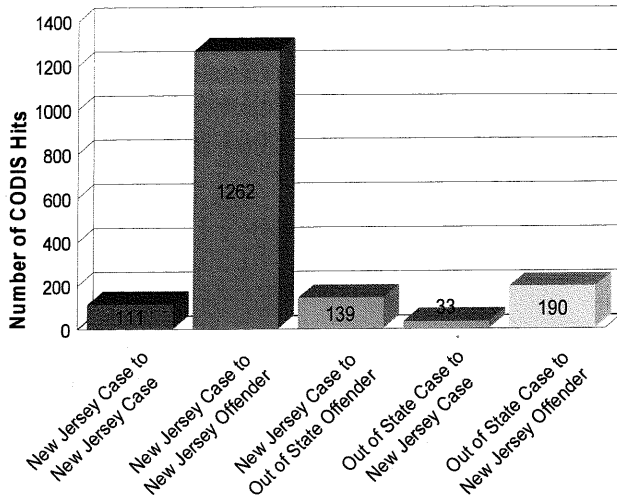
## CODIS DNA Hit Types



The majority of hits (91% of the total hits) are case-to-offender hits.

The case-to-offender hits provide investigators with the identity of a suspect(s). The case to case hits link crime scenes together, possibly identifying a serial offender.

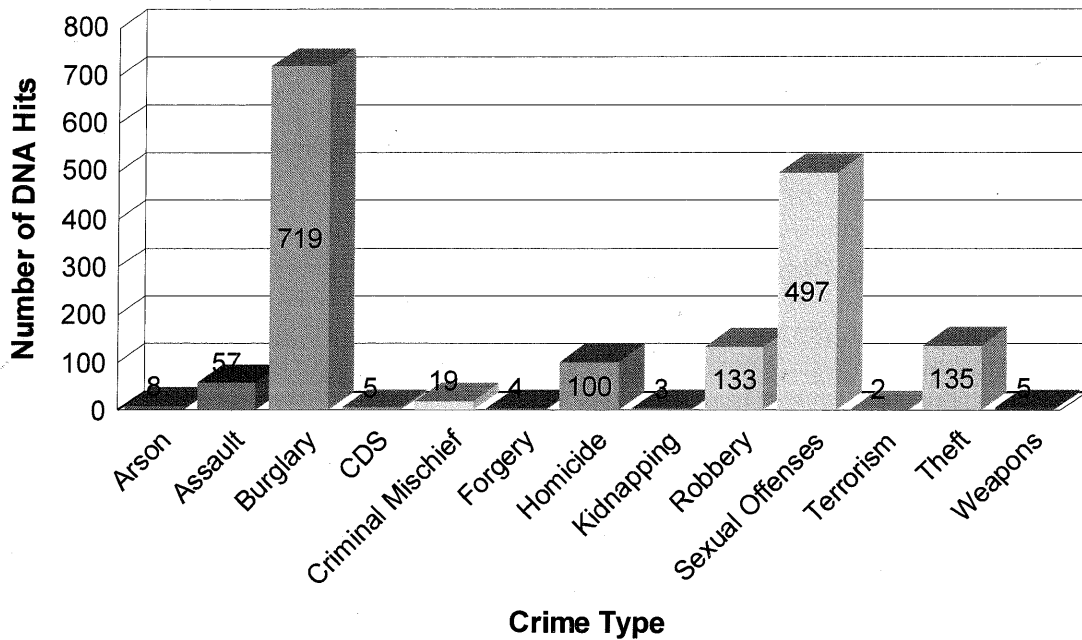
### CODIS DNA Hits



As of April 30 2008, over 190 DNA hits have involved other states where an out-of-state case matched to a New Jersey convicted offender. These other states include New York, Pennsylvania, Florida, California, Colorado, South Carolina, Virginia, and Texas.

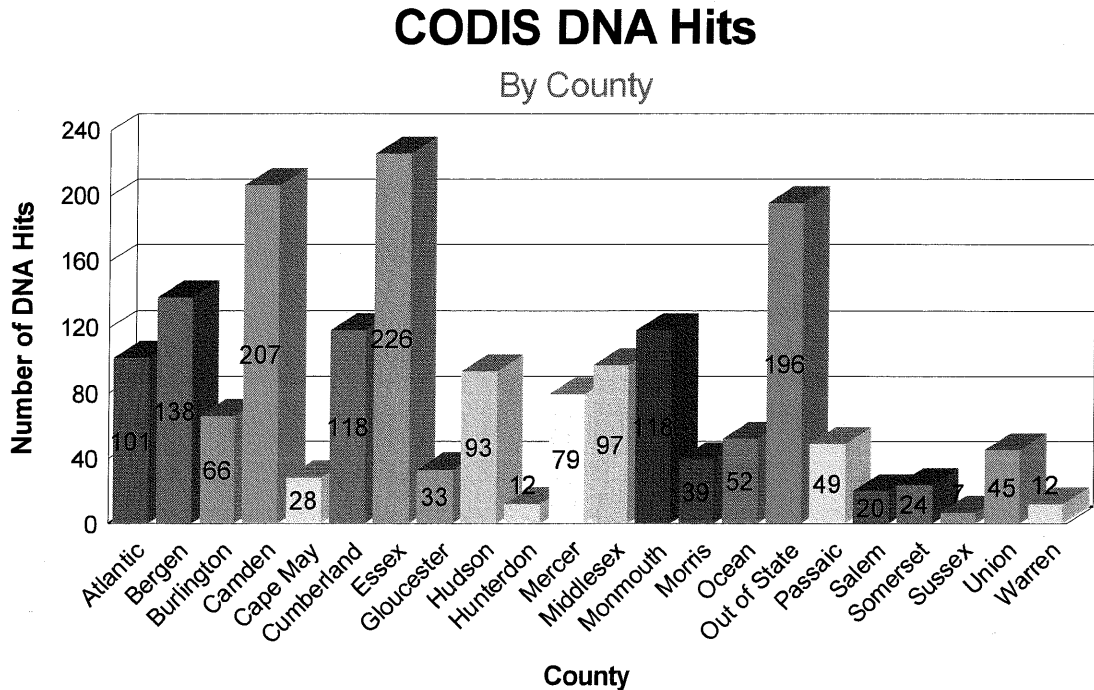
Numerous DNA hits have involved New Jersey cases and out-of-state offenders. In many of these hits, the offenders had a New Jersey criminal record but did not have an eligible offense under New Jersey's DNA Act.

### CODIS DNA Hits



- DNA hits have assisted in solving high-volume property crimes (like burglary) as well as violent crimes (such as sexual assault and murder).
- DNA is proving to be most helpful to crimes, such as burglary and sexual crimes.

- Analyzing DNA from property crimes can be extremely useful. Burglars often cut themselves on broken glass as they enter a property. Burglars may leave behind DNA evidence – for example, hat, headband, cigarette butt, drinking glass, half-eaten sandwich.

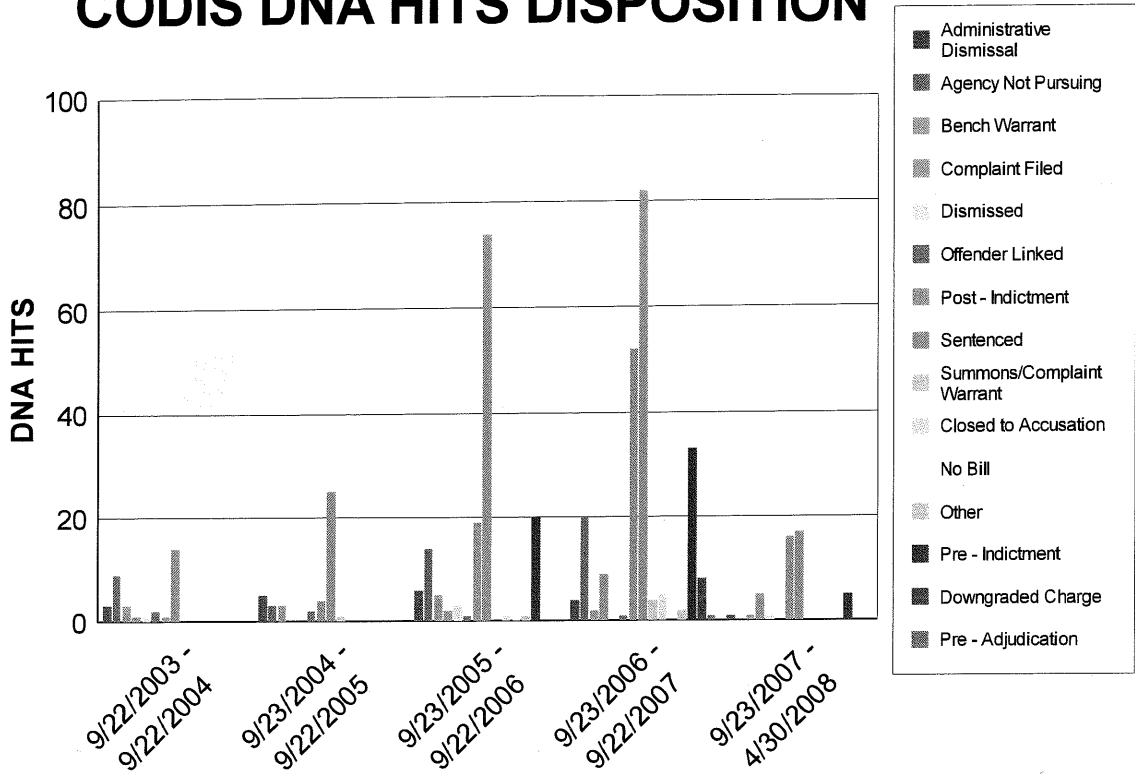


- Every county in New Jersey is benefiting from the hits generated through the DNA Act.

### CODIS DNA Hit Dispositions

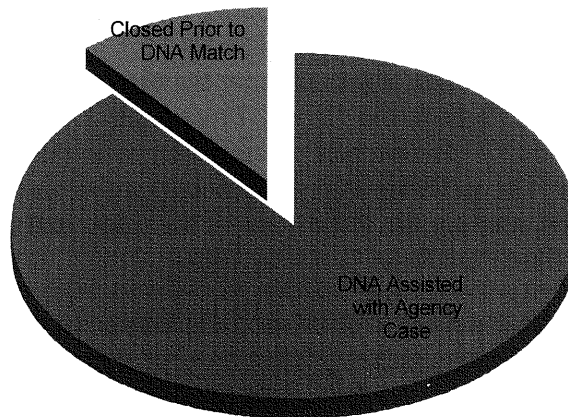
The effectiveness of the DNA Act can also be measured by the number of arrests and prosecutions that have resulted from the hits. In 2007, the CODIS Compliance Unit (CCU) implemented a hits tracking system in conjunction with the County Prosecutors' Offices to follow-up on the hits once they are made and to monitor the disposition of the hits. A DNA Hit Inquiry Form was developed and sent to the County Prosecutors for these follow-up purposes. (See Appendix A and B). The CCU is currently collaborating with the New Jersey State Police Office of Forensic Sciences to develop one shared comprehensive electronic system to effectively track the DNA hits, monitor the disposition of the cases, and develop other statistical data that may be germane to future funding.

## CODIS DNA HITS DISPOSITION

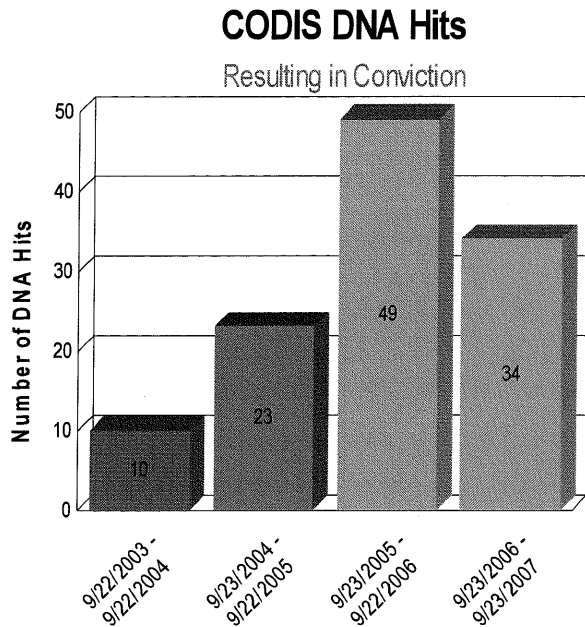


- Between 9/23/06 and 9/22/07, the vast majority of hits resulted in the arrest and prosecution of the offenders and is indicated above in the post-indictment phase.
- Between 9/22/2003 and 9/23/2007, there were 750 DNA hits pending New Jersey agency investigation and over 144 DNA hits pending out-of-state agency investigation.
- New Jersey's DNA Act is reaping major public safety benefits.

## CODIS DNA Hits



The vast majority of DNA hits assist law enforcement agencies.



New Jersey Prosecutors are utilizing DNA evidence generated through hits to successfully prosecute cases against offenders.

The potential of DNA as a crime-solving tool is being realized in courts throughout New Jersey.

Over 60% of these CODIS DNA Hits that resulted in conviction were burglaries. Other crimes assisted included sexual offenses, aggravated assaults, homicides, and thefts.

### DNA Case Highlights

Case studies that illustrate CODIS's ability to identify the guilty, solve crimes, determine whether a serial offender is involved, and exonerate the innocent further demonstrate the effectiveness of New Jersey's DNA Act. Success stories continue to pour in, ranging from solving a 1973 sexual assault to solving a string of burglaries. The success of New Jersey's DNA database has inspired law enforcement throughout the State to reevaluate cases previously thought unsolvable. These are just a few examples of the valuable assistance CODIS has provided.

#### **CODIS hit helps locate missing woman and solve her murder**

Family members reported a woman missing. Four days later, her Ford Mustang was located and bloodstains were found in the trunk. DNA analysis of two biological samples indicated that one sample was consistent with an offspring of the woman's parents. The second sample was of an unidentified man. This crime scene profile was entered into the CODIS database.

In January 2008, the CODIS system determined that the second biological sample matched the DNA profile of convicted offender Alex James Crow. The CCU notified the Burlington County Prosecutor's Office, which conducted an extensive investigation that led to the location of a body in Pennsylvania subsequently identified as that of the missing woman.

At the time that the woman was reported missing, Crow was employed as a maintenance man and landscaper in the housing development where she lived. Police arrested Crow in April 2008, and charged him with first-degree murder. Without the investigative lead provided by the CODIS hit, this case would have gone unsolved.

**The real strength of CODIS lies in solving cases that have no suspects.**

**DNA preserved for three decades linked rapist to a dozen rapes from Manhattan to Maryland. Two attacks occurred in New Jersey.**

“This case shows the importance of the federal database and the importance of keeping rape kits and files, even after 32 years. It will send a chill through defendants to know that you can still test for DNA after 32 years.” (Robert M. Morgenthau, Manhattan District Attorney)

1973 - A 25-year-old woman was raped at knifepoint in her home in Manhattan. A year later, the alleged perpetrator, Clarence Williams, attacked two other women in Queens. The Manhattan case ended in a hung jury in 1974, and the Queens conviction was overturned on appeal in 1976. Prosecutors plan to retry Williams was thwarted when he fled in 1978.

2004 - Williams resurfaced in Georgia when he applied for a shotgun permit that revealed his New York warrants. The old case from New York contained the victim's underwear stained with semen after 32 years. The DNA from the underwear was analyzed and matched Williams' DNA. When Williams' DNA profile was entered into NDIS, hits starting popping up in New Jersey (two attacks in 1993) and Maryland (tagged as the Silver Spring rapist who terrorized suburbs of Washington from 1987 to 1991).

2008 - Williams was convicted of the 1993 sexual assault in Morris County. In May 2008, he was sentenced to 25 years of incarceration.

DNA evidence links a convicted drug dealer to a sexual assault that was committed in 2006.

Darnell Hagan's DNA was taken under the DNA Act for a 2004 conviction for selling drugs on school property.

In 2006, in Paterson, a 25-year-old woman was walking home when she was grabbed from behind, dragged into a nearby yard and sexually assaulted.

In 2007, a hit occurred between Hagan's convicted offender profile and the profile from the crime scene of the sexual assault.

A grand jury indicted Hagan, and his prosecution is proceeding.

**Criminals do not specialize. Offender in database for drug conviction linked through CODIS to sexual assault.**

**DNA hits help solve sexual assaults and bring closure to victims.**

Darnell Stewart was released from custody on September 22, 2004, after serving 15 months for failure to register as a sexual offender. A DNA sample was collected under the DNA Act for this conviction.

In October 2004, in Camden County, a young woman was dragged into a bushy area. She was repeatedly punched and kicked. Her clothes were pulled off and twice the perpetrator attempted to sexually assault her.

In November 2004, Darnell Stewart was back in custody for again failing to register as a sexual offender.

In March 2005, a DNA hit occurred between the profile from the sexual assault kit from the 2004 assault and the profile from offender Stewart's DNA sample.

On December 14, 2006, Darnell Stewart was convicted for the sexual assault and sentenced to 60 years incarceration.

In early 2004, a woman was walking her dog in a field in Edgewater Park in the early morning. An assailant approached her from behind, pushed her to the ground, choked her and sexually assaulted her. Investigators collected DNA evidence from the victim when she was examined at the hospital. The DNA profile developed from the evidence matched the DNA profile from convicted offender, Brian Robbs. Robbs' DNA sample had previously been taken for a 1998 sexual assault conviction. A trial is pending in the case.

On the night of August 30, 2001, a woman was sexually assaulted and robbed in Phillipsburg. Her hands were tied with the perpetrator's bandana during the assault. The case had gone cold, only to be revived in 2005 when DNA evidence linked the bandana to a convicted offender in the DNA database, Charles Mordan. Mordan was tried and convicted of the crimes in September 2007. In April 2008, Mordan was sentenced to a 30-year term of imprisonment.

Late July 2004 in Monmouth County, a 15 year old girl was sleeping in her bedroom when a perpetrator climbed up a ladder, broke into her room and sexually assaulted her. Offender Earl Cross' DNA was collected on a minor drug conviction earlier in the year of 2004. A hit from the crime scene matched Cross's convicted offender profile. Cross was subsequently arrested, prosecuted, and convicted for the crime.

**One DNA profile uncovered a four-burglary serial offender. DNA collected in three different burglaries in which no suspect had been identified, linked through CODIS to a perpetrator, who turned out to be a previously-convicted burglar.**

After pleading guilty to a burglary charge in Weehawken, Gabriel Serrano provided a DNA sample pursuant to the DNA Act. After that sample was uploaded into CODIS, it matched three North Bergen burglaries. Serrano was sentenced to 4 years incarceration on January 24, 2008.

**Another DNA profile uncovered a serial burglar in Morris County.**

In early 2005, a Morris County home was burglarized. During the investigation, police recovered biological evidence on the clothing of a teenage girl who lived in the home, but was not home at the time of the burglary. DNA analysis of the biological evidence, found to be semen, matched the DNA profile of convicted offender, Michael Bentley. Bentley was subsequently prosecuted and convicted of the crime.

**A 1982 previously-unsolvable murder solved through DNA hit.**

**1982** - A 19-year-old woman's body facedown in bed with an eight-inch carving knife stuck in her back was discovered by her mother. Officers concluded that the woman had been sexually assaulted for several hours. Investigators questioned hundreds of people and took blood samples from people who had attended a party with the woman. The case however remained unsolved. Angelo Speziale was interviewed by the police in the weeks after the horrific crime, but he was not considered a main suspect at that time.

**2005** - Angelo Speziale was convicted of shoplifting and provided a DNA sample pursuant to the DNA Act.

**2006** - A DNA profile from semen left at the scene of the 1982 crime matched Speziale's DNA profile entered into the database for the shoplifting conviction.

**2008** - Speziale has been arrested for this offense and is currently pending prosecution.

In 2005, Dover Township Police responded to a burglary at a local business. The officers submitted blood swabs from the store safe that were subsequently analyzed and entered into the Forensic Casework Index of CODIS. A DNA hit occurred between the profile from the blood swabs and a Virginia convicted offender, Craig Greene. Subsequently, Greene was located, arrested and convicted of the Dover Township burglary. Greene was sentenced in 2006.

**A case to offender hit occurred that linked a Virginia convicted offender to an unsolved burglary in New Jersey.**

**A case to offender hit occurred that linked a New Jersey convicted offender to an unsolved robbery in New Jersey.**

On September 3, 2005, a man wielding a knife entered a liquor store in Neptune and robbed the employees. The perpetrator left two hats at the crime scene, one baseball cap and one gold colored wool hat with two holes cut out. This evidence was collected, analyzed and entered into the Forensic Casework Index of CODIS. A DNA hit occurred between the profile developed from the crime scene evidence and a convicted offender DNA profile from Alfonzo Edwards. Edwards' DNA was uploaded into SDIS due to a prior sexual assault conviction. Edwards was tried, found guilty of first-degree robbery, and sentenced to life in prison in 2007.

## **Exonerations**

New Jersey's DNA Act is vital to ensuring fairness in the criminal justice system. Exonerating the innocent is a substantial interest advanced by the DNA Act. The exonerating value of DNA uncovered by forensic examination at a crime scene may not be apparent until it is matched with a convicted offender DNA profile in the database, who may then become a suspect. This suspect status can serve to exonerate other suspects and foreclose these suspects' erroneous convictions. That collection of convicted offender A's DNA may help convicted offender B show his innocence of a charge is a benefit of DNA sampling.

### **Byron Halsey**

In 2007, a Union County Superior Court vacated Byron Halsey's 1988 murder conviction, and the Union County Prosecutor's Office subsequently dismissed the charges against him because a DNA hit from biological evidence from the crime scene matched the DNA profile from another convicted offender in CODIS.

In 1985, Byron Halsey was living in Plainfield, New Jersey, in a house with a woman and her two children, a seven-year-old girl and an eight-year-old boy. On the evening of November 14th, Halsey was driven across town by a neighbor Clifton Hall and dropped off with friends. The children were left alone in their home. Halsey returned home to find the children missing. In the morning, the children were found dead in the basement. The boy had been killed by nails driven into his head and the girl had been strangled to death. Both children had been sexually assaulted.

Both Clifford Hall and Byron Halsey were immediately considered to be suspects. However, questioning by police subsequently led to a confession by Halsey. Halsey was found guilty of the felony murder and sexual assault of the two children in March 1988. The death penalty was sought, however, the verdicts of felony murder meant that he would not be eligible for death.

Post-conviction challenges to his convictions proved unsuccessful. However, in 2006, post-conviction DNA testing of semen and cigarette butts from the crime scene was performed. Testing on the evidence resulted in a CODIS hit that matched the DNA profile from Clifton Hall, whose DNA profile was in the database for an unrelated aggravated sexual assault conviction. In May 2007, a Union County Superior Court vacated Halsey's 19-year-old convictions and, in July 2007, the Union County Prosecutor's Office dismissed the charges against him. Clifton Hall, the man who was identified by the DNA database, was subsequently indicted for the murders and sexual assaults and is currently awaiting trial.

**Exculpatory DNA - Some offenders have successfully challenged their convictions, using DNA testing on existing evidence.**

### **John Dixon**

In 1990, in Essex County, a woman was walking down the street when she was approached from behind by a man who pulled her into an alleyway. The woman was sexually assaulted. In July 1991, John Dixon, who was serving a sentence for an unrelated crime, pled guilty to the assault. Dixon's subsequent appeals were unsuccessful. In 2001, post-conviction DNA testing performed on the rape kit samples indicated no match to Dixon. Dixon's conviction was vacated in 2001 and the charge was dismissed.

## Other Benefits of DNA Database

The contribution that DNA hits can make to the investigation and solving of crime is undeniably compelling. However, there are other key benefits from the DNA database that are also significant and cannot be quantified.

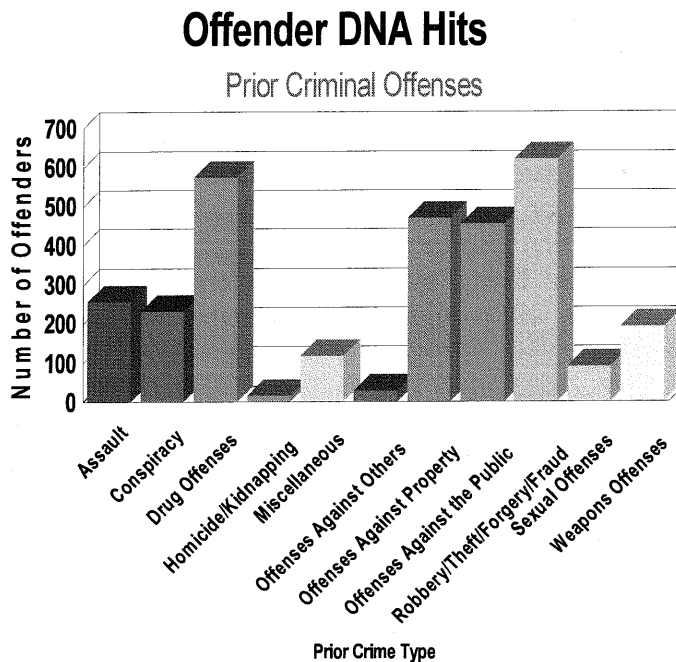
- The DNA database helps eliminate innocent persons from criminal investigations. The database can eliminate the innocent as suspects where there is no match between the Forensic Casework Index and the Convicted Offender Index. In criminal investigations where DNA evidence is used, DNA results have been reported to exclude initial suspects in approximately one-quarter of cases. Louis J. Freeh, Ensuring Public Safety and National Security under the Rule of Law: A Report to the American People on the Work of the FBI 1993-1998, Federal Bureau of Investigation, 2000.
- DNA databases prevent crimes. Solving crimes – and solving them quickly – has a direct effect on preventing additional crimes by the same perpetrators.
- The DNA database allows investigations to become more efficient and effective. If an investigation can be focused on a primary suspect from the outset, the net need not be cast too widely and, in consequence, resources which would otherwise be expended on time-consuming investigation may not be required. Offenders can be caught early before they can go on to commit other crimes. Society is protected.
- DNA databases have a deterrent and rehabilitative effect. DNA can deter some offenders from committing future offenses by making them aware that the government has identification information that can incriminate them in the event they commit a new crime. In this way, the deterrent value of the DNA sample contributes to the convicted offender's rehabilitation. In the event that deterrence fails and the convicted offender does commit another crime, DNA sampling increases the chance that he or she will be apprehended promptly, before he or she can commit more offenses. In addition to deterring recidivism, DNA collection also deters persons not convicted of crimes but otherwise tempted to make their living by criminal enterprise because of their realization that a single conviction will provide an identifier that may connect them to pre-conviction criminal conduct.
- The savings generated by solving crimes through the database extends to the prosecutorial process. A DNA hit in the case can shorten the court proceedings. Offenders are more likely to plead guilty if they know the State's case contains DNA evidence linking them to the crime. Moreover, depending on the case, evidence from other cases can be aggregated to strengthen the original case. Also, cases themselves can be consolidated to promote a more expeditious resolution to all crimes in which the offender is implicated through the database. This conservation of resources can be accomplished through consolidation of trials or through negotiated plea bargains.

## Reality of Recidivism

The results of this extraordinary DNA technology are having a great impact in New Jersey. Unquestionably, the DNA Act will serve to protect society and prevent crimes. The DNA database deters recidivism by identifying those at a high risk of reoffending. According to the National Institute of Justice (U.S. Department of Justice), the average rapist commits 8-12 sexual assaults prior to apprehension. If law enforcement can immediately apprehend the rapist after the first sexual assault, then a minimum of 7 sexual assaults could be prevented per offender.

It is impossible to determine how many crimes are being prevented by use of the DNA database. However, in a 2006 opinion upholding the constitutionality of the federal DNA statute, the United States Court of Appeals for the Third Circuit Court referenced case studies set forth in the National Forensic DNA Study Report dated December 12, 2003 that was prepared for Congress. The report indicated that “at least seven deaths, 89 rapes, 14 rape/deaths, nine sexual assaults, 14 robberies, three assaults, one burglary, and several property crimes could have been prevented had a DNA sample been taken earlier.” *United States v. Sczubelek*, 402 F.3d 175, 186 (3d Cir 2006).

Given the recidivist nature of many criminals, a strong likelihood exists that the offender who committed a crime being investigated was convicted of other crimes and already has his or her DNA profile in a DNA database that can be searched by CODIS. In fact, this is borne out in New Jersey: many of our hits are linked to repeat offenders, as the following graph demonstrates:



- The DNA database is an effective tool to catch recidivists and get them off our streets and make New Jersey communities safer.
- In the years between 9/22/2003 and 9/22/2007, out of a total of 1,151 case to offender DNA hits, 78% of the offenders were repeat offenders.
- In the year between 9/22/2006 and 9/22/2007 there was a total of 722 DNA hits in which the DNA assisted with the investigation. Of those 722 DNA hits – 699 were case to offender hits– 633 of these offenders had a prior criminal record consisting of more than one criminal conviction.
- As to the burglary DNA hits, more than 40% of the offenders had at least one prior burglary conviction, and as to the sexual offense DNA hits, more than 20% of the offenders had at least one prior sexual offense conviction.

## Frequency of Exonerations

There does not appear to be any data describing or attempting to calculate the frequency with which the identification of the actual perpetrator by DNA was necessary to exculpate the wrongly accused, but even if the frequency were low, still an exoneration of an erroneously suspected person, an erroneously-charged defendant - or an erroneously convicted prisoner - is important. Without fanfare, New Jersey's DNA Act is exonerating innocent people every day by eliminating suspects who, without the new technology, might 20 years ago have been erroneously convicted.

The United States Department of Justice has highlighted the significance of exoneration in its successful effort to expand DNA collection under federal law:

The restrictive approach of [existing legislative proposals] will . . . endanger the innocent by preventing their exoneration through DNA testing. Both in the investigative stage of criminal cases, and in the post-conviction setting, DNA testing may clear an individual who is mistakenly suspected or convicted of committing a crime by identifying the actual perpetrator. This cannot occur, however, unless the actual perpetrator's DNA profile is in the convicted offender database. Since there would be relatively few federal offenders in the database under the restrictive approach of [existing legislative proposals] the possibility of exonerating innocent persons through the identification of the actual perpetrators would be reduced accordingly.

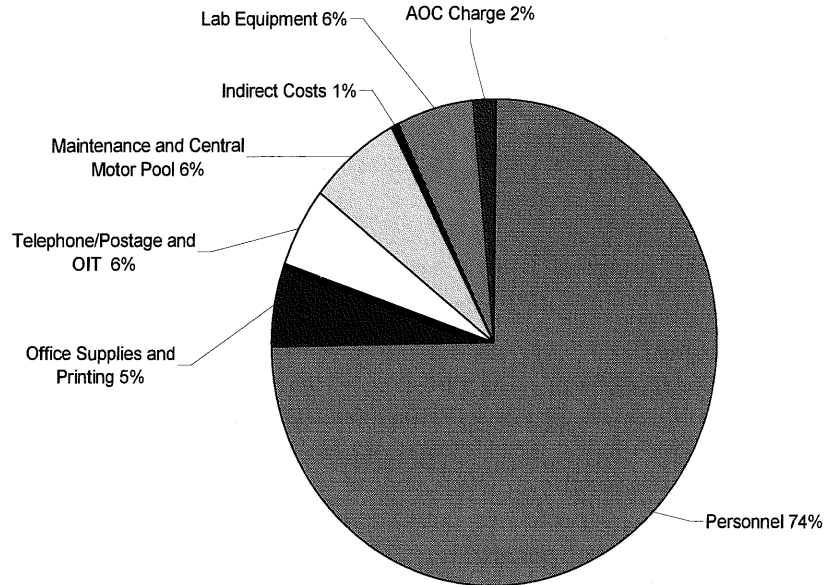
[Letter from Department of Justice to Committee on the Judiciary (July 21, 2000), incorporated in H.R. Rep. No. 106-900(I) at 27].

## Revenue and Expenditures

The services related to DNA analysis provided by the New Jersey State Police Office of Forensic Sciences (OFS) are supported primarily by three funding sources, which are as follows:

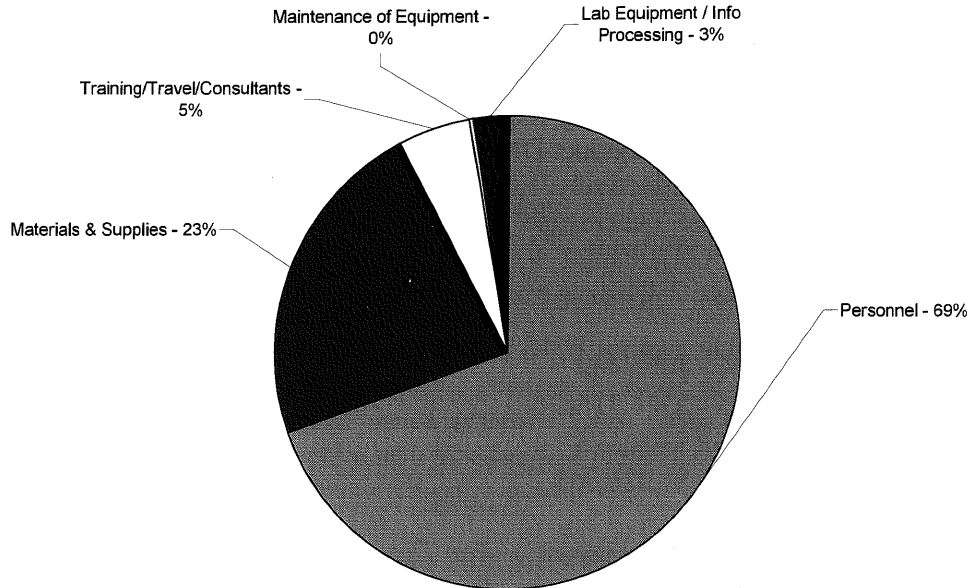
- 1) **NJ DNA Forensic Lab Fund** – This funding source is derived from the \$2.00 surcharge imposed on all motor vehicle summonses written throughout the State of New Jersey. Since its inception in Fiscal Year 2004, this legislation has generated approximately \$8.2 million annually. As depicted in the following pie chart, nearly 75% of this revenue is utilized to support the Division of Criminal Justice, CODIS Compliance Unit personnel, as well as the New Jersey State Police, Office of Forensic Science personnel. As of April 2008, the total number of positions supported by this funding source is seventy-three (73). The remaining 25% of this funding is dedicated to supporting the purchase and maintenance of lab equipment, as well as the procurement of the consumable materials and supplies that support these services.

**NJ DNA Forensic Lab Fund (\$2.00 Surcharge Account)  
Comprehensive Breakdown of Expenditures from  
Fiscal Year 2004 through Fiscal Year 2008**



- 2) **NJ State Police Laboratory DNA Enhancement** – In Fiscal Year 2004, the Division of State Police received a special purpose appropriation for \$1.8 million to support the New Jersey State Police Office of Forensic Sciences. This \$1.8 million appropriation was continued through Fiscal Year 2007, a year in which nearly \$700,000 was transferred from this account reducing the available funding to \$1.1 million. In Fiscal Year 2008, this appropriation was reduced by \$650,000 to \$1.150 million and the NJ DNA Forensic Lab Fund was slated to supplement the reduction to this account. Since Fiscal Year 2004, nearly 70% of this appropriation has supported the salaries of fourteen (14) positions assigned to the OFS. The remaining 30% has supported the purchase of materials and supplies, lab equipment, as well as training costs incurred by lab personnel. A pie chart depicting the categories of expenditures since Fiscal Year 2004 follows as a reference.

**NJ State Police DNA Laboratory Enhancement  
Special Purpose Appropriation  
Comprehensive Breakdown of Expenditures  
Fiscal Year 2004 through Fiscal Year 2008**



- 3) **Federal Grant Funding** – In March of 2003, President Bush announced a five-year program known as the “President’s DNA Initiative” to improve the use of DNA in the criminal justice system.

The National Institute of Justice administered four (4) grant programs associated with the implementation of this initiative. These grants and the intended use of each grant are as follows:

- a) **Paul Coverdell Forensic Science Improvement** - This grant program was established to assist with improving the quality and timeliness of forensic science and medical examiner services statewide. Funding can be utilized to eliminate backlogs in the analysis of forensic evidence and to train and employ forensic laboratory personnel, as needed, to eliminate such a backlog. This grant was primarily used for non-DNA and non-Office of Forensic Sciences purposes. New Jersey’s Federal Fiscal Year (FFY) awards since 2004 have been as follows:

- FFY 2004 - \$197,387
- FFY 2005 - \$282,136

- FFY 2006 - \$297,337
  - FFY 2007 - \$330,582
- b) **Forensic Casework DNA Backlog Reduction** - Funding received under the Forensic Casework DNA Backlog Reduction Program is used by states and units of local government to reduce DNA case turnaround time, increase the throughput of their DNA laboratories, and reduce DNA forensic casework backlogs. Eligible States and units of local government may request funds to increase the capacity of their existing crime laboratories that conduct DNA analysis in order to analyze DNA samples more efficiently and cost effectively. Eligible applicants also may request funds to handle, screen, and analyze backlogged forensic DNA casework samples from Uniform Crime Report (UCR), Part 1 Violent Crimes. New Jersey's Federal Fiscal Year (FFY) awards since 2004 have been as follows:
- FFY 2004 - \$602,463
  - FFY 2005 - \$314,715
  - FFY 2006 - \$308,328
  - FFY 2007 - \$1,086,363
- c) **DNA Capacity Enhancement** - The focus of the DNA Capacity Enhancement Program is to award funding to existing state and local government crime laboratories that conduct DNA analysis, to improve laboratory infrastructure and analysis capacity so that DNA samples can be processed efficiently and cost effectively. New Jersey's Federal Fiscal Year (FFY) awards since 2004 have been as follows:
- FFY 2004 - \$495,973
  - FFY 2005 - \$492,225
  - FFY 2006 - \$613,986
- d) **Convicted Offender DNA Backlog Reduction** - The objective of this program is to accelerate the analysis of convicted offender and/or arrestee DNA samples collected by States pursuant to applicable law for databasing purposes in order to provide timely CODIS-compatible data for all thirteen (13) core STR loci for state and national DNA databases. Funds are to be used by a State's designated existing and accredited DNA database laboratory to reduce the backlog of DNA database samples in one of three ways: through in-house analysis, through sending samples to be tested by accredited fee-for-service laboratories, or through data review of sample profiles generated by an accredited fee-for-service laboratory. New Jersey's Federal Fiscal Year (FFY) awards since 2004 have been as follows:
- FFY 2004 - No award
  - FFY 2005 - \$1,375,407
  - FFY 2006 - \$ 615,829

As stated previously, the President's DNA Initiative was implemented as a five-year program, which is now nearing completion. As such, it is anticipated that the aforementioned

federal grant programs will be targeted for elimination commencing with Fiscal Year 2009. Also, as a result of the elimination or substantial reduction of backlogs in CODIS and forensic casework DNA samples, the state will not be eligible for most of these grants even if they were to be offered. The loss of this funding will strain the funding from the NJ Forensic DNA Lab Fund and the NJ State Police Laboratory Enhancement appropriation, and diminish the State's ability to provide the forensic science services of irrefutable quality in a timely manner that our citizens deserve.

### **Cost/Benefit**

It is important to look at cost-benefit analysis from the broad perspective of the costs to the criminal justice system as a whole. Many of the important benefits of the DNA Act do not lend themselves to direct quantification. Some of the obvious benefits to DNA testing are the identification of repeat offenders and the potential to help law enforcement solve crimes quicker – thereby preventing additional crimes. Also, a DNA hit may substantially shorten what could be lengthy and expensive court proceedings. The increased use of the DNA database will lead to long-term savings for the criminal justice system. Thus, using the DNA database is a better, faster, and also a more cost effective way to solve and prevent crime. Stopping repeat offenders early not only prevents crimes but saves money as well.

And the costs are well spent. The cost of DNA analysis must be weighed against the losses from crime incurred by the public and the victims. Both tangible and intangible factors must be considered. Cost of crime can drain the State's financial capacity and exact traumatic physical, psychological and economic damage to victims.

The tangible, economic losses that victims of crime experience are significant. According to a study completed by the National Institute of Justice (U.S. Department of Justice), rape is the costliest crime in America with victim costs totaling \$127 billion per year. The study estimated that when all factors are considered, the estimated cost of rape per victim is \$87,000. Miller, T.R., Cohen, M.A. & Wiersema, B. (1996, January), Victim Costs and Consequences: A New Look, Washington D.C.: National Institute of Justice, U.S. Department of Justice available at <http://www.ncjrs.gov/txtfiles/victcost.txt>. If the average rapist commits 8 rapes, but a DNA databank stops the offender half way through his spree, then 4 rapes are prevented at a savings of \$348,000. "Inside Indiana Business: Criminal Justice Officials Hear About Cost Savings From DNA Testing," 18 July 2006, <http://www.insideindianebusiness.com/newsitem.asp?ID=18808>

The Bureau of Justice Statistics estimates the average property loss from burglary is \$1,500. Bureau of Justice Statistics, Sourcebook of Criminal Justice Statistics, 2000, Washington, D.C.: U.S. Department of Justice, Bureau of Justice Statistics, 2001 (NCJ 190251):304. Thus, DNA savings with respect to the crime of burglary are immense because of the significant number of burglary hits that have resulted from the database.

The intangible costs are also significant. Victims of crime and their families suffer psychological trauma not measurable in monetary terms.

## **Future Concerns**

Today, DNA technology is solving cases that may not be solvable through any other means. Several innocent persons have been set free thanks to DNA technology. Many crimes have been prevented thanks to DNA analysis identifying serial criminals at the beginning of their crime spree thereby preventing future crimes. Many of these benefits are intangible. While a great deal of progress has been made largely due to the resources, which were made available through the 2003 legislation, there is still more that needs to be accomplished.

First, turnaround time for analysis needs to be reduced even more, because every additional day needed to complete analysis has a potential for more crimes to be committed by the perpetrator who remains unidentified and un-apprehended. The current turnaround time for analysis of forensic crime scene DNA samples is in excess of 60 days. This can be reduced by half if existing vacancies, most of which have been unfilled for more than two years, are filled. As of April 2008, the CODIS Compliance Unit has three (3) vacant positions and the New Jersey State Police, Office of Forensic Sciences has seventeen (17) vacancies. The goal must be to analyze evidence as soon as it is received so that valuable leads can be developed expeditiously. Additional funding will be needed to continue to reduce the analysis turnaround time even further.

Second, with law enforcement officers throughout the state relying more and more on the submission and analysis of forensic evidence to solve crimes, the need to have additional personnel in place to process the increase in forensic evidence submissions must be addressed. The increase in workload has been record-breaking since the passage of the 2003 legislation and has continued in 2008.

It should also be realized that contractual increases in personnel costs and other expenditures for equipment and consumable supplies would soon make it impossible to even maintain the current staffing levels. This will have an adverse impact on the level of service currently being provided.

Finally, with the anticipation that the President's DNA Initiative programs will be eliminated in Fiscal Year 2009, it is imperative that the two state funding resources be maintained, if not increased, to ensure that New Jersey remains at the forefront of DNA technology and its critical role of ensuring the accuracy and fairness of the criminal justice system.

## **Conclusion**

The foundation for the use of DNA profiling and New Jersey's DNA Database as a crime-solving tool has been firmly established. It is hard to imagine a future in crime investigation without the DNA Database. DNA can be used to identify criminals with incredible accuracy when biological evidence exists. By the same token, DNA can be used to clear suspects and exonerate persons mistakenly accused or convicted of crimes. In all, New Jersey's DNA Database and Databank Act is increasingly vital to ensuring accuracy and fairness in the

criminal justice system. The continuation of funding to support this program will ensure its potential is realized and protect the citizens of the State of New Jersey. The Division of Criminal Justice and the Office of Forensic Sciences will continue to work with law enforcement in New Jersey and throughout the country towards that end.

## GLOSSARY OF TERMS

**Buccal swab** means a cotton swab or a specialized applicator with a sponge or foam tip, which is rubbed on the inside of the cheek to collect epithelial cells. This procedure is non-invasive and pain free.

**CODIS** means the FBI's national DNA identification index system that allows storage and exchange of DNA profiles submitted by state and local forensic DNA laboratories. The term is derived from "Combined DNA Index System." The NDIS, SDIS, and where applicable, the Local DNA Index System (LDIS - for states that have county or municipal labs that feed up to a state CODIS laboratory) together comprise CODIS. CODIS comprises a series of software programs containing a collection of data files that permit comparison of biological evidence recovered at crime scenes to other crime scenes and to DNA profiles of known offenders. The system has two main data files, referred to as indices, to accomplish this task. The Forensic Casework Index contains the DNA profiles developed from biological evidence recovered at crime scenes. The Convicted Offender Index consists of DNA profiles developed from known samples taken from qualifying offenders. Each individual state is charged with determining qualifying offenders for CODIS inclusion. The Forensic Casework Index and the Convicted Offender Index are searched against each other, and investigative leads are generated. The Forensic Casework Index is searched against itself, whereby matches link crime scenes.

**CODIS Compliance Unit (CCU)** means the unit within the Division of Criminal Justice that oversees and tracks DNA sample collection, enters information from the DNA databank specimen submission forms into the CCU database, and represents the State of New Jersey in litigation involving the DNA Act. The CCU is responsible for training DNA collectors throughout the State in the buccal cell collection technique.

**Core loci** means the 13 specific regions on the human genome at which the tetranucleotide repeats, also referred to as STRS (short tandem repeats), are measured for inclusion in CODIS.

**Division of Criminal Justice** means the New Jersey Division of Criminal Justice established by N.J.S.A. 52:17B-99.

**DNA databank specimen submission form** serves as the chain of custody form and informational sheet for the DNA sample collection. This card is completed when the DNA sample is collected.

**DNA** means deoxyribonucleic acid. DNA is a chemical substance contained in cells, and provides a unique forensic identification of an individual (except in the case of identical twins).

**DNA Act** means New Jersey's DNA Database and Databank Act of 1994, N.J.S.A. 53:1-20.17 et seq., and any subsequent amendments to the Act.

**DNA analysis** means the process of testing performed on a DNA sample to determine the DNA profile of the individual.

**DNA databank** means the repository of DNA samples collected and maintained under New Jersey's DNA Act.

**DNA database** means the repository of DNA profiles collected under New Jersey's DNA Act. It is administered by the New Jersey State Police Forensic DNA Laboratory and provides DNA profiles to the FBI for storage and maintenance in CODIS.

**DNA profile** means the set of DNA identification characteristics, that is, the particular chemical form at the various core loci, which permit the DNA of one person to be distinguished from that of another person.

**DNA sample** means a blood or other biological sample provided by any person with respect to offenses covered by the DNA Act.

**FBI** means the Federal Bureau of Investigation.

**NDIS** means the National DNA Index System, which is the system administered by the FBI that is comprised of DNA identification records contributed by the various participating SDISs. NDIS is the highest level of the CODIS hierarchy. NDIS compares DNA profiles associated with a crime scene to DNA profiles collected from known convicted offenders, as well as to other crime scene profiles. When the DNA profiles are uploaded to NDIS, they are searched against the other DNA profiles submitted by other participating states.

**Offender** means persons, including juveniles, who meet the criteria in N.J.S.A. 53:1-20.20 and subsequent amendments thereto as enumerated in N.J.A.C. 13:81-1.4(a).

**SDIS** means the State DNA Index System, which is an individual state DNA profile system comprised of the DNA profiles of the qualifying offenders of that state and DNA profiles from crime scenes. The SDIS Laboratory serves as the central point of contact for access to NDIS.

**Upload** means the digital transfer of DNA profile data between systems at different levels (for example, LDIS to SDIS or SDIS to NDIS). The transfer is from a lower level (LDIS, SDIS) to a higher level (SDIS, NDIS).

**DNA hit** means a confirmed match between two or more DNA profiles discovered by CODIS at a single instant in time. Hits may occur at any level in the CODIS hierarchy, LDIS, SDIS, or NDIS. Hits may occur entirely within New Jersey or involve another state, several states or the federal government.

## CODIS COMPLIANCE DNA HIT INQUIRY (COUNTY NAME)

**CODIS HIT CASE NUMBER:**

**CODIS HIT TYPE:**

**Submitting Agency Information:**

**Offender Information:**

**Agency Case Number:**

**Crime Type:**

### **CASE STATUS FOLLOW UP:**

- Pending Investigation - Assigned to: \_\_\_\_\_ Phone: \_\_\_\_\_
- Confirmatory sample taken (Law Enforcement Agency took a buccal swab from suspected offender and sent it into Forensic Lab for comparison to evidence associated with the above case)
- Suspect Arrested - If suspect different from person named above, provide Suspect's Name, SBI #, and Date of Arrest:  
\_\_\_\_\_
- Offense in Promis/Gavel - Accusation/Indictment Number: \_\_\_\_\_
- Offender in Custody
- for above offense - Date: \_\_\_\_\_
- for other offense
- Is Prosecutor's office pursuing this offender on DNA Hit offense?
- Case closed prior to DNA Hit
- Case revisited/reopened due to DNA Hit
- Case Closed
- Administrative Dismissal
- Offender Pled/Found Guilty
- Closed due to Victim Issues - please explain \_\_\_\_\_
- Case linked to other Offender - provide Name, DOB, SBI # and Indictment/Accusation #  
\_\_\_\_\_
- Other - Explanation  
\_\_\_\_\_

To your knowledge, did this DNA Hit exonerate any suspect/offender?

NO     YES - Please Explain: \_\_\_\_\_

Please Fax responses:

CODIS COMPLIANCE UNIT: ATTENTION: Jason Tomecheck, CI. FAX (609)292-3014

## CODIS COMPLIANCE DNA HIT INQUIRY (COUNTY NAME)

**CODIS HIT CASE NUMBER:**

**CODIS HIT TYPE:**

**Submitting Agency Information:**

**Additional Agency Information**

**Case Information**

**Agency Case Number:**

**Crime Type:**

**CASE STATUS FOLLOW UP:**

- Pending Investigation - Assigned to: \_\_\_\_\_ Phone: \_\_\_\_\_
- Suspect Arrested - Provide Suspect's Name, SBI #, and Date of Arrest:  
\_\_\_\_\_
- Offense in Promis/Gavel - Accusation/Indictment Number: \_\_\_\_\_
- Offender in Custody
- for above offense - Date: \_\_\_\_\_
- for other offense
- Case closed prior to DNA Hit - Date: \_\_\_\_\_
- Case revisited/reopened due to DNA Hit
- If Case to Case DNA Hit was to another Law Enforcement Agency did you contact other Agency? - Date: \_\_\_\_\_

**Case Closed**

- Administrative Dismissal
- Closed due to Victim Issues - Explain: \_\_\_\_\_
- Case linked to Offender - provide Name, DOB, SBI # and Indictment/Accusation #  
\_\_\_\_\_
- Other - Explanation  
\_\_\_\_\_

To your knowledge, did this DNA Hit exonerate any suspect/offender?

- NO  YES - Explain: \_\_\_\_\_

Please Fax responses:

CODIS COMPLIANCE UNIT: ATTENTION: Jason Tomecheck, CI. FAX (609)292-3014