



# 2004 DNA Testing Accountability Report



in accordance with Public Act 093-0785



## OVERVIEW

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By statute, the Illinois State Police (ISP) provides crime scene and forensic science services to about 1,500 criminal justice agencies. The ISP forensic science laboratory system, established in 1942, is recognized as the third largest crime laboratory system in the world, following the Forensic Science Services in Great Britain and the Federal Bureau of Investigation (FBI) in Washington, D.C. The system, encompassing eight operational laboratories and a Research and Development laboratory, processes cases in the following disciplines: drug chemistry, trace chemistry, toxicology, microscopy, forensic biology/DNA, latent prints, firearms and toolmarks, documents, and polygraph. All ISP laboratories are accredited by the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD /LAB). Other noteworthy achievements of the ISP forensic science laboratory system include establishment of the first formal forensic science training program in 1977, the first forensic science Quality Assurance program in 1980, and the first formal state forensic science Research and Development program in 1985. The mission of the ISP forensic science laboratory system is to serve the citizens of Illinois with accurate, complete, and timely forensic services. Approximately 98% of the ISP forensic services are provided to local law enforcement agencies.

Crime Scene Investigators (CSIs) are housed in 24 offices across the state and respond to calls for service 365 days a year, 24 hours a day. CSIs provide a variety of services for federal, state and local law enforcement agencies. In addition to collecting, interpreting and packaging evidence, investigators provide blood spatter interpretation, facial composite drawings, forensic anthropology, animated recreations and diagrams of crime and crash scenes.

The role of forensic science in the criminal justice arena is drastically changing. In the past, forensic science analysis often entered into the picture near the end of the criminal investigative process - after the crime, after the investigation, after the arrest of a suspect, but before prosecution. The role of forensic science was seen as preparatory for the case to go to trial. In today's environment, the role of forensic science enters the picture immediately after a crime is committed to assist investigators in developing leads and/or identifying possible suspects. Now the forensic work oftentimes precedes an arrest. This role change, which substantially increases the significance of forensic science in the criminal investigative process and increases the demands placed upon the system, is mainly due to two factors: the increased awareness of forensic science and advances in technology. Popular television shows such as *Forensic Files*, *Cold Case Files*, and *CSI: Crime Scene Investigation*, have increased the public's awareness of forensic science.

Examples of technological advances which occurred in the Crime Scene Services Command (CSSC) this past year were the distribution of digital cameras and portable CD Writers to all CSIs. With this technology, CSIs may produce photographic CDs at crime scenes and make them immediately available to investigators. During FY04, the CSSC handled 4,561 cases statewide.

Another example of technological advances is the use of computerized databases. The Integrated Ballistics Identification System (IBIS) can link cartridge cases and bullets from different crime scenes as well as a bullet or cartridge to a particular weapon; and the Automated Fingerprint Identification System (AFIS) can match latent prints from crime scenes to a state and national database of 10-print cards. In FY04, the ISP entered 1,574 bullet images into IBIS which resulted in two hits or a 0.13% hit rate. 5,536 casing images were also entered into the database which resulted in 136 hits for a 2.5% hit rate. In FY04, there were 785 AFIS hits, for an average of 65 hits per month. This equates to a 34% hit rate, one of the highest in the nation.

These powerful tools also have resulted in increasing numbers of cases presented to the forensic science laboratory system for analysis. In FY04, the laboratories received 118,179 forensic cases, worked 110,863 cases with a total backlog at the end of FY 04 of 10,279 cases.

## ***THE DNA PROGRAM***

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The ISP DNA Program consists of two components: evidence from crime scene cases and convicted offender samples. When a person is the victim of a sexual assault some of the evidence collected by the police includes a sexual assault kit, clothing, bed linens, etc. This evidence is brought to one of the ISP laboratories for forensic biology/DNA analysis. The first step is the detection and identification of a biological stain; the next step is to establish a DNA profile from the stain. The DNA profile is compared to known standards from the victim and suspect. If a suspect is not known, the profile is searched against the state and national DNA database known as the COmbined DNA Index System or CODIS. All convicted felons in Illinois are required to submit a biological sample for DNA typing and inclusion in CODIS. When an unknown DNA profile from a crime scene stain matches a known offender DNA profile or an unknown DNA profile from one crime matches an unknown DNA profile from another crime, this is referred to as a "hit." The above described program gives police the ability to identify possible suspects to a crime or link crime scenes, thus providing crucial investigative information to help solve the crime.

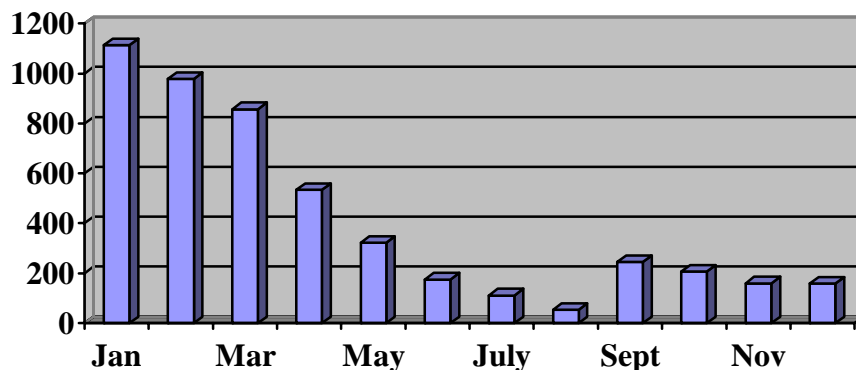
"Cold cases," those which have been classified as "dead" or "unsolved," have had new life breathed into them because of advances in DNA technology. The power of DNA and use of CODIS, have resulted in an effective crime fighting tool for law enforcement. Matching known offender DNA profiles to unknown DNA crime scene profiles or matching unknown DNA crime scene profiles to other unknown DNA crime scene profiles provides a method to identify a suspect and/or provides additional investigative information which may result in solving cases previously classified as "cold cases." In FY04, 69,805 offender samples were received and 24,244 samples were worked through in-house analysis and outsourcing. In addition, 2,055 unknown DNA crime scene profiles were entered into the database. In FY04, there were 367 CODIS hits, or approximately 31 hits per month, one per day on average.

## ***DNA CASE BACKLOG***

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Individuals performing DNA analysis are highly trained and require specialized laboratory space and equipment to conduct their tests. When the number of cases submitted to the laboratory exceeds the capacity of the laboratory staff to conduct the analysis within a 30 day time period, a "backlog" occurs. The monthly DNA casework backlog for 2004 is shown in the following chart. In January 2004, the backlog of cases awaiting DNA analysis was 1,113. The backlog decreased through the end of June to 175 cases and to 158 cases at the end of December – a 70 day turnaround. The ISP was able to achieve this reduction by outsourcing case samples and increasing the processing capacity internally. The ISP is on track for a 0 backlog or 30 day turnaround by the end of FY05. However, loss of staff and unexpected increases in case growth, are factors that can negatively impact this projection.

## Monthly DNA Casework Backlogs



### Backlog Reduction Strategy

The ISP strategy to tackle this problem has been multifaceted considering both long and short term approaches to include the following: (1) hire sufficient forensic scientists, evidence technicians and training staff; (2) aggressively obtain federal grant funding; (3) outsource DNA samples using both state and federal funding; (4) educate police and prosecutors to “triage” crime evidence by submitting the most probative evidence; and (5) prioritizing cases.

A number of initiatives have been instituted to address the DNA case backlog. In FY04 Governor Blagojevich approved the hiring of fifteen Forensic Scientist Trainees in Forensic Biology/DNA. Since they were hired in May 3, 2004, two have resigned and the remaining 13 are currently in training. In 2004, the ISP also instituted a new approach to DNA training which is anticipated to reduce the training period from 24 months to 18 months. The additional personnel will build ISP’s processing capacity. In addition, the ISP is investigating new and modified analytical techniques to improve productivity and seeking grant funding to continue outsourcing the case backlog.

In FY04, the Governor directed \$2.6M to be used for DNA case outsourcing while the 13 new forensic scientists were in training. Approval was also given to hire six DNA Evidence Technicians to assist with the DNA case backlog in mid-July 2004. In FY05, Governor Blagojevich directed an additional \$2.67M to be used to outsource the backlog of DNA cases while the 13 scientists complete the final stages of training.

The ISP has aggressively pursued grant funds to address the DNA backlog. In FY04, three Illinois Criminal Justice Information Authority (ICJIA) grants and one National Institute of Justice (NIJ) grant totaling \$ 1.7 million were used to outsource cases. In FY05, the ISP will receive two NIJ grants, one ICJIA grant and one grant from the Midwest Forensic Resource Center to purchase DNA equipment, build processing capacity, outsource DNA cases, and conduct research into new techniques.

	<b>FY04</b>	<b>FY05</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>
Unworked cases as of June 30, 2003	828	175	235	285	299
Cases received in the labs	2386	3,629	3,477	3,625	3,774
Cases worked in the labs	(1267)	(1,142)	(1,200)	(2,352)	(3,780)
Cases outsourced with N.I.J. grants	(130)	(730)	(1,056)		
Cases outsourced with ICJIA grants	(100)	undetermined			
Cases outsourced with additional state funding	(1,542)	(1,697)	(1,171)	(1,259)	
Total number of pending cases 30 days or less	n/a	235	285	299	293
Total number of backlog cases over 30 days	175	0	0	0	0

### **The Future of DNA Testing**

The FY06 budget request will include hiring eight additional forensic scientists, one training coordinator and one research coordinator. In order to maintain processing capacity at the 30 day turnaround, Forensic Scientist vacancies will need to be filled as they occur. Outsourcing will continue in FY06 with a combination of grant funds and state dollars. By adding new headcount and filling vacancies, the ISP will have a total of 72 Forensic Biology/DNA analysts, 12 evidence technicians and two training coordinators by FY07. If these staffing levels remain constant and adequate funding is provided, cases will be processed in-house without further need for outsourcing.

### **OFFENDER SAMPLE BACKLOG**

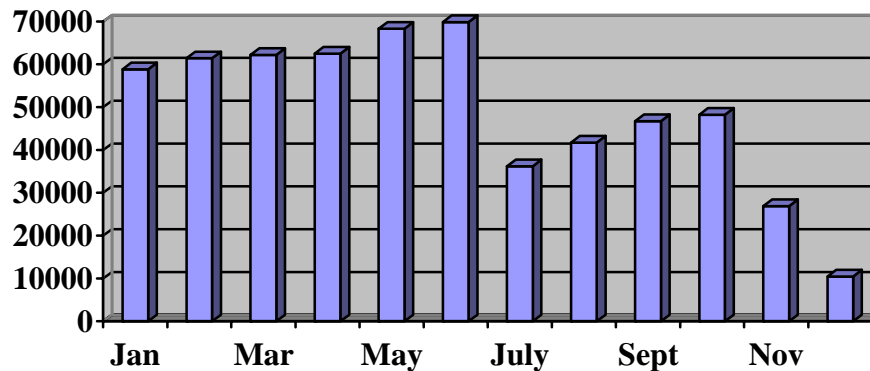
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The COmbined DNA Index System (CODIS) is overseen by the FBI and implemented by the Illinois State Police at the state level. The offender portion of this system contains DNA profiles of individuals convicted of felonies as well as a few other eligible offenses. Samples collected from offenders are submitted to the Indexing Unit of the Springfield Forensic Science Laboratory, where they are analyzed and uploaded to the CODIS database.

A backlog occurs when the number of samples submitted during the month exceeds the laboratory's capacity to analyze or outsource them that month. The following chart illustrates the monthly laboratory backlogs in 2004. In January 2004, there were 58,835 offender samples in the laboratory awaiting analysis. That number increased to 69,859 by the end of June 2004. By December 2004, the backlog decreased to 10,491 samples. This decrease was due to increased resources for sample analysis, both for outsourcing and in-house analysis.



## Monthly DNA Offender Sample Backlogs



The All Felons Legislation was passed in 2002 and resulted in a tremendous increase in offender sample submissions to the ISP forensic laboratory system. In January 2004, the ISP CODIS laboratory switched from blood to buccal swab (swabbing of the inside of the cheek) collection of offender samples. Because offender sample collection was made easier and cheaper, agency compliance appears to have increased which resulted in a higher offender sample submission rate than in previous years.

Several initiatives have been established to address the Offender Sample Backlog. In FY04, training was completed for personnel hired in FY03. Newly trained staff were then assigned to analyze samples in-house and provide samples for outsourcing. In FY04, the ISP CODIS laboratory purchased a computerized system capable of sample tracking, Quality Assurance/Quality Control monitoring, workload assignment tracking, allowing for increased efficiency. The final implementation steps were performed in late 2004. The ISP also received approximately \$1.2M in funding and services from the NIJ as part of the Convicted Offender DNA Backlog Reduction Program.

The ISP has received both state and federal grant funding to address the increase in offender sample submissions. In FY04 and FY05, Governor Blagojevich directed \$4.1M per year in support of the DNA Indexing program. In FY04 (fourth quarter), the ISP was notified of a federal grant award for purchase of additional equipment which will increase the output capacity of the CODIS laboratory and allow the current staff to handle the sample submissions once the backlog is eliminated. In FY05 and FY06, the ISP will continue to explore grant funding and state resources to help eliminate the backlog. During FY06, assuming no changes in staffing, technology, or legislation, the ISP anticipates the CODIS laboratory will be able to keep pace with the influx of offender samples.