



2020

ANNUAL REPORT

MARYLAND STATE POLICE

FORENSIC SCIENCES DIVISION

STATEWIDE DNA DATABASE

REPORT

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STATEWIDE DNA DATABASE ANNUAL REPORT

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Executive Summary

The Statewide DNA Database was established in 1994 with the required collection of DNA samples from offenders convicted of rape and sexual offenses. The pool of qualifying offenders was expanded in 1999 to those convicted of qualifying crimes of violence and then again in 2002 to those convicted of all felonies and two specific misdemeanor crimes as well as attempts of those crimes. The latest expansion, which went into effect on January 1, 2009, includes the collection of DNA samples of those arrested and charged with qualifying crimes of violence, burglary, and attempts of those crimes.

During 2012, the Statewide DNA Database received national attention when the Maryland Court of Appeals found the collection of DNA samples from individuals arrested and charged with qualifying crimes to be unconstitutional. With that ruling, these collections ceased in April 2012; however, Maryland's Attorney General's Office requested and received an emergency stay in July 2012 and collections resumed. The collection of DNA samples from felony arrestees was heard by the U.S. Supreme Court in February 2013 and was found to be constitutional by a 5 to 4 vote.

Also in 2012, the Maryland General Assembly heard bills on the removal of the December 31, 2013 sunset date for the 2009 DNA Database expansion. The sunset was removed and the collection of DNA samples from individuals arrested and charged with qualifying crimes will continue indefinitely.

As part of the requirements of the 2009 expansion of the law, the following annual report for 2020 has been generated to detail total DNA Database expenses (**\$1,658,134.52**) and total funds provided by the State (**\$1,602,241.00**) for DNA purposes. This report also lists demographics of those from which DNA Database samples have been collected and categorizes the outcomes of the investigations aided by the generation of hits from this most recent requirement of the law.

Background and Operations

The establishment of DNA databases emerged with the advent of DNA technology and its application to forensic science. Collected physical evidence now yields the potential to generate DNA profiles, which can be stored and searched utilizing computer software programs. DNA testing has become a powerful tool for linking suspects to crimes and for exonerating the innocent.

Congress authorized the FBI to establish an index of DNA identification records with the passing of the DNA Identification Act of 1994, Public Law 103 322. These DNA identification records were those of convicted felons and DNA profiles from evidence collected in association with the investigation of crimes. The FBI developed software, CODIS (Combined DNA Index System) which is used to manage this DNA data at three separate levels: Local, State and National. The local forensic DNA laboratories analyze case evidence and collect the data in the Local DNA Index System (LDIS), then upload the qualifying DNA profiles to the State DNA Index System (SDIS). State laboratories analyze case evidence and generate DNA profiles from crime scenes for entry into SDIS, as well as analyze the State's database samples from qualifying offenders. The DNA profiles both from casework and from offenders are then forwarded to the National DNA Index System (NDIS). Searches can result in candidate matches between cases or between cases and offenders. For matches that are confirmed, the information is then forwarded to the law enforcement investigators for further pursuance of the case.

In 1994, the State of Maryland followed the Federal lead and passed legislation to establish the Statewide DNA database: Public Safety Article Title 2, Subtitle 5, ACM (prior to 2003 referred to as Article 88B, Section 12A, ACM). This law required the collection of DNA samples from individuals convicted of rape in any degree, 1st-3rd degree sexual offenses, and child sexual abuse.

The list of qualifying convictions was expanded in 1999 to include not only those from 1994 but also convictions for Murder, 1st degree Assault, Robbery and attempts of those violent crimes. Yet another expansion of qualifying crimes occurred in 2002 with the list being expanded to include all felonies and two misdemeanor crimes: 4th degree burglary and breaking/entering a motor vehicle.

The most recent change of the Statewide DNA Database went into effect on January 1, 2009, when the law was expanded to include those arrested and charged with qualifying crimes of violence, 1st-3rd degree burglaries and any attempts of these crimes. Samples collected under this newest revision are not to be analyzed until the arraignment date occurs. Provisions for automatic expungement were also dictated. These restrictions require the tracking of the charged individual through the court system for the assignment of arraignment dates and the final court disposition.

The Maryland Statewide DNA Database receives case evidence DNA profiles from six DNA laboratories: Maryland State Police, Anne Arundel County Police, Baltimore City Police, Baltimore County Police, Montgomery County Police and Prince George's County Police. The case evidence DNA profiles are forwarded for uploading into the State Level of CODIS, which is managed and administered by the Maryland State Police-Forensic Sciences Division (MSP-FSD). The MSP-FSD is also the party responsible for the collection, analysis, and storage of DNA samples collected from convicted offenders and those individuals arrested and charged with a qualifying offense.

In the past, the analysis of convicted offender samples and samples from those arrested and charged with a qualifying offense was outsourced to a commercial DNA typing laboratory for analysis. When outsourcing database samples, MSP-FSD performed in-house technical reviews on all commercial analytical data prior to its acceptance for uploading into CODIS. The year 2011 saw the gradual transfer from commercial outsourcing to internal analysis of the qualified samples. In 2012, the analysis of both Convicted Offender samples and Arrestee/Charged samples was handled as part of the MSP-FSD in-house operations.

In preparation for the 2009 revision of the law, the Governor's Office of Crime Control and Prevention organized and hosted four regional summits to educate and update the law enforcement community as well as the judicial system on their vital responsibilities in enacting this law. MSP-FSD developed and disseminated instructional videos on the collection of DNA samples and the use of the newly designed DNA Collection kits.

In the first year of its implementation (2009), the newly expanded portion of the law resulted in the collection of 11,643 DNA samples from individuals arrested and charged with qualifying crimes. In 2009, a total of 4,213 arrested and charged DNA profiles were uploaded to CODIS and searched. There were 37 matches to arrested and charged DNA profiles reported to law enforcement in 2009.

Collections continued to be successful though the years. To be more specific, the below data for the past five years is a representation of the continued success.

2016 resulted in the collection of 8,974 samples from individuals arrested and charged with qualifying crimes. A total of 3,555 arrested and charged DNA profiles were uploaded to CODIS and searched. There were 143 matches to arrested and charged DNA profiles reported to law enforcement in 2016.

2017 resulted in the collection of 8,032 samples from individuals arrested and charged with qualifying crimes. A total of 3,629 DNA profiles from arrested and charged individuals were uploaded to CODIS and searched. There were 135 matches to arrested and charged DNA profiles reported to law enforcement in 2017.

2018 resulted in the collection of 7,703 samples from individuals arrested and charged with qualifying crimes. A total of 2,608 DNA profiles from arrested and charged individuals were uploaded to CODIS and searched. There were 130 matches to arrested and charged DNA profiles reported to law enforcement in 2018.

2019 resulted in the collection of 7,103 samples from individuals arrested and charged with qualifying crimes. A total of 2,884 DNA profiles from arrested and charged individuals were uploaded to CODIS and searched. There were 130 matches to arrested and charged DNA profiles reported to law enforcement in 2019.

2020, which marks the twelfth year of operation, resulted in the collection of 5,807 samples from individuals arrested and charged with qualifying crimes. A total of 2,741 DNA profiles from arrested and charged individuals were uploaded to CODIS and searched. There were 144 matches to arrested and charged DNA profiles reported to law enforcement in 2020.

In each year, only a portion of samples collected from individuals arrested and charged with qualifying crimes are uploaded to CODIS. Some of the reasons that a sample may not end up in CODIS include:

- duplicate samples are collected
- sample is collected but does not qualify for collection
- sample is collected but a convicted offender sample is already on file
- sample is collected but the individual is not arraigned and analysis cannot begin
- sample is collected and analyzed but the charges do not result in a conviction and the sample is expunged

At the conclusion of 2020, the cumulative number of convicted offender DNA samples in CODIS was 136,161 and the cumulative number of arrested and charged DNA profiles in CODIS was 45,771. As a result, there have been 8,413 cumulative CODIS hits (inclusive of Convicted Offenders, Arrestee/Charged, and Casework hits).

The data contained within this report provides the information required by the Code of Maryland Regulations (COMAR 29.05.01.16). It should be noted, as per the reporting requirements, the Governor's Office of Crime Prevention, Youth, and Victim Services is responsible for collecting and reporting data on crime scene DNA evidence as supplied by local law enforcement and State Police. This information is contained within a separate document provided to the Office of Legislative Audits.

Reporting Requirements

The law states that not later than April 1, 2010, and annually thereafter, the Department of State Police shall compile an annual report to the Governor and to the General Assembly and this report be posted on the website of the Department of State Police not later than April 1 of each year.

The content of the Report is as follows:

- I. Total DNA Database Expenses in 2020
 - a. Costs for scientists and support personnel
 - b. Costs for DNA Collection kits (including transport costs)
 - c. Operational Costs (new hardware, software and maintenance)
 - d. DNA Testing and Analysis Costs (equipment, outsourcing)
- II. Funds provided by the State, by municipality
- III. Individual Data and Analysis (racial demographics of all individuals charged with qualifying crimes upon arrest in designated categories)
- IV. Case-Specific Data Collection and Analysis.

I. Total DNA Database Expenses in 2020

This section presents the expenses incurred in 2020 to operate the Statewide DNA Database System. Following the requirements of the statute, this section is organized under four subsections. Salary and benefit costs are presented in subsection (a) while subsection (b) is for costs related to DNA Collections. Subsections (c) and (d), respectively, present operational costs for the DNA database and testing/analysis costs. Accordingly, the total expenses in 2020 to operate the Statewide DNA Database System were **\$1,658,134.52**

(a) Salary and Fringe Benefits Costs, for scientists and support staff assigned to the State Police Crime Laboratory (MSP-FSD) for DNA Database

In 2020, a total of \$1,328,342.44 was paid in salaries for scientists and support staff who were working on the Statewide DNA Database project. The corresponding fringe benefits cost during this period was \$86,194.64.

Costs for Scientists and Support Staff			
	Scientists (13)	Support Staff (7)	Total (20)
Salary Paid	\$980,199.59	\$348,142.85	\$1,328,342.44
Benefits-FICA	\$74,985.27	\$10,097.18	\$85,082.45
Benefits-Unemployment	\$980.20	\$131.99	\$1,112.19
Total Salary & Fringe Benefit*	\$1,056,165.06	\$358,372.02	\$1,414,537.08

*Scientists and staff handle convicted offender samples and arrestee/charged samples.

(b) DNA Collection Kit Costs, including costs required to transport kits from collection sites to the Crime Laboratory (MSP-FSD)

The total costs of the DNA Collection kits purchased and the postage used for 2020 was \$63,465.00.

Item	Expense
Kits	\$62,500.00
Postage	\$965.00
Total DNA Collection*	\$63,465.00

*Includes costs of collection kits & postage for convicted offender samples & arrestee/charged samples.

(c) DNA Database- Operational Costs

DNA database operational costs include purchasing new hardware, software and maintenance of old and new hardware/software. In 2020, no money was spent to buy new hardware or software for DNA database operations.

(d) DNA Testing and Analysis Costs

DNA testing and analysis costs for 2020 were \$180,132.44. The costs include in-house equipment purchased, associated maintenance of equipment, outsourced testing and in-house analysis.

Item	Expense
Equipment Purchased	\$0.00
Maintenance of Equipment	\$56,690.70
Outsourced Testing	\$0.00
In- House Analysis	\$123,441.74
Total DNA Testing & Analysis*	\$180,132.44

***In-house analysis covers the costs of the arrestee/charged sample analysis only, and the equipment purchased and its maintenance are used for both the convicted offender and arrestee/charged programs. Additional costs as to the in-house analysis of convicted offender samples were in the amount of \$98,249.23.**

II. Funds made Available by the State

The 2019 report mentioned that DNA specific funds in the amount of \$1,602,241.00 were awarded to four forensic laboratories under the Sexual Assault Kit Testing (SAKT) grant. However, it is noteworthy that these funds were not actually awarded until 2020 and should not have been reported in 2019. In addition, while the State was awarded funds under the 2020 Coverdell Forensic Sciences Improvement (CFSI) program, the release of these funds was delayed until 2021 and therefore are not reflected in this report. CFSI funding is normally distributed on an annual basis to forensic laboratories in Maryland to improve the quality and timeliness of forensic services performed in any discipline, including DNA.

Recipient	SAKT Program Funds
Baltimore County Police Department	\$186,450.00
Montgomery County Police Department	\$549,709.00
Maryland State Police	\$669,661.00
Prince George's County Police Department	\$196,421.00
Total	\$1,602,241.00

III. Individual Data and Analysis

This section deals with racial demographics of all individuals charged in 2020 with qualifying crimes upon arrest in designated categories. The information was generated through the MSP Sample Tracking program.

Race	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Asian	65	63	44	33	37	56	60	56	54	52	58	20
African-American	7,092	7,009	6,354	4,108	6,185	5,761	5,927	5,566	4,995	4,782	4,489	3,580
White	4,066	3,985	3,913	2,794	3,523	3,388	3,374	3,176	2,730	2,557	2,313	1,960
Hispanic	328	259	93	54	31	72	61	84	168	219	152	151
Others	17	13	26	10	18	9	18	14	5	13	4	10
Unknown	75	75	98	42	95	87	78	78	80	80	87	86
Total	11,643	11,404	10,528	7,041	9,889	9,373	9,518	8,974	8,032	7,703	7,103	5,807

IV. Case-Specific Data and Analysis

This information was provided by the primary investigating agency that received the DNA hit. Due to an audit and reconciliation of data in early 2021, some values may be different from those previously reported.

Over the past 5 years, there have been 1,925 Convicted Offender and Arrestee/Charged Offender DNA hits. Of those, 47% resulted in investigations, 12% resulted in convictions, 6% resulted in convictions of individuals who were not already incarcerated, and 2% resulted in exonerations.

Convicted Offender (CO) DNA Matches (Hits) Resulting in Investigations, Formal Charges, and Convictions (2016 – 2020)

Type of Collection/Analysis	2016	2017	2018	2019	2020
DNA matches (hits)	251	257	227	241	267
Matches (hits) that resulted in the investigation of the individual identified in the match*	146	166	99	118	63
Investigations still ongoing**	39	55	41	65	37
Matches (hits) resulting in formal charges*	79	82	47	46	29
Matches (hits) resulting in convictions*	54	51	30	15	6
The number of cases still pending trial**	3	15	9	23	21
Convicted individuals exonerated by DNA matches in a calendar year	5	11	9	0	4
The number of matches resulting in convictions of individuals who were not already incarcerated*	33	25	21	2	1

** Report reflects end of year statistic, these numbers will increase as more DNA hit investigations are closed.*

*** Report reflects end of year statistics, these numbers will decrease as more DNA hit investigations are closed*

Arrestee/Charged (A) Offender DNA Matches (Hits) Resulting in Investigations, Formal Charges, and Convictions (2016 – 2020)

Type of Collection/Analysis	2016	2017	2018	2019	2020
DNA matches (hits)	143	135	130	130	144
Matches (hits) that resulted in the investigation of the individual identified in the match*	84	89	62	49	32
Investigations still ongoing**	29	31	24	16	17
Matches (hits) resulting in formal charges*	34	38	24	18	9
Matches (hits) resulting in convictions*	22	29	11	5	1
The number of cases still pending trial**	1	6	10	10	8
Convicted individuals exonerated by DNA matches in a calendar year	2	1	3	0	1
The number of matches resulting in convictions of individuals who were not already incarcerated*	20	17	1	1	1

** Report reflects end of year statistics, these numbers will increase as more DNA hit investigations are closed*

*** Report reflects end of year statistics, these numbers will decrease as more DNA hit investigations are closed.*

Breakdown of 2020 matches (hits) to a Convicted Offender sample or Arrestee/Charged sample that resulted in convictions* (n=7) and the prior offenses of the associated individual(s):

Crime Associated with Conviction	Prior Offenses	Number of Convicted Offenders	Number of Arrestees/Charged
Burglary	Attempted 2 nd Degree Rape; Battery; Burglary; CDS Possession; Destruction of Property; Escape; Illegal Possession of Ammunition; Credit Card Misuse; Firearm-Possession Convicted Felon; Resisting Arrest; Robbery; Theft under \$1,000; Unauthorized Use of a Motor Vehicle; Violation of Probation	4	1
Sex Offenses	Assault And Battery; Assault Second Degree; Assault with Intent to Murder; Assault-2 nd Degree; Carry Concealed Weapon; CDS Manufacturing/Distribution-Narcotics; CDS Possession; CDS: Distribution with Firearm; Conspiracy-Robbery; Deadly Weapon-Conceal; Deadly Weapon-Intent to Injure; Destruction of Property Over \$300; Disorderly Conduct; False Imprisonment; False Statement to Peace Officer; Firearm-Possession with Felony Conviction; Forgery-Private Documents; Handgun on Person; Harassment-A Course of Conduct; Intimidate/Influence Juror; Malicious Destruction of Property Value \$300+; Peace Order-Fail To Comply; Rape; Reckless Endangerment; Regulated Firearm-Illegal Possession; Resisting Arrest; Robbery; School Trespassing on Grounds; Theft under \$1,000; Unauthorized Use of Livestock Motor Vehicle; Use A Handgun; Uttering False Document; Violate Exparte/Protection Order	2	0
	Total	6	1

** The number of convictions in 2020 were likely impacted by the closing of courts for much of the year due to the COVID-19 pandemic.*