



**2019**

**ANNUAL REPORT**

**MARYLAND STATE POLICE**

**FORENSIC SCIENCES DIVISION**

**STATEWIDE DNA DATABASE**

**REPORT**

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# TABLE OF CONTENTS

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## STATEWIDE DNA DATABASE ANNUAL REPORT

Table of Contents .....	<i>i</i>
Executive Summary .....	<i>ii</i>
Background and Operations.....	1-5
Reporting Requirements.....	6
I. Total DNA Database Expenses in 2019.....	7-8
a. Costs for Scientists and Support Personnel .....	7
b. Costs for DNA Collection Kits .....	7
c. Operational Costs .....	8
d. DNA Testing and Analysis Costs .....	8
II. Funds provided by the State per Municipality .....	9
III. Individual Data and Analysis.....	10
IV. Case-Specific Data Collection and Analysis .....	11-12

## 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.

As part of the requirements of the expanded portion of the law, the following annual report has been generated to detail total expenses (**\$1,953,360.54 for 2019**), list demographics of those from which samples have been collected, and categorize the outcomes of the investigations aided by the generation of hits from this new requirement of the law.

## **Background and Operations**

The establishment of DNA databases emerged with the advent of DNA technology and its application to forensic sciences. 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 evidence, generate DNA profiles from crime scenes for entry into SDIS, and analyze 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, 1<sup>st</sup>-3<sup>rd</sup> 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, 1<sup>st</sup> 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: 4<sup>th</sup> 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, 1<sup>st</sup>-3<sup>rd</sup> degree burglaries and any attempts of these crimes. Samples collected under this new 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 DNA evidence 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 the 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.

The successful implementation of the new procedures required for the 2009 revision was directly due to the cooperative efforts of several groups. The Department of State Police has been fortunate to be partnered with the Governor's Office of Crime Control and Prevention (GOCCP), State Attorney's Offices, the Department of Public Safety and Correctional Services Information Technology and Communications Division, the Department of Corrections, the Department of Parole and Probation, Sheriff's Offices, Detention Centers, and the Judiciary. Combined efforts have gone to oversee the collection of samples, the transfer of court data, and verification that all individuals eligible for collections have had a sample taken and that those samples no longer eligible have been expunged.

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.

The second year of operation (2010) resulted in the collection of 11,404 DNA samples from individuals arrested and charged with qualifying crimes. In 2010, a total of 6,030 arrested and charged DNA profiles were uploaded to CODIS and searched. There were 60 matches to arrested and charged DNA profiles reported to law enforcement in 2010.

The third year of operation (2011) resulted in the collection of 10,528 DNA samples from individuals arrested and charged with qualifying crimes. In 2011, a total of 4,327 arrested and charged DNA profiles were uploaded to CODIS and searched. There were 78 matches to arrested and charged DNA profiles reported to law enforcement in 2011.

The fourth year of operation (2012) resulted in the collection of 7,041 samples from individuals arrested and charged with qualifying crimes. In 2012, a total of 3,174 arrested and charged DNA profiles were uploaded to CODIS and searched. There were 45 matches to arrested and charged DNA profiles reported to law enforcement in 2012.

The fifth year of operation (2013) resulted in the collection of 9,889 samples from individuals arrested and charged with qualifying crimes. In 2013, a total of 4,180 arrested and charged DNA

profiles were uploaded to CODIS and searched. There were 88 matches to arrested and charged DNA profiles reported to law enforcement in 2013.

The sixth year of operation (2014) resulted in the collection of 9,373 samples from individuals arrested and charged with qualifying crimes. In 2014, a total of 4,430 arrested and charged DNA profiles were uploaded to CODIS and searched. There were 104 matches to arrested and charged DNA profiles reported to law enforcement in 2014.

The seventh year of operation (2015) resulted in the collection of 9,518 samples from individuals arrested and charged with qualifying crimes. In 2015, a total of 4,000 arrested and charged DNA profiles were uploaded to CODIS and searched. There were 139 matches to arrested and charged DNA profiles reported to law enforcement in 2015.

The eighth year of operation (2016) resulted in the collection of 8,974 samples from individuals arrested and charged with qualifying crimes. In 2016, a total of 3,555 arrested and charged DNA profiles were uploaded to CODIS and searched. There were 145 matches to arrested and charged DNA profiles reported to law enforcement in 2016.

The ninth year of operation (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 133 matches to arrested and charged DNA profiles reported to law enforcement in 2017.

The tenth year of operation (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 128 matches to arrested and charged DNA profiles reported to law enforcement in 2018.

The eleventh year of operation (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.

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 2019, the cumulative number of convicted offender DNA samples in CODIS was 133,876 and the cumulative number of arrested and charged DNA profiles in CODIS was 43,030. As a result, there have been 7,534 cumulative CODIS hits (inclusive of convicted offender, 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 Control and Prevention 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 2019
  - 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 2019**

This section presents the expenses incurred in 2019 to operate the Statewide DNA Database System. Following the requirements of the bill, this section is organized under four subsections. Salary and benefit cost is presented in subsection (a) while subsection (b) is for costs related to DNA Collection. Subsections (c) and (d), respectively, present operational costs for the DNA database and testing/analysis costs. Accordingly, the total expenses in 2019 to operate the Statewide DNA Database System were **\$1,953,360.54**

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

In 2019, a total of \$1,339,559.16 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 \$99,814.86.

<b>Costs for Scientists and Support Staff</b>			
	Scientists (14)	Support Staff (6)	Total (20)
Salary Paid	\$1,071,957.36	\$267,601.80	\$1,339,559.16
Benefits-FICA	\$82,004.74	\$16,522.18	\$98,526.92
Benefits-Unemployment	\$1,071.96	\$215.98	\$1,287.94
<b>Total Salary &amp; Fringe Benefit*</b>	<b>\$1,155,034.06</b>	<b>\$284,339.96</b>	<b>\$1,439,374.02</b>

\*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 2019 was \$78,445.00.

<b>Item</b>	<b>Expense</b>
Kits	\$62,500.00
Postage	\$15,945.00
<b>Total DNA Collection*</b>	<b>\$78,445.00</b>

\*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 2019, \$121,645.95 was spent to buy software for DNA database operations.

<b>Item</b>	<b>Expense</b>
Hardware	\$0.00
Software	\$121,645.95
Maintenance	\$0.00
<b>Total DNA Database Operational Cost*</b>	<b>\$121,645.95</b>

\* Operational Costs cover purchases for convicted offender and arrestee/charged programs.

**(d) DNA Testing and Analysis Costs**

DNA testing and analysis costs for 2019 were \$313,895.57. The costs include in-house equipment purchased, associated maintenance of equipment, outsourced testing and in-house analysis.

<b>Item</b>	<b>Expense</b>
Equipment Purchased	\$3,236.83
Maintenance of Equipment	\$71,328.38
Outsourced Testing	\$0.00
In- House Analysis	\$239,330.36
<b>Total DNA Testing &amp; Analysis*</b>	<b>\$313,895.57</b>

\*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 \$218,952.24.

## II. Funds made Available by the State

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.

<b>Recipient</b>	<b>Coverdell Grant Program Funds</b>
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
<b>Total</b>	<b>\$1,602,241.00</b>

Seven forensic laboratories were awarded \$358,952.00 under the 2019 Coverdell Forensic Science Improvement (CFSI) award, of which \$333,302.00 was spent in 2019. CFSI funding can be used to improve the quality and timeliness of forensic services for any discipline.

<b>Recipient</b>	<b>Coverdell Grant Program Funds</b>
Anne Arundel County Police Department	\$13,230.00
Montgomery County Police Department	\$21,676.00
Baltimore County Police Department	\$24,000.00
Baltimore Police Department	\$23,763.00
Hagerstown Police Department	\$18,159.00
Office of the Chief Medical Examiner	\$23,250.00
Maryland State Police	\$209,224.00
<b>Total</b>	<b>\$333,302.00</b>

### III. Individual Data and Analysis

This section deals with racial demographics of all individuals charged in 2019 with qualifying crimes upon arrest in designated categories. The information was generated through the MSP Sample Tracking program.

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

#### 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 2020, some values are different from those previously reported.

##### **Convicted Offender DNA Matches (Hits) Resulting in Investigations, Formal Charges, Convictions, and Exonerations (2013 – 2019)**

	2013	2014	2015	2016	2017	2018	2019
DNA matches (hits)	197	231	274	242	268	259	224
Matches (hits) that resulted in the investigation of the individual identified in the match*	128	154	168	147	167	99	113
Investigations still ongoing**	13	18	45	38	55	42	71
Matches (hits) resulting in formal charges*	70	68	83	80	83	45	41
Matches (hits) resulting in convictions*	53	44	57	55	51	28	13
The number of cases still pending trial**	0	4	3	3	16	12	24
Convicted individuals exonerated by DNA matches in a calendar year	11	5	12	6	11	9	0
The number of matches resulting in convictions of individuals who were not already incarcerated*	29	21	27	32	26	21	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

##### **Arrestee/Charged DNA Matches (Hits) Resulting in Investigations, Formal Charges, Convictions, and Exonerations (2013 – 2019)**

	2013	2014	2015	2016	2017	2018	2019
DNA matches (hits)	88	104	139	145	133	128	130
Matches (hits) that resulted in the investigation of the individual identified in the match*	45	60	83	84	89	63	48
Investigations still ongoing**	7	8	23	30	31	24	18
Matches (hits) resulting in formal charges*	28	30	38	34	39	24	16
Matches (hits) resulting in convictions*	24	24	33	23	30	11	5
The number of cases still pending trial**	0	0	1	1	6	11	10
Convicted individuals exonerated by DNA matches in a calendar year	0	0	2	2	1	3	2
The number of matches resulting in convictions of individuals who were not already incarcerated*	14	14	22	20	17	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 2019 matches (hits) to a convicted offender sample or charged/arrestee sample that resulted in convictions (n=18) and the prior offenses of the associated individual:

<b>Crime Associated with Conviction</b>	<b>Prior Offenses</b>	<b>Number of Convicted Offenders</b>	<b>Number of Arrestees/Charged</b>
Burglary	Assault-2 <sup>nd</sup> Degree; Burglary/2 <sup>nd</sup> Degree/General; Car Theft; CDS: Possession; Destruction of Property Over \$500; Disorderly Conduct; Failure to Obey Lawful Order; Grand Theft; Motor Vehicle/Unlawful Taking; Resisting Arrest; 2 <sup>nd</sup> degree Assault; Theft: \$1,500 To Under \$25,000; Trespass-Posted Property; Unauthorized Removal Of Property; Unauthorized Use Of Motor Vehicle	2	2
Robbery	Assault 1st Degree; Attempted Escape; Burglary; CDS Possession; CDS With Intent to Distribute; Destruction of Property; False Imprisonment; Firearm Use-Felony; Grand Theft; Participate in a criminal gang; Reckless Endangerment; Robbery with a Deadly Weapon; Rogue/Vagabond; Trespass; Use of a handgun; Violation of Ex-Parte; Violation of Probation	4	1
Sex Offenses	1 <sup>st</sup> Degree Rape; 1 <sup>st</sup> Degree Sex Offense; 2 <sup>nd</sup> Degree Rape; 2 <sup>nd</sup> Degree Sex Offense; Armed Robbery; Assault 1 <sup>st</sup> Degree; Assault 2 <sup>nd</sup> Degree; Assault And Battery; Assault 2 <sup>nd</sup> /DOC Employee; Camera-Private Residence; CDS: Possession with Intent Distribute: Narcotics; Conspiracy-Armed Robbery; Electronic Mail Harassment; Escape 1 <sup>st</sup> Degree; False Imprisonment; Handgun Use/Felony/Violent Crime; Interception Of Communication; Intimidate/Influence Juror-Felony; Kidnapping-Adult; Malicious Destruction Property/Value - \$500; Possession Contraband-Place Of Confinement; Rape 1 <sup>st</sup> Degree: Suffocate Etc; Rape 1 <sup>st</sup> Degree; Reckless Endangerment; Stalking; Telephone Misuse: Repeat Calls; Theft: Less \$1,000 Value; Trespass-Posted Property	6	1
Theft	Burglary/1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> , 4 <sup>th</sup> degrees; CDS-Distribute; CDS-Unlawful Manufacture Etc; CDS-Unlawful Possession; Distribution Of PCP; Malicious Destruction of Property; Theft; Violation of Probation	1	1
	<b>Total</b>	13	5