



2021

ANNUAL REPORT

MARYLAND STATE POLICE

FORENSIC SCIENCES DIVISION

STATEWIDE DNA DATABASE

REPORT

April 2022

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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.

As part of the requirements of the expanded portion of the law, the following annual report has been generated to detail total expenses (**\$1,941,247.21 in 2021**), 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, 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 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.

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 through 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 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.

2021, which marks the thirteenth year of operation, resulted in the collection of 6,865 samples from individuals arrested and charged with qualifying crimes. A total of 3,374 DNA profiles from arrested and charged individuals were uploaded to CODIS and searched. There were 141 matches to arrested and charged DNA profiles reported to law enforcement in 2021.

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 2021, the cumulative number of convicted offender DNA samples in CODIS was 138,816 and the cumulative number of arrested and charged DNA profiles in CODIS was 49,145. As a result, there have been 9,343 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 2021
 - 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 2021

This section presents the expenses incurred in 2021 to operate the Statewide DNA Database System. Following the requirements of the bill, 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 Collection. Subsections (c) and (d), respectively, present operational costs for the DNA database and testing/analysis costs. Accordingly, the total expenses in 2021 to operate the Statewide DNA Database System were **\$1,941,247.21**

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

In 2021, a total of \$1,453,023.23 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 \$112,612.02.

Costs for Scientists and Support Staff			
	Scientists (13)	Support Staff (7)	Total (20)
Salary Paid	\$1,028,293.59	\$424,729.64	\$1,453,023.23
Benefits-FICA	\$78,667.00	\$32,492.00	\$111,159.00
Benefits-Unemployment	\$1,028.29	\$424.73	\$1,453.02
Total Salary & Fringe Benefit*	\$1,107,988.88	\$457,646.37	\$1,565,635.25

*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 2021 was \$78,545.00.

Item	Expense
Kits	\$62,500.00
Postage	\$16,045.00
Total DNA Collection*	\$78,545.00

*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 2021, no money was spent to buy software for DNA database operations.

(d) DNA Testing and Analysis Costs

DNA testing and analysis costs for 2021 were \$297,066.96. The costs include in-house equipment purchased, associated maintenance of equipment, outsourced testing and in-house analysis.

Item	Expense
Equipment Purchased	\$100,546.05
Maintenance of Equipment	\$84,104.45
Outsourced Testing	\$0.00
In- House Analysis	\$112,416.46
Total DNA Testing & Analysis*	\$297,066.96

*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 for in-house analysis of convicted offender samples were \$81,586.17.

II. Funds made Available by the State

Coverdell awards were made in 2021 as shown below.

Recipient	Coverdell Grant Program Funds
Anne Arundel County Police Department	\$38,916.00
Baltimore City Police Department	\$38,916.00
Baltimore County Police Department	\$33,540.00
Hagerstown Police Department	\$38,916.00
Maryland State Police	\$38,000.00
Montgomery County Police Department	\$51,771.00
Total	\$240,059.00

III. Individual Data and Analysis

This section shows the racial demographics of all individuals charged over the past 11 years with qualifying crimes upon arrest in designated categories. The information was generated through the MSP Sample Tracking program.

Race	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Asian	44	33	37	56	60	56	54	52	58	20	56
African-American	6,354	4,108	6,185	5,761	5,927	5,566	4,995	4,782	4,489	3,580	4,258
White	3,913	2,794	3,523	3,388	3,374	3,176	2,730	2,557	2,313	1,960	2,280
Hispanic	93	54	31	72	61	84	168	219	152	151	153
Others	26	10	18	9	18	14	5	13	4	10	13
Unknown	98	42	95	87	78	78	80	80	87	86	105
Total	10,528	7,041	9,889	9,373	9,518	8,974	8,032	7,703	7,103	5,807	6,865

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 1,899 Convicted Offender and Arrestee/Charged Offender DNA hits. Of those, 44% resulted in investigations, 9% resulted in convictions, 4% resulted in convictions of individuals who were not already incarcerated, and 1% resulted in exonerations.

The number of Convicted offender (CO) DNA Matches (Hits) Resulting in Investigations, Formal Charges, and Convictions (2017 – 2021)

Type of Collection/Analysis	2017	2018	2019	2020	2021
DNA matches (hits)	257	227	241	267	232
Matches (hits) that resulted in the investigation of the individual identified in the match*	159	113	116	84	94
Investigations still ongoing**	39	40	63	41	56
Matches (hits) resulting in formal charges*	76	55	50	34	19
Matches (hits) resulting in convictions*	49	35	18	9	6
The number of cases still pending trial**	9	7	22	25	14
Convicted individuals exonerated by DNA matches in a calendar year	5	3	0	4	0
The number of matches resulting in convictions of individuals who were not already incarcerated*	28	20	4	1	2

** 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*

The number of Charged/Arrestee offender DNA Matches (Hits) Resulting in Investigations, Formal Charges, and Convictions (2017 – 2021)

Type of Collection/Analysis	2017	2018	2019	2020	2021
DNA matches (hits)	135	130	130	145	135
Matches (hits) that resulted in the investigation of the individual identified in the match*	89	62	57	32	36
Investigations still ongoing**	30	23	17	17	18
Matches (hits) resulting in formal charges*	38	24	19	9	12
Matches (hits) resulting in convictions*	30	12	8	1	0
The number of cases still pending trial**	6	9	7	8	8
Convicted individuals exonerated by DNA matches in a calendar year	1	3	0	1	0
The number of matches resulting in convictions of individuals who were not already incarcerated*	19	2	1	3	0

** 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 2021 matches (hits) to a convicted offender sample or charged/arrestee sample that resulted in convictions and the prior offenses of the associated individual(s):

Crime Associated with Conviction *	Prior Offenses	Number of Convicted Offenders	Number of Arrestees/Charged
Burglary	Armed Robbery; Assault; Attempted 1 st /2 nd Degree Murder; Burglary; CDS Possession/Distribution; Firearm-possession convicted felon; Malicious Destruction of Property; Resisting Arrest; Stalking; Theft; Violation of Probation	3	0
Homicide	Armed robbery; Assault 1 st /2 nd Degree; Burglary; CDS Possession; Deadly Weapon with Intent; Handgun on Person; Handgun commission of Crime; Resisting Arrest; Robbery; Theft; Violation of Probation	1	0
Sex Offenses	Abduct Child/Relative; Assault 1 st /2 nd degree; Burglary; CDS Possession; False Imprisonment; Handgun in vehicle; Handgun on person; Malicious Destruction of Property; Theft: Violation Ex Parte	2	0
	Total	6	0

** The number of convictions in 2021 were likely impacted by the courts closing for a portion of the year due to COVID-19*