



MICHIGAN

OFFICE OF THE AUDITOR GENERAL

AUDIT REPORT

PERFORMANCE AUDIT
OF THE

FORENSIC SCIENCE DIVISION

MICHIGAN DEPARTMENT OF STATE POLICE

January 2015



Doug A. Ringler, CPA, CIA
AUDITOR GENERAL

The auditor general shall conduct post audits of financial transactions and accounts of the state and of all branches, departments, offices, boards, commissions, agencies, authorities and institutions of the state established by this constitution or by law, and performance post audits thereof.

– Article IV, Section 53 of the Michigan Constitution

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Report Summary

Performance Audit

Forensic Science Division

Michigan Department of State Police

Report Number:
551-0160-14

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The Forensic Science Division's (FSD's) mission is to enhance public safety by providing the highest standard of forensic science services and investigative support to the criminal justice community. FSD provides forensic science services through eight regional forensic laboratories in biology, controlled substances, firearms and tool mark, latent print, trace evidence, questioned documents, and toxicology. FSD also provides crime scene processing and expert witness testimony.

Audit Objective			Audit Conclusion
Objective 1: To assess the effectiveness of FSD's efforts to test evidence in a timely manner.			Effective
Findings Related to This Audit Objective	Material Condition	Reportable Condition	Agency Preliminary Response
None reported.	Not applicable	Not applicable	Not applicable

Audit Objective			Audit Conclusion
Objective 2: To assess the effectiveness of FSD's efforts to maintain the integrity of evidence received for testing.			Effective
Findings Related to This Audit Objective	Material Condition	Reportable Condition	Agency Preliminary Response
None reported.	Not applicable	Not applicable	Not applicable

Audit Objective		Audit Conclusion	
Objective 3: To assess the efficiency of FSD's utilization of resources.		Efficient	
Findings Related to This Audit Objective	Material Condition	Reportable Condition	Agency Preliminary Response
None reported.	Not applicable	Not applicable	Not applicable

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Doug A. Ringler, CPA, CIA
Auditor General

January 29, 2015

Colonel Kriste Kibbey Etue, Director
Michigan Department of State Police
333 South Grand Avenue
Lansing, Michigan

Dear Colonel Etue:

This is our report on the performance audit of the Forensic Science Division, Michigan Department of State Police.

This report contains our report summary; a description of agency; our audit objectives, scope, and methodology and prior audit follow-up; comments; two exhibits, presented as supplemental information; and a glossary of abbreviations and terms.

We appreciate the courtesy and cooperation extended to us during this audit.

Sincerely,

Doug Ringler
Auditor General

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Description of Agency

The Forensic Science Division's (FSD's) mission* is to enhance public safety by providing the highest standard of forensic science services and investigative support to the criminal justice community.

FSD provides forensic science services, upon request, to law enforcement agencies within the State of Michigan, including local police departments, State police posts and district offices, county sheriff departments, local fire departments, and county prosecutor offices. Also, FSD personnel respond to crime scenes and provide expert witness* testimony regarding the evidence and procedures used during the forensic tests.

FSD units offer the following services through eight regional forensic laboratories* located in Bridgeport, Detroit, Grand Rapids, Grayling, Lansing, Marquette, Northville, and Sterling Heights; however, not all services are available at every location:

- a. Biology Unit: Analyzes evidence submitted for the possible presence of body fluids and, if identified, tests body fluids for DNA*.
- b. Controlled Substances Unit: Identifies unknown substances that are suspected of being controlled substances, as dictated by the Federal Controlled Substances Act.
- c. Firearms and Tool Mark Unit: Examines firearms, fired cartridge cases, fired bullets, open shooting cases, distance determinations, and tool marks.
- d. Latent Print Unit: Searches for fingerprints using the advanced technology of the Automated Fingerprint Identification System.
- e. Trace Evidence Unit: Analyzes materials, such as paint, glass, fibers, fire debris, explosive residue, and automobile headlamps, and compares and physically matches footwear and tire tracks.
- f. Questioned Documents Unit: Examines handwriting, handprinting, obliterations, alterations, impressed writing, typewriting, inks, and paper.
- g. Toxicology Unit: Analyzes blood and urine for the presence of beverage alcohol and other drugs* of abuse.

* See glossary at end of report for definition.

FSD uses the Forensic Advantage software as its case management system to document the evidence analyzed, the conclusions reached, and the reports issued to the local agency requesting the laboratory evaluation.

During the period October 1, 2012 through September 30, 2014, FSD personnel completed 170,214 forensic tests, provided expert witness testimony on 1,605 court cases, and responded to 446 crime scenes.

FSD has maintained American Society of Crime Laboratory Directors Laboratory Accreditation Board* (ASCLD/LAB) accreditation since 1984. FSD's ASCLD/LAB accreditation was most recently renewed in July 2012. This accreditation is fundamental in ensuring the credibility of forensic science services.

FSD employed 265 scientists, technicians, managers, and support personnel as of September 30, 2014. During the period October 1, 2012 through September 30, 2014, FSD annually expended \$42 million (54% General Fund/general purpose, 34% restricted, and 12% federal funding) on operations and activities.

** See glossary at end of report for definition.*

Audit Objectives, Scope, and Methodology and Prior Audit Follow-Up

Audit Objectives

Our performance audit* of the Forensic Science Division (FSD), Michigan Department of State Police (MSP), had the following objectives:

1. To assess the effectiveness* of FSD's efforts to test evidence in a timely manner.
2. To assess the effectiveness of FSD's efforts to maintain the integrity of evidence received for testing.
3. To assess the efficiency* of FSD's utilization of resources.

Audit Scope

Our audit scope was to examine records and processes related to the Forensic Science Division. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our conclusions based on our audit objectives. Our audit procedures, which included a preliminary survey, audit fieldwork, report preparation, and quality assurance, generally covered the period October 1, 2012 through September 30, 2014.

Our audit report includes supplemental information presented as Exhibits 1 and 2. Our audit was not directed toward expressing an opinion on this information.

Audit Methodology

We conducted a preliminary survey of FSD's operations to formulate a basis for defining the audit objectives and scope. During our preliminary survey, we:

- Reviewed applicable laws, policies, and procedures.
- Interviewed FSD personnel to obtain an understanding of the processes and procedures used when providing forensic science services.
- Observed FSD personnel performing selected processing functions.

* See glossary at end of report for definition.

To accomplish our first audit objective, we:

- Identified key State laws regarding evidence testing turnaround times.
- Reviewed FSD's methodology for calculating evidence testing turnaround times.
- Compared FSD's methodology with national standards for calculating evidence testing turnaround times.
- Calculated FSD's evidence testing turnaround times for fiscal years 2013 and 2014 and compared our calculations to the applicable legislative requirements.

To accomplish our second audit objective, we:

- Visited 4 of the 8 FSD laboratories and completed walk-throughs of laboratory processes for receiving and storing evidence from local agencies.
- Reviewed storage and inventory policies for evidence received.
- Judgmentally selected 58 of approximately 16,000 items submitted for evidence testing that were on hand as of the dates of our on-site visits to the 4 selected laboratory locations during August, September, and October 2014. Also, we verified that evidence was stored in a safe and secure area and that information recorded in FSD's Forensic Advantage case management system was accurate.
- Judgmentally selected 59 of 133,833 items submitted for evidence testing during the period October 1, 2012 through July 31, 2014 and verified the chain of custody to ensure that the handling of evidence and access to evidence were proper.
- Judgmentally selected 23 of the 265 FSD personnel to verify that proper security access was assigned to each individual.

To accomplish our third audit objective, we:

- Met with key FSD personnel to obtain an understanding of the minimum performance standards required annually for each service.
- Compared FSD's minimum performance standards to national measurements.
- Analyzed reports of forensic science tests completed by discipline and compared these results to FSD's minimum performance standards.

- Reviewed testing instrumentation reports to determine how often FSD's instruments were being utilized for testing and whether FSD provided a sufficient amount of instruments to its personnel for testing.
- Held discussions with key FSD personnel regarding how FSD ensures that the space at each laboratory is fully utilized.
- Visited 4 of the 8 FSD laboratories to review space utilization.

When selecting activities or programs for audit, we direct our efforts based on risk and opportunities to improve the operations of State government. Consequently, we prepare our performance audit reports on an exception basis.

Prior Audit Follow-Up

We released our prior performance audit of the Forensic Science Division, Michigan Department of State Police (55-160-02), in October 2003. Our prior audit contained one recommendation related to the completeness and effectiveness of the Combined DNA Index System* (CODIS). We did not follow up the prior audit recommendation as CODIS is the responsibility of MSP's Biometrics and Identification Division and not within the scope of the current audit of FSD.

** See glossary at end of report for definition.*

COMMENTS

EFFECTIVENESS OF EFFORTS TO TEST EVIDENCE IN A TIMELY MANNER

COMMENT

Background: Act 200, P.A. 2012, required the Michigan Department of State Police (MSP) to maintain the staffing and resources necessary to provide forensic evidence services with an average turnaround time of 82 days, assuming an annual caseload volume commensurate with that received in fiscal year 2010.

Also, Act 59, P.A. 2013, required MSP to maintain the staffing and resources necessary to provide forensic evidence services with an average turnaround time of 55 days, assuming an annual caseload volume commensurate with that received in fiscal year 2011.

Audit Objective: To assess the effectiveness of the Forensic Science Division's (FSD's) efforts to test evidence in a timely manner.

Audit Conclusion: Effective.

Factors leading to this conclusion included:

- FSD's evidence testing turnaround times complied with the 82-day and 55-day legislative requirements for fiscal year 2013 and fiscal year 2014, respectively (see Exhibit 1).
- FSD's overall backlog of evidence cases decreased by 59% from fiscal year 2013 to fiscal year 2014 (see Exhibit 2).
- FSD's methodology for calculating evidence testing turnaround times was reasonable and comparable with national standards.
- Our audit report does not include any findings related to this audit objective.

EFFECTIVENESS OF EFFORTS TO MAINTAIN THE INTEGRITY OF EVIDENCE RECEIVED FOR TESTING

COMMENT

Audit Objective: To assess the effectiveness of FSD's efforts to maintain the integrity of evidence received for testing.

Audit Conclusion: Effective.

Factors leading to this conclusion included:

- FSD stored evidence in safe and secure areas.
- FSD maintained accurate inventory records of evidence received for testing.
- FSD limited access to evidence and laboratories to only necessary personnel.
- Our audit report does not include any findings related to this audit objective.

EFFICIENCY OF UTILIZATION OF RESOURCES

COMMENT

Audit Objective: To assess the efficiency of FSD's utilization of resources.

Audit Conclusion: Efficient.

Factors leading to this conclusion included:

- FSD's completion of forensic science tests met or exceeded the annual minimum performance requirements.
- FSD's annual minimum performance requirements were reasonable and comparable with national measurements.
- FSD's utilization of testing equipment and laboratory space was reasonable.
- Our audit report does not include any findings related to this audit objective.

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SUPPLEMENTAL INFORMATION

FORENSIC SCIENCE DIVISION (FSD)
Michigan Department of State Police

Average Evidence Testing Turnaround Times* by Forensic Science Service
For Fiscal Years 2013 and 2014

Forensic Science Service	Fiscal Year 2013		Fiscal Year 2014	
	Number of Completed Cases**	Average Turnaround Time	Number of Completed Cases**	Average Turnaround Time
Biology	9,495	103	11,576	81
Controlled Substances	24,968	22	25,959	23
Firearms and Tool Mark	4,583	77	6,588	74
Latent Print	7,949	22	7,559	21
Trace Evidence	1,038	66	1,029	67
Questioned Documents	137	145	157	97
Toxicology - Drugs	5,587	206	8,110	159
Toxicology - Blood Alcohol	16,044	13	12,983	6
Total	69,801	50	73,961	49
Legislative average turnaround time requirement		82		55

* Turnaround time is measured in days.

** A completed case could include multiple tests.

Source: The Office of the Auditor General prepared this exhibit based on data obtained from FSD.

FORENSIC SCIENCE DIVISION (FSD)
Michigan Department of State Police

Evidence Case Backlog by Forensic Science Service
As of September 30, 2013 and September 30, 2014

Forensic Science Service	Number of Backlog* Cases					
	As of September 30, 2013			As of September 30, 2014		
	Total	30 Days to 149 Days Old	150 Days and Older	Total	30 Days to 149 Days Old	150 Days and Older
Biology	2,359	1,826	533	988	934	54
Controlled Substances	580	579	1	937	931	6
Firearms and Tool Mark	1,809	1,303	506	444	335	109
Latent Print	154	144	10	94	83	11
Trace Evidence	236	174	62	104	81	23
Questioned Documents	91	54	37	3	3	0
Toxicology	3,420	1,944	1,476	941	919	22
Total	8,649 (a)	6,024 (b)	2,625 (c)	3,511 (a)	3,286 (b)	225 (c)

- (a) Percentage change in total number of backlog cases from September 30, 2013 to September 30, 2014: -59%
- (b) Percentage change in number of backlog cases 30 days to 149 days old from September 30, 2013 to September 30, 2014: -45%
- (c) Percentage change in number of backlog cases 150 days and older from September 30, 2013 to September 30, 2014: -91%

* Backlog is defined as cases open 30 days or more from date of receipt.

Source: The Office of the Auditor General prepared this exhibit based on data obtained from FSD.

GLOSSARY

Glossary of Abbreviations and Terms

American Society of Crime Laboratory Directors Laboratory Accreditation Board (ASCLD/LAB)	The entity responsible for accreditation of crime laboratories which demonstrate that their management, operations, personnel, procedures, equipment, physical plant, security, and health and safety procedures meet established standards.
Combined DNA Index System (CODIS)	A national computer-based system of storing and comparing DNA records.
DNA	deoxyribonucleic acid.
drug	A chemical substance, such as a narcotic or a hallucinogen, that affects the central nervous system, causing changes in behavior and, often, addiction.
effectiveness	Success in achieving mission and goals.
efficiency	Achieving the most outputs and the most outcomes practical with the minimum amount of resources.
expert witness	A person who, by virtue of experience, training, or education, possesses scientific, technical, or other specialized knowledge that will assist in investigating or in preparing for or presenting evidence in a court proceeding.
forensic laboratory	A laboratory that employs one or more full-time scientists whose principal function is the examination of physical evidence for law enforcement agencies in criminal matters and who provide opinion testimony with respect to such physical evidence to the criminal justice system.
FSD	Forensic Science Division.

material condition	A matter that, in the auditor's judgment, is more severe than a reportable condition and could impair the ability of management to operate a program in an effective and efficient manner and/or could adversely affect the judgment of an interested person concerning the effectiveness and efficiency of the program.
mission	The main purpose of a program or an entity or the reason that the program or the entity was established.
MSP	Michigan Department of State Police.
performance audit	An audit that provides findings or conclusions based on an evaluation of sufficient, appropriate evidence against criteria. Performance audits provide objective analysis to assist management and those charged with governance and oversight in using the information to improve program performance and operations, reduce costs, facilitate decision making by parties with responsibility to oversee or initiate corrective action, and contribute to public accountability.
reportable condition	A matter that, in the auditor's judgment, is less severe than a material condition and falls within any of the following categories: an opportunity for improvement within the context of the audit objectives; a deficiency in internal control that is significant within the context of the audit objectives; all instances of fraud; illegal acts unless they are inconsequential within the context of the audit objectives; significant violations of provisions of contracts or grant agreements; and significant abuse that has occurred or is likely to have occurred.

