AUDIT OF COMPLIANCE WITH STANDARDS GOVERNING COMBINED DNA INDEX SYSTEM ACTIVITIES AT THE MICHIGAN STATE POLICE GRAND RAPIDS LABORATORY GRAND RAPIDS, MICHIGAN

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AUDIT OF COMPLIANCE WITH STANDARDS GOVERNING COMBINED DNA INDEX SYSTEM ACTIVITIES AT THE MICHIGAN STATE POLICE GRAND RAPIDS LABORATORY GRAND RAPIDS, MICHIGAN

EXECUTIVE SUMMARY

The Department of Justice, Office of the Inspector General (OIG), Audit Division, has completed an audit of compliance with standards governing Combined DNA Index System (CODIS) activities at the Michigan State Police (MSP) Grand Rapids Laboratory (Laboratory).

Background

The Federal Bureau of Investigation's (FBI) CODIS program combines forensic science and computer technology to provide an investigative tool to federal, state, and local crime laboratories in the United States, as well as those from select international law enforcement agencies. The CODIS program allows these crime laboratories to compare and match DNA profiles electronically to assist law enforcement in solving crimes and identifying missing or unidentified persons.[1] The FBI's CODIS Unit manages CODIS, as well as develops, supports, and provides the program to crime laboratories to foster the exchange and comparison of forensic DNA evidence.

The FBI implemented CODIS as a distributed database with hierarchical levels that enables federal, state, and local crime laboratories to compare DNA profiles electronically. The hierarchy consists of three distinct levels that flow upward from the local level to the state level and then, if allowable, the national level. The National DNA Index System (NDIS), the highest level in the hierarchy, contains DNA profiles uploaded by law enforcement agencies across the United States and is managed by the FBI. NDIS enables the laboratories participating in the CODIS program to electronically compare DNA profiles on a national level. The State DNA Index System (SDIS) is used at the state level to serve as a state's DNA database and contains DNA profiles from local laboratories and state offenders. The Local DNA Index System (LDIS) is used by local laboratories.

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[1] DNA, or deoxyribonucleic acid, is genetic material found in almost all living cells that contains encoded information necessary for building and maintaining life. Approximately 99.9 percent of human DNA is the same for all people. The differences found in the remaining 0.1 percent allow scientists to develop a unique set of DNA identification characteristics (a DNA profile) for an individual by analyzing a specimen containing DNA.

OIG Audit Objectives

Our audit generally covered the period from April 2010 through April 2012.[2] The objectives of our audit were to determine if: (1) the MSP Grand Rapids Laboratory was in compliance with the NDIS participation requirements; (2) the Laboratory was in compliance with the Quality Assurance Standards (QAS) issued by the FBI; and (3) the Laboratory's forensic DNA profiles in CODIS databases were complete, accurate, and allowable for inclusion in NDIS.

Our review determined the following:

- The Laboratory complied with the NDIS participation requirements we reviewed. Specifically, we found that the Laboratory maintained adequate security over its facilities and CODIS servers, submitted the required background information on CODIS users to the FBI, kept records showing CODIS users were properly trained, and was timely in resolving the NDIS matches we reviewed.

- The Laboratory complied with the QAS we reviewed. Specifically, we found that the Laboratory: (1) underwent QAS reviews within designated timeframes; (2) had procedures in place to ensure that access to the Laboratory was controlled and limited to authorized personnel; and (3) followed protocols with regard to amplified samples being maintained in separate rooms from the evidence examination, DNA extraction, and PCR setup areas.

- We reviewed 100 of the 3,649 forensic profiles the Laboratory had uploaded to NDIS as of April 5, 2012. Of the 100 forensic profiles sampled, 8 were unallowable for inclusion in NDIS. The profiles were either missing supporting information to prove they were allowable for upload to NDIS, belonged to the victim, or could not be connected to the crime scene. The Laboratory removed all eight profiles from NDIS. Because all eight unallowable profiles were processed by the Laboratory prior to FBI Guidance issued in 2006, it appears the Laboratory is now following procedures to prevent

[2] In its response to our draft report, the Laboratory commented on the scope of our audit and indicated that the scope should be clarified to indicate that analysis performed in support of our third objective included NDIS specimen entries from 2000 through 2012. When selecting forensic profiles for detailed testing, we utilized a universe of all profiles that were active in NDIS at the time of our audit. Because laboratories are responsible for all profiles maintained at NDIS regardless of when they were uploaded, we consider those profiles to be within the audit scope identified here.

entry of unallowable profiles into NDIS. The remaining 92 profiles we reviewed were complete, accurate, and allowable for inclusion in NDIS.

The results of our audit are discussed in detail in the Findings and Recommendations section of the report. Our audit objectives, scope, and methodology are detailed in Appendix I of the report and the audit criteria are detailed in Appendix II.

We discussed the results of our audit with Laboratory officials and have included their comments in the report as applicable.

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INTRODUCTION

The Department of Justice Office of the Inspector General (OIG), Audit Division, has completed an audit of compliance with standards governing Combined DNA Index System (CODIS) activities at the Michigan State Police (MSP) Grand Rapids Laboratory (Laboratory).

Background

The Federal Bureau of Investigation's (FBI) CODIS provides an investigative tool to federal, state, and local crime laboratories in the United States using forensic science and computer technology. The CODIS program allows these laboratories to compare and match DNA profiles electronically, thereby assisting law enforcement in solving crimes and identifying missing or unidentified persons.[3] The FBI's CODIS Unit manages CODIS and is responsible for its use in fostering the exchange and comparison of forensic DNA evidence.

OIG Audit Objectives

Our audit covered the period from April 2010 through April 2012.[4] The objectives of our audit were to determine if: (1) the MSP Grand Rapids Laboratory was in compliance with the National DNA Index System (NDIS) participation requirements; (2) the Laboratory was in compliance with the Quality Assurance Standards (QAS) issued by the FBI; and (3) the Laboratory's forensic DNA profiles in CODIS databases were complete, accurate, and allowable for inclusion in NDIS. Appendix I contains a detailed description of our audit objectives, scope, and methodology; and Appendix II contains the criteria used to conduct the audit.

Legal Foundation for CODIS

The FBI's CODIS program began as a pilot project in 1990. The DNA Identification Act of 1994 (Act) authorized the FBI to establish a national index of DNA profiles for law enforcement purposes. The Act, along with

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[3] DNA, or deoxyribonucleic acid, is genetic material found in almost all living cells that contains encoded information necessary for building and maintaining life. Approximately 99.9 percent of human DNA is the same for all people. The differences found in the remaining 0.1 percent allow scientists to develop a unique set of DNA identification characteristics (a DNA profile) for an individual by analyzing a specimen containing DNA.

[4] When selecting forensic profiles for detailed testing, we utilized a universe of profiles that were active in NDIS at the time of our audit, which included those uploaded since the inception of the CODIS program at the Grand Rapids Laboratory.

subsequent amendments, has been codified in a federal statute (Statute) providing the legal authority to establish and maintain NDIS.[5]

Allowable DNA Profiles

The Statute authorizes NDIS to contain the DNA identification records of persons convicted of crimes, persons who have been charged in an indictment or information with a crime, and other persons whose DNA samples are collected under applicable legal authorities. Samples voluntarily submitted solely for elimination purposes are not authorized for inclusion in NDIS. The Statute also authorizes NDIS to include analysis of DNA samples recovered from crime scenes or from unidentified human remains, as well as those voluntarily contributed from relatives of missing persons.

Allowable Disclosure of DNA Profiles

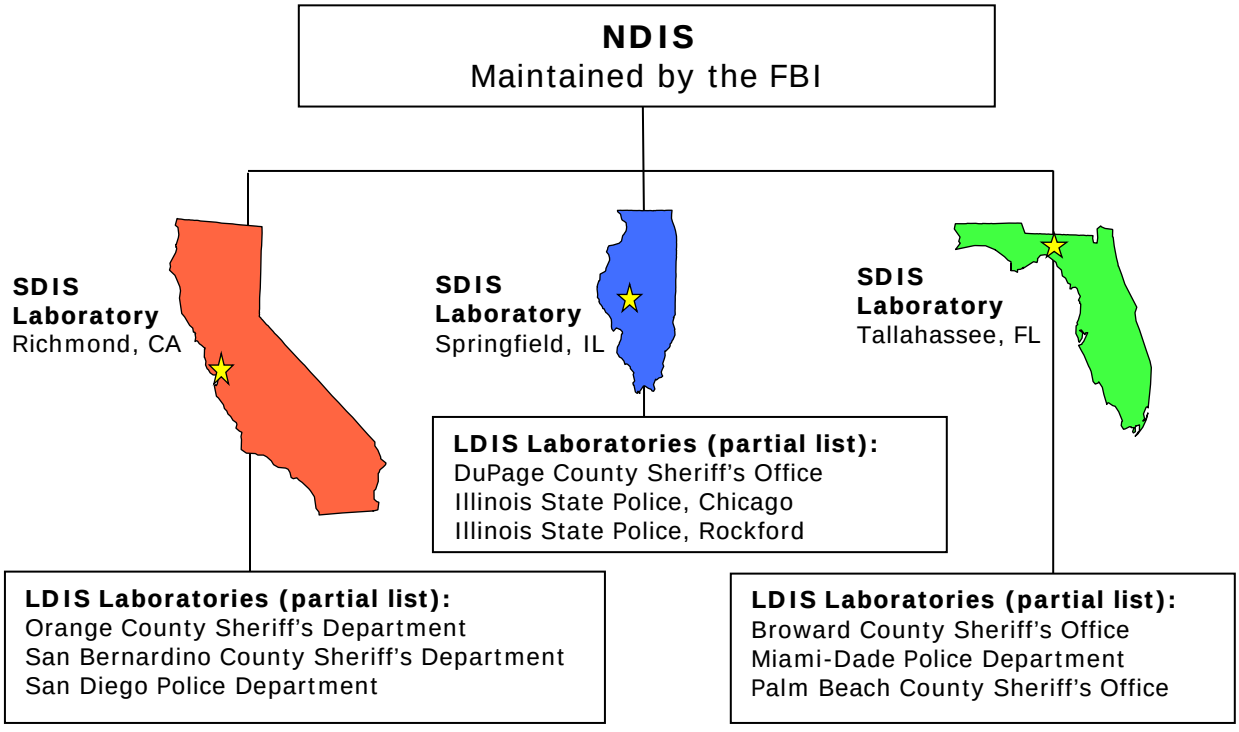
The Statute requires that NDIS only include DNA information that is based on analyses performed by or on behalf of a criminal justice agency – or the U.S. Department of Defense – in accordance with QAS issued by the FBI. The DNA information in the index is authorized to be disclosed only: (1) to criminal justice agencies for law enforcement identification purposes; (2) in judicial proceedings, if otherwise admissible pursuant to applicable statutes or rules; (3) for criminal defense purposes, to a defendant who shall have access to samples and analyses performed in connection with the case in which the defendant is charged; or (4) if personally identifiable information (PII) is removed for a population statistics database, for identification research and protocol development purposes, or for quality control purposes.

[5] 42 U.S.C.A. § 14132 (2006).

CODIS Structure

The FBI implemented CODIS as a distributed database with hierarchical levels that enables federal, state, and local crime laboratories to compare DNA profiles electronically. CODIS consists of a hierarchy of three distinct levels: (1) NDIS, managed by the FBI as the nation's DNA database containing DNA profiles uploaded by participating states; (2) the State DNA Index System (SDIS) which serves as a state's DNA database containing DNA profiles from local laboratories within the state and state offenders; and (3) the Local DNA Index System (LDIS), used by local laboratories. DNA profiles originate at the local level and then flow upward to the state and, if allowable, national level. For example, the local laboratory in the Palm Beach County, Florida, Sheriff's Office sends its profiles to the state laboratory in Tallahassee, which then uploads the profiles to NDIS. Each state participating in CODIS has one designated SDIS laboratory. The SDIS laboratory maintains its own database and is responsible for overseeing NDIS issues for all CODIS-participating laboratories within the state. The graphic below illustrates how the system hierarchy works.

Example of System Hierarchy within CODIS



National DNA Index System

NDIS, the highest level in the CODIS hierarchy, enables laboratories participating in the CODIS program to electronically compare DNA profiles on a national level. NDIS does not contain names or other PII about the profiles. Therefore, matches are resolved through a system of laboratory-to-laboratory contacts. NDIS contains the following eight searchable indices:

- Convicted Offender Index contains profiles generated from persons convicted of qualifying offenses.[6]

- Arrestee Index is comprised of profiles developed from persons who have been arrested, indicted, or charged in an information with a crime.

- Legal Index consists of profiles that are produced from DNA samples collected from persons under other applicable legal authorities.[7]

- Detainee Index contains profiles from non-U.S. persons detained under the authority of the United States and required by law to provide a DNA sample for analysis and entry into NDIS.

- Forensic Index profiles originate from, and are associated with, evidence found at crime scenes.

- Missing Person Index contains known DNA profiles of missing persons and deduced missing persons.

- Unidentified Human (Remains) Index holds profiles from unidentified living individuals and the remains of unidentified deceased individuals.[8]

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[6] The phrase "qualifying offenses" refers to local, state, or federal crimes that require a person to provide a DNA sample in accordance with applicable laws.

[7] An example of a Legal Index profile is one from a person found not guilty by reason of insanity who is required by the relevant state law to provide a DNA sample.

[8] An example of an Unidentified Human (Remains) Index profile from a living person is a profile from a child or other individual who cannot or refuses to identify themselves.

- Relatives of Missing Person Index is comprised of DNA profiles generated from the biological relatives of individuals reported missing.

Given these multiple databases, the main functions of CODIS are to: (1) generate investigative leads that may help in solving crimes, and (2) identify missing and unidentified persons.

The Forensic Index generates investigative leads in CODIS that may help solve crimes. Investigative leads may be generated through matches between the Forensic Index and other indices in the system, including the Convicted Offender, Arrestee, and Legal Indices. These matches may provide investigators with the identity of suspected perpetrators. CODIS also links crime scenes through matches between Forensic Index profiles, potentially identifying serial offenders.

In addition to generating investigative leads, CODIS furthers the objectives of the FBI's National Missing Person DNA Database program through its ability to identify missing and unidentified individuals. For instance, those persons may be identified through matches between the profiles in the Missing Person Index and the Unidentified Human (Remains) Index. In addition, the profiles within the Missing Person and Unidentified Human (Remains) Indices may be vetted against the Forensic, Convicted Offender, Arrestee, Detainee, and Legal Indices to provide investigators with leads in solving missing and unidentified person cases.

State and Local DNA Index Systems

The FBI provides CODIS software free of charge to any state or local law enforcement laboratory performing DNA analysis. Laboratories are able to use the CODIS software to upload profiles to NDIS. However, before a laboratory is allowed to participate at the national level and upload DNA profiles to NDIS, a Memorandum of Understanding (MOU) must be signed between the FBI and the applicable state's SDIS laboratory. The MOU defines the responsibilities of each party, includes a sublicense for the use of CODIS software, and delineates the standards laboratories must meet in order to utilize NDIS. Although officials from LDIS laboratories do not sign an MOU, LDIS laboratories that upload DNA profiles to an SDIS laboratory are required to adhere to the MOU signed by the SDIS laboratory.

States are authorized to upload DNA profiles to NDIS based on local, state, and federal laws, as well as NDIS regulations. However, states or localities may maintain NDIS-restricted profiles in SDIS or LDIS. For instance, a local law may allow for the collection and maintenance of a

victim profile at LDIS but NDIS regulations do not authorize the upload of that profile to the national level.

CODIS becomes more useful as the quantity of DNA profiles in the system increases because the potential for additional leads rises. However, the utility of CODIS relies upon the completeness, accuracy, and quality of profiles that laboratories upload to the system. Incomplete CODIS profiles are those for which the required number of core loci were not tested or do not contain all of the DNA information that resulted from a DNA analysis and may not be searched in NDIS.[9] The probability of a false match among DNA profiles is reduced as the completeness of a profile increases. Inaccurate profiles, which contain incorrect DNA information or an incorrect specimen number, may generate false-positive leads, false-negative comparisons, or lead to the misidentification of a sample. Further, laws and regulations exclude certain types of profiles from being uploaded to CODIS to prevent violations to an individual's privacy and foster the public's confidence in CODIS. Therefore, it is the responsibility of the Laboratory to ensure that it is adhering to the NDIS participation requirements and the profiles uploaded to CODIS are complete, accurate, and allowable for inclusion in NDIS.

Laboratory Information

The audited Laboratory participates in the CODIS program as a Local DNA Index System Laboratory. The Laboratory began using DNA to process criminal cases in 1999 and sent its information to the MSP main laboratory in Lansing, Michigan, to be entered into CODIS. This practice continued until 2001 when the Grand Rapids Laboratory received its own CODIS terminals and equipment. The Laboratory performs analysis on forensic samples, and our audit focused on the analysis of forensic profiles. The Laboratory did not contract with an outside laboratory for the analysis of forensic samples during our review period. We verified that the Laboratory received its last accreditation by the American Society of Crime Laboratory Directors (ASCLD) in 2006 and is reviewed every 5 years. In December 2011, the lab was reviewed for re-accreditation and the report had no findings of non-compliance. However, that review had not been closed out at the time of our fieldwork.

[9] A "locus" is a specific location on a chromosome. The plural form of locus is loci.

FINDINGS AND RECOMMENDATIONS

I. Compliance with NDIS Participation Requirements

The Laboratory complied with the NDIS participation requirements we reviewed.

The NDIS participation requirements, which consist of the MOU and the NDIS Procedure Manual, establish the responsibilities and obligations of laboratories that participate in the CODIS program at the national level. The MOU describes the CODIS-related responsibilities of both the Laboratory and the FBI. The NDIS Procedure Manual is comprised of the NDIS operational procedures and provides detailed instructions for laboratories to follow when performing certain procedures pertinent to NDIS. The NDIS participation requirements we reviewed are listed in Appendix II of this report.

Results of the OIG Audit

We found that the Laboratory complied with the NDIS participation requirements we reviewed. Specifically, we found that the Laboratory maintained adequate security over its facilities and CODIS servers, submitted the required background information on CODIS users to the FBI, kept records showing CODIS users were properly trained, and were timely in resolving the NDIS matches we reviewed. The results of our audit are described in more detail below.

- We interviewed the CODIS Administrator and conducted a walk-through tour of the building and the Laboratory. We identified no significant concerns regarding the Laboratory's procedures for securing the CODIS server or the Laboratory's facilities.

- We interviewed the CODIS Administrator to determine that appropriate staff have received a copy of the NDIS procedures manual and measures have been taken to ensure personnel understand and abide by the manual. We also interviewed two CODIS users and determined that they understood NDIS procedures and could access the procedures via the Laboratory's online system.

- We verified with the FBI that all Laboratory CODIS users completed the 2012 annual NDIS training.

- The Laboratory is required to submit certain background and security information to the FBI for each CODIS user. We verified that the Laboratory submitted the required information to the FBI.

- We reviewed a sample of five NDIS matches and determined that each match was confirmed by the Laboratory in a timely manner, and the investigators were notified within 2 weeks of the match.

Conclusion

We found the Laboratory to be in compliance with all areas of NDIS participation requirements that we reviewed. We made no recommendations concerning our review of NDIS participation requirements.

II. Compliance with Quality Assurance Standards

The Laboratory complied with the Forensic Quality Assurance Standards we reviewed.

During our audit, we considered the Forensic Quality Assurance Standards (QAS) issued by the FBI.[10] These standards describe the quality assurance requirements that the Laboratory must follow to ensure the quality and integrity of the data it produces. We also assessed the two most recent QAS reviews that the laboratory underwent.[11] The QAS we reviewed are listed in Appendix II.

Results of the OIG Audit

We found that the Laboratory complied with the Forensic QAS tested. These results are described in more detail below.

- The Laboratory underwent a QAS review in each of the last 2 calendar years as required by the QAS for laboratory reviews. In June 2010 and December 2011, the laboratory underwent QAS reviews by external reviewers.

- We reviewed the most recent QAS reports provided by the Laboratory's CODIS Administrator. The FBI's QAS Review Document was used to conduct the external reviews. We contacted the FBI and verified that at least one reviewer on each of the external teams had successfully completed the FBI QAS Review training course. In the June 2010 external review report, there were findings and responses with corrective actions. The FBI closed this report and considered the Laboratory to be in compliance on February 9, 2012. According to the December 2011 external review report, there were no instances of laboratory noncompliance with the QAS.

[10] Forensic Quality Assurance Standards refer to the Quality Assurance Standards for Forensic DNA Testing Laboratories, effective September 1, 2011.

[11] The QAS require that laboratories undergo annual audits. Every other year, the QAS require that the audit be performed by an external agency that performs DNA identification analysis and is independent of the laboratory being reviewed. These audits are not required by the QAS to be performed in accordance with Government Auditing Standards (GAS) and are not performed by the Department of Justice, Office of the Inspector General. Therefore, we will refer to the QAS audits as reviews (either an internal laboratory review or an external laboratory review, as applicable) to avoid confusion with our audits that are conducted in accordance with GAS.

- The QAS require that the Laboratory submit external QAS review reports to the NDIS Custodian in the FBI within 30 days of the Laboratory receiving them. The external audit reports from June 2010 and December 2011 were both sent to the NDIS Custodian in the FBI within 30 days of the date the Laboratory received its copy of the report.

- Our review of the December 2011 external review report confirmed there were no repeat findings.

- Auditors who participated in the external reviews certified that they were free from conflicts of interest.

- We toured the Laboratory building and interviewed the CODIS Administrator, and we determined that the facility appeared to have adequate physical access controls in place.

- We interviewed the CODIS Administrator and reviewed written policies and concluded that the Laboratory appeared to have adequate procedures in place to ensure the integrity of physical evidence.

- We interviewed the CODIS Administrator and reviewed policies and practices regarding the separation of samples during the analysis process. We determined that the policies and procedures appeared to be adequate. During our laboratory tour, we confirmed that within the DNA Laboratory, individual rooms were set up in a walk-through design so that the analysis of samples moved from one room into another. As a result, the Laboratory kept evidence examination, DNA extraction, and Polymerase Chain Reaction (PCR) setup areas separate from one another.

- We interviewed the Laboratory Director and discovered that the Laboratory does not maintain any evidentiary samples after analysis. Any samples remaining after analysis are returned to the submitting agency.

- We learned that the Laboratory did not outsource the analysis of its forensic DNA samples to another laboratory and has not done so in the past 2 years.

Conclusion

We found the Laboratory to be in compliance with all areas of QAS requirements that we reviewed. Specifically, we found that the Laboratory: (1) underwent QAS reviews within designated timeframes; (2) had procedures in place to ensure that access to the Laboratory was controlled and limited to authorized personnel; and (3) followed protocols with regard to amplified samples being maintained in separate rooms from the evidence examination, DNA extraction, and PCR setup areas. We made no recommendations concerning our review of Quality Assurance Standards.

III. Suitability of Forensic DNA Profiles in CODIS Databases

Of the 100 forensic profiles we reviewed, 92 profiles were complete, accurate, and allowable for inclusion in NDIS. We identified eight profiles that were not allowable for inclusion in NDIS. The profiles were either missing supporting information to sustain their allowability in NDIS, belonged to the victim, or could not be connected to the crime scene.

We reviewed a sample of the Laboratory's forensic DNA profiles to determine whether each profile was complete, accurate, and allowable for inclusion in NDIS. To test the completeness and accuracy of each profile, we established standards that require a profile include all the loci for which the analyst obtained results and that the values at each locus match those identified during analysis. Our standards are described in more detail in Appendix II of this report.

The FBI's NDIS operational procedures establish the DNA data acceptance standards by which laboratories must abide. The FBI also developed a flowchart as guidance for the laboratories for determining what is allowable in the forensic index at NDIS. Laboratories are prohibited from uploading forensic profiles to NDIS that clearly match the DNA profile of the victim or another known person that is not a suspect. A profile at NDIS that matches a suspect may be allowable if the contributor is unknown at the time of collection. However, NDIS guidelines prohibit profiles that match a suspect if that profile could reasonably have been expected to be on an item at the crime scene or part of the crime scene independent of the crime. For instance, a profile from an item seized from the suspect's person, such as a shirt, or that was in the possession of the suspect when collected, is generally not a forensic unknown and would not be allowable for upload to NDIS. The NDIS procedures we reviewed are listed in Appendix II of this report.

Results of the OIG Audit

We selected a sample of 100 profiles out of the 3,649 forensic profiles the Laboratory had uploaded to NDIS as of April 5, 2012.[12] Of the 100 forensic profiles sampled, we found 8 were unallowable for upload to NDIS. The CODIS Administrator agreed with our findings and deleted all eight profiles from CODIS. The remaining profiles sampled were complete,

[12] When selecting forensic profiles for detailed testing, we utilized a universe of profiles that were active in NDIS at the time of our audit, which included those uploaded since the inception of the CODIS program at the Grand Rapids Laboratory.

accurate, and allowable for inclusion in NDIS. The specific exceptions are explained in more detail below.

OIG Sample Number 5

The profile was taken from the swabbing of a plastic applicator that was found at the suspect's house, which was not the scene of the crime. In accordance with FBI guidance on how to determine what DNA data is allowable in NDIS, profiles should be developed from biological material of crime scene evidence. Therefore, this sample is not valid for inclusion in NDIS.

OIG Sample Number 6

The profile was derived from the swabbing of the top of a bottle that was found on the suspect, but not at the crime scene. Because the profile was not developed from biological material of crime scene evidence and was collected from an object found on the suspect's person where the individual's DNA would reasonably be expected to exist, this sample is not valid for inclusion in NDIS.

OIG Sample Number 7

The profile was developed from a rag with a blood stain that was taken from the suspect during the arrest, which was at his brother's house, not at the scene of the crime. In accordance with the FBI guidance described above, this sample is not valid for inclusion in NDIS because it was not developed from biological material of crime scene evidence.

OIG Sample Number 11

The profile was taken from the inside of a condom that was found in trash that was hauled away from a service station. This case was a homicide that occurred at a residence and the body was left in a car behind the service station. The sample was not taken from the crime scene, as required by the FBI guidance described above; therefore, it is not valid for inclusion in NDIS.

OIG Sample Number 26

This case was an assault, and the profile was taken from blood on a gun magazine. According to the case records, the suspect was not bleeding; only the victim was bleeding. Therefore, it appears the blood on the gun was likely from the victim. We discussed this case with the CODIS Administrator, and the Laboratory removed the profile from NDIS.

OIG Sample Number 28

This profile was taken from a swabbing of a pistol grip. The pistol was obtained as part of a search warrant from a location that was not the scene of a crime; therefore, this profile is not allowable for inclusion in NDIS.

OIG Sample Number 49

The profile was taken from a sexual assault swab. However, there was no further information in the file from the law enforcement agency. The CODIS Administrator told us that there were major problems at this law enforcement agency during the 1990s, and all agency files originating during that time were destroyed. This profile fell into that timeframe. During our audit, the CODIS Administrator contacted the FBI and the local District Attorney in an attempt to determine the proper course of action. The FBI contact deferred to the District Attorney's opinion on the matter. The District Attorney stated that without the law enforcement records, they would not be able to prosecute the suspect if there was a CODIS match. Because it could not be shown that the profile was attributable to a putative perpetrator, this profile was removed from NDIS.

OIG Sample Number 63

This case was a murder/non-negligent homicide, and the profile was taken from the swabbing of a revolver. This gun was found during a traffic stop, not at the scene of the crime. Because the profile was not developed from biological material of crime scene evidence, this sample is not valid for inclusion in NDIS.

Conclusion

Out of the 100 profiles we reviewed, 8 were unallowable for inclusion in NDIS. The remaining profiles were complete, accurate, and allowable for inclusion in NDIS. Of the eight unallowable profiles, six were not developed from biological material of crime scene evidence (one of which was also taken from the suspect's person), one lacked supporting documentation to

show that the profile was attributable to a putative perpetrator, and the other was likely the victim's profile. All eight of the unallowable profiles in our sample were processed by the Laboratory prior to the 2006 FBI guidance regarding the allowability of profiles in NDIS.[13] Because our sample did not reflect any errors in the last 5 years, it appears the Laboratory has since followed the guidance to prevent the entry of unallowable profiles in NDIS. Therefore, we made no recommendations concerning our review of Forensic DNA profiles.

[13] In addition, in 2007 the FBI began compelling CODIS laboratories to maintain information in their files to support allowability of the profiles.

APPENDIX I

OBJECTIVES, SCOPE, AND METHODOLOGY

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 findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Our audit generally covered the period from April 2010 through April 2012.[14] The objectives of the audit were to determine if the: (1) Laboratory was in compliance with the National DNA Index System (NDIS) participation requirements; (2) Laboratory was in compliance with the Quality Assurance Standards (QAS) issued by the FBI; and (3) Laboratory's forensic DNA profiles in CODIS databases were complete, accurate, and allowable for inclusion in NDIS. To accomplish the objectives of the audit, we:

- Examined internal and external Laboratory QAS review reports and supporting documentation for corrective action taken, if any, to determine whether: (a) the Laboratory complied with the QAS, (b) repeat findings were identified, and (c) recommendations were adequately resolved.

  In accordance with the QAS, the internal and external laboratory review procedures are to address, at a minimum, a laboratory's quality assurance program, organization and management, personnel qualifications, facilities, evidence control, validation of methods and procedures, analytical procedures, calibration and maintenance of instruments and equipment, proficiency testing of analysts, corrective action for discrepancies and errors, review of case files, reports, safety, and previous audits. The QAS require that internal and external reviews be performed by personnel who have successfully completed the FBI's training course for conducting such reviews.

  As permitted by Government Auditing Standards 7.42 (2007 revision), we generally relied on the results of the

[14] When selecting forensic profiles for detailed testing, we utilized a universe of profiles that were active in NDIS at the time of our audit, which included those uploaded since the inception of the CODIS program at the Grand Rapids Laboratory.

Laboratory's external laboratory review to determine if the Laboratory complied with the QAS.[15] In order to rely on the work of non-auditors, Government Auditing Standards require that we perform procedures to obtain sufficient evidence that the work can be relied upon. Therefore, we: (1) obtained evidence concerning the qualifications and independence of the individuals who conducted the review; and (2) determined that the scope, quality, and timing of the audit work performed was adequate for reliance in the context of the current audit objectives by reviewing the evaluation procedure guide and resultant findings to understand the methods and significant assumptions used by the individuals conducting the reviews. Based on this work, we determined that we could rely on the results of the Laboratory's external laboratory review.

- Interviewed Laboratory officials to identify management controls, Laboratory operational policies and procedures, Laboratory certifications or accreditations, and analytical information related to DNA profiles.

- Toured the Laboratory to observe facility security measures as well as the procedures and controls related to the receipt, processing, analyzing, and storage of forensic evidence and convicted offender DNA samples.

- Reviewed the Laboratory's written policies and procedures related to conducting internal reviews, resolving review findings, expunging DNA profiles from NDIS, and resolving matches among DNA profiles in NDIS.

- Reviewed supporting documentation for 5 of 52 NDIS matches to determine whether they were resolved in a timely manner. The Laboratory provided the universe of NDIS matches as of April 16, 2012. The sample was judgmentally selected to include both case-to-case and case-to-offender matches. This non-statistical sample does not allow projection of the test results to all matches.

- Reviewed the case files for selected forensic DNA profiles to

[15] We also considered the results of the Laboratory's internal laboratory review, but could not rely on it because it was not performed by personnel independent of the Laboratory. Further, as noted in Appendix II, we performed audit testing to verify Laboratory compliance with specific QAS that have a substantial effect on the integrity of the DNA profiles uploaded to NDIS.

determine if the profiles were developed in accordance with the Forensic QAS and were complete, accurate, and allowable for inclusion in NDIS.

- Working in conjunction with the FBI, we obtained an electronic file identifying the 3,649 forensic profiles the Laboratory had uploaded to NDIS as of April 5, 2012. We limited our review to a sample of 100 profiles. This sample size was determined judgmentally because preliminary audit work determined that risk was not unacceptably high.

  Using the judgmentally determined sample size, we randomly selected a representative sample of labels associated with specific profiles in our universe to reduce the effect of any patterns in the list of profiles provided to us. However, because the sample size was judgmentally determined, the results obtained from testing this limited sample of profiles may not be projected to the universe of profiles from which the sample was selected.

The objectives of our audit concerned the Laboratory's compliance with required standards and the related internal controls. Accordingly, we did not attach a separate statement on compliance with laws and regulations or a statement on internal controls to this report. See Appendix II for detailed information on our audit criteria.

APPENDIX II

AUDIT CRITERIA

In conducting our audit, we considered the NDIS participation requirements, the QAS, and the FBI Flowchart: A Guide to Determining What is Allowable in the Forensic Index at NDIS.[16] However, we did not test for compliance with elements that were not applicable to the Laboratory. In addition, we established standards to test the completeness and accuracy of DNA profiles as well as the timely notification of DNA profile matches to law enforcement.

NDIS Participation Requirements

The NDIS participation requirements and the NDIS operational procedures establish the responsibilities and obligations of laboratories that participate in NDIS. The MOU requires that NDIS participants comply with federal legislation and the QAS, as well as NDIS-specific requirements accompanying the MOU in the form of appendices. We focused our audit on specific sections of the following NDIS requirements.

- NDIS Laboratories Procedure
- Quality Assurance Standards Audit Procedure
- NDIS Confirmation and Hit Dispositioning Procedure
- NDIS DNA Records Procedure
- DNA Data Acceptance Standards
- NDIS Searches Procedure
- NDIS Security Requirements Procedure

Quality Assurance Standards

The FBI issued two sets of QAS: QAS for Forensic DNA Testing Laboratories, effective September 1, 2011 (Forensic QAS); and QAS for DNA Databasing Laboratories, effective September 1, 2011 (Offender QAS). The Forensic QAS and the Offender QAS describe the quality assurance requirements that the Laboratory should follow to ensure the quality and integrity of the data it produces.

For our audit, we generally relied on the reported results of the Laboratory's most recent annual external review to determine if the

[16] The FBI Flowchart is guidance issued to NDIS-participating laboratories separate from the MOU and NDIS operational procedures. The flowchart is contained in the 2010 CODIS Administrator's Handbook and has been provided to laboratories in forums such as CODIS conferences.

Laboratory was in compliance with the QAS. Additionally, we performed audit work to verify that the Laboratory was in compliance with the QAS listed below because they have a substantial effect on the integrity of the DNA profiles uploaded to NDIS.

- Facilities (Forensic QAS and Offender QAS 6.1): The laboratory shall have a facility that is designed to ensure the integrity of the analyses and the evidence.

- Evidence Control (Forensic QAS 7.1): The laboratory shall have and follow a documented evidence control system to ensure the integrity of physical evidence. Where possible, the laboratory shall retain or return a portion of the evidence sample or extract.

- Sample Control (Offender QAS 7.1): The laboratory shall have and follow a documented sample inventory control system to ensure the integrity of the database and known samples.

- Analytical Procedures (Forensic QAS and Offender QAS 9.5): The laboratory shall monitor the analytical procedures using [appropriate] controls and standards.

- Review (Forensic QAS 12.1): The laboratory shall conduct administrative and technical reviews of all case files and reports to ensure conclusions and supporting data are reasonable and within the constraints of scientific knowledge.

- Reviews (Forensic QAS and Offender QAS 15.1 and 15.2): The laboratory shall be audited annually in accordance with [the QAS]. The annual audits shall occur every calendar year and shall be at least 6 months and no more than 18 months apart.

  At least once every 2 years, an external audit shall be conducted by an audit team comprised of qualified auditors from a second agency(ies) and having at least one team member who is or has been previously qualified in the laboratory's current DNA technologies and platform.

Office of the Inspector General Standards

We established standards to test the completeness and accuracy of DNA profiles as well as the timely notification of law enforcement when DNA profile matches occur in NDIS. Our standards are listed below.

- Completeness of DNA Profiles: A profile must include each value returned at each locus for which the analyst obtained results. Our rationale for this standard is that the probability of a false match among DNA profiles is reduced as the number of loci included in a profile increases. A false match would require the unnecessary use of laboratory resources to refute the match.

- Accuracy of DNA Profiles: The values at each locus of a profile must match those identified during analysis. Our rationale for this standard is that inaccurate profiles may: (1) preclude DNA profiles from being matched and, therefore, the potential to link convicted offenders to a crime or to link previously unrelated crimes to each other may be lost; or (2) result in a false match that would require the unnecessary use of laboratory resources to refute the match.

- Timely Notification of Law Enforcement When DNA Profile Matches Occur in NDIS: Laboratories should notify law enforcement personnel of NDIS matches within 2 weeks of the match confirmation date, unless there are extenuating circumstances. Our rationale for this standard is that untimely notification of law enforcement personnel may result in the suspected perpetrator committing additional, and possibly more egregious, crimes if the individual is not deceased or already incarcerated for the commission of other crimes.

APPENDIX III

AUDITEE RESPONSE

STATE OF MICHIGAN
DEPARTMENT OF STATE POLICE
Forensic Science Division

RICK SNYDER
GOVERNOR

COL. KRISTE KIBBEY ETUE
DIRECTOR

November 27, 2012

Ms. Carol S. Taraszka
Regional Audit Manager
U.S. Department of Justice
Office of the Inspector General (OIG)
Chicago Regional Audit Office
500 West Madison Street, Suite 1121
Chicago, Illinois 60661-2590

Dear Ms. Taraszka:

This letter is in response to the OIG draft report of the Audit of Compliance with Standards Governing Combined DNA Index System Activities at the Michigan State Police Laboratory, Grand Rapids, Michigan. The Michigan State Police Grand Rapids Forensic Laboratory reviewed the draft audit report and has one comment regarding the report:

We request clarification be made when the report refers to the time period the audit covered as April 2010 through April 2012 (page 6). While this time period applies to objective #1 and objective #2, by requesting profiles entered into CODIS to include entries from 2000-2012 for objective #3, it is misleading, particularly in light of the fact that the eight profiles deemed unallowable for inclusion in NDIS were entered between the years of 2003-2006.

The Michigan State Police Grand Rapids Forensic Laboratory appreciates the opportunity to respond to the OIG draft audit report. If you have any questions, please feel free to contact either of us.

Sincerely,

James F. Pierson, F/Lieutenant
Director
Grand Rapids Forensic Laboratory

Joel M. Schultze
LDIS CODIS Administrator
Grand Rapids Forensic Laboratory

cc: Douglas Hares, Ph.D.
NDIS Custodian

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APPENDIX IV

FEDERAL BUREAU OF INVESTIGATION RESPONSE

U.S. Department of Justice

Federal Bureau of Investigation

Washington, D.C. 20535-0001

December 6, 2012

Carol S. Taraszka, Regional Audit Manager
Chicago Regional Audit Office
Office of the Inspector General
500 West Madison Street, Suite 3510A
Chicago, IL 60661-3590

Dear Ms. Taraszka:

Your memorandum to Director Mueller forwarding the draft audit report for the Michigan State Police, Grand Rapids Laboratory, Grand Rapids, Michigan (Laboratory), has been referred to me for response.

Your draft report contained no recommendations relating to the Laboratory's compliance with the FBI's Memorandum of Understanding and *Quality Assurance Standards for DNA Testing Laboratories*. The CODIS Unit reviewed the draft report and since it appears that the Laboratory is in compliance with NDIS participation requirements, the CODIS Unit has no significant comments to provide about the draft report.

Thank you for sharing the draft audit report with us. If you have any questions, please feel free to contact Jennifer Wendel, Chief of the CODIS Unit, at (703) 632-8315.

Sincerely,

Alice R. Isenberg

Alice R. Isenberg, Ph.D.
Section Chief
Biometrics Analysis Section
FBI Laboratory