NATIONAL COMMISSION ON FORENSIC SCIENCE

National Institute of Standards and Technology

Type of Work Product: Views Document

It is the view of the National Commission on Forensic Science (NCFS) that Forensic Science Service Providers (FSSPs) and Forensic Medicine Service Providers (FMSPs) should have written policies for documenting the examination, testing, and/or interpretation of evidence that are consistent with the following requirements:

Records should be created during the examination of evidence that would allow another analyst or scientist, with proper training and experience, to understand and evaluate all the work performed, and to independently analyze and interpret the data and draw conclusions.

Records created by FSSPs and FMSPs should also provide information necessary for use in the criminal justice system (e.g., chain of custody, administrative and technical review records).

Providing all of the information described above in a single report in every case is impractical. Instead, if not in the report, the documentation described herein must be maintained in a "case file" if it is specific to a case or test. If the information is generic (e.g., Standard Operating Procedures, definitions), this documentation must either be a part of the "case file" or be easily accessible (e.g., posted on a website, available on request).

Reports should, however, accurately and clearly convey a statement of the purpose of the examination, testing, and/or interpretation of the evidence; the method and materials used; a summary or a description of the data; any discordant results; and any conclusions and/or opinions derived from the data.

While it is acceptable to limit the information in the report to less than that which is contained in the "case file", every report should contain a statement that makes it clear not all the information needed to understand and evaluate all the work performed, and to independently analyze and interpret the data and draw conclusions is contained in the report. Every report should include a statement that to understand and evaluate all the work performed, and to independently analyze and interpret the data and draw conclusions requires a review of the "case file." The "case file" should be organized and made available in a manner consistent with the discovery recommendations of the National Commission on Forensic Science.

Statement of the Issue

Many professional groups in the forensic science community have proposed standards for documenting the work of examiners and reporting data and conclusions. The 2009 National Research Council of the National Academies report *Strengthening Forensic Science in the United States: A Path Forward* described the minimum information that should be contained in a report of forensic testing to include "methods and materials, procedures, results and conclusions and they should identify, as

appropriate, the sources of uncertainty in the procedure and conclusions along with estimates of their scale (to indicate the level of confidence in the results)." [1] The report concluded that while some forensic testing reports met this standard "most" did not.[2]

Background

While the NRC addressed forensic testing reports, it did not specifically address the precursor to reporting—records and documentation. While it is not practical to require that a forensic testing report contain all the information one would expect in a scientific research paper, requiring that the "case file" contain a record that permits another analyst or scientist, with proper training and experience, to understand and evaluate all the work performed, and to independently analyze and interpret the data and draw conclusions provides for peer review that has long been a mainstay of science and the scientific method.

Increasingly accreditation standards and discipline specific standards require this level of documentation. *See* ISO/IEC 17025:2005 standard 5.10 and other items listed in Appendix A. Universal documentation and reporting standards, building on the views provided above and the work identified in Appendix A, will strengthen the quality of forensic evidence examination, testing, and interpretation. Likewise, a record that permits lawyers, in consultation with analysts or scientists where appropriate, to prepare legal challenges and cross-examinations promotes competent adversarial testing that has long been a mainstay of the criminal justice system.

While this level of documentation is appropriate for the "case file", the NCFS recognizes that it is impractical to require this level of documentation in a report for every case, for every forensic discipline, and every type of test. At the same time, forensic testing reports provide critical information to criminal justice system—information that will impact decisions made by stakeholders in investigating and resolving cases. Because more than 90% of criminal cases are disposed of through plea bargaining, forensic reports can have a significant impact on case resolution while rarely facing the scrutiny of a courtroom proceeding.[3] In addition, reports are often the only document available should a case be subject to review years or decades later.

Thus, reports must accurately and clearly convey sufficient information to serve science and the criminal justice system.

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[1] National Research Council, National Academy of Sciences *Strengthening Forensic Science in the United States: A Path Forward* (2009) p.186

[2] *Id.*

[3] Butler, *Advanced Topics in Forensic DNA Typing: Interpretation* 2015 p 445.

At the same time the NCFS recognizes that a report that provides less information than is present in the "case file" is, to some degree, incomplete. To avoid misleading any criminal justice system stakeholder or to suggest that even an appropriately trained expert can fully understand and evaluate all the work performed and/or independently analyze and interpret the data and draw conclusions without reviewing the case file, every report should contain a statement that makes it clear that not all the information needed to understand and evaluate all the work performed and/or to independently analyze and interpret the data and draw conclusions is contained in the report.

Appendix A

- National Research Council of the National Academy of Science, Strengthening Forensic Science in the United States: A Path Forward.
- Federal Rules of Criminal Procedure, Rule 16.
- Federal Rules of Civil Procedure, Rule 26.
- International Organization for Standardization and International Electrotechnical Commission (ISO/IEC) ISC/IEC 17025:2005(E), General requirements for the competence of testing and calibration laboratories.
- ISO/IEC 17020:2012(E), Conformity assessment – Requirements for the operation of various types of bodies performing inspection.
- International Laboratory Accreditation Cooperation (ILAC) ILAC-G19:2002, Guide 19, Guidelines for Forensic Science Laboratories.
- American Association for Laboratory Accreditation (A2LA), R221: Specific Requirements: Forensic Examination Accreditation Program – Testing.
- ASCLD/LAB-*International*, Supplemental Requirements for the Accreditation of Forensic Science Testing Laboratories.
- Forensic Quality Services, American National Standards Institute-American Society for Quality (FQS ANSI-ASQ) FQS ANSI-ASQ Document 11, ISO/IEC 17025 Accreditation and Supplemental Requirements for Forensic Testing, including FBI QAS.
- Laboratory Accreditation Bureau (LAB), Program Requirements Forensic Science Laboratory Accreditation Program, LABRP 413.
- American Society for Testing and Materials (ASTM) International, Standard Practice for Reporting Opinions of Scientific or Technical Experts, E620-11.
- ASTM International, Standard Practice for Quality Assurance of Laboratories Performing Seized-Drug Analysis, E2327 – 10.
- Federal Bureau of Investigation (FBI) Quality Assurance Standards for Forensic DNA Testing Laboratories.
- Scientific Working Group for Anthropology (SWGANTH), Documentation, Reporting and Testimony.
- Scientific Working Group for the Analysis of Seized Drugs (SWGDRUG), Recommendations.
- Scientific Working Group on Friction Ridge Analysis, Study, and Technology (SWGFAST), Standard for Reporting Friction Ridge Examinations (Latent/Tenprint).
- Technical Working Group for fire and Explosions (TWGFEX), Standard Guide for Fire Debris Report Writing.
- Scientific Working Group for Materials Analysis (SWGMAT), Expert Reporting Guideline.
- National Institute of Standards and Technology (NIST) and National Institute of Justice (NIJ) Expert Working Group on Human Factors in Latent Print Analysis, Latent Print Examination and Human Factors: Improving the practice through a Systems Approach.
- National Association of Medical Examiners (NAME), NAME Inspection and Accreditation Checklist, Second Revision.
- NAME, Forensic Autopsy Performance Standards