



**AMERICAN SOCIETY OF
CRIME LABORATORY DIRECTORS, INC.**

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The American Society of Crime Laboratory Directors represents more than 600 members of crime laboratory directors and forensic science managers dedicated to providing excellence in forensic science through leadership and innovation. The membership represents both private and public institutions from all 50 states in the U.S. and eighteen countries from across the globe. Our mission is to promote the effectiveness of crime laboratory leaders throughout the world by facilitating communication among members, sharing critical information, providing relevant training, promoting crime laboratory accreditation, and encouraging scientific and managerial excellence in the global forensic science community.

ASCLD is dedicated to advancing forensic science through a multitude of initiatives including the National Commission on Forensic Science. The efforts of the Commission are important and have significant implications for the entire criminal justice community. As a result, the ASCLD Board of Directors offers the following comments, recommendations, and impact statements for consideration by the sub-committee on the views document "Optimizing Human Performance in Crime Laboratories through Testing and Feedback".

ASCLD remains ready to be a continuing resource to assist the Commission and the Department of Justice in the development of these important work products for the forensic science community so that a broader based acceptance and implementation of these products may be realized.

Regards,

ASCLD Board of Directors



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ASCLD Board Comments

The ASCLD Board of Directors supports the goal that every crime laboratory be a high reliability organization and generally supports the intent of the Views of the Commission on the need to provide feedback to forensic science service providers to optimize human performance in crime laboratories. While the principle of performance testing is sound, the Board has some serious concerns about the recommended implementation plan and the terminology used to describe these activities.

The proposed framework utilizes terminology that is well established in the forensic science industry that has significance and consensus understanding. The ASCLD Board of Directors recommends that Sections (1) Validation, (3) Error Rate Estimation, and (4) Proficiency Testing be renamed using terms consistent with the purpose of human factors research and testing as opposed to terms related to forensic science service provider operations. The intent of this Views document appears to be to help forensic science organizations develop staff, systems, and methodologies of high performance and not to demonstrate the foundational limits of testing, accuracy, or reliability.

Specific to implementation, the level of challenge proposed for the test sets is designed to result in failure for a percentage of examiners; however, an "acceptable" failure rate to the criminal justice system is not addressed. The Views Document suggests that failure might provide valuable feedback to the examiner and is not necessarily an indication of deficiency in training, diligence or skills of the examiner. Clarification is needed, however, on what feedback is actually being provided. What is the proposed consequence of failure to obtain the correct answer on a challenging test set? How will a failure by an examiner who is not deficient be differentiated from an examiner who is able to successfully pass a routine proficiency test but is deficient in training, diligence or skills?

The Commission uses an analogy that compares existing proficiency testing with the minimum level of competency testing required to obtain a driver's license and opines that the typical driving test doesn't remove the incompetent drivers from the road, because the test does not provide drivers with challenging or unsafe conditions that provide feedback to improve skills. This is a primary reason argued that blind proficiency testing is required. To continue the analogy, implementing blind performance testing into routine case work at a forensic science laboratory for validation, training, and improvement purposes is akin to collecting data from accidents and injuries that occur when common drivers are randomly introduced to high speed race tracks or icy mountain roads. This is an inefficient, dangerous, and scientifically inappropriate research technique.

The Commission recognizes the short-comings of this proposed approach to performance testing when discussing the topic of "avoiding misrepresentations about error in the courtroom."



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In the context of an adversarial U.S. justice system, it is unrealistic to expect the legal community to consider an "error" in performance testing to be viewed as a "valuable opportunity" rather than an indication of deficiency on the part of the examiner. The inability of an examiner to obtain the correct result, even under conceptually innocent circumstances, will be used against the examiner and the laboratory by the legal community, especially if monetary gain is involved. This is an untenable situation for practitioners and laboratories ensuring a climate of "Gotcha" in which an air of constant liability exists.

Any testing conducted should be done by an entity, whose methodology, sampling, and standards are approved by NIST (OSAC) and all results should be blind to the entity delivering the test. The identity of the laboratory and analyst should not be documented. Any test should possess a conditional statement including a variation of the following language:

"The results of this study are experimental in nature and do not reflect the error rate of X. These results do not represent the error rate for examiners in actual casework, and this testing was conducted to test the limits of specific human factors in an effort to further improve practices."

This disclaimer or similar language should be included, as a matter of OSAC/NIST approval.

The ASCLD Board of Directors generally supports the theory of database testing; however, the implementation of this methodology as proposed is also problematic. A search of a challenging blind DNA profile in the Combined DNA Index System (CODIS) would be expected to result in multiple candidates. CODIS does not rank the candidate matches. All search results are ranked as equal. It is then up to the examiner to review and determine which candidate matches can be excluded and which cannot. This is, therefore, a test of the examiner's ability to make comparisons rather than the operation of the database. The amount of time needed to complete a review of the candidate matches for a blind performance test will be dependent on the number of candidates resulting from the search and the age of the case if casefiles are archived off-site from the laboratory.

In large laboratories and systems, it would be impractical to employ a central manager to approve and/or conduct CODIS searches. DNA profiles are uploaded to the State DNA Index System (SDIS) daily, and an auto search at the SDIS level is conducted daily, including weekends. Examiners also conduct an SDIS search in order to get the hit confirmation process started as soon as possible. In addition to requiring the FBI to change the rules to allow the proposed database test searches and to allow entry of the "same-source reference samples" into the database, forensic laboratories would have to change their procedures to accommodate blind performance testing. These changes would have a negative impact on casework database searches by requiring additional steps and/or personnel to be involved on a regular basis. Clarification is needed to determine if the time spent testing the database is worth the time taken away from casework backlog reduction. Have databases been shown to be ineffective and/or inefficient as currently used?



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Latent Print database testing offers similar challenges. Different algorithms are used based on the quality of the print, such as standard, distorted or has gaps present. These algorithms are proprietary. Casework prints are searched against other casework prints, as well as ten-print cards. The ten-print cards may have been entered into the database by a system that feature-extracts rather than by an examiner. These systems are also proprietary. The quality of the print, the number of points identified by the examiner, and/or the angle of the print as it was entered factor into the success of the search. Databases change daily with the addition of new samples and standards. For latent prints, candidates that may have ranked high today may be ranked lower tomorrow if better candidates have been entered in the interim.

True database testing should take the analyst variable out of the equation. Scheduling a test of the database, to be run by the administrator, using known samples, limits the variables to just the database itself. A test of a Latent Print database could be accomplished by running prints that have previously hit again. This would eliminate the need to enter in false samples as the same-source references.

The ASCLD Board of Directors Recommendations

- The Commission develop terminology which appropriately describes the goals, objectives, tasks, and activities specific to human performance testing in forensic science that are not synonymous with industry terms specific to accreditation standards and operations.
- The Commission identify a method through which "error rate" calculations can be standardized specific to human performance testing.
- It is agreed that performance testing will assist with determining "boundary conditions," necessary training, and quality assurance measures. The Commission must clarify how blind proficiency testing will accomplish the proposed goals of performance testing, including what the acceptable rate of failure is for such testing and the consequences of failure.
- It is recommended that performance testing should occur outside of the casework process, either during the development of national standards and guidelines or as part of method validation for a technique.
- The Commission should consider scheduled database testing using a test set of known samples, run by the database administrator.