B162   I Know It When I See It — Is Complexity the Key to Creating a Workable Documentation Policy for the Pattern Evidence Disciplines?

Heidi Eldridge, MS*, RTI International, 3040 E Cornwallis Road, RTP, NC 27709

After attending this presentation, attendees will be able to articulate the main arguments in favor of the creation of policies requiring contemporaneous documentation of the basis for conclusions in the pattern evidence disciplines. Preliminary data will illustrate how consensus complexity determinations can be used to design an operationally reasonable policy, using latent prints as a model system. Attendees will also be able to describe the challenges in defining complexity in highly interpretive disciplines. Finally, attendees will be equipped with practical suggestions on how to design and implement such policies in their own laboratories.

This presentation will impact the forensic science community by frankly discussing the need for documentation in the pattern comparison disciplines, then by providing a roadmap for designing and implementing a policy that meets those needs without being overly cumbersome operationally. This presentation will present data from multiple exercises to achieve this goal and provide suggestions for moving forward in light of these data.

The pattern evidence comparison disciplines (e.g., latent prints, handwriting, firearms and tool marks, and footwear and tire marks) are highly interpretive in nature. When there is a high level of human interpretation involved, variability inevitably follows. This variability can lead to a host of issues, notably inconsistency in conclusions and difficulty in demonstrating reliability. Without documentation of the basis for a conclusion, it is difficult to resolve these issues.

If two examiners disagree on a conclusion, they have no way to articulate the reasons behind their differing conclusions without documentation as to how they reached those conclusions. If an error is discovered (typically months or years after the fact), there is no way to perform a root cause analysis if there was no documentation made of how the incorrect conclusion was reached. Without documentation, there is no way to assess the validity of a conclusion, whether that assessment is being made by a reviewer, an opposing expert, or a trier of fact.

In trying to develop a documentation policy, the first instinct of many laboratories is to base the policy on the complexity of the unknown image — a poor quality image requires more documentation than a pristine one; however, there are challenges in taking this approach. "Complex" is a term that has not been well-defined and the complexity threshold itself is subject to a level of variation between practitioners.

Using latent prints as a model system, exercises were created and executed in order to identify and isolate the components of complexity and create a process by which consensus on image complexity could be reached, such that a documentation policy could be built around it. This study presents the results of that effort, along with a description of the process, a roadmap for repeating the process in any laboratory, and suggestions for practical documentation policies that will achieve the goals of documentation without being too operationally cumbersome.

The National Institute of Justice (NIJ) Forensic Technology Center of Excellence (FTCoE) is committed to improving the practice of forensic science and strengthening its impact to agencies dedicated to combating crime. This FTCoE presentation recognizes the importance of balancing the implementation of best practices with recognizing the operational needs of a functional forensic science laboratory.

Documentation, Pattern Evidence, SOPs

*Presenting Author