A103 Certification and Accreditation: Useful Tools to Work Toward the International Standardization of Forensic Laboratories

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After attending this presentation, attendees will learn a different approach to design certification and accreditation processes of forensic laboratories, which determine complete control of all processes involved, and to fully document each step of the process and reach a reliable and reproducible conclusion.

This presentation will impact the forensic science community by presenting a new idea for revamping internal procedures of forensic laboratories, which use certification and accreditation processes to lower human errors. The ultimate objective is to set the basis for international standardization of procedures.

At the end of 2009, the European Union fixed the rules of the exchange of fingerprint and DNA evidence through the member States. From November 2015, only ISO 17025 accredited laboratories will be allowed to operate in an international context. The current situation across Europe could suggest a successful extension to all laboratories, operating in a national as well as international level. There is the need to create a common basis within the forensic community in order to be able to share not only the results of the analysis, but also the values. The definition of a common set of methods and contents is also highly recommended. Moving from this starting point, a deep analysis of methods and procedures currently used in western countries was carried out with respect to latent fingerprint laboratories, in order to properly model an overall procedure which starts from an item seized at the crime scene and ends in court with an individualization statement, expressed by a forensic expert.

This lecture presents the key factors for the successful accreditation from different perspectives: agencies, laboratory managers, and forensic experts. Initially the most effective way to establish a robust quality system in the forensic laboratory will be discussed. Even if not mandatory, implementing ISO 9001:2008 within the structure, as the preliminary step toward accreditation, is suggested. In a fully certified laboratory, the effort to reach the accreditation causes a minor impact when compared to the scenario where the agency looks for the accreditation ISO 17025 as the only goal.

Later, the focus will be driven on the documentation phase. The results of this phase are crucial for the accomplishment of successful accreditation. The perception of the accreditation process varies with the perspective of the agency, the management, and the practitioners. Documentation, if not properly designed, could cause a backlog increase and operators could start to perceive the accreditation process as an useless legal requirement.

To be able to turn the negative feeling, the implementation of an integral computer-aided documentation system, designed and customized on the specific human resources and workflow of the single agency, may resolve all disputes on certification and accreditation processes.

The abovementioned concepts clarify that accreditation and certification are directly related to the reproducibility of the measure, but ISO guidelines do not suggest and/or require that the forensic laboratory choose between alternative possible processes.

The accreditation process could be used to critically revise all the internal procedures. The determination of the most reliable techniques, according to the most recent finding of the scientific research in the specific branch, is an important step forward standardization and human error management.

The forensic community must determine the minimum requirements for the forensic laboratories in terms of logistics, instruments, analytical procedures, personnel education level, training, competency, and proficiency testing with professional forensic organizations playing a role of paramount importance to accomplish this task.

Standardization, Accreditation, Certification

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