



National Institute of Justice *Update*

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Certification of DNA and Other Forensic Specialists

Readers of contemporary murder mysteries and viewers of courtroom TV recognize the critical importance of DNA technology in criminal investigations and prosecutions. Through laboratory testing and analysis of even minute particles of blood, semen, hair, or bone fragments, forensic scientists are able to use the unique genetic information found in DNA molecules to positively identify suspects or eliminate them from suspicion. In order for this evidence to stand up in court, however, legal counsel and judges must be confident, and a jury convinced, that evidentiary samples were collected properly and that a qualified person, using sound procedures, performed the tests and analyzed the results accurately.

The courts have recognized certification of specialists in several forensic sciences (e.g., fingerprints, pathology, and toxicology). In a 1992 report, the National Research Council's Committee on DNA Technology in Forensic Science strongly endorsed the concept of certification for DNA analysts. Pursuant to this recommendation, the National Institute of Justice (NIJ) supported an American Board of Criminalistics (ABC) project to develop written certification tests for five specialties in the field of forensic science: forensic biology (which subsumes the DNA specialty), drug identification, fire debris analysis, hair and fiber analysis, and paint and polymer analysis.

Developing the certification examinations

Nationwide peer groups in each of these specialties prepared lists of the knowledge, skills, and abilities required to obtain certification. These lists served as framing devices for examination questions solicited from practitioners in the relevant fields. After test development training, ABC produced draft test specifications related to the major groupings of knowledge, skills, and abilities. Test questions (a minimum of 150 per specialty), with

authoritative references cited for correct answers, were formulated, reviewed, and analyzed for content.

Consultants completed the test specifications, conducted further training, and performed a technical analysis of approximately 675 questions to ensure their logic, clarity, and conformance with sensitivity and bias standards. Three specialty examinations (forensic biology, fire debris analysis, and drug identification) were pilot tested at the 1994 American Academy of Forensics meeting in San Antonio, Texas.

Program philosophy and overview

Criminalists, who examine evidence within the context of an entire case, must have sufficient knowledge and experience to make appropriate recommendations to investigators and attorneys. Their specialized analyses help to piece together the crime and identify a path leading to the perpetrator(s); they form the bases on which others can add new puzzle pieces or further illuminate the way.

Forensic science has no standardized academic curriculum that teaches the basic criminalistics needed by every examiner. The ABC certification program was designed to fill this gap. ABC's approach to certification assumes that a general understanding of the field is needed before specialization is appropriate.

Certification program structure. The General Knowledge Examination (GKE) is the first component of a comprehensive program leading to certification as "Fellow" (for examiners specializing in drug identification, forensic biology, fire debris analysis, or trace evidence) or as "Diplomate" (for those, such as laboratory directors or supervisors, not seeking the Fellow designation). Aspiring Fellows must pass a specialty exam and complete annual

proficiency and continuing education requirements. After successfully completing the GKE, Diplomates must satisfy a continuing education requirement. A prerequisite for both awards is a Bachelor of Science degree and field experience.

Recertification. Annual proficiency tests must be successfully completed in order to retain the status of Fellow. Recertification is done on a 5-year cycle. Within that period both Diplomates and Fellows must participate in defined courses and report these professional development activities on an annual basis.

Policy implications

Widespread participation in the certification program depends on recognition and acceptance by the judicial system, willingness of forensic science generalists to endorse the concept, and cost considerations. It is not known whether U.S. courts will recognize certification as confirming a special level of expertise in a particular discipline. However, the judiciary's favorable response to certification of other forensic scientists suggests that certified criminalists will be similarly acknowledged.

Practitioners in more than one specialty (generalists) would be required to obtain certification in each specialty, resulting in increased costs, the impact of which is not yet

known. The requirement for ongoing professional development to maintain certification may strain the limited training resources of laboratory directors.

The benefits of certification in DNA and other criminalist specialties could be considerable. Knowledgeable application of these sophisticated scientific techniques to collection and analysis of physical evidence promises to increase the effectiveness of investigators and prosecutors. Certification could enhance the capabilities of crime laboratories by encouraging marginal laboratory personnel to improve their knowledge and skills.

The American Board of Criminalistics comprises five regional forensic organizations and the American Academy of Forensic Sciences, each of which has one representative on the ABC Board of Directors. The American Society of Crime Laboratory Directors has a liaison to ABC.

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