Forensic Quality Services Presentation to the NAS Forensic Science Panel

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FQS and Service Quality in the Forensic Sciences

- The over-riding issue is reliability of testing and interpretation
- “Forensic science” is a broad and complex field
- The complexity is illustrated in the area of personal identification which ranges from work in molecular biology with high (graduate level) educational competency requirements to work in fingerprint examination requiring competencies that are based more in training and experience

FQS and Competencies

- Competencies are the knowledge, skills and abilities that individuals must possess to meet complex demands
- FQS provides its educational and training programs with the goal of supporting adequate competencies in examiners
- Our involvement at levels from non-degree crime scene examiner training in accreditation standards to graduate university classes reflects the range of competency factors required by individuals working in different areas

FQS and Competence

- Competence is the quality or state of being functionally adequate
- Competence in a forensic science laboratory is founded on its quality management system
- There are objective standards that address the needs of the quality management system in a forensic science laboratory
- FQS supports the competence of forensic science laboratories by providing accreditation to best practice standards

Accreditation

- The value of accreditation in assuring the reliability of testing lies in the combination of independent external review and the quality of the program standards
- The standards and external review can be applied to all areas of forensic science
- Best practice standards are comprehensive and include sufficient rigor in addressing competencies and address the independence of the testing laboratory

ISO/IEC 17025:2005

- **The global best practice standard for testing laboratories is ISO/IEC 17025:2005 “General requirements for the competence of testing and calibration laboratories”**
- **Panel members are encouraged to review the International Standard**
- **Note that the International Standard permits amplification documents that describe its application in specialist areas and that there is a global consensus document for forensic science (ILAC Guide 19, available on line at http://www.ilac.org/documents/pub_Ilac-g19.pdf)**

Accrediting the Accreditors

- There is an International Standard (ISO/IEC 17011:2004) for the operation of accrediting bodies (ABs)
- Just as ABs provide the necessary external validation of conformance of the testing laboratories to ISO/IEC 17025:2005, there are bodies that evaluate ABs for conformance to ISO/IEC 17011:2004
- The body providing that role in the U.S. is the National Cooperation for Laboratory Accreditation (see www.nacla.net)

Summary

- The over-riding issue is assuring the reliability of testing and interpretations in forensic science
- Adequate assurance is founded on the related concepts of competency and competence
- Competence and competency come together in best practice standards for quality management systems

Competency summary

- **Competency addresses knowledge, skills and abilities at all practitioner levels, from those where the fundamental educational requirement is at the graduate level to those at high school or 2-year college level**
- **Competencies are *specific and directed* to the needs of the tasks conducted by the individual**
- **Maintenance of competencies requires resources for entry level and on-going training**

Competence summary

- The key to competence is the combination of independent external review and high quality standards
- Competence is best addressed through accreditation to ISO/IEC 17025:2005
- Accrediting Bodies should be subject to the same external review to high quality standards including, in the U.S., recognition by NACLA

A Comment on Conflict of Interest

- Avoidance of conflict of interest is a strong theme in both ISO standards referenced in this presentation
- It is vital that any regulatory framework recognizes the importance of independence
- There must be clear separation between service providers, standard setting and standards enforcement
- For example the use of consensus bodies such as ASTM in developing standards, and NACLA-recognized ABs in monitoring conformance

A Comment on Science and Research

- One of the officers of FQS was told by an administrator in the NSF (in 1996) that forensic science did not qualify for NSF support because "it was not a field of science"
- One clear deficiency in forensic science is that it does not have an active and advancing research agenda
- However, the critical and immediate issue facing us is reliability of testing and not debate about whether the field is a science

An Invitation

- Panel members are encouraged to contact FQS and arrange visits to our accredited laboratories in the public and private sector
- Panel members are also encouraged to contact us and see at first hand the work that we do in reviewing service delivery outside of our accreditation programs