Session Three - *Integrity*

Questions:

- How reliable and robust is the forensic bioinformation exchanged? (evidence for this?) and how valid are inferences drawn from it?
- Are steps taken either by law or administrative action in this country to improve the integrity and validity in use of bioinformation undermined when information is exchanged?
- Do we need new supranational protocols or similar instruments to prevent problems?
- Balances? E.g. Speed vs quality? Cost vs quality?

Standardised terminology and reporting

- European standard set of loci
- UK: ACRO? UKBA?
- Effective ‘error-proof’ mechanism for exchange?
- ‘hit’ or ‘no hit’ reporting?

Standardised terminology & reporting

Interpol:

- European Working Group on DNA Profiling: DNA MEG
- 1998: should become global; responsible for providing recommendations on the use and promotion of DNA profiling in criminal investigations (Resolution AGN/67/RES/8).
- Handbook on DNA Data Exchange and Practice
- IAEG: AFIS expert group – fingerprints
- INTERPOL European Expert Group on Fingerprint Identification II (IEEGFI II) formed in May 2000

Accreditation of laboratories & systems

"Laboratory accreditation is essential in assessing the quality of the forensic science laboratory." Kloosterman, A.D. (2001)

- ISO standards
- ENFSI/ EDNAP (but private providers?)
- ILAC guidelines
- SWG's? TWG's
- UK – Forensic Regulator
  - LCN DNA: Caddy Report
- Swedish EU presidency Initiative?

Final Report of the Interpol European Working Party on DNA Profiling

Quality Assurance for DNA Database

All laboratories that can provide profiles for the database must be accredited for such work before the database can accept their profiles for inclusion. Quality assurance (QA) systems must have built-in functions which support control and quality management for the registration of profiles, personal details and case related information. The system must also ensure that this information is linked to the correct person/case. The quality system must also be able to support searches for both direct comparisons, and for intelligence purposes e.g. person-person, person-scene and scene-scene. Any searches must be carried out with such precision as is required for experts to determine the extent to which two or more profiles resemble each other. The database should provide the statistical importance for each match using legitimate statistical calculations.

NAS Recommendation 8:

Forensic laboratories should establish routine quality assurance and quality control procedures to ensure the accuracy of forensic analyses and the work of forensic practitioners. Quality control procedures should be designed to identify mistakes, fraud, and bias; confirm the continued validity and reliability of standard operating procedures and protocols; ensure that best practices are being followed; and correct procedures

NAS Recommendation 6:

To facilitate the work of the NIFS, Congress should authorize and appropriate funds to NIFS to work with the National Institute of Standards and Technology (NIST), in conjunction with government laboratories, universities, and private laboratories, and in consultation with Scientific Working Groups, to develop tools for advancing measurement, validation, reliability, information sharing, and proficiency testing in forensic science and to establish protocols for forensic examinations, methods, and practices. Standards should reflect best practices and serve as accreditation tools for laboratories and as guides for the education, training, and certification of professionals. Upon completion of its work, NIST and its partners should

Certification of individuals

- CRFP – R.I.P
- UK's Forensic Regulator
- UKAS: ISO standards – to cover individuals employed by forensic providers.
- NOS – Skills for Justice
- Forensic Science Society?
- US: NAS – all practitioners should be 'certified'

NAS Recommendation 7:

Laboratory accreditation and individual certification of forensic science professionals should be mandatory, and all forensic science professionals should have access to a certification process. In determining appropriate standards for accreditation and certification, the National Institute of Forensic Science (NIFS) should take into account established and recognized international standards, such as those published by the International Organization for Standardization (ISO). No person (public or private) should be allowed to practice in a forensic science discipline or testify as a forensic science professional without certification. Certification requirements should include, at a minimum, written examinations, supervised practice, proficiency testing, continuing education, recertification procedures, adherence to a code of ethics, and effective disciplinary procedures. All laboratories and facilities (public or private) should be accredited, and all forensic science professionals should be certified, when eligible, within a time

NAS Recommendation 9:

NIFS, in consultation with its advisory board, should establish a national code of ethics for all forensic science disciplines and encourage individual societies to incorporate this national code as part of their professional code of ethics. Additionally, NIFS should explore mechanisms of enforcement for those forensic scientists who commit serious ethical violations. Such a code could be enforced through a certification process for forensic scientists.

Proficiency testing

- ENFSI Standing Committee for Quality and Competence (QCC): *Guidance on the Conduct of Proficiency Tests & Collaborative Excercises within ENFSI* (2005)
- FBI: DNA Advisory Board Quality Assurance Standards for Forensic DNA Testing Labs/ Databasing Labs, 1st July 2009: external proficiency tests twice a year.
- ISO/IEC Guide 43-1:1997

Independence/ oversight?

- What sources are there of professional ethics and external oversight?
- Are there mechanisms to respond to a crisis?
- Checks on other external systems?
- Information Commissioner – Data Protection?
- ACPO? / UKBA?/ NPIA?/ FSRU?
- UK NDNAD – proposals in ‘Keeping the Right People on the NDNAD’ for changes to Strategy Board membership.

Some refs

- **Gough, T.A. ‘**Quality assurance in forensic science: the UK situation *Accreditation and Quality Assurance: Journal for Quality, Comparability and Reliability in Chemical Measurement* (1997) 2: 216–223
- **Kloosterman, A.D.** ‘Credibility of forensic DNA typing is driven by stringent quality standards’ *Accreditation and Quality Assurance: Journal for Quality, Comparability and Reliability in Chemical Measurement* (2001) 6:409-414
- **Levy, Bergman & Frank ‘**Quality assurance in forensic science’ *Accreditation and Quality Assurance: Journal for Quality, Comparability and Reliability in Chemical Measurement* (1999) 4: 253–255
- **Örnemark, Fostel, Straub & van de Kreeke ‘**Policies, requirements and surveys concerning frequency for participation in proficiency testing schemes’ *Accreditation and Quality Assurance: Journal for Quality, Comparability and Reliability in Chemical Measurement* (2004) 9:729–732

Some Links

AICEF-GITAD (Academica Iberoamericana de Criminalistica y Estudios Forenses)
ASCLAD (American Society Crime Lab Directors)
CODIS (The FBI Laboratory's Combined DNA Index System)
EDNAP (European DNA Profiling group),
ENFSI (European Network on Forensic Science Institutes)
EUROPOL (European Police Office)
EUROJUST (EuropeanUnionJudicial Cooperation Unit)
FBI (Federal Bureau of Investigation)
FSRU (Forensic Science Regulation Unit, UK)
GEP-ISFH (Spanish and Portuguese working group - International Society for Forensic Haemogenetics)
Interpol WG on DVI (Working Group on Disaster Victim Identification)
ISFG (International Society for Forensic Genetics)
ISO Standards
SOCA (Serious Organised Crime Agency, UK)
NIFS (National Institute of Forensic Science - Australia)
PCWG (Police Co-operation in the European Union)
SWGDAM (Scientific Working Group on DNA Analysis Methods)
UKAS (UK Accreditation Service)