

DNA Analysis Specialist Group (DNASG)

Minutes of the twenty-seventh meeting held on 17 May 2018, at 5, St Philip's Place,
Colmore Row, Birmingham

1. Welcome and introductions

1.1 The Chair welcomed all to the meeting. A list of attendees is available at Annex A.

2. Minutes of the last meeting

2.1 The group were advised that in order to become compliant with future data protection legislation, published minutes will no longer contain the names of individuals, but instead comments and actions will be attributed to the organisations they represent. It was confirmed the actions will list member's names and this will be circulated with the minutes in a separate document that is not for publication but is for internal and specialist group use only.

2.2 Subject to some minor changes, the minutes of the last meeting were agreed as an accurate reflection of the discussions held and were approved for publication on the Regulator's website.

3. Actions and matters arising

3.1 The matters arising from the previous DNASG meeting were discussed:

3.2 Action 1: *Members to send in any amendments to section 5.8.3 of the Mixtures Interpretation Guidance.* The completed document with the member's amendments had been circulated to QSSG/FSAC for comment. This also covered actions, 3, 4, 5, and 6.

3.3 Action 2: *Members to forward any instances of inadmissible reports, such as streamlined forensic reports (SFR) that are used in court by expert witnesses to the Regulator.* The action has been marked as complete. The Regulator had received some instances already and was dealing with these. Members were asked to continue to share inadmissible reports with the Regulator.

3.4 All other actions were complete, or would be covered under later agenda items.

4. Standards – Mixtures Interpretation

4.1 a. Mixture interpretation

4.2 Members were asked to discuss the guidance document FSR-G-222 on DNA Mixture Interpretation and provide feedback, after which the document would be published. Some minor amendments were noted.

4.3 b. Mixture software validation

4.4 The members were asked to discuss the guidance document FSR-G-223 document on DNA Mixture Interpretation Software Validation, and provide feedback, after which the document would be published. Some minor amendments were noted.

4.5 Members requested clarification on the purpose and scope of the guidance and if this included non-autosomal DNA, as much of the information in the document is specific to autosomal. It was explained that the principles of validation would apply to any DNA mixture interpretation software.

4.6 A member questioned whether it was necessary to include the advice to consider investigating conformance with *Turing's theorem* for validation of the statistical model in the DNA Mixture Interpretation Software Validation guidance, as this may not be standard practice. It was agreed to leave the reference in, on the understanding that providers would explain why they are not carrying out the analysis if they choose not to. It was also viewed as useful advice for people producing the software.

4.7 An action was taken at the last meeting for the Regulator to review PAS 754¹ in collaboration with the Chartered Society for Forensic Sciences prior to modifying the section of the document on Software Development and Testing. It would then be decided if reference to the document should be included in the guidance. Since PAS 754 was not free to access, it was decided to add PAS 754 as available information as the intention of this document was to be freestanding.

4.8 It was highlighted by a member that within the implementation plan, in relation to updates to the mixture software, initial tests are conducted to check the system is working. It was felt that further validation tests in a laboratory environment were not sufficiently described. Additionally no verification software section was included within the mixture software validation document. It was confirmed due to deadlines a section would not be able to be produced before the document is published. It was decided a paragraph could be added at a later date when the published document is reviewed.

5. Work Plan Review

5.1 The FSR Codes of Practice and Conduct for DNA analysis (FSR-C-108) needs to be reviewed and updated. Working groups of the DNA SG should be established to carry out these reviews and should meet as soon as possible to commence work. A Y-STR writing group is required to draft a guidance document.

Action 1: FRSU to finalise the writing group members for the following areas:

DNA interpretation

Mixture proficiency.

Codes of Practice for DNA analysis.

Y-STR

¹ PAS 754 describes an applicable approach to achieving trustworthy software. Available from: <https://shop.bsigroup.com/ProductDetail/?pid=000000000030284608>

5.2 A relationship testing (RT) guidance questionnaire had been developed and sent out to organisations that carry out relationship testing in forensic science. The results of this questionnaire would be used to identify the areas to be included when drafting the guidelines. All responses were expected to have been received by the end of June.

Action 2: Key Forensics representative to circulate pdf of the responses received to relationship testing guidance questionnaire to the RT working group

5.3 At the last meeting of the DNASG, a discussion was held around whether it would be necessary to reform the mRNA working group. There had been ongoing work by a variety of organisations looking into identification of body fluids using mRNA testing, however standard approach to testing did not exist due to the infancy of the technology. A scoping meeting had been held, where it was discovered that no two organisations or university were using the same type of mRNA testing systems. It was unclear which testing system would be preferred.

5.4 Another emerging technology that the group may wish to consider was the use of next generation sequencing (NGS). The EU-funded Visage Project² was investigating use of NGS for intelligence purposes. It was discussed whether an additional working group should be established to address NGS, or whether this could be covered by the mRNA working group. It was agreed that a survey should be produced to assess the capabilities of emerging DNA technologies for particular cases.

Action 3: FSRU to carry out a review of emerging genetic technologies and their applications and distribute this to the DNASG.

6. Forensic Information Databases Service (FINDS) update

6.1 The FIND Steering Board (SB) were proposing that all markers (loci) generated for DNA profiles should be retained on the missing persons DNA database. Currently, only DNA-17 profiles are retained. It would be useful for kinship profiles (from missing person's relatives) if they had the additional loci available. This would also include Y-STR profiles and was valuable for the requests for comparison with the more comprehensive international profiles. The members were asked for thoughts on the proposal and if they had any objections. The group were in agreement that all available loci information should be held. FINDS agreed to circulate the draft strategy board paper to selected members who would review the document on behalf of the group.

Action 4: FINDS to circulate the missing persons retention proposal to selected members of the DNASG for their feedback.

7. Professional and scientific updates

7.1 a. Association of Forensic Science Providers (AFSP) DNASG

7.2 The Working Group had met with a representative from the Faculty of Forensic and Legal Medicine (FFLM) to discuss the group's input to updating 'A Physician's Guide to Clinical Forensic Medicine'. It was agreed the group will provide the FFLM with their input.

² <http://www.visage-h2020.eu/>

7.3 The AFSP group provided members with an update on their projects. The Y-STR Haplotype Reference Database (YHRD) expansion project has been completed, and the final samples had been successfully uploaded to the YHRD database. There had been 4200 samples from UK and Ireland uploaded to the database.

7.4 It was confirmed that the mixture evaluation project had been completed. The project had focused on re-analysing the mixture samples. The results of the project would be discussed in their next meeting and would be published.

Action 5: The AFSP sub-group to provide the results from the mixture evaluation project at the next meeting of the DNASG.

7.5 b. United Kingdom Accreditation Service (UKAS) update

7.6 The current chief executive of UKAS has retired and Matt Gantley has been announced as the new chief executive.

7.6 Between 1st March 2018 and until 31st December 2018, assessment against the updated version of ISO 17025³ would be optional for new organisations seeking accreditation. From 1st January 2019 all organisations would be assessed against the ISO IEC/17025:2017 only. A full time table can be located on the UKAS website.⁴ A Assessment Readiness Gap Analysis is also available on the UKAS website.

7.7 c. European Network of Forensic Science Institutes (ENFSI) update

7.8 A document had been sent to members regarding a change in policy in membership for ENFSI and in access of documents. A new chair had been appointed to the methods analysis group. The agenda items of the ENFSI DNA working group meeting held in April were included for their information.

7.9 Members of the ENFSI DNA working group were asked if they wanted to volunteer in assisting with reviewing a DNA pattern recognition and comparison document. If members would like to volunteer, they were asked to let the FSRU team know.

7.10 Not many manufacturers were currently using the International Commission on Missing Persons (ICMP) elimination database. A meeting with manufacturers was planned in June to assess whether any would like to move across to the ICMP elimination database rather than using their current providers.

7.11 Members were advised a 'rapid DNA' workshop organised by ENFSI and the Metropolitan Police Service is being held by the Metropolitan Police Service on the 21-22 May 2018.

8. AOB

8.1 A request had been received from the French National Forensic Police Institute in Lyon, France. As part of their project, they require samples of artificial DNA mixture

³ Available from: <https://www.iso.org/standard/66912.html>

⁴ Available from: <https://www.ukas.com/news/technical-bulletin-isoiec-17025-2017-guidance-for-accredited-and-applicant-laboratories/>

samples which must not have been obtained from crime stains. Members were advised to contact the Institute if they can assist.

8.2 A member highlighted that any changes related to the FINDS databases should be communicated with the Forensic Science Providers (FSP's) as early as possible. There have been recent IT changes that FSP's were advised of at the last moment.

8.3 The representative from Cellmark Forensic Services asked whether surrogate reference controls, can be used for criminal casework. For example if the original sample containing the DNA had been destroyed, and if there was difficulty in getting another sample, or should it only be used for intelligence only.

Action 6: The member will email the query, about whether in which circumstances surrogate reference controls can be used for criminal casework and this would be forwarded to the regulator for guidance.

10. Date of the next meeting

10.1 6 November 2018 in Birmingham

Annex A

Organisation Representatives Present:

Principal Forensic Services (chair)
Forensic Service of Northern Ireland
Key Forensic Services
Scottish Police Authority
Chartered Society of Forensic
Sciences
Royal Statistical Society
Forensic Science Ireland
International Society for Forensic
Genetics
Eurofins Forensic Services
Cellmark Forensic Services
National DNA Database
Body Fluid Forum
United Kingdom Accreditation Service
(UKAS)
Forensic Science Regulation Unit
Home Office Science Secretariat
Metropolitan Police Service

Apologies:

Forensic Science Regulator
Crime Prosecution Service (CPS)