

Message from the Regulator

It is imperative that all staff working in forensic science understand the importance and impact of their work in the criminal justice system (CJS), the importance of quality standards and the provision of robust science. I expect senior management in all organisations to champion the fact that quality is not a conflicting priority with delivery. They should also foster a culture where staff know how to escalate improvement ideas as well as reporting near misses, non-conformities and challenging actions or decisions that detract from quality or good science.

The provisions of the **Codes of Practice and Conduct** seek to reduce the risk of subconscious vested interest (for example, confirmation bias) that those involved with method development, validation studies and even operational delivery may unwittingly carry into the implementation of a method. The Codes expect a qualified individual with a sufficient level of independence to sign off the validation as adequate and complete prior to implementation. In very small organisations, where all those technically qualified are likely to be involved directly with the method development or validation study, it is possible that an external 'critical friend' may need to be sought. Senior management in slightly larger organisations may decide to empower the quality manager to fulfil part of that role, provided the quality manager has an advanced level of expertise in the technical area concerned and in experimental design. In larger research-oriented organisations, a chief scientist or chief scientific officer can fulfil this role as well as ensuring that quality and science are represented at board level on an equal par with the operational needs of the organisation.

On a separate note, a number of misunderstandings of the requirements for accreditation in October 2017 have recently come to my attention. The requirements are set out in full in the table on pages 3–7 of issue 3 of the Codes, available at www.gov.uk/government/publications/forensic-science-providers-codes-of-practice-and-conduct-2016



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Forensic Science Regulator

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Issues with Forensic Toxicology

Improper manipulation of quality control data within a forensic toxicology provider was reported to the Forensic Science Regulator in January this year. In addition to the quality investigation, which involves the company itself, the UK Accreditation Service (UKAS) and the Regulator's office, there is an ongoing police investigation into these events; two individuals who were employees of the organisation concerned have been arrested, although neither has yet been charged with any offence. The most substantial impact thus far has been that all forensic toxicology testing undertaken by them during the affected period must be considered to be unreliable. A major programme of re-testing has therefore been initiated. Because of the ongoing police investigation, it is not possible to comment further on the details or the motives of the individuals concerned.

The organisation concerned held accreditation to the appropriate quality standard, but the malpractice was not discovered by the usual quality checks. This raises a number of questions, including:

- a. Whether or not malpractice is more widespread than at one organisation; and
- b. Whether or not the quality standards need to be strengthened.

The Regulator has asked all major forensic toxicology suppliers to review their practices and safeguards against malpractice, and to conduct

a detailed audit of a random selection of cases, down to the level of raw data, to determine whether or not the issues could be more widespread.

The Forensic Science Advisory Council (FSAC) considered a number of measures to strengthen provisions to reduce the risk of malpractice and/or increase the probability of rapid detection. However, no reasonable set of quality standards could guarantee to prevent determined malpractice by skilled but corrupt personnel and the inevitable cost of adding additional safeguards should be balanced against risk. For this reason, the results of the audits of other toxicology providers will be used to inform the level of risk and hence any action to strengthen safeguards.

An update to the Regulator's *Codes of Practice and Conduct* (the Codes) will shortly be published, and provides a good opportunity to reinforce to everyone involved in forensic science the utmost importance of integrity.

Criminal Practice Directions

In October last year the Criminal Practice Directions (CPD) were amended to introduce a new Part 19B. This sets out a number of declarations that must be incorporated in the report, other than a level 1 staged forensic report, issued by an expert witness. The purpose of these declarations is to ensure that certain provisions of the Criminal Procedure Rules (CrimPR) were complied with. The CPD were amended again in March to clarify the required declarations. The current version of the CPD can be found at: www.justice.gov.uk/courts/procedure-rules/criminal/rulesmenu-2015

The Regulator has drafted a series of declarations for inclusion in factual statements and experts' reports, which would cover all relevant requirements of statute, case law, CrimPR and the CPD. This has been agreed with stakeholders and will be published in the near future in the collection at: www.gov.uk/government/collections/fsr-legal-guidance

Code of Conduct for Forensic Science Practitioners

The Regulator requires that, to ensure compliance with the expectations of the CJS, compliance, or non-compliance, with the Code of Conduct shall be declared in statements/reports intended for court (therefore excluding SFR1 but including other factual statements and, for experts, this declaration forms part of the CPD 19B declaration). The Code of Conduct has been revised so compliance with it also means adherence to the standards set out in the Statement of Standards and Accreditation published by the Regulator within the Codes of Practice and Conduct.

As a practitioner you must:

1. Recognise that your overriding duty is to the court and to the administration of justice.
2. Act with honesty, integrity, objectivity and impartiality.
3. Comply with the legal obligations imposed on practitioners (and specifically expert witnesses) in the jurisdiction(s) in which you practise.
4. Declare, at the earliest opportunity, any personal, business, financial and/or other interest that could be perceived as a potential conflict of interest.
5. Act, and in particular provide expert advice and evidence, only within the limits of your professional competence.
6. Take all reasonable steps to maintain and develop your professional competence, taking account of material research and developments within the relevant field.
7. Inform those instructing you, in writing, of any information that may reasonably be considered to undermine either your credibility as a practitioner or the reliability of the material you produce and include this information with/within any written report to those instructing you.
8. Establish the integrity and continuity of items as they come into your possession, and ensure that these are maintained whilst in your possession.
9. Seek access to exhibits, productions and information that may have a significant impact on the output from your work¹ and record both the request for material and the result of that request.
10. Conduct casework using methods of demonstrable validity and comply with the quality standards set by the Regulator² relevant to the area in which you work.
11. Be prepared to review any casework if any new information or developments are identified that would significantly impact on the output from your work.¹
12. Ensure that the relevant instructing party is informed where you have good grounds for believing that a situation may result in a miscarriage of justice, either by (a) invoking the appropriate organisational processes for addressing potential miscarriages of justice or (b) (where you do not operate as part of an organisation or your organisation does not have the appropriate procedures) by informing the party directly.
13. Preserve confidentiality unless the law obliges, a court/tribunal orders, or a customer explicitly authorises disclosure.

¹ Particularly conclusions reported in any report or in testimony.

² As set out in the Statement of Standards and Accreditation within the Forensic Science Regulator's Codes of Practice and Conduct.

Access to Exhibits

In the Codes there is a requirement to “seek access to exhibits/productions/information that may have a significant impact on your findings”.

This is clearly a sensible requirement. It has, however, given rise to a number of issues.

Some have interpreted this statement as requiring the expert to include a section in their report setting out every potential examination that may have been undertaken. This is not a reasonable interpretation of the requirement.

If, however, an expert has not had access to materials (or information) or has been unable to perform (or obtain results from) any test or examination, they need to consider whether this affects the opinion that they can express. If that is the case then, in compliance with the CrimPR and the basic obligations placed on expert witnesses, the expert is required to set out the issue in their report and explain its impact on the opinion that they can express. This requirement overrides any contractual obligation to their immediate customer, such as a prohibition on including information on further testing that was recommended but not authorised.

Sample Integrity and Contamination Avoidance

In the cases of *R v FNC* [2015] EWCA Crim 1732 and *R v Tsekiri* [2017] EWCA Crim 40, the Court of Appeal has paved the way for cases to proceed with DNA as the sole evidence. While it would be unusual for a case to proceed on the basis of DNA evidence alone, the potential impact of a substantial contamination event or sample handling error could be significantly greater in such a case.

Work to populate the Central Elimination Database (CED) with police officer profiles has thus far yielded over 1,400 matches between police officer profiles and profiles stored on the National DNA Database® (NDNAD) from crimes. Not all of the investigations are yet complete nor are all relevant profiles on the CED, but the number of matches underlines that DNA contamination is not an exaggerated theoretical risk but a real issue. A suite of guidance to assist with minimising the occurrence of contamination and detecting contamination that does occur is available at: www.gov.uk/government/collections/forensic-science-regulator-technical-guidance

All individuals and organisations involved at any part of the DNA supply chain must familiarise themselves with the guidance and ensure that it is implemented.

Ensuring that items are packaged correctly and do not have their integrity compromised by removing them from their packaging in an inappropriate environment to allow photographs to be taken is critical, as is ensuring that any potential breaches of integrity are communicated clearly to those processing the DNA samples.

Organisations must ensure that their procedures to minimise the risk of sample handling errors are effective, including in the laboratory, at crime scenes and in custody suites. Relying solely on human witnessing to reduce risk is unlikely to be sufficiently effective.

Item Loss

The nature of the provision of forensic science services means that items have to be transported between police forces and forensic science providers. This normally involves the items being sealed in a secure container at the start of the transportation process and the seal being broken on, or soon after, arrival. Most organisations have a standard operating procedure to ensure that at the time the seal is broken, the contents of the container are checked against the recorded contents to ensure that all items have been delivered and are in an acceptable condition.

Given the number of items being transported between forces and forensic science providers it is inevitable that some items will go astray. Whilst the aim must be that such incidents are minimised it has to be recognised that they will occur.

Over recent years a number of incidents where items have been mislaid have been reported to the Regulator. In some of these incidents the situation has been exacerbated by a failure to check the contents of the containers when the seal was broken.

The circumstances of the incidents vary but in each case, for pragmatic reasons, the seal on the container was broken but the contents not checked. A common, but not universal, feature was the removal of items from the container for urgent examination and the resealing of the

container. The items removed were often taken to another part of the site, or to another site altogether.

The result is that when the contents of the container are later checked, and it is determined that an item is missing, it is not possible to be certain whether the item was in the container at the time the seal was broken or not. As a result it is not clear whether the item should be in the possession of the force or the provider. The number of locations where the item might be found within the provider's premises has increased.

The result is often a considerable amount of work in searching for the item and, ultimately, an inability to determine where the item is or who is responsible for its loss.

The Regulator therefore strongly recommends that when any transfer container's seal is broken, the contents of the container are checked in full immediately. Any further losses of exhibits where the contents of the container were not checked immediately will be viewed as a major failure on the part of the receiving organisation.

Potential for Funded Training Places

The apprenticeship levy is a 0.5 per cent (%) levy on the wage bill of all organisations with a total wage bill of at least £3 million per annum. Organisations will be able to benefit from this money by enabling their new or existing employees to access an approved training or education programme.

Organisations with a wage bill of less than £3 million will still be able to access the levy to support approved training or education of their new or existing employees, but may have to pay up to 10 per cent of the cost.

Apprenticeship standards for each job role show what an 'apprentice' will be doing and the skills required of them. The standards are developed by employer groups known as 'trailblazers'. Each trailblazer must comprise at least ten employees from different organisations working in that speciality and must ensure that the roles they are considering are not already being addressed by other trailblazer groups.

The Health Justice Trailblazer Group has been formed to identify the roles within the health justice sector and approve education and training programmes that will enable employers to train new recruits and/or increase the skills of their current work force, funded by the apprenticeship levy.

The group will develop apprenticeship standards for nurses, paramedics, doctors, crisis workers,

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Potential for Funded Training Places

independent sexual violence advisors and healthcare support workers who work in health justice, such as the Border Agency, temporary detention and sexual assault referral centre settings. Apprenticeship standards for healthcare professionals working in prisons will be addressed by other trailblazer groups.

If your organisation is an employer in the health justice sector and you have not yet signed up to the Health Justice Trailblazer Group then please contact

Professor Vanessa Webb at:
vanessa.webb2@nhs.net

or

Kate Woodfield at:
kate.woodfield@nhft.nhs.uk

for more information.

For more information on the Apprenticeship Levy see: www.gov.uk/government/publications/apprenticeship-levy-how-it-will-work/apprenticeship-levy-how-it-will-work

Fingerprints

Following the public consultation of the *Fingermark Visualisation and Imaging* appendix to the Regulator's Codes, all comments received were taken into account for the revision of the final version, which has now been published.

Additionally, the Fingerprint Quality Standards Specialist Group (FQSSG) took the opportunity to review and update the *Fingerprint Comparison* appendix by adding two informative annexes and updating the *Fingerprint Terminology, Definitions and Acronyms* document to align terminology with the Home Office *Fingermark Visualisation Manual* and biometric terminology appropriate for dactyloscopic search and comparison systems.

The compliance deadline for the 'Fingerprint Comparison' and 'Fingermark Visualisation and Imaging' appendices is October 2018. All three documents are available at: www.gov.uk/government/collections/forensic-science-providers-codes-of-practice-and-conduct#appendices

In March 2017 the Home Office Centre for Applied Science and Technology (CAST) issued its latest *Fingermark Visualisation Newsletter*. It contains a range of articles about new or improved ways to visualisation marks across a range of substrates, from polymer banknotes

to walls at crime scenes. It also contains an educational article around the fundamental principles of fingermark visualisation, articles on the benefits of cross-organisational working via collaborative exercises, and workshops organised by the European Network of Forensic Science Institutes (ENFSI) Fingerprint Working Group.

To coincide with the launch of the new Bank of England (BoE) polymer £10 banknote CAST Forensics have updated and expanded their advice for the visualisation of fingermarks on BoE polymer banknotes. The advice is presented in the style of a Fingermark Visualisation Manual Chart and also contains an 'Examples & Tips' page to help maximise recovery of fingermarks on these challenging surfaces.

CAST will shortly be publishing their advice for the visualisation of fingermarks on BoE polymer £10 banknotes and a revision to its *Fingerprint Source Book* to bring it into line with the *Fingermark Visualisation Manual*. The *Fingerprint Source Book*, and other fingerprint publications are available at:

www.gov.uk/government/collections/centre-for-applied-science-and-technology-information#fingermark-documents

International Standards Committee on Conformity Assessment

The ISO Committee on Conformity Assessment (CASCO) develops policy, publishes standards and works on issues relating to conformity assessment. The committee has carried out a review of ISO 17025 and ISO 17011. The ISO DIS17025 commenting period is now closed and the publication of the updated standard ISO 17025 is expected sometime towards the end of this calendar year. UKAS will announce the transitional period for organisations to move to the revised standards. With the revision of ISO 17020 the permitted transitional period was up to 3 years, however the timescale for the transition of 17025 is yet to be confirmed.

Further details on the work of CASCO can be found at: www.iso.org/casco.html

International Standards ISO Technical Committee 272

The ISO Technical Committee 272 (ISO/TC 272) met on 8 –11 May 2017 in Madrid, Spain to progress evidence collection standards and a vocabulary standard. At the ISO/TC 272 meeting both standards were put forward to the draft international standard phase as ISO DIS 21043-1 (vocabulary) and ISO DIS 21043-2 (evidence collection).

The BSI national mirror committee (FSM/1), chaired by the Regulator, is the UK's route to provide comments on the work of ISO/TC 272. The UK already has standards set for forensic science (mainly ISO 17025 and ISO 17020) and the Regulator wishes to avoid adding additional requirements unless there is a demonstrable need to do so. At present there is no requirement set for UK forensic science units to comply with these new international standards.

Further details on the work of the ISO/TC 272 can be found at: www.iso.org/iso/home/standards_development/list_of_iso_technical_committees/iso_technical_committee.htm?commid=4395817.

BS ENISO 21043 -1 and **BS ENISO 21043-2** are available for public comment until 6 and 10 October respectively. Available through the BSI standards development portal: standardsdevelopment.bsigroup.com/

Regulator's Annual Conference

The Regulator held her annual conference on 8 March 2017, concentrating again on strengthening forensic science quality. This theme was explored through presentations from a range of perspectives across the CJS. Michael Mansfield QC spoke from the defence barrister's perspective about the human element in forensic science, the potential for bias and the need for forensic scientists to be proactive and vocal in standing up for provision of high quality, robust forensic science.

Detective Inspector Ian Iliffe of West Midlands Police gave an investigator's perspective on developments in DNA and fingerprints, with particular reference to Operation Cantata (the murder of Ronald Smith).

Laurie Elks, a former Criminal Cases Review Commissioner spoke of a range of forensic errors in cases examined by the CCRC, in order that lessons from these cases could inform future improvement.

Karen Alexander, representing the Body Fluid Forum (BFF) of the Association of Forensic Science Providers, gave an overview of the collaborative studies undertaken by the BFF to support forensic scientists in evaluative interpretation of biological evidence.

Finally Jonathan Solly, Secretary to the CrimPR Committee, spoke about the CrimPR, CPD, and the legal obligations for expert witnesses.

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Regulator's Annual Conference

The conference supported Silence of Suicide, which was founded by Michael Mansfield QC and his partner Yvette Greenway. Further information can be found at:

www.sossilenceofsuicide.org

Listing of Assistants

At the conference one of the issues raised, in discussions with Jonathan Solly, was the impact of the requirement to list all assistants, and certain associated information, set out in Rule 19.4(e) of the CrimPR.

Following the conference the Regulator's office has been in discussions with the Crown Prosecution Service and a number of providers about the requirement, the impact of the requirement and possible alternative approaches.

A proposal for a more pragmatic approach has been sent to the CrimPR Committee.

JISC (formerly the Joint Information Systems Committee, an organisation that provides digital solutions to the education sector) is working with professionals in the criminal justice sector to develop an online research repository, currently called *ForSci*. The database will contain undergraduate and postgraduate research outputs from all relevant areas and disciplines, including policing, criminology and forensic science. Following an online survey a clear mandate for the *ForSci* product was identified and allowed the team to establish many of the requirements for all intended users, including practitioners, researchers and academics in all areas of the criminal justice sector. *ForSci* will be one of the tools to support increased communication between industry professionals, linking directly with the Knowledge Transfer Network (KTN) Forensic Science Innovation Database and supported by the Forensic (Science) Investigation, Technology Information Network, which fosters relationships between academic institutions, police forces and forensic providers.

A workshop following the survey brought JISC together with a broad range of public and private users, including representatives from the College of Policing, Chartered Society of Forensic Sciences and KTN Forensic Science. Discussions centred on six repository requirements previously undetermined by the online survey: registration; security; quality

ForSci

criteria for uploading content; embargos; licensing requirements; and importantly the background workflow requirements of repository users.

It was identified that flexibility in the requirements is key to ensure that ForSci is accessible to the broad range of users across disciplines and organisations. A detailed report and journal article outlining the outcomes of this workshop will be published in due course. JISC intends that a beta version of the database will be available for users to test by the end of 2017. If you are interested in user testing to provide feedback and support the development of this repository, please get in touch with Dr Rachel Bolton-King at: r.bolton-king@staffs.ac.uk.

Consultations

Mixture Interpretation Guidance

Mixture Software Validation Guidance

Both consultations close 05 November 2017.

Publications

The main publications on the Regulator's standards framework are available from:

www.gov.uk/government/collections/forensic-science-providers-codes-of-practice-and-conduct

Guidance documents on legal obligations for expert witnesses and those involved in forensic pathology investigations are available from:

www.gov.uk/government/collections/fsr-legal-guidance

Since the last newsletter, the following have been published:

Drug Driving: Use of Legal Limits, Issue 2

Forensic Science Regulator Annual Report 2016

Legal Obligations: Issue 5

Fingerprint Terminology, Definitions and Acronyms

Fingermark Visualisation and Imaging

Fingerprint Comparison

Events of Interest

Chartered Society of Forensic Sciences **Validation and Verification Workshop**

Date: 11 October 2017

Venue: The Studio, 7 Cannon Street,
Birmingham B2 5EP

Knowledge Transfer Network (KTN) Annual **Forensic Science Technology Showcase** is the highlight of the KTN forensic science programme. This event is free to attend. However, you are required to register your attendance through the Chartered Society of Forensic Sciences [website](#)

Date: 2 November

Time: 10 am – 2 pm

Venue: Novotel Nottingham Derby Hotel
(Jaquard Lace Suite)

Chartered Society of Forensic Sciences **Annual Autumn Conference - Forensic Biometrics: the future**

Date: 2–3 November 2017

Venue: Novotel Nottingham Derby Hotel

Chartered Society of Forensic Sciences **Annual Student Conference**

Date: 2 December 2017

Venue: University of Lincoln

Contact

Comments, feedback and suggestions for topics are welcomed and should be sent to:

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www.gov.uk/government/organisations/forensic-science-regulator

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