Written evidence from Peter Sommer (UKR0004)

Peter Sommer is a former Professor of Digital Evidence at Birmingham City University where he is a Visiting Professor. He is also a Visiting Professor at de Monfort University and has held posts/taught at the London School of Economics and other universities. He has acted as a Specialist Advisor to the Common Trade & Industry Select Committee and the Joint Select Committee on the Investigatory Powers legislation as well as giving evidence to other Lords and Commons select committees. He was joint lead assessor for the digital forensics specialism at the Home Office sponsored Council for the Registration of Forensic Practitioners and sat on working parties for the first two Forensic Science Regulators. Currently his main income is acting as an expert witness for prosecution, defence and in civil matters.

1. This submission addresses questions 1, 7, 8, 9 and 10 of your Call for Evidence. I believe your work will usefully be informed by the examination of a case study where the activities of a statutory regulator are unintentionally causing adverse effects which undermine the apparent aims for which the regulator was created.

2. The regulator is the Forensic Science Regulator. The accusation is that its Code of Practice is in the circumstances too unrealistically prescriptive and costly to implement. Laboratories and by implication scientists are required to be externally accredited if they are to provide evidence in legal proceedings or must prove exceptions. The cost consequence is to drive providers out of the market serving the criminal justice system.

3. The Forensic Science Regulator is a public appointee under the Forensic Science Regulator Act 2021. Its Code of Practice, published under s 2 of the Act, has statutory force with effect from 2 October 2023. S 11 of the Act defines "forensic science activity" as an activity relating to the application of scientific method relating to the detection or investigation of crime in England and Wales and to the preparation, analysis or presentation of evidence in criminal proceedings in England and Wales. Its priorities and aims are to see appropriate quality standards are in place for all forensic science disciplines and that there is full compliance with the quality standards requirements

across all forensic science disciplines, from crime scene to court and in all sectors,[1]

4. The Act is of potential interest to the Committee's inquiry in that it contains no provision for review or gauging of success. The sole requirement of the Regulator is to issue a Code which is accompanied by powers of investigation.

5. The scope of and current issues surrounding forensic science were examined by the House of Lords Science and Technology Committee in 2019[2]. It recognised the following activities:

    - Trace" or "wet" forensics: where a laboratory carries out one of a series of standard tests to identify or match some material found at a scene of crime or associated with an individual
    - Interpretation where the result of the examination of the trace is ambiguous but nevertheless some sort of inference or conclusion is desired. "Interpretation" may mean assigning a statistical probability of likelihood, but it can also involve providing a contextual explanation or hypothesis about events
    - Reconstruction of events: where large numbers of different "traces" plus observations and testimonial evidence are combined by a skilled investigator who produces a reconstruction of a sequence of events. Examples include road traffic accidents, murder scenes, the use of mobile phone geolocation data to plot the movements of its owner over time, and the examination of a computer or smart phone to show planning and a course of action related to a crime
    - Opinion evidence: where an expert has looked at a range of circumstances and offers opinion on the basis of skill, training and experience

6. The current Code is 362 pages long and has 110 paragraphs plus references and acronyms. [3]

7. Successive FSRs decided to base regulation on a laboratory competence of testing and calibration standard, ISO 17025: 2017[4], accreditation for which is assessed by UKAS, the United

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[1] https://www.gov.uk/government/organisations/forensic-science-regulator/about
[2] https://publications.parliament.uk/pa/ld201719/ldselect/ldsctech/333/333.pdf
[3] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1178250/FINAL_2023.1.18_Code_of_Practice.pdf
[4] ISO 17020 is used for "scene of crime" investigation.

Kingdom Accreditation Service. The process involves producing documentation to prove compliance against a very extensive checklist of requirements. These can be viewed in the published Code of Practice. There are costs associated with understanding what is required, in producing the necessary documentation and then in fees to assessors.

8. The list of requirements has been developed through a series of FSR working groups. Because the sole criteria is quality the result is long exhaustive lists covering practitioner competence, technical records, accommodation and environmental conditions, storage, equipment, selection of methods and strategy, methods validation, estimate of uncertainty, control of data, handling of items, quality assurance, reporting methods. The precise detail varies between different disciplines.

9. The first problem with this is cost. The regulator is incentivised to add as many requirements as can be imagined if only to show thoroughness and a guard against a charge of inadequacy in the event of a breakdown event. "More regulations means better regulation". Most forensic science is funded, if indirectly, by the taxpayer – by the police in the case of the prosecution and by the Legal Aid Authority in the case of the defence. More immediately police and defence experts operate under existing severe budget constraints and no additional funding is being made available.

10. Because the FSR criteria only mention quality no consideration is given to the alternative of providing Good Practice Guidance. These guides would contain advice similar to the Code requirements but without the cost of proving compliance to an external assessor. Failure to follow good practice would still be the basis of criticism.

11. The second problem is that the checklist approach only works well when there are obvious physical activities to be tracked. Interpretation and reconstruction activities can only be really assessed by looking at an expert report and seeing that the steps involved in reaching conclusions are fully described, including the consideration of alternative hypotheses. But this type of assessment is already the subject of the Criminal Procedure Rules which set out the content and expectations of expert reports[5]. FSR activity, so far not very extensive, duplicates this less effectively.

12. I can illustrate this with reference to my own speciality: digital evidence. Two sections of the FSR Code apply: 82 – data

[5] CrimPR 19 and Criminal Procedure Rule 7.

capture, processing, analysis from digital storage devices and 108 – digital forensics. NPCC say that 90% of all cases in England and Wales have a digital element, HMICFRS said in December 2022 there was a backlog of 25,000 devices to be examined. My own practice as an independent expert instructed by both prosecution and defence has included, narcotics trafficking, fraud, child sexual abuse, Official Secrets, terrorism, encryption, harassment and global computer misuse.

13. The first stage in most investigations is to freeze the scene by safely acquiring data from digital devices. These are more or less standard processes which need updating every so often. This stage fits in well with the "laboratory processes" aspect of ISO 17025. But this takes us only so far as showing what files can be retrieved from the device.

14. In order to secure a conviction however it is usually necessary to demonstrate a sequence of events and criminal intent. This applies to such offences as distribution of illegal sexual material, preparation for acts of terrorism, fraud, computer hacking and many others. The task of the technician/expert is to construct explanations based on the location of files on a device, time/date stamps and other metadata, log and configuration files and Internet history files. The technician/expert may need to work closely with a lay detective[6]. The resulting expert report, as already mentioned, is subject to the disciplines of Criminal Procedure Rule 19[7].

15. There is a further feature of digital forensics: the rapidity of change in hardware, operating systems, software apps and social/commercial structures means that development of tools has to occur at the same speed. This means that the FSR's preferred tool validation methods may be too slow even though results are required in a court case. The solution here already exists in the criminal procedure – the expert hired by defence lawyers but with an over-riding duty to the court, in effect peer review of a newly developed tool/method. This approach, including meetings between experts as provided in CrimPR19.6, has had to be deployed in one of the largest of current criminal investigations / set of trials, NCA Operation Venetic. This involves strongly encrypted smartphones as used by serious organised crime / narcotics traffickers. The novel evidence includes the claimed results of official hacking methods –

[6] It is worth pointing out that the definition of "forensic science activity" in s 11 FSRA 2021 appears to include some of the work of law enforcement detectives

[7] A proposed ISO 27042 for analysis and interpretation looks to be redundant

"equipment interference" – for which no standard operating procedure and tools exist.

16. But that implies a cadre of experts willing to accept defence instructions. A standard LAA hourly rate of £84 has to pay not only overheads, equipment, software, training and insurance but also, under the FSR's preferences, the costs of compliance with the Code.

17. In effect many independent digital forensic experts are no longer taking criminal instructions because they are not financially viable. The FSR scheme, rather than improving quality standards is reducing the number of practitioners available to the criminal justice system. Many police forces have yet to comply with the Code.

18. I conclude with some recommendations:

    a. Regulations about quality and performance should be closely linked to evidenced expectations of wrongs to be prevented or mitigated

    b. Regulators when producing regulations should be required to include value for money in terms of the potential wrongs to be mitigated. Costs of regulation compliance should be proportionate to expected financial impact of occurrences of failure

    c. Statutes setting up individual regulators should include criteria for assessing success and value for money

    d. Statutes setting up individual regulators should specify who or which body is responsible for assessing success of their activities

    e. In the case of forensic science there should be greater clarity over the border between forensic science regulation and court procedures which cover expert evidence

    f. Forensic science regulation should concentrate on good practice guidance as opposed to formal accreditation against extensive criteria. The Regulator should retain powers of investigation.

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