National Ballistics Intelligence Service (NABIS) – Written evidence (FRS0043)

Forensic Science Review

Questions

1. Is forensic science contributing to the delivery of justice in the UK?

From a NABIS perspective, there is a considerable contribution. This varies from absolutely critical evidence enabling prosecution and conviction, as demonstrated in a recent case involving the prosecution of an individual who was selling antique firearms and ammunition to criminals. The investigation, driven by NABIS forensic evidence over seven years; the evidence was instrumental in the apprehension and conviction (30 years) of the individual involved. There are also considerable intelligence benefits that are not quite so easy to evidence, but I think it would be accepted that the work done by the NABIS laboratories is invaluable in this respect, particularly in high gun-crime forces.

2. What are the current strengths and weaknesses of forensic science in support of justice?

I would say that certain aspects of forensic science are still amongst the best in the world. Both commercial and public sector forensic providers develop and use techniques that are at the cutting edge of the technology available. At the other end of the scale, more traditional types of forensic science, such as fingerprints, continue to be critical.

The greatest weakness, however, is that the service is fragmented and tends to be cost driven, rather than investigation driven. In addition, in my opinion the quality systems that have to be put in place to guarantee the integrity of forensic evidence, and the associated costs, are poorly understood by the police service. A good example of this is the current situation with police forces providing firearms classification services.

NABIS are aware of the national Transforming Forensics programme that is taking place. Their work may address some of the current issues in Policing. If a submission to the review hasn’t been made then it may be an area the Lords wish to follow up.

Understanding and use of Forensic Science in the Criminal Justice System

3. What is the scientific evidence base for the use of forensic techniques in the investigation and prosecution of crimes? Are there any gaps in that evidence base?

All forensic techniques accredited to ISO 17025 should be scientifically validated to the satisfaction of UKAS. This is the same throughout Europe. There are certain techniques, though, particularly in digital forensics, that I understand present serious difficulties in terms of validation.

4. How can the Criminal Justice System be equipped with robust, accurate and transparent forensic science? What channels of communication are needed between scientists, lawyers and the judiciary?
NABIS has recently seen the benefits of working closely with council, analysing problems of getting complex evidence across to the jury and even carrying out presentation to “mock juries” made up of police specials in order to identify areas where a real jury may struggle. Extensive use was also made of videos to demonstrate certain aspects of the case and each jury member being given a box of ammunition components so that they could look at the items that were being described in court. All the lessons learned from this case were captured in debrief. For complex cases involving forensic science, this would appear to be best practice.

5. What is the level of understanding of forensic science within the Criminal Justice System amongst lawyers, judges and juries? How can it be improved?

In general, I think there is limited understanding of forensic science. In particular, the lack of accreditation is almost never challenged in court, probably because of the lack of understanding of its significance in ensuring the veracity of the evidence presented. This is even more true with independent defence, who are invariable unaccredited.

6. Is the current training available for practitioners, lawyers and the judiciary appropriate?

In 2018, NABIS has run three courses on Forensic ballistics for CPS lawyers, but in the scheme of training in all areas of forensic science, this is a drop in the ocean. In 1990, a National Training Centre for Scientific Support was set up in Durham to ensure that all fingerprint experts, crime scene investigators and other practitioners were trained to a national standard by appropriate experts. This was a response to miscarriages of justice in the 1970s and 1980s. Despite the fact that all the reasons for setting up the National Centre still exist, a decision was made to close the facility in 2017. It is unclear what, if anything, has replaced this facility, although the College of Policing is responsible for delivering a credible alternative. I understand the approach will be that training will be delivered locally to a national standard; however I personally have concerns regarding this approach.

Standards and regulation

7. Is the current market for forensic services in England and Wales sustainable? Are changes needed to ensure forensic science provision is maintained at the level required? What are the risks of a market approach, for example what happens if a provider goes out of business? And what is the impact on quality?

It seems unlikely that the current market is capable of sustaining the three main commercial forensic providers. In addition, the cost driven market is an impediment to the same relationship that was possible between police forces and the old Home Office Forensic Science Service. The NABIS 2021 project identified a number of areas in firearms where there is a shortage of expertise, most clearly evidenced in the forensic providers having to pool their resources to provide experts to cover scene interpretation.

8. Is the system of accreditation working successfully to ensure standardised results and the highest quality analysis and interpretation of significance of evidence?
In most respects, yes. But there are regular complaints about differences between UKAS assessors leading to differing standards, and the accreditation process will never prevent miscarriages of justice that are perpetrated by individuals that are deliberately trying to pervert the course of justice or circumvent the system; e.g. Randox

9. What role should the Forensic Science Regulator have? If the Forensic Science Regulator is to have statutory powers, what should these be?

The most important power is that the FSR should be able to prohibit both organisations and individuals, who will not seek accreditation. My only concern with the FSR is the highly prescriptive Codes of Practice which lay out how ISO 17025 should be interpreted/implemented. This puts an incredibly onerous and bureaucratic layer on top of what is already a quality standard that is onerous and bureaucratic! It is hard to see how this improves quality, especially as the rest of Europe appears to manage without any such additional codes. This is not just the experience of NABIS, but other organisations within the police service and forensic service providers.

10. What lessons can be learned from the use of forensic science in Scotland and Northern Ireland? What can be learned from the use of forensic science overseas?

There is little doubt in my mind that the Scottish system of forensic science is better than the one in England and Wales. That is not to say they do not have resourcing problems, or that there are commercial providers in England and Wales can achieve the same, and some would argue better results. In my opinion, however, the advantages of having all forensic science under one public sector body, greatly outweigh any disadvantages. That is not to say the system is without its problems; NABIS was formed due to the inability of the FSS to provide fast-time intelligence and this remains an issue in Scotland. The NABIS model of combining Forensics and Intelligence is seen in the UK and internationally as best practice. Lessons from NABIS should be considered in capturing lessons learnt.


It is fine as far as it goes, but I do not see that it addresses some of the fundamental problems covered by these questions.

**Forensic Science research landscape**

12. How should further research funding for forensic science be justified? What should be the focus of such research? What is the role of UK Research and Innovation, especially considering the interdisciplinary nature of much forensic science?

In my view Research should sit with the universities, development with the universities and forensic science providers. It is important that the research done by the universities reflects the needs of the CJ system, but forensic science must also look to other scientific research to develop new methods. It is often forgotten that DNA profiling was not developed by the FSS. They took a technique from a university, used in plant biochemistry, and developed it for use in the CJ system.
13. Where are the gaps in research and understanding of forensic science? How and by whom should the research questions be articulated to fill these gaps?

As above.

14. How can a culture of innovation in forensic science be developed and sustained?

As above

15. Are there current or anticipated skills gaps? Who should have responsibility for and/or have oversight of training?

As addressed in Q6, a National Training Centre run by the College of Policing should be re-established. There is also a massive gap between the number of places at universities studying forensic science and the number of jobs in the industry. I understand that only 4% of forensic science graduates get a job in any kind of scientific discipline. In 2004, in evidence to the House of Commons Science and Technology Committee, DCC Clive Wolfendale the ACPO officer responsible for forensic science training, described many forensic science degrees as, “a savage waste of young people’s time and parents’ money.” It’s hard to see what has changed in the 14 intervening years.

The experience of NABIS is that there is a skills gap when trying to recruit Firearms Experts, to address this NABIS have decided to train Technicians to progress to Firearms Experts. It will take approximately 2 years before NABIS can fill the Expert vacancies it holds.

**Digital Forensics**

16. Are there gaps in the current evidence base for digital evidence detection, recovery, integrity, storage and interpretation?

17. Is enough being done to prepare for the increasing role that digital forensics will have in the future? Does the Criminal Justice System have the capacity to deal with the increased evidence load that digital forensics generates?

I have no real knowledge in this area to answer the questions posed in 16 & 17.

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