1. For volume crime, forensic science provides key intelligence to help to identify potential offenders in the form of Fingerprint and DNA matches and Footwear Intelligence. Investigative leads are provided by Crime Scene Investigators (CSI) and Forensic Scientists attending crime scenes. Evidential support is also provided for a range of evidence types including footwear, DNA, fingerprints, drugs, toxicology and so on.

For serious and major crime, forensic science provides intelligence and investigative information as for volume crime and can also be used to determine the events that have taken place or assess the likelihood of prosecution or defence propositions.

The effectiveness of forensic science to the Criminal Justice System is impeded somewhat by the resources in police forces to deal with the information provided to them, particularly in volume crime. Fingerprint or DNA matches may be identified but not acted upon. Another impediment is the understanding by CPS and the courts as a whole of forensic science and its applications. Often useful evidence is dropped or misused due to a lack of understanding or a risk averse approach. Finally, defence lawyers often use technical loopholes to undermine forensic evidence and the courts do not take a strong enough position to prevent this.

2. Strengths: as above, provision of intelligence, investigative and evidential information. Quick answers to prove or disprove hypotheses at the crime scene and therefore help to convict or clear suspects. Generally, there is a high standard of forensic science in England and Wales. The delivery of the majority of forensic science in police forces allows real time response to investigations and bespoke delivery of services.

Weaknesses: lack of resources in forensic science as a whole and police in general. Disjointed approach due to some provision being in-house and some being in private sector. Lack of understanding by the courts and police officers. Negative portrayal in the press, particularly in relation to in-house provision by police forces. Lack of standard systems across police forces and the courts, particularly in relation to IT. Inefficiencies in the court and a lack of appreciation of how long forensic science examinations can take. Commercial impacts due to private sector involvement. Initiatives such as Streamlined Forensic Reporting (SFR) are not fully understood by the Criminal Justice System and are therefore misused or abused. Implementation of accreditation to standards which are not fit for purpose has resulted in bureaucracy and staff spending more time on admin work than on case work. Niche evidence types such as fibres, glass, toolmarks and even fire investigation are used less and less and expertise is dying out.

3. Some forensic science is based on the application of general science, e.g. chromatography and spectroscopy for the identification and quantification of drugs. Other disciplines are based more on experimentation, research or experience, e.g. fingerprints, footwear comparison and blood pattern analysis. Evidence may be fragmented and much of the research was done in the
Forensic Science Service, not always shared and no longer accessible since its closure. Due to the commercial nature of forensic science, research and learning done by private sector companies is not shared between them or with police forces. IT support is not always available or fit for purpose to share databases e.g. footwear reference databases and insufficient research exists to support the use of such databases. Lack of funding and constrained finances and resources in police forces and industry limit new research.

4. It may be appropriate for forensic science evidence to be reported in a similar way to financial evidence in fraud investigations and experts to produce an agreed summary of the evidence which can be presented to the court as fact and explained in layman’s terms. There needs to be more understanding on the part of lawyers and the judiciary on both the limitations and the potential of forensic evidence, and of factors such as time to undertake work. Defence lawyers are often permitted by the judiciary to raise irrelevant objections, make last minute requests or fail to follow procedure and this should be addressed. More investment in staffing, research, technology and IT would assist in the provision of forensic science and communication of the findings and would enable scientists to deliver more robust, accurate and transparent forensic science. Lack of commercial and economic pressure would assist. More visual and virtual reality presentation of evidence would also help juries to visualise the evidence.

5. Currently it is poor. There is a lack of understanding of what findings mean, what the limitations of the evidence are, how forensic evidence fits into the investigation as a whole. This results in evidence often either being over-valued or dismissed. More training for lawyers and judiciary on forensic science would help and a simpler format for presenting the findings to the court, including visual aids (dependent on IT) and agreed reports would help. Pre-trial meetings with lawyers and the time for lawyers to pick up and prepare cases rather than on the day would allow for an explanation of the evidence.

6. As far as I am aware there is little or no training for lawyers and the judiciary. The College of Policing withdrew from Forensic Science training in 2017 and training since then has been fragmentary for CSI and virtually unavailable for fingerprints, footwear etc. Training for non-scientific staff such as Submissions officers is usually in-house and therefore not consistent. Much specialist training such as for blood pattern analysis, DNA interpretation, fire investigation and drugs analysis is either only available overseas or is delivered by the manufacturers of the technology and can be partisan as a result.

7. Not sustainable. Private companies are trying to make a profit in a diminishing market and are therefore ceasing to deliver examinations which are not cost effective, reducing the service and, in some cases cutting corners. Forensic science should be a service to deliver justice and not a means to deliver commercial profit. The risks of the market approach have been demonstrated recently by the alleged data manipulation in Randox, believed to be due to performance targets and financial incentives to staff and the administration of Key Forensics. The loss of both companies from the market has had a significant impact on the capacity to deliver forensic science and there is still inadequate provision for toxicology analysis. The impact on quality is significant as forces have to make strategic decisions based on money and
providers endeavour to maximize their profit. Quality, both in terms of the analysis and in terms of the tools available to the investigation, should come before the financial aspects.

8. The current accreditation process is bureaucratic and, in many areas, not fit for purpose. UKAS have a monopoly on granting (or refusing) accreditation which should lead to standardisation, but it is clear when talking to other forces that the assessors often do not interpret the standard in the same way and accept methods in one force which are challenged in another. The monopoly means that organisations seeking accreditation have limited ability to challenge the decision of the accrediting body and often have to accept findings that they do not agree with and implement processes which are ineffient or inappropriate.

In addition, the standards against which forensic science is accredited are not suited to the disciplines, as indicated by the names of the standards: laboratories are accredited to ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories and work undertaken at scenes to ISO/IEC 17020: Requirements for the operation of various types of bodies performing inspection. Due to their lack of specific relevance for forensic science, a number of additional standards and guidance have had to be produced including The Forensic Science Regulator's Codes of Practice and Conduct, ILAC G19 Modules in a Forensic Science Process, RG 201 Accreditation of Bodies Carrying out Scene of Crime Examination and so on. This makes achieving and maintaining accreditation an arduous and costly process. Often, these standards contradict each other or are contrary to legislation. A simpler process would be for new standards to be produced tailored specifically to Forensic Science laboratories and Crime Scenes.

Much of what is in the standards relates to administrative tasks and although some of these are relevant and important, many result in “box-ticking” and bureaucracy.

Maintaining and achieving accreditation is labour-intensive and costly. In my opinion, this has been partly responsible for some of the marketplace issues, with providers trying to deliver a service, maintain accreditation and deliver a profit to shareholders. Funding and resources in forensic science are already limited and a disproportionate amount is being allocated to accreditation.

Each force or organisation must validate or verify the same methods instead of there being an acceptance of “industry standards” or the ability to refer to work done in another organisation which demonstrates the validity of a method, thereby unnecessarily using already stretched resources.

Many miscarriages of justice and issues with forensic science providers have taken place in accredited organisations: the issues with the Omagh bombing, Stephen Lawrence murder and Jill Dando murder all occurred in the Forensic Science Service which was accredited, Randox and Key Forensic Services were both accredited and the McKie fingerprint case was conducted in the Scottish Police Force who are accredited. Nevertheless, lack of accreditation has been cited as a risk which could lead to miscarriages of justice.
Despite the above, I feel that accreditation is necessary: it enables practitioners to demonstrate to the courts that they are robust, accurate and transparent and have been independently assessed as such. Work needs to be done to make it more fit for purpose and to accept that it is not a cure-all.

9. It currently feels that the Forensic Science Regulator is working against practitioners, particularly those in police forces and that she is using strict measures to fix problems that are not there. This can be evidenced by the recent experience of Fingerprint Bureaux, where only one of those currently assessed achieved accreditation at the first visit. It is my belief that this is due to fingerprints traditionally sitting outside the community of other forensic disciplines and there being a perception that it should be brought into line, despite there being very few miscarriages of justice in over a century that fingerprinting has been used. The Forensic Science Regulator should work more closely with practitioners to deliver a better service, not just a more accredited and bureaucratic one. There is a lack of understanding or empathy of how forensic science works in practice. If given statutory powers, the Forensic Science Regulator should look at developing an accreditation framework that is fit for purpose and allows for flexibility within required standards. Independent practitioners and defence scientists should be brought into line with those working predominantly for the prosecution. The role should also act as a spokesperson and advocate for forensic science, promoting understanding in the courts, identifying investment needs and enabling the establishment of better resources for research and data.

10. I understand that England and Wales is currently the only country that does not have state forensic science provision, but has a private market for such work. This is a flawed system which puts economic gain before justice. Both Scotland and Northern Ireland have state-owned, national forensic labs. However, I don’t believe that this is workable in England and Wales due to the larger size, both geographically and in terms of population. In addition, I feel there are benefits to forensic scientists working alongside police officers and CSIs to deliver a bespoke and timely service. The Transforming Forensics programme has some strengths, particularly around the proposal for accreditation and validation to be done once and delivered many times and for IT and technology delivery. However, I don’t agree with the proposals for regional hubs as I fear it would lead to the lowest common denominator becoming the norm, with forces who deliver an excellent and diverse service having to outsource more to private industry. Forces around the country that have collaborated on forensic science have had issues with IT, consistency of approach and pay and retention of staff. A better model would be the US or Europe, where police forces have in-house laboratories to deliver the majority of their forensic work, with specialist analysis such as toxicology and DNA profiling done on a regional or national basis, but still by state-owned companies, rather than commercial organisations.

12. Research funding for forensic science can be justified in two ways. Firstly, it will facilitate improved crime investigation and detection. This will help to reduce crime, improve public safety, deliver justice more accurately and efficiently and ultimately reduce costs in the Criminal Justice System by delivering a better service. Secondly, in the past forensic science research undertaken in the UK has led to innovative techniques which have subsequently
been used overseas. This produces both a commercial opportunity and an opportunity to develop the reputation of Criminal Justice in the UK. Policing and the Home Office do not currently capitalise on such opportunities; for example the National Footwear Database is the only one of its kind in the world and, as such, could be marketed and sold overseas, but there appears to be no appetite or resources for this to be done.

13. There are gaps around areas such as databases, statistics and specific issues such as the uniqueness of fingerprints. Forensic science struggles to keep pace with developments such as technology for digital aspects of crime and novel psychoactive substances. Often research undertaken in academia or products developed in private industry do not meet operational needs. There needs to be room for “blue sky thinking” for novel ideas to develop, but also a forum for organisations or the community as a whole to task an academic institution or company with producing a solution to a specific problem. There should also be funding to enable organisations, including police forces, to undertake research in house and to fund internships to facilitate these.

15. There is an issue with the provision of training since the College of Policing ceased to deliver forensic training. It needs to be ensured that there is sufficient provision and that there is consistency nationally. Some areas such as CSI, Fingerprints and Footwear did have national training programmes. Some organisations are offering courses in these areas, particularly CSI, but consistency is not yet guaranteed. Other areas such as Blood Pattern Analysis, DNA profiling, toxicology etc. have never had national training programmes. Private companies tend to train their staff in-house, leading again to a lack of consistency and failure to share good practice. Niche disciplines are in danger of dying out due to there being fewer practitioners, less demand and reduced profits. Some disciplines, such as fingerprints, have an aging workforce and there is limited succession planning. Forensic Science is not particularly well remunerated, particularly when compared with equivalent jobs in scientific industry or with police offers and this may lead to a dearth of applicants in the future. Regional or national hubs would also lead to a loss of skills due to many staff not wishing to relocate.

There should be national oversight for training, probably by the College of Policing or the Chartered Society for Forensic Sciences. Forensic Scientists from all disciplines and for all organisations should be required to have consistent and accredited training and there should be a register of authorised practitioners. Pay and grading should be nationally agreed.

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