Metropolitan Police Service (MPS) – Written evidence (FRS0064)

Declaration

1. This evidence is provided to the House of Lords Science and Technology Inquiry into forensic science by Chris Porter BSc (Hons), Director of Forensic Services in the Metropolitan Police Service (MPS). The MPS employs around 1,000 forensic staff and officers who undertake over 60,000 crime scene examinations a year and produce expert evidence in cases across a range of acquisitive, violent and sexually motivated crime. The MPS also hosts the Counter Terrorism forensic databases and contributes to counter terrorist investigations nationally and internationally.

2. Chris Porter has 34 years’ experience in forensic science as practitioner, manager and leader. He was part of the team that managed the impact of the closure of the Forensic Science Service (FSS) 2010-12 and headed the MPS Laboratory and response to the closure during this time. Appointed Director in August 2018, he chairs the Strategic DNA Board on behalf of the Home Office Biometrics Programme.

Response to the questions posed in the Terms of Reference

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

3. Without doubt, forensic science contributes to the delivery of justice in the UK. The contribution is wide and varied but the most obvious contribution (and possibly the easiest to quantify) is the identification of an individual unknown to an investigation. However, forensic science contribution to the delivery of justice is far wider than this and includes outcomes such as establishing whether a crime has been committed, establishing cause of death, eliminating a person of interest, validating accounts of witness or victims, establishing a sequence of events, and linking crimes or incidents. Much of this interpretive work is undertaken post charge and often at the direction of prosecutors and the courts. Pre-charge, there are several offence types where the police decision to charge an individual is almost entirely dependent on forensic evidence, e.g. the legal classification of weapons, ammunition and drugs and possession of indecent images. Forensic science should not be seen as just an evidential tool in investigations but equally as an intelligence tool where its impact may not directly lead to an offender being identified but can contribute to an intelligence profile and lead to proactive investigations into large scale operations. It is beyond the simple metric currently recorded (fingerprint and DNA database identifications) that we struggle to capture the true contribution that forensic science makes to the delivery of justice. This is true from a value perspective in terms of both cost and impact.

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

4. Forensic science is impactive, impartial and can provide opportunities quickly to significantly reduce other investigative costs. The whole process is open to challenge and scrutiny and this transparency is a strength. Its contribution, described above, and ability to work at speed whilst operating within a regulated and impartial environment, further enhances its strength. It has an established and highly skilled workforce in all disciplines who are increasingly held to account as to their competence and who deliver forensic science from the crime scene to
court. Whilst all evidence has to be taken in the total context of a case, forensics can stand alone or corroborate parts of a case that in turn allows the Criminal Justice System (CJS) to focus on the relevant issues. Despite some high profile failings in recent history (Damilola Taylor, Stephen Lawrence & Rachel Nickell) it still holds, I believe the faith and confidence of the public and the CJS.

5. There is a strength in the nature of the market having reduced turnaround times of outputs, providing results in hours or days rather than months. A perceived strength could be in the reduction of costs to policing within their force forensic budgets. However, this in turn has adversely affected the ability of the market (and forces) to undertake the required research and development, to meet increasing demand and evolve with developing forensic challenges. The current regulatory environment is a strength under which forensic science operates and seeks to mitigate risk for the CJS through standards and quality.

6. The value of forensic science can be misinterpreted if the relevant experts are not called to explain the evidence. If CPR and case management are not appropriately applied (and managed) the issues to address are not focused for the court room, and can result in unnecessary forensic examinations being undertaken that add no value. Interpretation by forensic experts is most efficient and effective when it is applied against propositions or hypotheses given by the prosecution and the defence. Forensic science should not be seen as the panacea for crime investigation, and whilst we seek to provide speedy outcomes and reports, forensic evidence can sometimes take longer than the timeframe for a court date or a Custody Time Limit. Further, there is some aversion to risk management with the desire to use forensic science to deliver ‘belt and braces’ evidence where it is not needed.

The timescales to present the prosecution case under the CJS ‘better case management’ initiative are challenging and can result in insufficient time to undertake the required forensic examinations, and therefore impact on timely disclosure of the forensic evidence to the defence. This limits the time available for defence to assess the evidence and identify any points of contention. More often than not, Defence Case Statements are not forthcoming until very near or at trial time resulting in urgent requests for secondary casework / evidence, This increases the pressure on Forensic Scientists to undertake work in shorter timescales. It can also impact on the effective use of court time, as issues that could have been resolved pre-trial (had they been identified earlier) are presented at court.

7. There is currently a lack of coordination across forensic science delivery in respect of the technology challenges, particularly within digital forensics that requires greater collaboration across all forces in the UK, other government agencies and the private sector. Whilst regulatory compliance is increasing, the Forensic Science Regulator does not yet have statutory powers therefore the system is reliant on proactive adoption of a quality culture.

Understanding and use of Forensic Science in the Criminal Justice System

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?

8. Use of forensic techniques in the investigation of crimes is based on scientific data acquired through in-house or widely-published research,
experimentation, experience, review and validation. It is a requirement of accreditation that forensic methods are validated and validation requires the objective proof of fitness for purpose. Standards, the effect of human factors and other limitations also contribute to that evidence base.

9. As each organisation builds their own knowledge and scientific bases, there are potentially local gaps in the evidence base in some organisations. Having a wider approach and accreditation can mitigate this to some extent. A national/international approach to R&D is potentially hugely beneficial given the depth of research required is likely to be too much for just one organisation to undertake. Some of the work undertaken by the European Network of Forensic Science Institutes (ENFSI) gives access to European Commission funding, to a wider network of expertise and the publication of such work undoubtedly assists smaller organisations. Advancement in DNA recovery and analysis techniques has provided greater sensitivity and changed the interpretation of the evidence. A practical example of such a gap is in DNA transfer. Whilst there are many published papers on this, further basic research would inform the ability of the scientist to interpret DNA results in the context of transfer, for example, the likelihood that DNA from a surrounding area can be transferred onto an item. Similarly, in fingerprint comparison, there are some gaps in understanding activity level reporting.

*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?*

10. Much of this is already in place through the regulatory framework; the demonstration of organisational and individual competence; validated scientific techniques; the Criminal Procedure Rules and practice directions and oversight of quality by the FSR. The main threat to this is where demonstration of the above is not complied with.

11. Communication is key to the effective delivery of forensic evidence to the courts. A greater understanding of the time it takes to process a case is required so that this can be taken into account for custody time limits and the setting of trial dates. Direct and early contact between the CPS and the forensic expert is essential. Communication via the investigating officer can hamper progress of a case and closer collaboration with Judges, CPS and lawyers, in terms of the background understanding of the science/technology would avoid any misunderstanding of the complexity of certain techniques.

12. We have seen an increase in Judges Orders to produce evidence within tight timescales and prove challenging when the amount of work required to complete the examinations is unknown to the court. This has been especially true in multi-handed Homicide/violent crime investigations where offenders and victims can number three or more. This brings increased submissions with more significant/key items to examine and a need for robust anti-contamination strategies to avoid cross transfer of evidence. This has put pressure on the delivery of forensic science. The introduction of Better Case Management processes into Homicide cases would assist in identifying any issues with forensic science evidence at an earlier stage, once again particularly important in challenging the Defence to provide a timely statement to allow investigators and forensic Scientists to address any identified issues. This supports a fair trial as per the Criminal Procedure Rules definitions.
13. Joint working groups, seminars and embedding CPS within forensic science could potentially assist in improving understanding and ensure effective cross communication between agencies. The workloads of all agencies has increased against reduced workforces which has frustrated regular engagement and therefore ‘case by case’ management occurs, ineffective in building relationships and knowledge. Mechanisms for capturing feedback and organisational learning from court cases rarely happens, except in the case of significant reputational failings and better links with the judiciary are required to understand what they need to know and how forensic professionals should keep them informed.

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

14. As above, the level of understanding is hugely varied and ranges from very good to very poor. Where there is good understanding this is typically from case experience but knowledge about the limitations of forensic science is lacking within the judicial system at all levels. The ‘CSI effect’ does not assist in managing expectations of the jury and sometimes the judiciary, particularly in respect of its limitations. As an example, the relevance of the presence of DNA in a case (transfer and persistence) and understanding the interpretation of complex DNA mixtures. With DNA techniques becoming more sensitive these interpretive nuances will likely increase in importance. Moreover, perceived knowledge within the CJS is also leading to conflicting views as to the requirement for forensic work within investigations, resulting in a challenge of decisions and interpretation of results, culminating in delivery timeliness issues.

15. The ‘Primers’ attempt to address a lack of understanding and are a positive step but it would be useful to have set presentations to play on media to jurors to give them an understanding of the subject during trial, notwithstanding the time and effort required to create and keep them updated. Forensic Science training could be essential for all of the legal profession to include mandatory CPD days delivered by forensic experts ensuring the latest developments, advancements in scientific capabilities, its limitations, challenges and risks, are conveyed and understood.

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

16. Practitioner training is constrained by funding and operational demand and is ad-hoc across forensics units and policing. Funding and support for in-house training solutions and national programmes have over time been reduced/removed. Police training budgets (internal and external) are restricted and predominantly focused to tackling policing and crime issues that pose immediate threat or harm. As such, there is limited opportunity to invest to increase capability and develop practitioners. Academia does not sufficiently prepare an individual to work within the field of forensic science with practical experience required to develop skills and competence. As a consequence forensic units have to invest resources in creating and delivering bespoke training.

17. In particular the inability to invest in the continued professional development of digital forensic practitioners is having an immediate and long term effect; staff attrition is high (to pursue better funded roles) and the remaining staff are increasingly eroded of the skills required to address current digital capability. The digital forensic external training market is inflated; market forces
have seen the exponential rise in costs as demand from private industry increases, therefore the public sector is unable to keep pace with the investment required for their staff.

18. In terms of Lawyers and Judiciary, my understanding is that there is little training and the wider training to police partners appears fragmented and ineffective. Knowledge on forensic issues and capabilities is outdated and inconsistent with the current budget limitations.

Standards and Regulation

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?

19. The market is not sustainable in its current form. It needs to be appropriately supported and managed to ensure its future – if the goal is simply ‘sustainability’, we are aiming too low. It needs to be a flourishing market where companies are attracted into delivering forensic science now and for the future. Currently, it is not an attractive market from a commercial perspective- it should be expected that providers make a profit if they are to be viable and able to reinvest in innovation. If not, the chances of new entrants to the market are very limited. It has high regulatory barriers to entry and low profit margins. Considerable investment is required in premises and equipment in order to provide the service. Scientific expertise is very limited, especially in Toxicology, and attracting staff is difficult.

20. With the financial austerity and police procurement processes forcing a lowest common denominator approach dominated by cost reduction, tenders for forensic provision tend to be weighted towards price rather than quality and the risk of failure both scientifically and commercially is very high. This has been a trend for a number of years and will likely have had some impact on the failure of one of the suppliers this year. In order for UK policing to have reliable access to forensic science provision, there needs to be change in how tenders are weighted with a broader assessment of quality measures beyond compliance with regulatory standards. The danger is that price drives down quality as providers lower their prices to secure contracts.

21. The MPS have addressed this approach to procurement by moving to a commercial partnering arrangement with the private sector entering into a long term contract, with joint ownership of risk, investment, development and implementation of new science such as rapid DNA analysis and contractual arrangements that recognise the fragility of the market.

22. It is a healthy environment to have commercial and public sector laboratories providing a forensic service to the CJS, and managed appropriately this can ensure good value for money for the public due to competition. However, for traditional forensic services there are limited procurement exercises for which commercial providers can bid per year, given multi force collaborations and long term contracts, this can result in behaviours from bidders to bid too low to secure the work at an unrealistic cost rather than be excluded from the market for a number of years. For smaller companies, the law enforcement arena might be the only market in which they operate. In order to mitigate against this, there should
be stipulated regulations (as per the FSR) and perhaps a nationally agreed minimum cost per analysis. It may be difficult to come to an agreed minimum cost but doing so should ensure that providers do not undercut competitors at the expense of quality. Setting a minimum cost should be undertaken by the Home Office in consultation with providers and should provide sufficient margin to allow them to have a sustainable business.

23. The risks to not having a market approach are greater than having a market approach. Having a market approach allows niche providers to exist as well as providers who offer the wide range of services. The availability of having niche providers or providers specialising in certain aspects of forensic delivery potentially allows for a better quality service as providers invest in their speciality only. Without a market approach the potential exists for investment in the more commonly used techniques / analysis only to service the bulk of requirements. There are inherent risks to whatever approach is adopted. Delays in the administration of justice (or failure to administer justice) and higher costs to resolve matters (finding other providers, moving work to allow completion) as examples. The situation is not improved with no market approach as the issues which lead an organisation to go out of business can also apply to police forensic suppliers.

24. There should be greater oversight and management of the market from a central body with the appropriate mix of expertise and understanding to identify the signs of company / market failure. Policing have a role to play in sustaining the market through working more collaboratively with commercial companies and their own forensic teams to better set out its requirements in order that they understand where to invest for the future. A monitoring body could also oversee that companies do not price unrealistically low in their efforts to win contracts, which they then struggle to deliver against. Quality must be factored into the costs of forensic science delivery and this requires an acceptance that quality and a sustainable forensic market come at a cost.

25. A significant risk is loss of cases if a business continuity plan is not in existence, but this should be avoidable if the appropriate monitoring systems and safeguards are in place, such as parent company guarantees and effective business continuity plans.

**Is the system of accreditation working successfully to ensure standardised results and the highest quality analysis and interpretation of significance of evidence?**

26. The accreditation system is working to a large extent in that consistent practices are adopted, techniques are validated and staff are assessed for competence which in turn leads to good quality service provision. There is however, replication within each provider, which could be deemed inefficient. Nationally agreed methods, accredited at a national level and implemented in commercial or public sector providers could have the effect of having a consistent standard of work and results going into court and provide efficiency gains across all providers.

27. Accreditation is challenging alongside the financial constraints of the budgets aligned to forensics within police forces. Police forensic units have been slow to meet the challenges of accreditation in some areas and it may be that there is an insufficient level of understanding within senior policing as to the requirements for, and benefits of regulation or an acceptance that maintenance of
accreditation and quality standards comes at a cost. Similarly, greater understanding of accreditation by the judiciary is required with independent and defence experts still operating outside of the regulatory framework. Procurement exercises should favour accredited providers and there needs to be a level playing field between policing forensic units and commercial enterprise.

28. A single accreditation body in the UK creates issues in terms of the capacity of that body and inflexibility in cost, and inconsistency in the assessment of forensic science providers. Therefore there should be alternatives to the current single supplier.

Standards and Regulation

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

29. The Forensic Science Regulator (FSR) should set standards for the quality of forensic delivery to the CJS and monitor forensic delivery. The FSR should have statutory powers and the power to suspend an organisation from undertaking forensic activity where the risk of doing so is such that there is a significant risk to the criminal justice system or victims of crime. This power should not be extended to suspension where an organisation has not met the standards but the areas of failure are not significant enough to justify the risk. The FSR should have powers to investigate providers and should make public the unsuitability of providers to deliver a forensic service to the CJS. Ultimately, it should be for the CJS to decide on admissibility of evidence albeit with the knowledge that some providers are deemed unsuitable.

Is the 'Forensic Science Strategy' produced by the Home Office in 2016 suitable?

30. The Forensic Science Strategy produced in 2016 was generic and did not provide sufficient detail about how forensic science would be delivered, by whom, its accountability or its governance. It did not fully address the challenges of R&D and funding and therefore did not support the need to embrace technology solutions that could enable faster more effective working practices. Delay to the publication of the Biometric Strategy has meant that each was taken in isolation and neither delivers the holistic governmental strategy intended.

Forensic Science Research Landscape

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?

31. Further research funding should be justified on the basis of the value added by forensic science to address growing threat, harm and tackle safeguarding. On the basis that this data does not exist, and that there is insufficient understanding of the vital contribution that forensic science makes to justice, it would be useful to identify funding to undertake this piece of work. The core priorities are in digital innovation and rapid solutions. Research requires greater coordination nationally and funding should be directed to short, medium and longer term projects, through academia and practitioners. My understanding is that the role of UK research and Innovation is to improve collaboration between Police and partners.
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?

32. The largest gap is in the use of technology, not just in digital forensics but also across traditional forensic science, where technology could enable greater collaboration and efficiency. Within digital forensics, coordination of R&D across agencies and across the UK is required to maintain current capabilities to access data on digital devices and systems, particularly mobile devices. There are gaps in some specialist fields, such as Osteo-articular Pathology, ophthalmic pathology, where only a small number of Forensic experts exist across the country and demand has increased for their services. The FSR could assist in identifying gaps and working with current experts to build resilience.

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

33. Innovation in forensic science needs investment, engagement, people and processes. Investment to fund research is required with engagement from all those involved in the application, from practitioners to investigators to the CJS and the Judiciary. The right people to test and apply the science with the processes to support those applying the Science and regulate it to ensure credibility in court. A more collaborative relationship between policing, forensic providers, industry and academia is required and the inclusion of innovation as a measure of performance, alongside sufficient funding, would assist an accountable body to enable innovation.

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

34. There has been a national shortage of toxicologists since the closure of the FSS, when many left the industry and from which England and Wales has never recovered. The closure of the FSS resulted in the loss of considerable expertise and added to the fiscal pressures on forces. Ultimately, the number of experts and specialists working in forensic science has reduced over the last eight years. There are a very limited number of fully qualified firearms scientists and these are spread between commercial and public sector suppliers. In the future if Fire and Rescue withdraw their fire investigation services, (which is not part of their statutory duties) there could be insufficient capability within the commercial or public sector to carry out this activity. We understand that some suppliers have limited drugs expertise, concentrated amongst longer serving staff and one supplier is now effectively the sole provider of casework toxicology expertise for England and Wales. Although they are training new staff to be able to interpret and report casework toxicology cases, this requires at least 2 years’ training. In the meantime, this unstable market is reliant on no further expert departures.

35. National coordination of training and skills gaps would manage risk but the responsibility for competence within the regulatory environment sits with the organisation being accredited who have to demonstrate organisational and individual competence. Sufficient funding is required to ensure appropriate resources, breadth of skills and expertise required are maintained and that demand is met.

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

36. Yes, there is a need to work more closely with industry to understand what the next technology emerging will be, and also more collaborative validation is needed, but with an acceptance of the challenges to this in an ever evolving science. Similarly to traditional forensic science, there has not been any real cost benefit analysis of the contribution of digital forensics but there is a consistent narrative from investigators which suggest that there is a critical need for digital forensics within around 90% of investigations. In Indecent Images of Children (IIoC) cases digital forensics is the primary source of evidence and there is a significant lack of capacity to deal with the increasing demand. The Judiciary will need to be better sighted on the volume of information that can now be stored in digital media.

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?

37. In short no. There are programmes in place seeking to address some of the issues but there is no clear plan or co-ordination. Recent disclosure issues suggest that service providers and investigators do not have the capacity to deal with the volume of information. In addition to having the ability to extract, search and analyse information, it needs to be clear what criteria has been used to identify relevant material for the courts and that the process for agreeing this is visible and robust. Investment is needed in technology solutions and therefore a fundamental reshaping of investment is required to ensure capacity and capability can meet current and future demand. This would include; training, research and development, quality management and staffing. If this environment is not created then the CJS will not have the capacity to deal.

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