Northumbria University Centre for Evidence and Criminal Justice Studies (NCECJS) – Written evidence (FRS0038)

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Summary

1. Despite global standard-setting achievements in recent years (e.g. the introduction of independent accreditation and the quality assurance regulation, and casework on the use of chemical weapons) and irrespective of ownership (i.e. provision via the market or public sector laboratories such as the Defence Science and Technology Laboratory (Dstl)), there are major concerns about the sustainability of high quality forensic science and technology. The police, who exercise the greatest and most detailed influence within government over policy making and resource allocation, appear to share these concerns. While only a small proportion of legal proceedings require complex and expensive scientific and technical work, inadequately briefed scientists unable to exercise professional judgement over process and reporting (analytical fragmentation) threaten the integrity of criminal justice and public confidence in policing.\(^1\) Much of the concern arises from a pronounced decline in funding and procurement practices that are incapable of distinguishing between cost and value. The underlying cause, however, is organisational fragmentation: narrowly focused public service priorities and responsibilities with little or no space for independent scientific and legal influence over resource allocation and policy making, or even a balanced consideration of the bigger picture.

2. Responsibility for the present unsatisfactory state of affairs is shared by most (if not all) key stakeholders in the Criminal Justice System (CJS). For example, there has been a general failure (not just in England and Wales or its criminal jurisdiction) to reform the Law of Evidence, either by adequate common law evolution or statutory reform. Law Commission recommendations were not enacted by Parliament and compromise solutions in the form of changes to the Criminal Procedure Rules and the creation of new Practice Directions may not have removed the problems that the Law Commission had identified.\(^2\) Ongoing issues also include the need to improve the currently limited and optional training to enable prosecutors, defence lawyers and judges to deal critically with issues such as methodological validity, the inferences that can be soundly drawn from scientific analysis in the context of other evidence,\(^3\) and the need for cross-

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2. In relation to the possible evolution of the common law in light of these changes to Procedure Rules and Practice Directions, the challenges associated arising from them and the potential opportunities for the improvement of expert evidence in criminal proceedings that these changes were intended to create see Michael Stockdale and Adam Jackson, “Expert Evidence in Criminal Proceedings: Current Challenges and opportunities” [2016] JCL 344-363.

3. G. Davies and E. Piasecki, ‘No more laissez faire? Expert evidence, rule changes and reliability: can more
examination to focus on the expert evidence not (save issues of competency and bias in commissioning) the individual presenting it.

**Introduction**

3. NCECJS is a multi-disciplinary research centre based in Northumbria University’s Law School. It brings together academics and postgraduate students from a range of disciplines, members of the judiciary, legal practitioners and other major CJS stakeholders, such as police officers and expert scientific witnesses. It has an extensive group (practitioners and academics) of international participants. NCECJS works closely with public bodies and office holders, including the English and Irish Law Commissions, and The Forensic Science Regulator.

4. In order to evidence our submission via NCEJS research, this document consists of responses to two grouped sets of questions. We hope that this is acceptable and helpful to the Committee.

**The contribution of forensic science to the delivery of justice**

1. Is forensic science contributing to the delivery of justice in the UK?
2. What are the current strengths and weaknesses of forensic science in support of justice?

5. The organisation and funding of science – including clinical science - and technology to help to determine the identity of individuals and their possible criminality is a matter of accident rather than design. This can be seen in the distinctly different development, governance, organisation, funding model, modus operandi, and personal practitioner authority of forensic pathology compared with forensic science. Also, despite the UK’s pioneering roles in forensic biometrics, there is a damaging historical legacy from the twentieth century whereby English forensic science and medico-legal infrastructure was funded late and inadequately in contrast to other major European countries.

6. Such organisational fragmentation creates problems when attempting to measure inputs, assess significance, identify departmental responsibilities and find strategic solutions to the problems relating to forensic science and technology. This can be illustrated by three examples:

   a) The Government Chief Scientific Adviser’s Report (2015) reminded the forensic science community that the science they practise or use also has broader societal and economic purposes. Even if ‘establishing provenance and authenticity and giving assurance in areas such as environmental protection, food and drink, pharmaceuticals and consumer products’

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4 https://www.northumbria.ac.uk/about-us/academic-departments/northumbria-law-school/research/northumbria-centre-for-evidence-criminal-justice-studies/


6 See, for example, B. Madea and S. Saukko (eds.), Forensic Medicine in Europe (Schmidt-Römhild, 2008).
results in criminal prosecutions, such cases are rarely prosecuted by the CPS or included in police crime data.\textsuperscript{8}

b) Estimates and government strategies relating to criminal justice focused forensic science rarely, if ever, even take account of custodial drug testing.\textsuperscript{9}

c) The recent Novichok incidents demonstrated how the Defence Science and Technology Laboratory (Dstl) can acquire a criminal justice dimension. These incidents also illustrate how major costs - the multi-million pound 'clean-up' managed by Defra\textsuperscript{10} - resulting from a forensic science guided response can fall on other departmental budgets. In 2013 Dstl scientists provided the first authoritative scientific confirmation that chemical warfare agents had been used in Syria. The international scientific credibility of the laboratory’s work was enhanced by independent accreditation to the international standard ISO 17025:2005 and compliance with the Forensic Science Regulator’s (FSR) Codes of Conduct.\textsuperscript{11}

7. The forensic investigations referred to in example c) are unlikely to result in criminal proceedings either in this country or at the International Criminal Court. What is rarely appreciated, however, is that only a small proportion of all forensic science and technology work is tested in court. The statistics are poor and dated, but it is clear that the two-way adversarial argument before a jury only exposes a very limited proportion of forensic science work in the CJS to scrutiny.\textsuperscript{12} Also the focus of detailed judicial scrutiny is likely to be somewhat haphazard. This can be seen with fingerprint evidence. When the Court of Appeal criticised fingerprint evidence a few years ago one of the points it made was that because it was rarely challenged in court practice had fallen behind that in other areas.\textsuperscript{13} Hence the importance of independent and well informed oversight and regulation to ensure that scientific standards are adhered to and that scientific integrity is not compromised by the CJS agencies (for budgetary reasons etc.) that control the type, extent and reporting of such work, plus the flow of contextual information to instructed scientists and disclosure to the defence.

8. The argument for critical and independent oversight of forensic science and technology generally gains additional traction from its actual significance (excluding major incidents and serious crime) within policing (its principal paymasters). This is much less than might be expected. Polices forces have estimated that crime accounts for only 22\% of the number of emergency and priority incidents. (A high proportion of these, in any case, will not require any or


\textsuperscript{9}For example, the Home Office Forensic Science Strategy (2016) ignores this important CJS requirement.


\textsuperscript{11}C. Rees, ‘Forensic Analysis of Chemical Weapons in Syria’ in M. Peplow, above n.7 at 92.

\textsuperscript{12}For a discussion of the available data see: Carr et al., above n.8 at 366.

\textsuperscript{13}‘This is one of the very few cases where fingerprint evidence has been challenged at a trial since 1999 and, as far as we are aware, the first since then to come before this court on an appeal where this court has had to hear fresh evidence. It is not unsurprising that the points we have raised identify practices which differ so markedly in England and Wales from modern forensic science practice in other areas of forensic science.’ R v Smith [2011] 2 Cr App R 16 at [61].
extensive forensic work.) The NAO in the report from which this figure was taken commented on critically the absence of a ’comprehensive national picture of demand across policing, including demand potentially caused by funding reductions in other sectors’.\textsuperscript{14} It can often be observed, for example, how inadequate mental health services will have a wide range of CJS consequences, including budgetary impacts.

9. Forensic science and technology work commissioned by the police, CPS and defence lawyers appears to be almost perpetually trapped within a cycle of declining funding and professional morale.\textsuperscript{15} Notwithstanding trenchant criticism in the Review of the Criminal Courts of England and Wales (2001) the problem of inadequate publicly funded forensic science access for defence lawyers was never remedied. Instead this historic problem was compounded by later fiscal austerity policies.\textsuperscript{16} During the present decade it appears that such recessionary trends have affected forensic science and technology funding (all data estimated in real terms i.e. allowing for inflation) generally:

\begin{itemize}
\item[a)] Despite an exponential increase in digital forensics\textsuperscript{17}, there was a 10 year decline in England and Wales in forensic science expenditure in the order of 28%.
\item[b)] The above overall change masks an increase in internal police spending of 10\% through a decline in external spending of some 65\%.\textsuperscript{18}
\item[c)] A 2017 target (Future Forensics OBC (FFOBC)) to reduce forensic science expenditure (based on a slightly different range of criminal justice agencies) in real terms –both external and in-house services (including digital forensics) - by 43\% over the next 10 years.\textsuperscript{19}
\end{itemize}

The data behind these trends and plans appears to be generally robust, but detail is lacking and as a result the significance of the figures is highly contestable.

10. All public services have been severely stretched by fiscal austerity. In addition to having to deal with the consequences of reductions in other services (e.g. mental health), concerns have been voiced (internally and externally) about the possible direct impact of police budget cuts on, for example, detection rates and the ability to respond to all domestic burglaries. Also the senior professional and political focus has necessarily moved away from the forensic science initiatives at the end of the last century (e.g. DNA in volume crime investigation) to cyber-enabled or enhanced crime that can threaten national security or NHS functionality and the problems arising from large volumes of

\begin{footnotes}
\item[17] Transforming Forensics Outline Business Case (TFOBC) <http://www.npcc.police.uk/2017%20FOI/CO/078%202017%20CCC%20April%202017%20008%20Transforming%20Forensics%20Business%20Case%203%20March%202017.pdf> accessed 11.05.18, 4.
\item[18] These estimates were produced by Professor Wilson (and in analysing their significance with Ms Carr) by comparing earlier government data (summarised and referenced in Wilson et al, above n.1 at with contemporary data acquired by the BBC for a File on Four programme broadcast on 12.06.18).
\item[19] TFOBC, above n. 17, 4.
\end{footnotes}
digital evidence.\textsuperscript{20} The decline in senior professional engagement with many key forensic science disciplines can be inferred from the tardy performance - other than in respect of digital forensics - compared with Dstl and the main commercial forensic providers, of police laboratory and fingerprint bureaux in achieving independent accreditation and compliance with the FSR standards.\textsuperscript{21}

11. Forensic science expenditure on some crime types has fallen\textsuperscript{22} but does this simply reflect crime trends or a budgetary driven move away from volume crime investigation? Significant cost reductions can be attributed to the overall reduction in fingerprint bureaux, but Streamlined Forensic Reporting (SFR) has, for instance, more worryingly almost entirely supressed expert reports by fingerprint experts. The collapse of Key Forensics suggests that some savings have been at the expense of stability in on-going criminal justice casework. (Also the sale of LGC Forensics is perhaps a warning of possible collateral volatility. This may arise from commercial judgements in a declining market about the likely financial returns and, for performance critical scientific processes, the prospects for investment in innovation and research. When the market is unstable and not comprehensively or uniformly regulated, such assessments may also take account of reputational risks.) Moreover, the overall cost of quality failures will not be reflected fully in estimates of forensic science and technology expenditure, for example, the cost of ‘cracked trials’ and what could be the multi-million pound cost of settling compensation claims by persons (mainly arising from alleged motoring offences, but also some family and employment cases) affected by the Randox scandal.\textsuperscript{23}

12. Reaching judgements about the nature, significance and scale of problems that affect the ability of forensic scientists and technologists to contribute to a system of justice that is both fair and efficient are beset by problems of definition and poor data, but there appears to be general agreement that the present system is unsustainable. The governmental view or at least that from within policing expressed in FFOBC makes it clear that forensic science and technology cannot serve justice and public safety by continuing on its current trajectory.\textsuperscript{24} The organisational challenges, as major changes are made, will be in ensuring transparency, accountability and sufficiently wide participation in what should be a long-term and strategic process, not simply a hastily cost-cutting exercise. It is most unlikely that this will be achieved in the absence of governance reforms and a determination to address problems arising from fragmented departmental responsibility.

\textit{The understanding and use of forensic evidence in the criminal justice system}


\textsuperscript{22} TFOBC, above n. 17, 4

\textsuperscript{23} A random example of the potential extent of contingent fee (‘no win no fee’) enabled litigation can be gauged from \texttt{<https://www.hudgellsolicitors.co.uk/news/civil-liberties/more-convictions-overturned-as-cps-contacts-people-in-randox-testing-services-forensics-investigation/>} accessed on 24.08.18.

\textsuperscript{24} FFOBC, above n.17, 4 and note the concerns expressed by Tully, above n. 15.
Qn.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?

Qn.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?

Qn.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?

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

13. Fragmented governance and the lack of resources prevent the comprehensive and radical reforms needed to ensure that the value of forensic science and technology to investigators and the courts can be optimised. NCEJS members have in recent years organised or participated in numerous initiatives to improve the use of forensic science in criminal proceedings.25 New training and communication initiatives, however, are likely to be of limited value if there is little prospect of concerted action to address significant problems, including:

   a) Deep seated cultural differences between scientists and most lawyers, together with even a lack of awareness of the Criminal Procedure Rules and Practice Directions intended to improve the use of forensic science testimony26 and, here opinion within legal circles may differ strongly, the persistent use of ‘negatory cross-examination tactics’.27

   b) The use of SFR in cases where the scientific issues and interpretation is incompatible with the growing appreciation within the forensic science community that lay users must be made aware of both the strengths and weaknesses of forensic science and technology in any particular case.28 The absence of such an approach could result in a failure to test the expert evidence as part of the accused’s right (ECHR Art. 6) to a fair trial. SFR is an example of policy making that can perhaps inadvertently result in commissioning or procurement practices that are incapable of distinguishing between cost for an individual agency and value to the criminal justice system.

   c) There is a need for greater and more rapid cultural change within the forensic science community, particular in recognising subjective factors and potential pressure points in disciplinary methods and working practices which circumscribe scientific validity.29

   d) There are many unexplained discrepancies in drafting and practice between the three procedural rules regimes (criminal, family and civil)

25 E.g. a NCECJS external symposium (2015) at the Inner Temple, an Old Bailey lecture by Professor Stockdale to the Criminal Bar Association (2016), Professor Ward and Associate Professor Wortley to the Criminal Bar Association Conference on Expert Evidence (2017) and Professor Stockdale and Associate Professor Jackson at a FSR event to consider the development of evaluative interpretation standards (2017).

26 G. Davies and E. Piasecki, above n.3.

27 Wilson et al., above n.5 at 194-6 and 211-12.


29 Carr et al. ‘Clarifying the Reliability Continuum and Testing its Limits: Biometric (Fingerprint and DNA) Expert Evidence’ in Roberts and Stockdale, see n.5.
that give rise to the suspicion that such discrepancies lack rational explanation. There is a need for more coordinated and systematic dialogue in the name of reducing complexity, increasing intelligibility, and sharing best practice across all three procedural jurisdictions – measures which would uniformly promote the reliability of expert evidence.\textsuperscript{30}

e) An Australian NCECJS member, Professor Edmond, has observed that England and Wales is not alone among common law jurisdictions (similar behaviour can be observed in Scotland, Canada Australia and the USA) that have not in general been receptive to challenges to the methodological credentials of traditional forensic sciences, even when critical reports and data have been presented to them. Judges have preferred instead to fall back on jurisprudential proxies for evidential reliability, such as a history of judicial reliance in previous cases or favourable admissibility determinations in other jurisdictions, which seem curiously estranged from scientific standards of validity and reliability.\textsuperscript{31}

14. In parallel with our earlier arguments pointing to the need for fundamental reform in the organisation funding and governance of forensic science and technology, we believe that it would be insufficient to simply tinker with trial procedures and rules of evidence. Addressing short comings in the use of forensic science and technology also requires a comprehensive institutional approach, examining the ways in which scientific evidence is generated and utilised in police investigations and pre-trial processes, as well as investigating its impact on fact-finders in criminal trials.\textsuperscript{32}

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\textsuperscript{30} M. Stockdale, ‘Reliability by procedural rule reform? Expert evidence and the Civil–Criminal–Family Procedure Rules trichotomy’ in P. Roberts and M. Stockdale, see n.5.

\textsuperscript{31} G. Edmond ‘Re-assessing reliability’ in P. Roberts and M. Stockdale, see n.5.

\textsuperscript{32} P. Roberts and M. Stockdale, ‘Forensic Science, Evidential Reliability and Institutional Reform’ in in P. Roberts and M. Stockdale, see n.5.