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The future of forensic and crime scene science Part II. A UK perspective on forensic science education

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Abstract

This paper builds on the views presented by the author at 'The Future of Forensic and Crime Scene Science Conference'.

Forensic science has become an increasingly prominent area of science within the last 10 years. This increasing prominence together with popularity in the subject has seen the number of undergraduate students studying forensic science related courses at UK Universities increase rapidly in just 5 years and there are no short term signs of this trend reducing. In 2005, there were 450 courses with forensic in the title offered by higher education institutes. Although the forensic community has expressed its concern that job prospects for these students wishing to pursue careers as forensic scientists will be limited numbers of students undertaking science courses have still increased. The increase in students studying forensic science comes in an era of decreasing science numbers in higher education with the potential to produce high calibre science graduates with sought after skills in critical thinking, analysis, interpretation and communication.

Technology has continued to advance at a similar pace providing those responsible for managing crime with a need and opportunity to identify and predict new and future applications of science and technology; not just in reducing and detecting crime but also in predicting how technology will be used by criminals in the future. There is therefore a need for forensic science users, providers and educators to identify the knowledge and skills required by forensic scientists and crime investigators of the future to ensure that technology continues to be used and applied to its full advantage. This provides universities an opportunity to contribute to the development of both the practice and practitioners of forensic science.

This paper outlines the current issues facing universities in relation to forensic science and identifies their future role in providing high quality relevant courses for future forensic practitioners; developing current forensic practitioners through their participation in applied research, short courses, conferences and qualifications linked to professional practice; and supporting and developing the practice of forensic and crime scene science, through the identification, engagement and dissemination of pure and applied research.

Keywords: Forensic science; Forensic education; Forensic training

1. Introduction

In the UK there is an increasing recognition of the contribution forensic science can make to the early stages of a criminal investigation, particularly as a result of the success of the National DNA Database [1]. There is also recognition that in the not too distant future, advances in technology, such as DNA-on-a-chip [2], may mean that important elements of forensic science could be deployed at the crime scene and custody office, rather than being restricted to the laboratory. These advances can be expected to alter significantly the shape of forensic and crime scene science, blurring the distinction between the two disciplines, how they are practised and used, and the roles within them.

Although, at present the police value basic literacy and numeracy combined with good-interpersonal skills in their crime scene investigators (CSIs), it is unlikely in the future that these skills will be enough on their own. CSIs will need a knowledge and understanding of science and the skills and techniques to use it. They will also be required to make greater use of forensic science in providing more effective forensic intelligence. Equally forensic scientists will require different skills or it may be that the roles of CSI and forensic scientist cease to exist, as a new breed of general and specialist forensic practitioners emerges.

This provides an opportunity to look to the future in relation to potential new roles and requirements and to identify the future educational needs of the forensic community, which

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could highlight a potential and emerging role for universities in contributing to the development of forensic science practice and practitioners.

2. Development of forensic practitioners

Currently in the UK, the majority of forensic scientists are graduates or postgraduates of science courses who are trained 'in-house' by forensic science providers. However, there is no common route or set of entry criteria for becoming a CSI and the majority, outside of the Metropolitan Police Service, are trained to the same standards at Centrex National Training Centre (formerly NTCSSCI). Its national crime scene investigators programme covers the basic skills required to examine volume crimes such as burglary, offences against the person, vehicle crime and the recovery of evidence for forensic examination through to more advanced skills relating to fire investigation, major scenes and the use of specialist techniques [3]. New CSI recruits are trained to either Volume Crime Scene Investigator level, a new role introduced following the introduction of the DNA expansion programme, or to CSI level. These CSIs undertake a development programme over a period of up to 5 years which takes them from initial training through to development and refresher courses with an option of gaining further professional and academic development by undertaking the University of Durham diploma in Crime Scene Investigation or alternatively a Diploma through the Forensic Science Society. In addition to training, forensic practitioners are also being required or encouraged to demonstrate their initial and continuing fitness to practise through initiatives such as skills for justice (SFJ) National Occupational Standards [4] and the Council for the Registration of Forensic Practitioners (CRFP) [5]. The Government Sponsored CRFP is focused on enabling forensic practitioners to demonstrate competence in delivering expert evidence in court and has been established for all forensic science disciplines including CSIs. Those on the register must be current practitioners. Competence is assessed by trained assessors by dip sampling recent cases and includes the assessment of nine essential elements:

- understanding the task, preparation and prioritization,
- initial assessment, controlling and managing the scene,
- developing and prioritizing hypotheses,
- identifying, selecting, recording and recovering physical material,
- packaging and preservation to maintain continuity,
- assessing and interpreting results, with others involved in the investigation,
- re-evaluating theories in the light of new findings and information,
- reporting, orally and in writing, to others in the investigation and the court,
- continuing professional development to maintain competence.

The introduction of SFJ National Occupational Standards for CSIs provides a framework for initial and advanced training and also identifies the competencies required of practitioners. Based on previous models developed by the Forensic Science Sector 1994, the original nine units have been reduced to five covering: starting the investigative process, attending and controlling the scene, examining the scene and collecting evidence, packaging, storing and transporting items of evidence and evaluating the scene investigation. The development of SFJ and CRFP provides an opportunity to develop uniform approaches to assessment by creating a common language and descriptors, which could have strong links to training as well as vocational and academic qualifications together with the identification of clear career progression pathways.

In presenting the future of scientific support training in the UK at the 'Future of Forensic and Crime Scene Science' conference [6] Keith Fryer, Acting Director of Centrex, NTC identified eight key drivers: resources/best value, resilience, quality and standards, new disciplines, technology, emerging forensic market place, public awareness and political agenda and the role of universities. He identified the importance of developing strategic partnerships between the police, the forensic providers and universities to try and deliver maximum value, not just from the operational side but also from the providers of training. In delivering more value '"for the training pound'' he suggested that 'blended learning', that is combined e-learning with practical skills training and scenario training, was a potential way forward. He stressed that the focus on occupational standards and assessment would continue and he looked forward to national learning requirements in respect of forensic science, not just for crime scene investigators and fingerprint experts but also for police officers so that the level of forensic awareness throughout the Police service as a whole could be raised.

In concluding, he looked at the role for Universities in providing education and training in forensic and crime scene science through the provision of 'work ready graduates', which would meet the needs of the police service and the forensic science providers.

3. Universities' role in forensic science

In addition to providing specialist advice and services to forensic science users and providers, universities have three primary roles in relation to forensic science:

1. the provision of high quality relevant courses for future forensic practitioners, with a particular focus on forensic science or specialisms within forensic science such as, crime scene science and digital forensics—developed and delivered in close collaboration with user groups with a clear intention of students entering careers within a particular field of forensic practice,
2. the development of current forensic practitioners through their participation in applied research, short courses, conferences and qualifications linked to professional practice,
3. supporting and developing the practice of forensic and crime scene science, through the identification, engagement and