



The United Kingdom and Ireland Association of Forensic Toxicologists; establishing best practice for professional training & development in forensic toxicology



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ABSTRACT

The current status of forensic toxicology in the United Kingdom is discussed with an emphasis on professional training and development. Best practice is proposed using a blend of modular foundation knowledge training, continuing professional development, academic study, research & development and ongoing analytical practice. The need for establishing a professional career structure is also discussed along with a suggested example of a suitable model.

The issues discussed in this paper are intended to provoke discussion within the forensic toxicology community, industry regulators and other government bodies responsible for the administration of justice.

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1. Introduction and background

In many jurisdictions, the structure of forensic science has remained largely unchanged, despite rapid growth and demand in recent years. The primary function of most laboratories is casework production, often with insufficient resourcing being directed towards research, innovation and professional development. The emphasis on production, corporate governance and accountability is often imbalanced by lack of scientific focus, control and regulation – with potentially serious consequences for public service and the administration of justice.

Although initiatives to strengthen the forensic sciences have been taking place in a number of countries, the situation in the United States and United Kingdom are discussed below.

1.1. United States

In the United States, the prestigious National Academy of Sciences was commissioned by Congress to conduct a study on forensic science. Their comprehensive report, 'Strengthening Forensic Science in the United States – a path forward' was finally published in 2009 [1].

Most of the recommendations within this comprehensive report were concerned with improving the science, with specific emphasis placed on foundational research, mandatory accreditation of laboratories and mandatory certification of scientists tied in with a mandatory code of ethics. The report also called for the creation of a new independent federal agency to oversee and regulate the practices of forensic sciences and to ensure the development of rigorous research to determine the capabilities and limits of forensic science.

One response to this report, published by a diverse group of academics, lawyers and practicing forensic scientists [2], emphasised the need for the development of a 'research culture' within forensic sciences.

Although particular attention was directed towards the questionable scientific foundation in pattern identification disciplines such as fingerprints, firearms, tool-marks & handwriting, the same recommendations are likely to be applicable across the spectrum of scientific disciplines. Although forensic toxicology should also be considered one of the forensic science disciplines, it has been fortunate to have successfully developed its own voluntary standards for practice (both laboratories and scientists) through the American Board of Forensic Toxicology (ABFT).

More recently (2013) the United States Government created a National Commission on Forensic Science, which was tasked with taking the National Academy's broad recommendations, and turn them into

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actions. The commission was chaired by James Cole, Deputy Attorney General and Patrick Gallagher, NIST Director.

A review of current events and activities relating to these initiatives has been published [3]. Although the review is directed towards forensic DNA practice, the first portion of the article provides an excellent review of forensic science initiatives in general.

1.2. United Kingdom

In the United Kingdom, forensic science has undergone many changes over the past decade in particular. For many years the primary provider of forensic services in the UK was the (government owned) Forensic Science Service (FSS). This organisation was closed in March 2012, and the work, assets and staff were transferred elsewhere. The decision to close the FSS has generally been heavily criticised throughout the forensic science community and this view was reflected in a report (July 2013) of the House of Commons Science & Technology Committee [4]. In this report, great concern was expressed about the future of forensic science in the UK within an unstable market, particularly in the area of research.

The report concluded that, in the absence of a strategic commitment to forensic science, the UK Government runs the risk of continuing the pattern of short-sighted decision making that led to the demise of the FSS and the creation of an unstable market. It recommended that a number of matters should be addressed, including R&D funding and assurance of quality standards. It also recommended that the role of the Forensic Regulator should be enhanced and underpinned by statute.

This paper reviews the current status of forensic toxicology and discusses a number of measures that could be undertaken to enhance the overall quality of the services provided. The responsibility however for implementing, managing and financing the initiatives outlined are beyond the control of a professional association and individual practitioners alone. It seems unlikely that the implementation of a successful, centrally managed system and its associated costs could be achieved without mandatory central regulation and public funding. An expansion of the Forensic Regulators Office and obligatory funding by the Department of Justice could be the means by which minimum standards could be assured.

2. Forensic toxicology - background

Forensic toxicology is a well-defined specialism relying heavily on a strong scientific foundation. It differs from many other areas of forensic science and requires particular attention due to the following needs:

High capital expenditure (analytical instrumentation) due to the diverse and challenging nature of analyses undertaken and the recent availability of 'super-instruments' such as those based on high-resolution mass spectrometry.

Technical expertise, requiring specialised training and on-going professional development.

Interpretative skills developed with experience and utilising continually developing sources of information for evidence-based practice. Continual analytical method development, validation and adoption of new techniques and practices.

Practitioner experience, requiring on-going staff development (both in analysis and case reporting) - an appropriate staff career development/progression pathway within forensic toxicology would be desirable.

Although forensic toxicology laboratories are often incorporated into general forensic science laboratories, they are often established within forensic medical institutes or university departments. Such circumstances can be highly beneficial due to their close proximity to an academic environment.

Those toxicology laboratories, which are incorporated into general forensic science organisations, are often regarded as an expensive quirk, on the periphery of mainstream forensic disciplines.

2.1. UKIAFT

United Kingdom & Ireland Association of Forensic Toxicologists (UKIAFT) is a professional association for forensic toxicologists in the United Kingdom and Ireland and was originally formed to provide a forum for practicing forensic toxicologists. It developed from a group of toxicologists representing the major providers of forensic toxicology services within the UK and Ireland and works in conjunction with other toxicology professional groups such as LTG (formerly the London Toxicology Group) and SOFT (Society of Forensic Toxicologists) and other associated groups such as the Royal College of Pathologists. Meetings are held regularly to share knowledge, discuss the development of new analytical techniques and advocate a high level of professionalism among its members.

Following the appointment of a Regulator of Forensic Sciences by the UK Government in 2008, practitioners representing the main providers decided that it was time to form a professional association of practicing forensic toxicologists with the aim of developing and supporting agreed national professional standards of practice and education in forensic toxicology. The first Annual General Meeting (AGM) of the UKIAFT was held at Glasgow University in September 2010 in association with a 2-day scientific conference meeting. Membership of UKIAFT is open to all practicing or trainee forensic toxicologists carrying out work in England, Scotland, Wales, Ireland (North and South) and the Channel Islands.

UKIAFT Laboratory Guidelines have already been published [5] and are available on the association's website (www.ukiaft.co.uk). Alcohol Technical Defence Guidelines have also been published on the website.

It is now considered appropriate that recommendations for professional development and training in forensic toxicology should now be issued for discussion; the general principles outlined in this paper have been reviewed by UKIAFT membership as the basis for establishing and controlling best practice in forensic toxicology.

3. Professionalism

There have been many definitions of the term 'profession'. It has been defined as 'a disciplined group of individuals who adhere to ethical standards, uphold themselves to, and are accepted by the public as possessing special knowledge and skills' [6].

This body of knowledge and expertise is usually based on a foundation of academic research, education and training at a high level. As a consequence, practitioners within a profession are supported in fulfilling their responsibility of providing the best service to the public.

The term 'profession' refers to the area of study and work while the term 'professional body' refers to the organisation that regulates the profession.

While professional bodies are organisations to which its members refer for licensing matters, professional advice and guidance, professional associations (such as UKIAFT) exist as a cooperative group available to set standards for practice and advocate high standards of professionalism among its members.

Professionalism is usually associated with academia, research, knowledge, continuing professional development (CPD), training, certification & licensing, self-policing, self-governance, maintenance of standards, advice & guidelines, public safety, altruism, best practice, experience and codes of ethics.

Behaviours associated with members of a profession include responsibility, accountability, public duty, professional autonomy & independence, corporate trust, professional interaction with others, adherence to ethical standards, professional identity.

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