nature

www.nature.com/nature

Vol 464 | Issue no. 7287 | 18 March 2010

Science in court

Academics are too often at loggerheads with forensic scientists. A new framework for certification, accreditation and research could help to heal the breach.

To the millions of people who watch television dramas such as *CSI: Crime Scene Investigation*, forensic science is an unerring guide to ferreting out the guilty and exonerating the innocent. It is a robust, high-tech methodology that has all the precision, rigour and, yes, glamour of science at its best.

The reality is rather different. Forensics has developed largely in isolation from academic science, and has been shaped more by the practical needs of the criminal-justice system than by the canons of peer-reviewed research. This difference in perspective has sometimes led to misunderstanding and even rancour. For example, many academics look at techniques such as fingerprint analysis or hair- and fibre-matching and see a disturbing degree of methodological sloppiness. In their view, forensic examiners have a poor empirical basis for estimating error rates, and they use protocols that don't fully take into account the possibility of unconscious investigator bias (see page 344). Many academics are also perturbed to see newer techniques, such as DNA analysis of extremely small samples and functional magnetic resonance imaging, being pressed into service before the results and interpretations have been adequately validated for forensic use (see pages 340 and 347).

Forensic scientists, meanwhile, are often resentful of academics who speak high-mindedly of proper procedures now, decades after standard operating procedures have been put in place. They also bristle at being criticized by people who offer little in the way of support for forensics-relevant research. Perhaps not surprisingly, many practitioners have closed themselves off from any open sharing of methods and information with the academic community.

As deep as these differences are, they must be bridged. If they are not, rapidly evolving techniques will continue to be bandied about in court before they are ready. Forensic practitioners will face more legal challenges to their results as the academic critiques mount. And judges will increasingly find themselves refereeing arguments over arcane new technologies and trying to rule on the admissibility of the evidence they produce — a struggle that can lead to a body of inconsistent and sometimes ill-advised case law, which muddies the picture further.

A welcome approach to mending this rift between communities is offered in a report last year from the US National Academy of Sciences (see go.nature.com/WkDBmY). Its central recommendation is that the US Congress create a National Institute of Forensic Science, which would have strong ties both to academic science and to forensic practice. In the short term, this institute would help to establish standards and accreditation procedures and provide independent support for existing forensics entities. In the long term, it would provide funding to develop strong research programmes in forensic sciences. Such national leadership is particularly important given the highly interdisciplinary nature of forensic science, which has made it hard for the field to coalesce on its own.

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Congress should follow that recommendation without delay. Strengthening forensic science in the country will be neither cheap nor easy. But initial signs point to growing support for this kind of approach (see page 351). In the meantime, more research universities should establish forensic-science centres and PhD programmes in forensics, so that the next generation of forensic researchers will not feel so distant from their academic counterparts. ■

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Handle with care

Britain's Department of Health must respond to concerns about electronic medical records.

The worldwide effort to computerize paper medical records is driven by the need to cut paperwork costs and minimize the chance of medication errors, both of which would benefit patients and clinicians. Sufficiently large collections of patient data could also be a boon to researchers, helping them to investigate a host of epidemiological issues such as quickly identifying rare problems caused by new drugs or tracking the spread of a pandemic (see *Nature* **458,** 278–280; 2009).

As a result, money is pouring into electronic medical records — not least in the United States, where the 2009 stimulus package designated some $19 billion to foster their deployment. The success of such efforts hinges on public acceptance — convincing people that they will see real benefits and that their privacy will be rigorously safeguarded. But this acceptance is seriously under threat in Britain, as the country begins to realize its plans for digitizing patients' records.

Britain is developing a national database of electronic 'summary care records' (SCRs). These will contain limited information, such as details of a patient's prescriptions or allergies, extracted from existing paper records. The UK Department of Health says that there are currently no plans to repackage these data for use by researchers; the goal is simply to provide quicker and more accurate records for health-service workers. Other data will be added to the SCRs later, however, and the research potential will grow accordingly.