likelihood of an adenoma becoming malignant, but in practice this factor is severely weakened by interobserver variation.²²

The key questions for clinicians still remain unanswered—who should be screened, when should a polyp be removed, and what follow up should be given. The King's Fund consensus panel lacked the data to reach an answer on the natural course of adenomas, and its recommendations were a balance of the available scientific data and the need for clinical application.² Thus a primary recommendation required future research efforts to be directed to the natural course of the adenoma, dysplasia, and cancer and the effects of intervention.

The panel also made recommendations—admittedly pragmatic—to aid clinical decision making in patients with symptoms. Thus in symptomatic patients with a polyp the whole large bowel should be examined and polyps greater than 5 mm removed. Follow up is not recommended for patients with a single small tubular rectal adenoma and those aged over 75, but those with a large adenoma or any type of multiple adenomas should undergo colonoscopy every three to five years. This last recommendation has potentially huge implications for the population.

Despite being a routine procedure polypectomy has not been evaluated in a controlled trial and is clinically unproved. Many people may undergo polypectomy to prevent one potential cancer which may not present even a lifetime risk. Colonoscopy and polypectomy carry their own risks of haemorrhage and perforation,²³ including the 1-2% risk of slow perforation or the burnt colon syndrome as a consequence of using hot biopsy forceps on small lesions.¹⁹ There are also the hazards of bowel preparation,²⁴ the costs of unnecessary procedures (colonoscopies cost £107-250),²⁵ and above all the costs to the patient in anxiety, discomfort, and time.

Current research techniques have yielded no predictive tools to aid clinicians. The early hopes for tumour markers in high risk or asymptomatic patients have not come to fruition,²⁶ although molecular genetics may have a potential application. Even molecular genetics, however, cannot provide the definitive answer without epidemiological support. The current trials of faecal occult blood testing²⁷ and the increasing activity in genetic screening make it even more imperative that a coherent strategy of NHS clinical research is undertaken into the natural course of early disease. This calls for a combination of studies, the most urgent being a randomised controlled trial of polypectomy. We cannot

continue to base clinical practice on empirical evidence alone. It is time to overhaul the epidemiological, clinical, and histological evidence and increase our knowledge of the adenoma-carcinoma sequence.

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Forensic use of DNA tests

Courts need ways to assess the reliability of new scientific methods

Heralded as revolutionary, the forensic use of DNA profiling has grown dramatically since the technique was developed in 1985.¹ Because DNA testing has the potential for identifying people with an extremely high degree of certainty—so high that the danger exists that DNA evidence will override any other—it is important to ensure that there is a correspondingly high degree of certainty about the validity and reliability of the tests.

Yet DNA profiling was subjected to only limited scrutiny in the courtroom before 1989, when it received the first serious challenge to its forensic use. In 1989 the judge in a criminal case in the United States, *People v Castro*, excluded certain

DNA evidence because of flawed laboratory techniques.² The *Castro* decision focused attention on the validity and reliability of DNA tests for forensic casework; the need for standards and quality assurance for DNA analysis and interpretation; the importance of allowing the defence access to forensic science resources; and, more generally, the admissibility of novel scientific evidence.

The validity of the molecular and genetic principles underlying DNA analysis is generally accepted. What is in dispute is the application of the technology to forensic samples—especially those taken from the scene of crime, which may have deteriorated, be contaminated, or be very

small. In addition, forensic DNA testing requires analysis of the test results using population genetics—in contrast to research and diagnostic testing, in which conclusions are based only on known samples. In a debate over reliability in the *American Bar Association Journal*, the Castro defence attorneys asserted that the differences between diagnostic and forensic applications of DNA testing demand the development of additional forensic techniques.³

Legal and scientific critics of DNA testing as a forensic tool contend that it was rushed prematurely into court by the commercial DNA laboratories before the scientific community had agreed on standards to ensure reliability or on guidelines for interpretation. Even those who believe that forensic DNA testing is reliable agree on the urgent need for quality assurance to ensure that reliability. The United States Congress Office of Technology Assessment, for example, found that DNA tests are valid and reliable “when properly performed and interpreted.”⁴ Nevertheless, the office also called for the immediate establishment of standards for forensic applications of DNA testing—“the cornerstone of quality assurance”—to provide a benchmark against which to measure a particular test’s reliability.⁵

In the United States various approaches to quality assurance are being considered, ranging from monitoring to regulation and from voluntary to mandatory. In Britain quality assurance is being looked at, but work is not being coordinated. The commercial DNA laboratories, which have been or are in the process of being accredited as meeting the quality standards for DNA paternity testing set by the British Standards Institution, are seeking or intend to seek certification by the institution for forensic DNA testing as well. The institution does not, however, set technical standards for such things as interpretation of data; rather, it certifies that the laboratory documents and follows its procedures.

The Forensic Science Service laboratories and the Metropolitan Police laboratory are pursuing accreditation of their procedures from the National Measurement Accreditation Service, a government regulatory body that certifies technical as well as operational standards. Its certification procedure for forensic laboratories is, however, not yet in place.

Professional organisations such as the International Society for Forensic Haemogenetics have made some recommendations and are in the process of developing voluntary guidelines for DNA analysis, including the crucial subject of interpreting test results. In the legal academic community the suggestion has been made that legislation is needed to lay down minimum standards and legal requirements for forensic DNA testing.⁶

DNA profiling raises all the issues about forensic science that are already under scrutiny in Britain. Because it is a new technique it also highlights the lack of a procedure by which the reliability of a novel forensic scientific technique can be assessed by the courts and standards set for its use. Many options are being considered, but action needs to be taken quickly to ensure that no grave miscarriage of justice occurs in a case in which DNA profiling evidence is used.

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Psychological therapy in the NHS

Providing a comprehensive service is more important than who leads it

Clinical psychology first emerged as a profession during the second world war, when psychologists started to treat psychologically traumatised war casualties. Not until the Trethowan committee reported in 1977, however, did it become fully recognised as an independent profession with a therapeutic contribution going beyond psychological testing.¹ A review of clinical psychology services in 1989 by the Management Advisory Service endorsed psychologists’ perception of themselves as valuable, independent, scientifically informed practitioners who could show considerable flexibility in responding to the needs of individual patients and of evolving services.² But it did recognise that “independent” often meant that there was a lack of accountability to either managers or other professionals in the multidisciplinary team. The British Psychological Society has recently produced a policy statement suggesting how psychologists should work with other professionals to ensure that a comprehensive range of psychological therapies can be offered to all care groups.³

As the report recognises, the term “psychotherapy” is ambiguous (the report suggests using “psychological therapy” instead). At a specialist level psychotherapy may be used as a generic term or may be restricted to a particular method such as psychoanalytic psychotherapy or behavioural psychotherapy. Moreover, psychological therapies are practised

at different levels, from that of the full time specialist psychologist or medical psychotherapist to the basic skills of good listening and empathic reflection required of all health professionals.

These ambiguities are compounded by the lack of formal planning for psychological therapy services in most districts and the fact that these services can be provided by more than one type of professional. Many, although not all, medical psychotherapists see themselves as providing a generic service in conjunction with colleagues in other disciplines. Ideally such a service would cover the whole range of treatments across the age range from childhood to old age as well as providing continuing supervision, training, and support for other staff. In practice some consultant psychotherapists have concentrated primarily on developing psychoanalytic psychotherapy services, leaving medical psychotherapy open to the accusation that it is partisan.

In promoting the ideal of a full range of psychological therapies available throughout the NHS the British Psychological Society considers that “clinical psychologists have a clear breadth and flexibility which enables them to provide comprehensive assessment and a far greater choice in the selection and delivery of psychological therapies.”³ In some ways this is disingenuous. The claim that all 2000 or so clinical