on true facts? An author cannot, for example, simply assert that some person's conduct is scandalous. He or she must first set out and explain, or at least allude to, the conduct in question (which must be true) and only then is it permissible to give a comment on it. For example, to state that a surgeon was guilty of a gutless abdication of his responsibilities would not be defensible as fair comment unless the author also made clear the basis for this comment—for example, that the surgeon had resigned on the ground that he objected to the introduction of new pay codes. The defence of fair comment would also not succeed in this instance if in fact the basis for the comment turned out to be incorrect and the surgeon proved that he had, for example, retired on grounds of ill health.

It is important for authors to ensure that what they are saying is in fact comment and not simply an allegation dressed up to look like an expression of opinion. If the allegation, although expressed in the language of comment, is likely to be read as an assertion of fact—for example, "Dr A would appear to have broken every rule in the book"—the defence of fair comment will not apply and the appropriate defence to consider is that of justification.

The boundaries of fair comment are wide and, providing authors are commenting on true facts, they are entitled to express their honest opinion, however forthright. Nevertheless, caution is advisable where an author is speculating about an individual's state of mind. For example, it is dangerous to say that someone's conduct is plainly vindictive or that a person is evidently operating for reasons of personal profit. It will always be hard to convince a court that such inferences about an individual's personal motivations are fairly to be drawn from the surrounding facts of the case.

MALICE

Finally, the defence of fair comment, as well as the defence of qualified privilege, can be defeated if it is established that the publication was made with malice. Malice in this context includes not simply spite but also the existence of an ulterior motive. A case of malice can frequently be built on the fact that the writer of the piece in question has some vested interest in its subject matter. If the author of a piece is a person who might well be regarded as someone with an axe to grind great caution should be exercised.

Medical Education

Trends in health care and their effects on medical education

Stella Lowry

This is the eighth in a series of articles examining the problems in medical education and their possible solutions

The General Medical Council has recognised for decades that there are problems in medical education, but little real reform has happened. In recent years, however, there have been dramatic changes in the provision of health care services which are having knock on effects on medical education. Here I shall discuss some of the strongest of these forces in more detail and examine ways in which they can be turned to advantage in shaping medical education.

Specialisation

The GMC believes that increasing specialisation within medicine and the development of postgraduate medical education are among the biggest influences on the way we train doctors.¹ Doctors cannot now make a career in any branch of medicine in Britain without taking part in postgraduate medical education. Each specialty is controlled by a royal college or faculty that dictates the required specialist training programme and sets the necessary standards. As a result the undergraduate medical course no longer needs to provide so much detailed factual knowledge about individual specialties. A newly qualified doctor must be able to function as a preregistration house officer and have the skills to take full advantage of postgraduate education.² Realistically, the detailed factual knowledge needed to begin specialist training in most disciplines could probably be learnt by a motivated senior house officer in a matter of a few weeks at the start of specialist training.

By removing much of the factual load from the undergraduate curriculum we can clear space for topics like communication skills, teamwork, audit and management, appreciation of scientific method, ethics, information technology, etc. All of these are relevant to modern medical practice and provide the student with the skills needed to continue learning beyond the sheltered confines of the medical school, and their importance is emphasised in the contents suggested by

Box 1

Contents of core curriculum proposed by GMC

- Clinical method, practical skills, and patient care
- Communication skills
- Normal structure and function: human biology
- Abnormal structure and function: human disease
- People in society
- The public health
- Disability and rehabilitation
- Finding out: research and experiment

the GMC for the proposed core medical curriculum¹ (box 1).

Changing role of hospitals

Huge changes in the politics and philosophy of health care have occurred in recent years, which are having knock on effects in medical education (N Bosanquet, paper delivered at conference on developing medical education, University of London, 26-27 June 1991).^{3,5} Much more emphasis is now put on epidemiology, the health of populations, health promotion, and preventive medicine. Maintaining health is as important as treating disease. Demographic changes mean that medicine of old age is becoming increasingly important.

Much of our health care is now provided entirely in the community. General practitioners have a formal postgraduate education system of their own, and the roles of other members of the primary care team have developed to provide a huge range of specialist professional services. These trends have been accompanied by changes in the way our hospitals function. For various reasons, including the opportunities offered by

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new technology, cost considerations, and consumer demands, inpatient stays are becoming less common and much shorter than ever before. This means that hospitals are increasingly unable to provide the experiences needed by undergraduate medical students. Many conditions are now managed entirely in the community or on a day case basis. Fundholding general practitioners are free to negotiate contracts with local hospitals, and many patients with common problems are treated locally and may never reach the teaching wards of distant hospitals. If they do they are often there for only a very short time, during which they may be too acutely ill to cope with the demands of medical students.

The development of minimally invasive investigations and treatments means that much of what goes on in hospitals is inaccessible or irrelevant to students and useful only to postgraduate trainees. If hospitals cannot provide enough suitable patients how can undergraduate students be taught?

Skills laboratories

One obvious response to the shortage of real patients is to develop artificial alternatives. This is not necessarily a second best option. In many professions—air pilots, for example—simulated situations are an important part of the training programme. The University of Maastricht is famous for its skills laboratory, where students can learn and practise techniques of physical examination, interviewing skills, and invasive procedures without causing undue stress to patients or themselves. A skills laboratory may contain anatomical and clinical models for practising techniques like venepuncture, suturing, and resuscitation; prosected specimens and prepared slides to illustrate anatomy and pathology; computer based self directed learning packages; and video equipment for practising interviewing techniques. Ideally these facilities are available to all health occupations, so emphasising the team approach to medical care and helping to remove barriers by encouraging students to learn together.

Many British medical schools are developing skills laboratories. Dr Jane Dacre, of St Bartholomew's Hospital Medical School, London, emphasises their value in allowing early practice of difficult, painful, or embarrassing procedures. Access to skills laboratories should ensure, for example, that the first time a doctor passes a urinary catheter is not in the middle of the night, without supervision, and faced with a distressed patient. Dr Dacre does not think, however, that

Box 2

Some advantages of using simulated patients

- They are always available, so teaching can be better structured and less opportunistic
- They are less liable to fatigue than real patients and can be used over and over again
- Staff and students can talk freely in front of them
- Student anxiety is reduced
- Complicating and unrelated problems that might confuse a student do not occur
- Simulated patients can adjust their performance to suit students with different levels of experience
- They can be trained to provide feedback on how the student performs

Some of the "problems" that simulated patients overcome must be coped with in real medical practice, so they cannot wholly replace real patients in medical education

the models available are yet of such a high standard that they can completely replace real patients in undergraduate training. But she believes that as the demand grows and schools work more closely with the manufacturing companies to ensure authenticity undergraduates are likely to receive increasing amounts of their practical experience in skills laboratories.

Simulated patients

Another response to the shortage of real patients is to use simulated ones. In the simplest form these are real patients with stable physical signs who are willing to take part in clinical teaching and examinations and who have sometimes undergone simple training in how to present their problems to students. More usually, however, the term is applied to healthy people who have been trained to reproduce features of real patients. Simple briefing can enable a simulated patient to be used for practice of history taking, clinical examination, and skills like getting consent for surgery and breaking bad news. More extensive training can produce a simulated patient who gives a consistent and convincing presentation of a specific medical condition, often to the extent of reproducing findings on examination. Professor Paula Stillman, of Philadelphia, who has pioneered much of the work on simulated patients, estimates that up to 25 hours of specialist training is needed to produce a simulated patient of this type, and extensive retraining is needed to ensure that the performance remains consistent. Simulated patients are paid, but none make it their full time job.

Staff and students who are used to dealing with simulated patients claim that they are so convincing that within minutes the encounter becomes "real." Certainly it is possible to send simulated patients unannounced into general practitioners' surgeries and for them to remain undetected by the doctors dealing with them.⁶ In North America simulated patients now form a major element of the teaching programme in many medical schools. In McMaster University, Ontario, Canada, they are trained to very high standards and are used to teach and assess students' abilities to take histories and perform physical examinations.

One perceived advantage of simulated patients is that they can be used for student assessment as they can be trained to provide consistent, reliable feedback on performance and can be used many times over without the worries of fatigue or distress that may affect real patients' (box 2). Indeed, in the United States the

Are teaching hospitals still the best place for undergraduates?

HOMER SYKES/IMPACT

Injectable training arm and male catheterisation simulator. In common with students of other professions, medical undergraduates may gain much experience of procedures by using simulators

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National Board of Medical Examiners has set up a research project to assess whether using simulated patients might provide a realistic and reproducible means of assessing clinical skills in the national licensing examinations, which currently rely entirely on written assessment.

In Britain simulated patients are used in many schools but in more restricted capacities. Real patients with stable signs are commonly used in undergraduate and postgraduate examinations, but usually without any training or modification of their presentation. Inevitably they take no part in marking the students' performances. Several schools use actors to help students learn history taking techniques and explore difficult topics like explaining complicated procedures and breaking bad news. Highly trained simulated patients, used for so much teaching and assessment in America, are essentially unknown in Britain. This is partly because of a reluctance to believe that they can ever replace real situations and partly because of more mundane matters like the expense of training and employing them and the cultural difficulty of persuading healthy British people to volunteer to allow medical students to perform vaginal or rectal examinations on them.

Community based education

Another obvious response to the shortage of suitable patients in our traditional teaching hospitals is to move the students out into the community, where the patients and much of the health care are.^{8,9} Several medical schools are developing this approach. Pressure from bed closures led to King's College Hospital, London, transferring one of its general medical firms to the department of general practice for teaching in the community, and this year Cambridge is to introduce a 15 month community based option for four students as a pilot project in place of their junior medical and surgical attachments and specialty rotations.

Although most students in such schemes are attached to general practitioners who act as tutors for the course, community based education is not about studying general practice. It is a way of learning general medical subjects in a new setting. Students study a structured course, they may attend local miniclinics and hospital based outpatient clinics and teaching rounds, patients may be brought up to the surgeries specially for teaching, and self learning packages may be devised for use on the practice computer systems so that students can take full advantage of unstructured time.

Among the advantages of such schemes are the huge numbers of patients available, the opportunity to see diseases in all stages from initial presentation to recuperation, an understanding of the range of presentations of a condition and the likely differential diagnoses, and the chance to see how illness affects the

daily lives of patients and their families (box 3). Dr Nigel Oswald, of Cambridge, believes that this gives students a more realistic idea of what medicine is like: "It is more important to see 50 people who might have appendicitis than five who definitely do."

Among the disadvantages of community based education are the complex planning and administration needed to ensure that all students see an acceptable range of conditions, the fact that rare conditions and extreme complications may not be seen at all, the cost and logistic problems of ensuring that students can follow their patients to clinics and hospital wards as required, and the coordination needed to ensure that standards are maintained when students are taught in small geographically spread groups away from the school base. The practical considerations are numerous. For example, when the Cambridge scheme starts only students who have their own cars will be eligible to take part. Extending such a scheme to an entire school would involve complicated planning of transport, accommodation, and personal safety measures, to say nothing of the academic arrangements. Despite these difficulties Dr Oswald believes that this approach can and will catch on, and he cites the extensive and highly successful vocational training schemes for general practitioners as evidence of the discipline's willingness and ability to organise large scale, carefully regulated training programmes.

The market economy

Among recent trends that are thought likely to influence medical education is the emergence of a market economy in health care provision. Providers now expect to be paid, and services that are not cost effective may not survive. The introduction of these changes led to fears that teaching would take a back seat in some hospitals as managers emphasised the service elements of doctors' work and tried to balance their books.³ Teaching medical students has cost

Box 3

Community based education

Pros

- Provides a realistic response to changes in the provision of medical care
- Overcomes the problem that hospital inpatients present in only one phase of their illness (when they can least help undergraduate students)
- Allows greater availability of patients—most people spend more time at home than in hospital
- Is useful for teaching the core skills outlined by the GMC
- Presents patients in the context of their everyday lives and in proportion to the prevalence of their disease
- Encourages patient centred attitudes
- Encourages self directed learning and self assessment

Cons

- Tutors are fairly isolated and need much training and support
- System is time consuming
- Close relationship between students and tutors may lead to role modelling, which may be good or bad
- May not meet students' expectations of what medicine is all about

implications for hospitals. For example, patients may be admitted earlier than necessary before routine surgery to allow them to be used for teaching while they have physical signs. Extra investigations may be requested or more complicated and experimental procedures used so that students can learn about them. Although the NHS subsidises teaching hospitals through the SIFTR (Service Increments for Teaching and Research) payments for some of the additional costs of providing health care in a teaching setting, there was a worry that market pressures would make teaching hospitals unviable.

In practice, however, things are not as bad as had been feared.⁴ Medical schools are slowly recognising that they too are purchasers, controlling substantial sums of money in the form of SIFTR, and that they can negotiate contracts for the type of teaching that they require. A few medical schools, notably Leicester,¹⁰ are already using the placing of their teaching contracts to ensure that hospital managers take education seriously and provide time and resources for it to be done properly.

Conclusion

After years of stagnation medical education in Britain is changing. This is being driven not by educational theory but by the practical implications of technological and political changes. Medical educators must seize this opportunity and take full advantage of

these trends. By teaching in a wider range of settings and making more use of simulated situations we can allow students to explore aspects of medicine that are crucially important but difficult to cover in a traditional teaching hospital. We can ensure the best use of all resources by having more to choose from. Students can learn at a more controlled pace and in a more sheltered environment, which may be less stressful to them and to their patients. Changing attitudes to the funding of health care may be the first realistic opportunity that we have had to enforce high standards in medical education.

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London after Tomlinson

Undergraduate medical education

Lesley Rees, John Wass

This is the eleventh article in our series looking at the issues highlighted by the Tomlinson report into London's health care and medical research and education

Pressures from students and teachers, from professional bodies, and from changes in the way health care is delivered are all forcing a rethink of how medical students should be taught. These pressures may be more intense in London but are not confined to it. The recommendation the Tomlinson report advocates that has been generally welcomed is for more investment in primary care in London. General practitioners have much to teach medical schools about effective ways of learning, but incentives for teaching students in general practice are currently low, organising such teaching is difficult and needs resources, and resistance within traditional medical school hierarchies needs to be overcome. Likewise, students value learning within local communities, but the effort demanded of public health departments and community organisations is great at a time when they are under greater pressure than ever before. The arguments over research that favour concentration in four multifaculty schools are less clear cut for undergraduate education, where personal support for students is important. An immediate concern is that the effort demanded for reorganising along the lines suggested by Tomlinson will not leave medical schools much energy for innovating.

For many years it has been apparent that the teaching of medical students within the confines of specialist hospitals suffers from many defects.¹ The transfer of teaching to the community, where patients live and work, is seen to have many advantages and has been the subject of much recent debate.^{2,3}

At St Bartholomew's Hospital Medical College about

half of all medical students are destined for general practice, and in other schools the proportion is higher. Several events, including the Tomlinson report, have converged, making the pressure for more community based experience for medical students irresistible. The need for change will not be confined to medical colleges in London alone.

Pressure for change comes from patients, students, and teachers; from public and professional bodies; and particularly from developments in the way health care is delivered in the NHS.^{2,4} Before Tomlinson bed numbers in London and elsewhere had already declined. The length of inpatient stay had shortened and the number of patients seen as outpatients or as day cases had increased. Teaching requirements cannot dictate bed numbers, which must be tuned to patient need. Medical education must adapt and follow the patients, not vice versa. This means that traditional apprentice style teaching at the bedside will assume less importance and that learning in primary care, community based settings, outpatient clinics, and skills laboratories will increase.

Primary care

The Tomlinson report's major imperative is to improve primary care in the capital—the sole tenet that has received widespread acclaim. While welcoming Tomlinson's basic premise, the capital's general practitioners have repeatedly emphasised that improvements in primary care will be achieved only if sufficient resources are made available. This is required not only for practice premises but to foster a pleasant and

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