

# Doctors as teachers

September 2006



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There were no competing interests with anyone involved in the research and writing of this report. For further information about the editorial secretariat or board members please contact the Science and Education Department which holds a record of all declarations of interest: [info.science@bma.org.uk](mailto:info.science@bma.org.uk)

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## Foreword

In the medical profession, teaching expertise has traditionally been assumed to be a part of clinical or scientific expertise. Only since the second half of the 20th century has teaching been acknowledged as a skill in its own right. Through formal or informal training or supervision of students, junior staff and other professionals, all doctors are involved in teaching to some extent. The presumption that only the proper understanding of a clinical discipline is enough to fulfil a doctor's educational obligation is no longer tenable.

All doctors require basic training in teaching skills. Those who assume more formal teaching responsibilities should be qualified appropriately. Recent years have seen a number of encouraging developments and an increased recognition of the importance of teaching by individual doctors and throughout the profession. With the diverse range of teacher education programmes currently available, doctors now have the opportunity to acquire the skills of a professional educator alongside their progression as clinicians and researchers. There are, however, a number of challenges that limit the development of medical teachers including the poor profile of teaching compared to the many other responsibilities which a doctor is required to carry out, and the absence of a formal pathway to teaching competence. In parallel with the developments in the provision of teaching there have also been significant changes in the nature and scope of medical education itself. The introduction of self-directed and problem-based learning, revised assessment procedures and changes to curricula and syllabuses will undoubtedly impact on the medical profession and its wider role, and must be borne in mind when considering what part should be played by doctors in teaching.

The aim of this report is to examine various aspects of teaching in the medical profession including who provides the teaching, what challenges are faced in delivering this teaching and how the impact of these challenges can be reduced or eliminated. The report is for doctors, medical workforce managers, and healthcare, academic, training and regulatory organisations that have strategic and operational responsibilities for the career progression and development of doctors.

A handwritten signature in black ink, reading "Charles George". The signature is written in a cursive style with a large, prominent loop at the end of the name.

Professor Sir Charles George  
Chair, Board of Medical Education



# Introduction

The word 'doctor' means physician, and is derived from the Latin *docere*, to teach.<sup>1</sup> All doctors in the UK are required to teach future generations of doctors, yet, unlike the preparation provided for their roles as clinicians and despite their expertise in what they teach, there has traditionally been a deficiency in appropriate teacher education in the medical profession.<sup>2, 3, 4, 5, 6, 7, 8</sup>

The role of doctors as teachers is increasingly recognised as a core professional activity that should not be acquired through chance, aptitude or inclination alone. Teaching occurs at all stages of the medical career pathway, from formal classroom-based learning at undergraduate level through to informal training in the clinical environment. There is, however, no formal requirement or pre-defined route by which doctors can become competent teachers. For example, clinical teachers can often end up in a post through seniority and clinical experience, rather than by training and experience in teaching. The problem is compounded by a lack of flexibility in the time allocated to teaching and the development of teaching skills, suboptimal levels of funding and support, and a failure to reward and recognise the educational contributions of healthcare professionals in the form of career incentives and financial remuneration. In the current climate, doctors are under unprecedented pressure to meet targets for treating patients and administration, and the responsibility to teach puts another significant demand on their time.

Together with research and clinical practice, teaching is a core responsibility for medical academics. The requirement to combine teaching with research and clinical activity puts significant demands on them that often leads to an imbalance in these roles. For example, medical academics may have been propelled into their posts as a result of their research experience rather than teaching abilities, and have then been expected to take on a teaching role for which they have little training and experience. Inadequate funding and a lack of transparency in the allocation of funding between research and medical education adversely impacts on the status of teaching and the ability of academic institutions and medical academics to provide high quality teaching. It is worth noting, however, that the bias that exists in favour of research in both the allocation of funding and the recruitment of academic staff is not unique to medical education but occurs across the higher education sector. With a rise of 40 per cent since 2000, recent years have seen an unprecedented increase in the numbers of undergraduate medical students in the UK. There has, however, been a concurrent decline in the numbers of clinical lecturers because of some universally acknowledged disincentives to following this career path. The number of clinical lecturers in the UK declined 36 per cent between 2000 and 2003,<sup>9</sup> and there was a further 17 per cent decline from 594 in 2003 to 494 in 2004.<sup>10</sup> While medical academic staffing levels have remained virtually constant since 2003, the decline in the number of clinical lecturers mean they now make up only 16 per cent of the clinical academic workforce in UK medical schools.<sup>10</sup> The substantial increase in medical student numbers in the UK has required many doctors to take on, or increase, existing teaching responsibilities which seriously compromises the capability to deliver high quality teaching in the 21st century.<sup>11</sup>

Recent years, however, have seen a number of encouraging developments including the establishment of medical education units and departments within UK medical schools, the introduction of new medical education academic posts, a significant increase in the level of research in this area and the introduction of a variety of teaching courses relevant to the medical profession. While there are no national data on the number of doctors who attend teacher education courses or who have attained teaching qualifications, doctors are now taking advantage of the increasing range of opportunities to improve their teaching skills. The need for high quality teaching staff has been reinforced by commitments to teaching and training in *The NHS Plan*<sup>11</sup> and *The NHS Improvement Plan*.<sup>12</sup> This commitment emphasises Continuous Professional Development (CPD), lifelong learning, increasing training commissions for doctors, interprofessional learning and working, and preparing students and staff for new roles and new ways of working. Through the implementation of the European Working

Time Directive, working patterns will change which could potentially impact on the time available for teaching and training. The introduction of Modernising Medical Careers (MMC) will create significant opportunities for change in the current postgraduate medical training programmes, including the chance to incorporate formal teacher education.

## A professional obligation to teach

The General Medical Council (GMC) publications *The Doctor as Teacher* and *Good Medical Practice* outline the educational obligations of doctors and set out what is expected of doctors with teaching responsibilities, including those who supervise medical students and/or junior colleagues.<sup>13, 14</sup> All doctors have a professional obligation to contribute to the education and training of other doctors, medical students and non-medical healthcare professionals on the team, and those who accept special responsibilities for teaching should take steps to ensure that they develop and maintain teaching skills.<sup>13, 14</sup> The joint publication from the GMC and the Postgraduate Medical Education and Training Board (PMETB), *Principles of good medical education and training*, outlines a common set of principles to underpin the design and delivery of all medical education and training including:

- doctors with responsibilities for teaching, training and providing CPD should gain and develop appropriate knowledge, skills, attitudes and behaviours
- there should be adequate training and support for anyone who provides education, training and CPD
- students and doctors should have appropriate teaching and learning resources, such as libraries, computing equipment and teaching rooms. These resources should be regularly reviewed and assessed
- professionals providing effective medical education, training and CPD need time to do so. Those responsible for programmes should make appropriate arrangements for time to be set aside for the students and trainees. There should be adequate resources, including time where teachers cannot be called away to see patients, to support assessment and appraisal.<sup>15</sup>

# Who are the medical teachers?

With their professional obligation to contribute to education and training, the majority of doctors – at all hospital grades and in general practice – are involved in the teaching of doctors or students junior to them. There is, however, no universal requirement for doctors to undertake teacher education or demonstrate teaching expertise; yet, doctors are commonly required to have relevant teaching experience and, where applicable, appropriate teaching qualifications. This requirement differs between posts and institutions. Formal and informal, recognised and unrecognised teaching roles exist in the modern healthcare setting. The informal teaching provided by doctors occurs throughout medicine and can commence immediately after graduation from medical school (eg junior doctors providing teaching to medical students) and continues throughout the medical career pathway. It is important to note that this informal teaching accounts for a significant amount of the teaching that is provided by doctors. For example, many GPs that are not formally trained and accredited as GP trainers provide undergraduate teaching as GP teachers. Teaching is also provided by non-medical trainers such as clinical educators (eg nurses and physiotherapists). Formal teaching in the medical profession is provided by several types of doctor including:

## **Medical academics**

Medical academic staff are doctors employed by universities and medical schools to provide teaching to undergraduate medical students and postgraduate doctors. They are also required to pursue research (particularly patient-based research) and to provide specialist clinical care. Medical academics work in all hospital specialties, general practice and public health medicine. They are typically employed by universities and hold honorary contracts with NHS institutions. The majority of medical academic posts are for clinical senior lecturer, reader and professor. They teach undergraduate and postgraduate students aged 18 upwards in lectures, seminars, practical laboratory demonstrations and clinical attachments. The training for academic posts is longer than non-academic posts due to the requirement to establish competence in research, teaching and clinical care, although there is no formal training pathway to an academic career. Prospective medical academics would normally undertake a period of research during specialist training, and on completion, embark on further research before taking up a consultant-level post as a senior lecturer.<sup>16</sup> New training pathways are being developed as part of the new MMC programme, with specific opportunities for training in academic medicine (see the section on MMC).

## **General practitioner (GP) trainers**

GP trainers provide professional training during the three-year general practice vocational training course, preparing entrants for unsupervised work as GPs. Postgraduate deaneries are responsible for the selection of GP trainers in accordance with criteria which were set out by the Joint Committee on Postgraduate Training for General Practice (JCPTGP).<sup>17</sup> The PMETB, which has taken over responsibility for general practice training from the JCPTGP, have adopted the criteria and agreed to continue to accept GP trainers approved by them.

## **Consultants**

Consultants represent the most senior grade of hospital doctor. For the majority of consultants, their main responsibility is the clinical care of patients, but almost all consultants, as part of their contractual arrangements, will teach or provide some level of support and supervision to grades junior to them. In contrast to GP trainers, there is no formal accreditation of individual consultants as trainers by the PMETB, although the quality assurance of training programmes, in which consultants are the trainers, ensures that educational goals can be achieved.

# The challenges to teaching in the medical profession

The provision of teaching in the medical profession in the UK remains an area of concern for a number of reasons including:

## **A lack of appropriate teacher education**

All doctors are obligated to teach, yet there are no mandatory teacher education programmes and doctors have traditionally not received any formal training or teaching qualifications (eg postgraduate certificate in education).<sup>2, 3, 4, 5, 6, 7, 8</sup> Although subject expertise is important, it is unacceptable to assume that because a doctor knows a lot about their subject, this will enable them to teach it effectively either formally or informally. This leads to problems of accountability, quality assurance and a lack of recognition of their role as teachers. Teaching in the medical profession requires a proficient knowledge of how to motivate the learner, assess competence, give constructive feedback, teach multiple trainee levels, and the skill to deal with competing demands of patient care, research and education. A lack of appropriate teacher education leads to problems with teaching methods. These include a lack of clear objectives, an over-emphasis on factual recall rather than on development of problem solving skills, the use of passive observation rather than active participation of learners, and teaching being pitched at the wrong level. At undergraduate level, the teaching provided by medical academics often focuses on the teacher's area of research rather than providing a comprehensive overview of the subject. Evidence suggests that clinical teaching can be variable and unpredictable, poorly supervised and assessed, often opportunistic and may use approaches such as humiliation and sarcasm.<sup>7, 18, 19</sup>

## **Time pressures**

With increased patient and administrative loads, and the requirement to conduct research, doctors have a number of competing demands that often mean there is insufficient time for preparation and teaching.<sup>20, 21</sup> These pressures on doctors and healthcare institutions are likely to continue to increase.<sup>22</sup> The new consultant contract may potentially see teaching formally competing with other non-clinical responsibilities including CPD, audit and research.<sup>20</sup>

## **A lack of recognition and reward**

The service provided by doctors who teach is often poorly rewarded in terms of remuneration and time allocated to teaching. Doctors are under unprecedented pressure to meet clinical care targets, manage resources and maintain administration procedures. Medical academics are commonly primarily employed for their contributions to research and are poorly compensated for their role as teachers. A doctor is unlikely to be appointed to a job or achieve a promotion solely on the basis of their teaching skills and experience. Encouragement and motivation of medical teachers is limited, and doctors face both internal and institutional constraints that prevent them from teaching.<sup>7</sup> These problems are a part of a profession-wide lack of recognition of the importance of teaching.

## **Funding and support**

There is a lack of investment and transparency in the funding for the teaching of medical students and doctors. In many institutions, the support for education and teaching is suboptimal, and problems occur when there is a lack of teaching resources.<sup>6</sup> There is anecdotal evidence that funding provided for medical education is used instead for research purposes.<sup>23</sup> Educational activities are not as pro-actively supported and nurtured due to the lack of institutional incentives like those available for undertaking research. A significant proportion of undergraduate teaching is now being devolved to the NHS which is already under pressure to meet clinical targets.

### **Changing patterns of healthcare and societal values**

The evolving nature of the healthcare system in the UK and the changing attitudes and expectations of society on the role and performance of doctors has significant implications for the way medical students and doctors are taught. New therapies and techniques are being developed at an unprecedented rate. As a result doctors are constantly required to develop new clinical skills that subsequently need to be taught to medical students and junior doctors. The expansion of student numbers, the development and implementation of integrated medical curricula, and the increasing emphasis on self-directed and problem-based learning alter the way in which medicine needs to be taught.

### **Practical difficulties**

There are a number of practical difficulties that limit the effectiveness of teaching in the medical profession including reduced opportunities to teach (shorter hospital stays; patients too ill or too frail; more patients refusing consent), insufficient resources and a lack of 'teacher friendly' clinical environments.<sup>6</sup>

# Modernising Medical Careers (MMC)

The recent introduction of the MMC career framework has significant implications for the development of educational and training programmes in the medical profession. MMC has reformed postgraduate medical education by establishing a two-year foundation programme (Foundation year 1 (F1) and Foundation year 2 (F2)) that effectively replaces the PRHO year and the first year of SHO training. The foundation programme requires doctors to demonstrate their abilities and competence against standards set out in the Curriculum for the Foundation Years in Postgraduate Education and Training that were agreed by the GMC and the PMETB. Following completion of the F2 year, doctors compete for entry to specialist and GP run-through training programmes which, on completion, lead to the award of a CCT, subject to satisfactory progress. These training programmes will assess doctors against curricula set out by the royal colleges and agreed by the PMETB. After obtaining a CCT, a doctor will be eligible for entry to the specialist or GP register and can then apply for an appropriate senior medical appointment.

A report from the joint sub-committee of the UK Clinical Research Collaboration (UKCRC) and MMC<sup>a</sup> examines the barriers to pursuing an academic career in medicine and sets out proposals for a new structure for the discipline, starting with advice and opportunities at medical school and creating pathways into academia at all levels, including consultant.<sup>24</sup> The report addresses the educational requirements of medical students and junior doctors and makes a number of recommendations for improving the training of researchers and educators of the future. In light of the vision for the roles and responsibilities of future medical academics, the report combines education and research in its recommendations. The recommendations include:

- increased opportunities should be provided for students to explore the theory and practice of education in the undergraduate curricula through appropriate programmes, special study modules/student-selected components and intercalated degrees
- a limited number of MB-PhD schemes should be maintained with appropriate funding and the progress of graduates from these programmes is tracked
- there should be an integrated academic F2 programme which encompasses academic activities throughout the year, designed for those who show an aptitude and commitment for a research/educational career
- dedicated academic training programmes should be developed in strong host environments, in partnership between universities and local NHS bodies
- substantial efforts should be made to develop academic training programmes in those specialties that have been subject to particular decline in their academic activity. While the majority of these programmes will focus on research training, some should have educational training as their main focus
- further efforts should be made for the revision of academic career progression/promotion criteria within universities for clinical educationalists.<sup>24</sup>

With the flexibility and competency-based learning afforded by the MMC career framework, there is an opportunity for educational roles to be formally incorporated into the foundation programme for both academic and standard NHS trainees.

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a The joint sub-committee of the UKCRC and MMC was chaired by Dr Mark Walport. This report is subsequently often referred to as the Walport report.

# Teacher education in the medical profession

The requirement to undertake formal teacher education in the state sector was introduced in the 1970s; yet it is not a concept that has been formally adopted by the medical profession and there are no national data on the number of doctors who attend teacher education courses or who have attained teaching qualifications. A survey of undergraduate and postgraduate medical deans in 1993 found that teacher education courses were available at most institutions in the UK; however, only a limited number were specifically aimed at medical teachers.<sup>5</sup> A subsequent report from the Standing Committee on Postgraduate Medical and Dental Education (SCOPME) identified a deficiency in the teacher education of hospital teachers,<sup>2</sup> and this deficiency was further recognised in a study of the teaching and learning needs of hospital consultants.<sup>6</sup> A follow-up study from SCOPME in 1999, however, demonstrated that many hospital doctors were developing their educational roles – which included acquiring the skills needed for appraisal and assessment, educational supervision and formal and in-service teaching – and that there was a diversity of courses available throughout the UK for teacher education in the medical profession.<sup>25</sup>

## Requirements for medical teacher education

Despite the educational obligation of all doctors,<sup>13, 14</sup> there is no mandatory requirement in the medical profession to undertake teacher education or to attain formal teaching qualifications, and therefore there is no defined or pre-specified route to competence. Even with the principles set out by the GMC and the PMETB with regard to the training of teachers in medical education,<sup>15</sup> the provision of teacher education does not form a substantive part of the undergraduate or postgraduate medical curricula. Training in teaching skills at the undergraduate level is restricted to non-compulsory student-selected modules. For those doctors who are required to provide supervision and informal teaching as part of their daily routine there is no requirement to undertake in-service teacher education.

*'I am very keen to teach and I think I will be quite good at it. A formal teaching course would be extremely beneficial prior to becoming a house officer. I know some of my colleagues are petrified of having to teach! Building confidence in our knowledge, and our ability to communicate it, is the key.'*

**BMA member**

According to the recommendations set out by the JCPTGP, GP trainers should prepare carefully for the teaching responsibilities of a trainer and should attend trainers' courses and workshops.<sup>17</sup> Although each postgraduate deanery has its own specific criteria for trainer selection, in general, GP trainer applicants are expected to have a minimum of three years' experience following completion of the GP vocational training scheme. Following selection, applicants are required to undertake a specific training programme. Each UK deanery operates its own training programme that is usually organised by experienced GP educators and often validated by a local university.

There is insufficient recognition of the increasing requirement for formal training in teaching for newly appointed medical academics. The majority of higher education institutions, however, now require newly appointed academics to undertake a teaching qualification before they can complete probation (minimally a postgraduate certificate), and many encourage individuals to obtain a diploma or masters. Selection criteria for specific posts vary between institutions. The 1997 Dearing report recommended to higher education institutions that 'over the medium term, it should become the normal requirement that all new full-time academic staff with teaching responsibilities are required to achieve at least associate membership of the Institute for Learning and Teaching in Higher Education (ILTHe), for the successful completion of probation'.<sup>26</sup> The work of the ILTHE was taken over by the Higher Education Academy (HEA) in 2003. Academic teachers can undertake a Certificate in Learning and Teaching in Higher Education (CLTHE) which is accredited by the HEA, and depending on the specific course, may provide training in classroom-based teaching only.

Despite the opportunity afforded by MMC, there is insufficient recognition of the teaching skills required by doctors in hospitals and general practice, focusing instead on the education and training of the limited number of doctors who are likely to make major contributions to medical education.<sup>27</sup> This lack of formal teacher education in medicine is little different from other disciplines and university courses in tertiary education in the UK. As with medicine, teacher education is not normally provided or required prior to appointment as a dental academic nor is it common for in-service teacher education to be provided in the dental profession. This situation contrasts with teacher education in the nursing profession (see box 1).

### **Box 1 – teacher education in the nursing profession**

Student nurses are predominantly taught by nurse educators who have undertaken an approved teaching course and are themselves qualified nurses. The resultant teaching qualification (eg Postgraduate Certificate in the Education of Adults (PGCEA)) is recorded on the Nursing and Midwifery Council (NMC) register. Teaching is also undertaken by nurse teachers, known as practice educators, who are based in service delivery and who support mentors and students in clinical areas. The nursing regulatory body, the NMC, has published standards for the preparation of teachers of nurses, midwives and specialist community public health nurses.<sup>28</sup> These standards were originally agreed and published by the United Kingdom Central Council for Nursing, Midwifery and Health Visiting (UKCC). The standards set out what programmes leading to a recordable teaching qualification should offer, including:

- flexible modes of delivery
- a modular structure that will enable practitioners to access modules that are most appropriate to the environment in which they will be teaching
- linkage to a higher education accreditation system
- credit for appropriate prior learning and prior experiential learning
- opportunities to observe, participate and be assessed, in a range of teaching activities and settings.<sup>28</sup>

To undertake one of the programmes leading to a recognised teaching qualification, a registered practitioner is required to have:

- an entry on an appropriate part(s) of the current NMC register
- completed a minimum of three years full-time experience (or equivalent part-time experience) in relevant professional practice during the last 10 years
- acquired additional professional knowledge that must be relevant to the intended area of teaching/practice, and at no less than first degree level.<sup>28</sup>

The programmes should be at postgraduate level and the teaching practice element of the programme must be equivalent to 12 full-time weeks (360 hours). A review of these standards has been carried out and a proposed new standard to support learning and assessing is due to be published shortly.

Although not directly comparable, teacher education is a significant component of mainstream education in the UK. Teachers in state or local authority schools in England and Wales are required to complete a Postgraduate Certificate in Education (PGCE) or have obtained a Bachelor of Education. A PGCE incorporates a one-year initial teacher education and training course for existing bachelor degree holders leading to Qualified Teacher Status (QTS). The course is normally taught at a university or other higher education institution, though most of the course time is spent on placements in local



schools. After gaining QTS, the candidate becomes a Newly-Qualified Teacher (NQT). Student teachers can also become a teacher by completing a Graduate Teacher Programme (GTP), where they are employed by a school and train on the job. A four-year Bachelor of Education provides graduates with a degree level teaching qualification and leads to QTS. In Scotland, completion of a PGCE leads to Teaching Qualification (TQ).

## Teaching qualifications and teacher education courses

Despite the lack of a formal system of teacher education in the medical profession, recent years have seen a number of encouraging developments including a commitment to teaching and training in the NHS,<sup>11, 12</sup> a significant increase in the level of research in the field of medical education and the streamlining of the medical career pathway through MMC. While the belief may persist that professional qualifications and a doctor's own experience of education are sufficient preparation for teaching,<sup>7</sup> recent initiatives have meant there are a variety of teaching qualifications and specialised teaching courses available to healthcare professionals. These range from masters programmes to two or three-day teaching improvement courses. Many of these courses are accredited or certified and the vast majority of the smaller courses are free. The range of courses include:

- masters degrees
- postgraduate diploma
- postgraduate certificate
- short courses (eg Teaching the Teachers (TTT) courses, Teaching Improvement Programme (TIPS))
- distance learning courses
- GP trainer courses and workshops.

*'I've been called upon to teach and lecture medical students, but until this year I have never received any formal teaching on how to teach. The benefits of the teaching course were multiple. It highlighted deficiencies in the way you teach and gave ways to improve your teaching style, and it was useful to learn other different teaching styles and pointers on what works well in different situations.'*

**BMA member**

The following case studies are designed to give an indication of the range of teacher education courses currently available in the UK through universities, deaneries and the medical royal colleges (case studies 1- 7). Contact details for deaneries can be found on the Conference of Postgraduate Medical Deans website at [www.copmed.org.uk](http://www.copmed.org.uk) and the Committee of General Practice Education Directors website at [www.cogped.org.uk](http://www.cogped.org.uk). Contact details for the medical royal colleges can be found on the Academy of Medical Royal Colleges website at [www.aomrc.org.uk](http://www.aomrc.org.uk).

### **Case study 1 – medical education courses at the University of Dundee**

The Centre for Medical Education within the School of Medicine in the University of Dundee offers a series of courses in medical education leading to postgraduate certificate, diploma, masters and PhD qualifications. The programme of courses is designed to allow a progression from an introduction to medical education, through the award of a certificate and diploma to the award of a master's degree. Applicants are able to exit at any of these four points with the relevant award or qualification. The courses offer:

- an introduction to education for the healthcare professional
- an overview of specific subject areas including curriculum development, teaching and learning, assessment, and instructional materials development
- a study of one aspect in greater depth (eg for a teacher who may have been given responsibility for assessment within his/her institution)
- recognition, in the form of a certificate or some other qualification, for experience and training gained in the field of education
- an introduction to research in medical education.

The Centre also offers postgraduate certificates in medical education with specific relevance to GPs and anaesthetists.

### **Case study 2 – Teaching Improvement Programme (TIPS) at the University of Nottingham**

The University of Nottingham Medical School runs an intensive TIPS course that provides basic teaching skills to medical academics and NHS staff. The course involves a two-day workshop, usually for 12 participants, with two teachers or facilitators. It provides teaching in generic skills aimed towards health professionals and uses bio-medical and clinical examples. The course includes a number of sessions including:

- theories of learning
- using learning objectives
- using questioning techniques
- structuring learning episodes
- microteaching
- teaching methods
- evaluating teaching
- assessing learning.

The course involves formal teaching, small group discussions, active group work, analysis and discussion of teaching videos, individual presentations, self and group evaluation of teaching skills, and feedback sessions. The course does not provide formal qualifications, but gives healthcare professionals the opportunity to improve their teaching skills via a short programme of interactive sessions.

### **Case study 3 – Cardiff University distance learning medical education course**

Cardiff University offers a Postgraduate Certificate in Medical Education (PCME) distance learning course for teachers, trainers, course coordinators and education managers in medicine. The PCME aims to provide participants with a sound knowledge and understanding of principles and practice of adult learning, the ability to relate knowledge and understanding to practical educational needs in the health professions, and develop professional skills in applying educational knowledge to practice. Course applicants must have professional qualifications in medicine and can take from 15 months to two years to complete it. The PCME course offers learners flexibility within a structure where:

- attendance is only required on an induction day and mid course review day
- learning is undertaken independently at one's own speed
- support is provided from a tutor and fellow learners
- accreditation of prior learning is available for suitable candidates
- flexibility is provided for the completion period.

### **Case study 4 – London Deanery web-based learning for clinical teachers**

As part of an initiative to develop web-based educational packages to support the generic training of doctors and other healthcare professionals, the London Deanery has designed a new web-based learning programme for clinical teachers. The programme has been designed primarily for doctors who have responsibilities as teachers, including teaching of undergraduate students or postgraduate trainees or peers. It consists of a number of modules that can be studied in any order and there is no set timescale that has to be adhered to. The modules include:

- Understanding Teaching and Learning (UTL) modules – these cover core aspects of teaching and learning including generic knowledge, skills and attitudes about different aspects of the learning process relevant to clinical teachers
- Practical Applications in Clinical Settings (PACS) modules – these consider the process of learning either in particular clinical contexts or by highlighting a specific practical feature of clinical teaching and learning.

All the UTL and PACS modules are underpinned by current educational theory and good practice, and they aim to provide a stimulus and introduction to the key concepts of teaching and learning in a clinical context. The modules are designed in sections that include short pieces of stimuli, or scene-setting material, with related reading, activities and reflective writing. The online activities are supported by downloadable articles, documents and handouts. The programme also provides links to sources of further information and reading on teaching. Completion of the course provides a solid foundation to proceed to a more formal programme in teaching and learning (eg a Diploma in Medical Education course).

### **Case study 5 – Oxford Deanery GP trainer teaching**

The Oxford Deanery operates an interprofessional New Teachers Course aimed at future GP trainers, undergraduate tutors and community nurse practice teachers. The course consists of three residential modules that each last three days and involve work-based learning, small group work and plenary sessions. It is designed to prepare teachers for one-to-one teaching roles in primary care and much of the work-based learning reflects the day-to-day activities of modern general practice and includes preparation for the practice of teaching. All course delegates are required to undertake pre-course work for each module and successful completion of the course leads to a Postgraduate Certificate in Medical Teaching, accredited by Oxford Brookes University.

Specifically, the course is designed to develop an understanding of the concept and theories of adult learning, and an appreciation of their application in one-to-one teaching in primary care. It also provides training in the knowledge and skills required for curriculum planning, assessment and feedback. Each of the three modules is designed to explore different aspects of teaching and learning including the culture for learning (module 1), the theory of learning (module 2) and educational skills and practice (module 3). Course delegates are assessed on their competency as a teacher in medical education through a combination of five assessments, a reflective diary, a personal development plan and a structured tutor's report. The Oxford Deanery covers the tuition/certificate costs of future GP trainers from within the Oxford Deanery.

### **Case study 6 – the ‘Physicians as Educators’ programme**

The Royal College of Physicians (RCP) introduced the ‘Physicians as Educators’ programme in 1999 to provide the opportunity for physicians who have teaching, appraisal and assessment roles to improve their skills. The programme is conducted by physicians and educationalists, and consists of a series of one or two day workshops held throughout the UK. All workshops have CPD approval from the RCP and the programme offers the following workshops:

- effective teaching skills
- on-the-job teaching
- how to assess a trainee
- how to be an effective educational supervisor
- how to conduct a trainee appraisal
- trainees in difficulty
- understanding consultant appraisal
- effective educational supervision for the foundation programme
- training for mentors.

It is possible to obtain accreditation from the RCP by completing the objectives set out below within two years:

1. Attend three compulsory workshops (On-the-job teaching, How to conduct a trainee appraisal and How to assess a trainee), and attend any other two full-day workshops (Trainees in difficulty, How to be an effective educational supervisor or Understanding consultant appraisal) or the two-day workshop, Effective teaching skills.
2. Attend three consecutive Peer Support Network workshops in the same year. These workshops offer participants an opportunity for critical reflection on knowledge and skills acquired through the other workshops.
3. Show evidence of learning through a ‘reflective diary’ based on thoughts and observations about each workshop attended.
4. Submit two educational initiatives at the end of the programme.

### **Case study 7 – Kent, Surrey and Sussex (KSS) Deanery Certificate in Teaching**

The KSS Deanery Certificate is based on a 'reflective practitioner' model involving a cycle of observations of each teacher's teaching practice undertaken by a professional educationist. A written record of each observation is then used as the basis for a discussion between the teacher and the observer with a view to supporting further development in the understanding and practice of teaching within real life contexts. The key feature of the certificate is its delivery in the teacher's own work-place rather than at a remote location, so that learning about teaching is rooted in the specific everyday experiences of the individual teacher. It is designed as a repeated cycle of observation, recording and reflection in which the process of assessment is itself part of the ongoing learning process.

The programme aims to support, develop and accredit good teaching as part of CPD, and because it takes place in the normal work-place setting, it provides a convenient and cost-effective method of teacher education. The programme follows a specific format where:

- the individual teacher is observed during a minimum of three teaching sessions that may take place within a variety of contexts including small group seminars, formal lectures, ward rounds, individual tutorials and out-patient clinics.
- the process is observed and recorded by the tutor as a 'time-line'. This forms an account of what has happened and constitutes the evidence from which both the teacher and tutor will draw during upon when reflective on the teaching process.
- following each teaching session, the tutor and the teacher discuss the observational evidence within the context of a 'professional conversation'.

Following satisfactory completion of the course, the teacher gains certification from the KSS Deanery.

The diversity of courses currently available provides doctors with the opportunity to voluntarily develop their teaching skills, and/or attain appropriate qualifications, that reflect their level of involvement in medical teaching. It is also possible to undertake generic courses not specific to medical education but that provide training and qualifications in educational and teaching methods (eg Postgraduate Certificate in Higher Education (PGCHE) and Postgraduate Certificate in Academic Practice).

## **The development of medical teachers**

The majority of research on the development of medical teachers has focused on the acquisition and improvement of teaching skills following attendance at formal training courses. It is vital, however, to understand how medical teachers develop, yet there has been very little research into how individual trainers acquire the skills they have and no clear framework exists that outlines the development process. A survey of 10 experienced medical teachers examining the different ways in which doctors have learned to teach and train found there to be no coherent theory of medical teacher development, and that it is the teachers' experience of learning rather than learner styles that influence future teaching styles.<sup>7</sup> An American survey examining the quality of supervision provided by attending doctors in the clinical setting found that most of their teaching skills have been acquired through observation, trial and error, and reflection on personal experience.<sup>8</sup> Doctors are able to improve and develop their teaching skills through a combination of attending formal teaching courses, by receiving feedback and by operating a system of co-teaching.<sup>7,29</sup> Further research is required into the methods of medical teacher development and the implications this has for healthcare institutions.

## Attitudes towards teaching and teacher education in the medical profession

The beliefs and attitudes of teachers towards teaching are significant factors in the quality of medical education. Teaching is an extremely rewarding experience, offering the opportunity to interact with bright students, junior doctors and colleagues, and there is considerable kudos attached to senior lecturer, teacher and examiner posts. For the vast majority of doctors, however, clinical activity is their priority and they do not enter the medical profession because of the educational opportunities it provides. There are those who actively wish to become involved in medical education, but there are also those who have little interest in formal teaching. It is important to recognise the different levels of involvement and to ensure that the teacher education received by doctors is commensurate with their level of participation in teaching, training and supervision.

In assessing their own abilities, teachers may be complacent about their own teaching competence and/or sceptical about the requirement for teacher education.<sup>30</sup> A study of the attitudes of teachers to teaching in one British medical school found that only 5 per cent of teachers believed their own teaching ability to be below average.<sup>b,30</sup> This survey also documented considerable support for teacher education courses with few believing teaching skills can be acquired adequately through general medical training.<sup>30</sup> In a subject review of the quality of medical education provided by universities and colleges in England and Northern Ireland by the Quality Assurance Agency for Higher Education (QAA),<sup>c</sup> the greater part of the teaching observed by reviewers was found to be good and much was excellent.<sup>31</sup> A number of studies have found a high degree of enthusiasm for teaching in the medical profession and many clinicians derive satisfaction from, and maintain a strong commitment to, teaching.<sup>18, 20, 21, 30</sup> There is, however, a perception that teaching does not receive sufficient recognition or prioritisation by medical schools, and that teaching quality is compromised by increasing service pressures and the growing student population.<sup>20, 21, 30</sup> Further research is required into doctors' attitudes to teaching and the implications these have for teacher education.

*'I have a feeling my own teaching style at the moment is a combination of exasperation and frustration that the learner doesn't see what I'm trying to show them! I would like the opportunity to be shown how to modify that behaviour to bring the best out of my teaching.'*

**BMA member**

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b Respondents to the survey were asked to rate their own teaching ability as either 'below average', 'average' or 'above average'. No information was provided as to the specific definition of these terms.

c This review was conducted between 1998 and 2000, and involved observation of approximately 740 classes within the medical schools and in clinical attachments.

# The way forward

There is a pressing need to redress the imbalance between teaching and the competing activities of clinical work, research and administration. This necessitates the development of a structured pathway to teaching competence, an increase in the support systems that permit its implementation and continued use, a profession-wide change in attitudes towards teaching, and practical opportunities that provide more time for teaching.

## Funding and support for teaching

Teaching needs to be a top priority for all academic institutions and organisations involved in the training, employment and development of doctors. The financial support for education in the medical profession is of critical importance, both in terms of the funding available to support formal and informal teaching, and the financial implications of providing ongoing teacher education. The funding and support for teaching needs to adequately reflect the contribution of doctors to formal teaching, but must also recognise and facilitate the informal teaching provided by all doctors. With the competing demands of clinical activity, research and administration, doctors need to be given the support and flexibility to teach. Effective teaching requires a significant commitment in terms of a doctor's professional time. By setting aside protected time for teaching and educational responsibilities, doctors will be able to adequately prepare and deliver effective teaching. This includes lessening service pressures – by reducing the number of patients a doctor is required to care for – and ensuring that research, managerial and administration responsibilities do not adversely impact on the time allocated to teaching. It is important that all medical staff and management recognise that while junior doctors in training posts have a service commitment, protected time for education is essential.

*'Finding the time to teach students, trainees and other staff when I'm actually working more than I'm contracted for is a real problem. It is also becoming increasingly difficult to get patients to agree to be a subject for teaching and the totally overcrowded undergraduate curriculum means trying to teach core clinical skills to a reasonable level is getting harder and harder.'*

**BMA member**

Through the development of job plans, doctors and employers have a framework with which they can set out and formally recognise a doctor's teaching responsibilities and the support that is required to fulfil these duties. A job plan is a record of a doctor's commitment to the NHS that is formally agreed with his/her employing authority. It ensures that the post delivers its aims and the requirements of the contract of employment are met, including provision for CPD. The BMA's *Consultant handbook 2005* sets out guidance for consultant job plans and recommends that they should include a work schedule that covers all professional work, including teaching and research.<sup>32</sup> It also recommends that the consultant job plan should set out how the employer will support the consultant in delivering agreed commitments, for example, through providing facilities, training, development and other forms of support.<sup>32</sup> In the case of consultants who are also clinical academics, or undertaking teaching activities, job plans should take full account of both university and NHS commitments with equal importance attached to each work commitment. The BMA's General Practitioner Committee's (GPC) job planning guidance for salaried GPs lays out principles for a good job plan.<sup>33</sup> These principles include personal CPD, which may incorporate private study or attending educational events, and specific specialist roles in the practice which could be medical student or registrar teaching or training.<sup>33</sup> The framework provided by job plans could be applied to all grades of doctors to support their teaching and learning experience.

Adequate facilities and resources (eg IT equipment, libraries and teaching rooms) are required in all healthcare and academic settings to facilitate and support the provision of teaching and learning, and a suitable environment is essential to promote effective teaching and learning. Flexibility and adequate



funding is also required to allow doctors in all stages of the medical profession to attend teacher education courses on a regular basis.

*'There is no time in my job to teach medical students, it is too busy, although I would like to. I am unable to do any teaching courses as I'm only allowed fixed study leave. The next time I teach will be as a specialist registrar and I will not be trained.'*

**BMA member**

There is a requirement for education funding streams to be more transparent. Universities and colleges receive public funds from the four UK higher education funding bodies to provide core facilities for medical education and research.<sup>d</sup> This funding allocation occurs annually and is dependent on the number and type of students, the subjects taught, and the amount and quality of research undertaken. Individual institutions spend the allocated resources according to their own priorities and within broad guidelines set out by the respective funding bodies. The selective distribution of public funds by the four UK higher education funding bodies is determined by the Research Assessment Exercise (RAE) that assesses the quality of UK research. The quality of teaching and learning at each university is assessed by the QAA, and this occurs at the level of the medical school as a whole. The GMC also plays a fundamental role in quality assuring medical undergraduate courses. Aside from these funding allocations, universities also receive money from research councils and charities, industry, fee paying students, and other sources such as sponsorship and leasing of conference facilities.

The increased medical student tuition fees are likely to have a significant impact on teaching in the medical profession as the added expense of attending medical school will mean students become increasingly interested in the quality of teaching they receive. This increased income as a result of tuition fees should be reflected in the commitment of institutions to undergraduate and postgraduate teaching. In England and Wales, institutions that undertake training of undergraduate students on behalf of the NHS receive funding from the Department of Health (DH) and the Health and Social Care Department respectively in the form of Service Increment for Teaching/Multi Professional Education and Training (SIFT/MPET). SIFT/MPET has the explicit aims of 'ensuring that the NHS supports undergraduate medical and dental education' and 'ensuring that service providers do not have higher treatment costs simply because they support medical and dental education'.<sup>34</sup> This funding, however, is not a direct payment for teaching.<sup>35</sup> There are similar arrangements to SIFT in Scotland in the form of additional cost of teaching (ACT) payments and in Northern Ireland with the supplement for teaching and research (STAR). A similar levy is provided for postgraduate training in the form of the medical and dental education levy (MADEL), which takes care of part of the salary and all the training costs of junior doctors. SIFT/MPET monies are allocated by NHS Executive Regional Offices, and the money is used to fund medical practice placements and facilities (fixed and semi-fixed infrastructure costs).

Cost shifting and cross-subsidisation of higher education funding occurs within teaching, research and clinical practice, and with the increasing pressure to minimise costs and justify all budgetary allocations, the funding available for teaching can be adversely affected.<sup>36,37</sup> Individual institutions are able to determine how higher education grant allocations are directed, and there is anecdotal evidence suggesting that this funding is being used inappropriately to fund research and non-medical courses and activities.<sup>23</sup> The distribution of SIFT/MPET monies is equally blurred. The facilities element supports

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d In the UK, the four UK higher education funding bodies are the Higher Education Funding Council for England (HEFCE), the Higher Education Funding Council for Wales (HEFCW), the Department for Employment and Learning of the Northern Ireland Executive, and the Scottish Funding Council (SFC).

the provision of NHS service in medical undergraduate teaching hospitals, but it is not clearly linked to the additional service costs of student teaching and is used for non-teaching purposes.<sup>38</sup>

In general practice, the move away from short placements towards longer attachments demands considerable educational input from GP teaching practices. While short placements are designed to provide medical students with exposure to general practice, GP teaching practices are now being contracted by universities to provide longer attachments that cover increasingly significant sections of the undergraduate curriculum. These longer attachments require GP teaching practices to meet a large number of specific educational targets in order to ensure that students complete a range of educational experiences. GP teaching practices, however, are not allocated a set amount of funding for teaching but are required to make precise costings of the resources necessary to fulfil their teaching obligations and apply to the university for the appropriate funding. Frequently, this funding providing for the longer placements only compensates for lost clinical time; and there is, for example, no payment for GP cover, for the time spent in preparation for teaching, or for the costs that a practice may incur in order to provide a suitable teaching environment and resources. A recent survey of UK GP trainers found that the grant received from the Doctors and Dentists Review Body (DDRB) – which determines GP pay annually – was an inadequate reflection of the workload and teaching commitment involved in being a trainer, and this results in professionals and practices subsidising the training process.<sup>39</sup>

It is essential that there is a clear framework setting out how funds are allocated, how they should be accounted for and how they are distributed. There needs to be an appropriate balance in the funding allocated to educational institutions for the purpose of carrying out their dual responsibilities of providing medical education and performing research. It is vital that the boundaries between these two different activities are clearly defined and remain separate so that research is not subsidised at the expense of education. In light of the RAE programme and the competition between universities and medical schools for the variable levels of government funding, there is insufficient recognition of teaching. Institutions are currently able to obtain significant funding based on the quality and level of research they conduct, rather than their contribution to teaching. The current recommendations for the MMC academic career pathway mean that, because they are able to attract research grant funding and contribute to RAE, senior lecturer career posts specialising in research are much more assured than those specialising in medical education.<sup>27</sup> In providing funding for higher education institutions, there needs to be equal recognition of the importance of medical education and research.

## **The status of teaching in the medical profession**

Doctors contribute a significant amount of their time to teaching despite the pressures associated with other professional activities such as research and clinical care. Until the status of teaching is comparable to that of research, clinical service and management, it is unrealistic to expect those involved to devote the necessary time and effort to teaching. To improve the status of teaching it should be recognised by the whole medical profession as a core professional activity and not just an obligation. Recognising both formal and informal teaching as a core professional activity will encourage a change in attitudes to teaching and improve the commitment of doctors, employers and regulatory bodies to their educational responsibilities. Teaching may have a traditionally low status because it is a part of medical practice that is poorly rewarded and that everybody is required to undertake. It is important, therefore, to develop a culture in the medical profession that demands certain standards from all doctors with respect to teaching and accords high status to those who continue to develop their teaching skills. Despite the expectation for doctors to deliver teaching, there is a perception among teachers that neither the healthcare service nor educational establishments afford teaching the level of recognition and reward associated with research and clinical work.<sup>21</sup>

*'There are large numbers of students and not many actual university-based staff to provide education. There is also still a general lack of funding to undertake the task and of course lack of recognition of the work done.'*

**BMA member**

The assessment of teaching quality through the QAA rarely translates into rewards for teachers in promotion and performance-related pay.<sup>9</sup> To improve the status of teaching in the medical profession, there should be clear benefits to developing as a medical teacher. To enable doctors to provide high quality teaching, there needs to be support, opportunities and incentives to acquire teaching skills and keep up to date with curricular developments. Developing systems that reward doctors on the basis of their teaching contributions will serve to increase the involvement of doctors in teaching and encourage them to meet, and surpass, their teaching obligations. Rewards can be in the form of financial compensation, promotion on the basis of teaching involvement and ability where applicable, and the opportunity to formally develop professional skills. Where a doctor's teaching is found to be below the expected standard the removal of incentives and rewards will serve to encourage a greater commitment to teaching. In many institutions, the predominant route into medical academic posts is via a research-intensive portfolio rather than an educational portfolio, yet, teaching remains a key component of these roles. It is vital that institutions provide appropriate salaries to recruit and retain medical educators where necessary, and that the recruitment to posts that involve significant levels of teaching is based primarily, if not wholly, on proven teaching ability and experience. This will ensure that individuals occupying such posts are adequately experienced and committed to providing effective teaching. It is essential that the reward of teaching contributions and recruitment on the basis of teaching competence occurs via a system that identifies suitable standards and assesses teaching abilities against them. This must also be recognised in relation to new contracts for clinical academic staff.

## Who is best placed to do the teaching?

Through formal and informal teaching, doctors provide the specialist training required to ensure that future generations of healthcare professionals are adequately skilled and qualified. There is, however, a conflict in this training between the desire to provide a broad educational experience and the need to ensure a technical training in how to be a doctor. In light of the specialised nature of medical training, it is necessary that the majority of the clinical curriculum components are taught by doctors who actually do the job, provided they have acquired appropriate teaching skills. Some components of the medical curriculum, however, can be taught by non-medically qualified teachers (eg basic medical sciences, communication skills, teaching skills, equality training). Ensuring both a broad educational experience and adequate technical training could be achieved by providing teaching in a variety of contexts from a combination of individuals including medically-qualified professional educators (ie medical academics specialising in medical education), non-medically-qualified professional educators and doctors who have acquired appropriate teaching skills. In encouraging doctors to undertake educational responsibilities, it is important to recognise the differences in the desire to be involved in teaching between individuals. Those doctors who have a particular interest or aptitude for teaching should be encouraged to take up specialist teaching roles and assume a greater responsibility for coordinating and delivering teaching. Those who wish to restrict their teaching duties to a minimum should be trained accordingly and encouraged to take up posts that have limited teaching responsibilities.

## Role models – attributes of a good medical teacher

Role models are people we can identify with, who have qualities we would like to have and are in positions we would like to reach.<sup>40</sup> Role modelling is an integral component of medical education as it is an important factor in shaping the values, attitudes and behaviour of medical trainees. Role models have a strong influence on the career choices of medical students,<sup>41</sup> and are important in medical teacher development.<sup>7</sup> Doctors who hold senior posts such as consultants, lecturers, professors, tutors and researchers are often seen as role models and it is these individuals who provide teaching to medical students and junior doctors. Effective role models will inspire, teach by example, and stimulate admiration and emulation. As future teaching styles are influenced predominantly by learning experiences,<sup>7</sup> it is vital that role models have acquired the appropriate attributes of a good medical teacher which can be passed on to medical trainees, junior doctors and colleagues. The attributes of medical role models might include a positive attitude towards junior colleagues, integrity and compassion for patients. The characteristics of excellent role models identified by medical students include personal qualities (eg interpersonal skills), clinical skills and teaching skills (eg the ability to explain complex subjects).<sup>42</sup>

*'A good teacher is someone who is approachable, engaging and inspiring, and who has a sound knowledge of the underlying theory of what they are trying to teach. They also have the ability to communicate with confidence and clarity at all levels, and can remember what it was like to be a medical student and a junior doctor.'*

**BMA member**

An American study examining the factors that distinguish physicians – who were considered to be excellent role models – from their colleagues, found there to be a graded association between the extent of assigned teaching responsibilities and the likelihood of being identified as an excellent role model.<sup>41</sup> The study also identified an inverse relationship between research activities and the probability of being identified as an excellent role model.<sup>41</sup> In examining physician behaviour, the study identified five attributes that were independently associated with being named as an excellent role model including:

- spending more than 25 per cent of their time teaching
- spending 25 or more hours per week teaching and conducting rounds when serving as an attending physician<sup>e</sup>
- stressing the importance of the doctor–patient relationship in their teaching
- teaching the psychosocial aspects of medicine
- having served as a chief resident.<sup>f</sup>

As most of the attributes associated with being an excellent role model are related to skills that can be acquired and to modifiable behaviour, it is vital that the right advice, training and environment is provided to allow more doctors to become role models. It is also important that role models are encouraged at all levels of the medical profession to promote effective teaching throughout the medical career pathway. Further research is required into the impact role models have on the effectiveness of teaching and the acquisition of teaching skills.

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e An attending physician is a doctor who has completed postgraduate training and practises medicine in a clinic or hospital, often focusing on the specialty learned during training. They are responsible for the supervision of junior doctors and medical students, and have ultimate responsibility for patient care.

f A chief resident is a doctor who is undertaking postgraduate medical training within a specific branch of medicine, and who is partly responsible for the training, and the organisation of training, of doctors junior to them.

## Specific teacher education programmes

If doctors are to fulfil their professional obligation to teach and provide a broad educational experience to their students, they should be trained accordingly. In light of the current availability and diversity of teacher education courses, a greater emphasis is required from regulatory and educational bodies on the formal requirement for medical students and doctors to undertake a suitable level of training. This requires development of a structured teacher education programme that provides access to suitable and accredited teacher education courses, and that is appropriately regulated and resourced. Doctors should also recognise the need to be competent teachers. With teaching occurring at all stages in the medical career pathway, it is essential that teacher education is provided at every level of the medical profession, from undergraduate training continuing through to senior posts.

*'I think a formal course of teacher training is essential to teach effectively. Teaching is a core skill and I find it incredibly satisfying, but it would be nice to know if I'm doing it correctly.'*

**BMA member**

Teachers and trainers have become progressively more involved in complex training situations that demand increased levels of responsibility, educational expertise and a more diverse range of training skills. To reflect the continuing developments in healthcare practices, curricula and training, it is essential that teacher education courses are ongoing and allow medical teachers to acquire and update their teaching skills. This training should not occur via a blanket approach, but requires the development of different training programmes that occur in specific phases over a defined time period, and that recognise the varying levels of involvement in teaching. Ensuring that the training provided reflects the level of involvement in teaching is vital to ensure that the finite resources are distributed appropriately.

### Medical academic teachers

Medical academics are commonly required to combine a number of activities including research, teaching, clinical care of patients, and in some cases, managerial and administrative duties. The requirement for medical academics to adequately fulfil their multiple responsibilities is unsustainable.<sup>9</sup> The introduction of formal systems to assess research and teaching quality, the growing volume and complexity of clinical care, and the expansion of managerial and planning activities requires medical academics to reduce their focus to a limited number of areas of responsibility. It is important, therefore, to distinguish between those medical academics who are primarily responsible for teaching, and those who focus on research. There needs to be a greater recognition of the specialised needs of medical academic teachers. Their involvement in teaching goes beyond the provision of lectures, seminars and clinical sessions as they also have responsibility for curriculum design and planning, planning of assessments, quality assurance, admissions, and student support. In this light, medical academics who hold official teaching appointments and who have significant teaching responsibilities should be encouraged and allowed the opportunity to attain higher educational qualifications (eg a Masters Degree in Medical Education). Medical academics who are primarily responsible for research, and who are involved in teaching through the provision of lectures, seminars and clinical sessions only, do not need to attain these higher educational qualifications but should be encouraged to attain a postgraduate qualification in teaching (eg Postgraduate Certificate in Medical Education).

### NHS medical teachers

Doctors who do not hold official teaching posts are still required to provide teaching and supervision to junior colleagues and medical students. The extent of involvement of these doctors in teaching is different from that of medical academic teachers, and this should be reflected in the level of teacher

education they receive. All medical teachers require basic level teacher education through attendance on short formal accredited training courses and they should be encouraged to work towards certificates, diplomas and masters in medical education. Such activity will have to be fully funded and rewarded, especially where prospective teachers are not of an employment status that allows secondment. Those who express an interest should be encouraged to take up leadership positions in medical education such as college tutor or director of education.

### **Undergraduate and postgraduate teacher education**

The undergraduate and postgraduate medical curricula are focused predominantly on the development of competence, knowledge and skills in medical sciences and clinical practice. The inclusion of teacher education is essential in the medical curriculum, beginning at the undergraduate level and continuing through postgraduate training. In light of the new integrated medical curricula and the increasing emphasis on competency-based learning, the development of teaching skills should be introduced as a formal competency. In a review commissioned by the DH, the future role and responsibilities of postgraduate deans and their deaneries was considered with regard to the development of a specialty of medical education.<sup>43</sup> This proposal would require the agreement of a framework of skills and competencies and the development of a system to establish standards and test eligibility to be designated a specialist in this field. Successful completion of this specialist training would allow employment as a consultant or GP in medical education, potentially as a dual specialty with primary care or a secondary care specialty. The report recommended the establishment of a group to examine the implications of such a proposal or other alternative routes, to further develop the professional framework which supports medical education at all levels.<sup>43</sup>

It is important that strategies are developed to promote and encourage teaching as an inherent part of professional development with clear career pathways for those who aspire to take a leadership role in medical education. Undergraduate and postgraduate training represent the best opportunity for this because it would provide all medical students with a basic level of competence in learning and teaching. Teaching skills could then be developed, updated and improved during the later stages of medical training in accordance with the respective level of teaching involvement of individual doctors. The introduction of teacher education in the initial stages of the medical career pathway would also demonstrate the importance of teacher education and allow it to permeate throughout the whole of the medical profession. Medical students have a responsibility to ensure they take all of the opportunities provided to develop their professional knowledge and skills, including teaching skills, as set out in the Medical School Charter.<sup>44</sup>

### **Continuing professional development and revalidation**

According to *Good Medical Practice*, doctors are required to ensure their knowledge and skills are up to date throughout their working life and, in particular, should take part regularly in educational activities which maintain and further develop competence and performance.<sup>14</sup>

Following the introduction of revalidation, doctors will have to demonstrate regularly that they are up-to-date and fit to practise medicine. CPD is a continuing learning process that requires doctors to maintain and improve their standards across all areas of their practice. As such, CPD will be an important process for informing revalidation and should cover all seven headings set out in *Good Medical Practice* including good professional practice, maintaining good medical practice, relationships with patients, working with colleagues, teaching and training, probity, and health.<sup>45</sup>

Under teaching and training, it is recommended that doctors keep up-to-date with suitable teaching skills and be willing to teach colleagues and to develop their own teaching skills.<sup>45</sup>

Doctors should be encouraged to attain and regularly update their teaching skills as part of their requirement for CPD.

## Assessing teaching quality and the impact of teacher education

Assessing the quality of teaching in the medical profession is essential to determine where training is required, measure the impact of teacher education programmes and ensure that teaching receives equal weighting with research and clinical work. A range of informal strategies and assessment methods already exist that evaluate different aspects of teaching, including feedback questionnaires, whether training course objectives are met, whether assessment methods reflect course ideals, or whether resources are adequate to deliver specified educational outcomes.<sup>18</sup> In assessing the quality of teaching it is important that feedback is sought from the individuals being taught (eg lecturer feedback questionnaires) and from the teachers (see box 2). Those doctors who are involved in assessment should also be able to demonstrate that they have been trained in the assessment methodology and that their judgments are in accord with their peer assessors.

Formal strategies that simultaneously assess multiple dimensions of teaching competence remain elusive, and in particular, there are no approaches that reliably measure knowledge and technical teaching skills in conjunction with interpersonal and humanistic qualities. Although informal assessment techniques provide a valuable insight into teaching quality and methods, they are limited in the extent to which they permit meaningful assessment. Evaluating teaching quality identifies weaknesses in teaching skills, but also provides a subjective measure by which teaching involvement can be rewarded. Informal assessment methods should be complemented by a formal assessment system that monitors both teaching quality of doctors and the frequency and quality of training courses they attend. This assessment should be included in the criteria for the approval of academic and non-academic posts. Standards for assessment should be developed, and these could include assessment of:

- the clarity of teaching objectives
- the choice of learning methodology to meet the objectives
- the quality of teaching materials (notes, handouts and visual aids)
- qualitative assessments of their performance in lecturing, workshops and clinical training
- the volume and range of teaching undertaken
- the range of assessment techniques used.

These standards for assessment may best be applied to classroom-based teaching, but could be adapted to assess workplace teaching. With a significant component of teaching occurring formally or informally in the clinical setting, a set of assessment standards need to be developed that can evaluate the teaching that occurs outside the classroom setting. Previous research on assessment methods has focused on evaluation of medical knowledge and clinical skills, with very little attention paid to assessing teaching skills and interpersonal aspects of performance.<sup>46</sup> Further research is required into the impact of formal and informal assessment methods on the acquisition of teaching skills and any consequent improvement in teaching quality.

**Box 2 – the Cleveland Clinical Teaching Effectiveness Inventory (CCTEI)**

The CCTEI was developed at the Cleveland Clinic Foundation (Cleveland, Ohio) as a theory-based generic test to measure the effectiveness of clinical teaching across the institution.<sup>47</sup> The test consists of an anonymous 15-item questionnaire where each question relates to a different aspect of clinical teaching (eg establishment of a good learning environment and the level of constructive feedback). Each item is rated on a five-point scale by medical students, residents and fellows, and all respondents are required to specify the length of time spent with each clinician and their levels of training. Although the test does not cover every aspect of teaching, it is used to provide consistent regular feedback to all programme directors who make decisions about teaching assignments, as well as permitting analysis of variables that may impact teaching effectiveness. The CCTEI has been found to be reliable, usable and valid, and analysis of the preliminary data found it to be useful in measuring improvement within the institution.<sup>47</sup>



# Recommendations

Improving the delivery of teaching in medicine requires a multi-dimensional approach across the profession at the level of individual doctors, healthcare and academic institutions, training and regulatory bodies, and relevant governmental departments.

## *Individual doctors*

**All doctors should recognise their professional obligation to teach.** Doctors should fulfil the educational obligations set out by the GMC and take responsibility for developing appropriate teaching skills. Through the agreement of job plans, doctors should require employers to provide the necessary time and support to adequately fulfil these obligations.

**Medical teachers should develop teaching skills that reflect their individual level of teaching involvement, and these skills should be regularly consolidated and updated.**

All doctors should have basic teaching skills and should be able to demonstrate relevant teaching expertise. Medical academics with formal teaching responsibilities and consultants and general practitioners with leadership roles in education should be encouraged and allowed the opportunity to attain higher educational qualifications (eg Masters Degree in Medical Education). Doctors should attend teacher education courses on a regular basis to ensure they remain up-to-date with developments in education.

## *Professional and regulatory bodies*

**Teaching should be recognised as a core professional activity equivalent to research and patient care.** The contribution that doctors make to teaching should be fully acknowledged and comprehensively rewarded so that the status of teaching becomes comparable to that of clinical work and research. Opportunities and incentives should be available to promote teaching as a rewarding, valued and respected professional activity. Doctors should be encouraged to develop and update their teaching skills as part of CPD. The recommendations set out by the joint sub-committee of the UKCRC and MMC on the training of researchers and educators in the medical profession should be fully recognised and implemented.<sup>24</sup>

**Opportunities to acquire and develop teaching skills should be provided at all levels of the medical profession through a structured training programme that begins at undergraduate level and continues through to senior posts.** As all doctors have a professional obligation to teach, there should be a defined route by which medical students and doctors can acquire, maintain and update their teaching skills so that teacher education becomes embedded at every stage of the medical career pathway. This should provide access to suitable and accredited teacher education courses that are appropriately regulated and resourced.

**The provision of teacher education should be a core component of undergraduate and postgraduate medical curricula.** Teacher education should be encouraged during undergraduate training and the development of teaching skills should be introduced as a formal competency that is taught and assessed during postgraduate training.

**Doctors should be subject to regular reviews of their teaching responsibilities and the quality of teaching they provide.** The teaching responsibilities of all doctors should be reviewed annually to ensure they are adequately fulfilling their educational obligations. A set of performance measures should be developed that allow evaluation of the quality of teaching, and the results of the performance evaluation should be included in the annual appraisal.

### *Funding bodies*

**Medical education funding streams should be more transparent.** The funding provided to higher education institutions and healthcare organisations for medical education should occur via a framework that clearly sets out how funds are allocated and how they should be utilised. The funding allocated to medical education should be used for medical education only and not to subsidise other professional activities such as research. All funding allocations should be monitored and accounted for.

### *Healthcare and academic institutions*

**Teaching should be made a top priority by all organisations with strategic and operational responsibility for the education, career progression and development of doctors.** Academic institutions and healthcare organisations (including all NHS bodies) should ensure they provide adequate funding, support and resources for effective teaching to occur. Through the development and agreement of job plans, doctors should be provided with sufficient support and protected time to fulfil their teaching responsibilities.

**Teaching posts with significant, formal educational responsibilities should be recruited primarily on the basis of teaching expertise.** In the recruitment of formal teaching posts, institutions should select candidates on the basis of educational expertise.

**The educational contribution of doctors should be adequately rewarded.** Doctors should be rewarded on the basis of their individual involvement in teaching, their teaching experience and in recognition of relevant teaching qualifications. Rewards should include financial compensation and opportunities for career progression.

**Inclusive environments should be provided that lead to effective teaching and learning.** Academic and healthcare institutions should provide suitable teaching and learning environments that ensure quality of teaching across the range of educational opportunities.

**Doctors who have a particular interest and aptitude for teaching, or who are seen as role models, should be encouraged to develop their skills further.** Doctors who have excellent teaching skills should be encouraged to act as role models to colleagues, juniors and medical students.

**There should be further research into teaching in the medical profession.** Research should be undertaken into the funding for medical education and teaching, the organisational management of teacher education, the number of doctors who undertake training in teaching skills, how medical teachers develop, the attitudes towards teaching and teacher education in the medical profession and the impact of teacher education.

## Sources of further information

This listing of organisations is intended as a guide for those wishing to find further information or relevant contact details. The BMA is not responsible for the content of external websites.

Academy of Medical Royal Colleges

<http://www.aomrc.org.uk>

Association for Medical Education in Europe

<http://www.amee.org>

Association for the Study of Medical Education

<http://www.asme.org.uk>

Clinical Skills Network

<http://www.clinical-skills-net.org.uk>

Committee of General Practice Education Directors

<http://www.cogped.org.uk>

Conference of Postgraduate Medical Deans

<http://www.copmed.org.uk>

Council of Heads of Medical Schools

<http://www.chms.ac.uk>

Department of Health

<http://www.dh.gov.uk>

Department of Employment and Learning (Northern Ireland)

<http://www.delni.gov.uk>

Education for Health

<http://www.educationforhealth.org.uk>

General Medical Council

<http://www.gmc-uk.org>

Higher Education Academy

<http://www.heacademy.ac.uk>

Higher Education Funding Council for England

<http://www.hefce.ac.uk>

Higher Education Funding Council for Wales

<http://www.hefcw.ac.uk>

Modernising Medical Careers

<http://www.mmc.nhs.uk>

National Association of Clinical Tutors  
<http://www.nact.org.uk>

Postgraduate Medical Education and Training Board  
<http://www.pmetb.org.uk>

Quality Assurance Agency for Higher Education  
<http://www.qaa.ac.uk>

Research Assessment Exercise  
<http://www.rae.ac.uk>

Scottish Funding Council  
<http://www.sfc.ac.uk>

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Child and adolescent mental health: a guide for healthcare professionals (2006)  
Reporting adverse drug reactions: a guide for healthcare professionals (2006)  
Tackling sexually transmitted infections – examples of good practice (2006)  
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Medical women – an internet resource (2006)  
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Valuing diversity: BMA equal opportunities guidelines (2004)  
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Copies of these and other reports can be obtained from:  
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