

AMEE Education Guide no. 28: The development and role of departments of medical education

MARGERY H. DAVIS¹, INDIKA KARUNATHILAKE² & RONALD M. HARDEN³

¹Centre for Medical Education, University of Dundee, Scotland, UK; ²Faculty of Medicine, University of Colombo, Sri Lanka; ³IVIMEDS, Dundee, Scotland, UK

SUMMARY *A department of medical education is becoming an essential requirement for a medical school. This publication is intended for those wishing to establish or develop a medical education department. It may also prove useful to teachers in medicine by providing information on how such a department can support their activities. This will vary with the local context but the principles are generalizable. Medical education departments are established in response to increased public expectations relating to healthcare, societal trends towards increased accountability, educational developments, increased interest in what to teach and how to educate doctors and the need to train more doctors. The functions of a department of medical education include research, teaching, service provision and career development of the staff. The scope of its activities includes undergraduate and post-graduate education, continuing professional development and continuing medical education. These activities may be extended to other healthcare professions. Flexibility is the key to staffing a department of medical education. Various contractual arrangements, affiliations and support from non-affiliated personnel are needed to provide a multi-professional team with a range of expertise. The precise structure of the department will depend on the individual institution. The name of the department may suggest its position within the university structure. The director provides academic leadership for the department and his/her responsibilities include promotion of staff collaboration, fostering career development of the staff and establishing local, regional and international links. Financial support may come from external funding agencies, government or university sources. Some departments of medical education are financially self-supporting. The department should be closely integrated with the medical school. Support for the department from the dean is an essential factor for sustainability. Several case studies of medical education departments throughout the world are included as examples of the different roles and functions of a department of medical education.*

Background

There is increasing interest in medical education as a discipline or speciality. Many medical schools have established a medical education department and advice regarding setting up a medical education department is sought frequently by individuals, groups and institutions who are interested in the concept. Such departments have various titles. Ones in common use include medical education unit, centre for medical education, centre for educational research, office of research in medical education or centre for educational development. The term 'department of medical education' has been used in this booklet when referring to

such departments or units. The booklet outlines the case for establishing a medical education department; discusses the possible functions and scope of the activities of such departments; looks at the range of options for organizational structure; identifies the possibilities for staffing; and provides a checklist of what to do to set up a medical education department and, importantly, what not to do. A number of case studies of medical education departments throughout the world are included, written by current staff. The guide has been written for those institutions or individuals with an interest in establishing a new department of medical education or developing an existing one. It should also provide all medical teachers with suggestions as to the support and assistance they might expect from such a department.

The need for a department of medical education

The establishment of a department of medical education can be seen as a response to various pressures, expectations and changes in society, education and medicine. These pressures include increased public expectations relating to healthcare, which place increasing demands on healthcare professionals; societal trends towards increased accountability; educational developments that call for increased sophistication on the part of teachers in the health professions; the increased scope of and specialization within medicine that focus attention on what to teach and how to educate doctors; and the need to train more doctors within existing resources.

Increased public expectations

Heightened public expectations increase the demands that are made on healthcare professionals. These demands are created by the explosive increase in methods of patient investigation and management that increase the range of services which can be provided. Public expectations are further fuelled by articles in the lay press and media. Changes in both what is taught and how it is taught are needed if these expectations are to be met. Changes in healthcare policy by countries throughout the world alter how health services are provided; for example, care in the community in the UK and managed care in the USA. This has an impact on medical education. There are conflicting priorities for

Correspondence: Professor M.H. Davis, Centre for Medical Education, University of Dundee, Tay Park House, 484 Perth Road, Dundee DD2 1LR, UK Tel.: +44 (0)1382 631971; fax: +44 (0)1382 645748; email: m.h.davis@dundee.ac.uk

individual healthcare workers, such as service provision, research, audit, personal development and continuing medical education all to be balanced with individual family, recreational and personal requirements. Suicides, marriage breakdown, drug and alcohol dependence in doctors are all matters of concern. How to deal with conflicting priorities is now perceived to be as much a part of medical education as knowledge of the basic and clinical sciences. A department of medical education can evaluate the implications of these trends for medical education, provide advice regarding the appropriate medical school response, facilitate the change process and monitor the effectiveness of the response.

Societal trends

Societal trends towards increased accountability have led to requirements for quality assurance and academic standards in medical education. A variety of sources, including governments, foundations, the media and the public, have begun to focus on what is required to produce a good physician and encourage medical schools to alter their curricula (Towle, 1998). Accrediting bodies have imposed new standards and, in some instances, funding has been coupled with attainment of mandated outcomes (Jonas *et al.*, 1992). Where such outcomes refer to the number and qualification of teachers, teaching/learning and assessment methods, they are of direct relevance to medical education. Benor (2000) predicts that, in the future, society is likely to impose a requirement for certification of medical teachers. Demands from the profession, governments and the public for greater scrutiny of the education process have resulted in audit of teaching and appraisal activities that are now a fact of life in many countries. Specially trained staff are needed to support these initiatives. A department of medical education provides such staff with an appropriate home base, working environment and geographical location.

Educational developments

For centuries, expertise in teaching was assumed to occur naturally, arriving as if by magic at the same time as content matter expertise (Irby, 1994). This assumption is now being challenged. The introduction of new educational strategies, increased use of learning technologies, the development of new assessment tools and the increasing complexity of the curriculum whether at the undergraduate or postgraduate level of training have led to the recognition that all those who teach require some background and training in education (GMC, 1993; Dearing, 1997; SCOPME, 1999). A department of medical education can contribute to the required teacher training. Many departments of medical education provide teacher-training courses and some of the larger departments have an award-bearing programme of courses in medical education (i.e. courses that lead to a university qualification) up to and including doctoral-level studies.

Scope and specialization of medicine

The information explosion has been nowhere more obvious than in medicine. New information in existing disciplines and the emergence of new disciplines have swamped medical

curricula and led to the recognition of the need to examine more closely and plan for the expected learning outcomes of a training programme (Harden *et al.*, 1999a) and for continuing medical education and re-accreditation. As Bundred (2002) pointed out there is wide variation in healthcare worldwide and medical curricula need to be tailored according to the needs of the country. A needs analysis and the identification of a core curriculum and provision of continuing education courses are activities that a department of medical education can support or provide.

The need to train more doctors

Many countries have identified the need to train more doctors. Most universities, however, have financial constraints, which lead to increased student numbers with no commensurate staff increase and an increased student/staff ratio. The demand for doctors is increasing in the UK (Campbell, 1997). The situation is more serious in developing countries. Eckhert (2002), commenting on 64 sub-Saharan medical schools, suggested that it is highly unlikely that those medical schools will be able to increase the number of doctors to keep up with the estimated growth of population. The increasing need for more doctors coupled with the rapid expansion of knowledge in medicine (Engel, 1966) continues to present a serious challenge to medical education. Departments of medical education can assist medical schools to meet these challenges through planning the curriculum to ensure the efficiency and effectiveness of the educational programme, identification of effective approaches to teaching and learning and designing curricula for new medical schools.

Universities have recognized the need for professionalism and scholarship in education in the healthcare professions and have responded to these pressures by setting up departments of medical education that can provide expertise and assist teaching staff with the educational challenges facing them; take responsibility for specific educational functions within the faculty or medical school; deliver appropriate staff development; and carry out research in medical education.

Development and worldwide spread of departments of medical education: historical perspective

Early departments, particularly in the USA, began as offices of research in medical education. The first office of research in medical education was started by Hale Hamm at Case Western Reserve University in 1958, followed by George Miller at the University of Illinois at Chicago in 1959 (Miller, 1980) and Edwin Rosinski at the Medical College of Virginia (Rosinski, 1988). By 2000, 61 medical schools in the USA had an office of medical education and their activities had expanded beyond research. In Canada, innovation in medical education with initiatives such as problem-based learning triggered the establishment of medical education departments in Canadian medical schools (Regehr, 2001). Other medical education departments began as audiovisual units designed to provide a service function, operating lecture theatres and audiovisual departments. Engel (1966) put forward the argument for including an illustration

department within a department of medical education. An alternative vision was where small departments were set up to evaluate the curriculum.

A number of medical education departments were established during the 1970s. The Centre for Medical Education at the University of Dundee in Scotland was set up in 1973 to support the undergraduate curriculum at Dundee medical school and to provide a national resource in medical education. In Australia, during the 1970s, increased government funding facilitated a reshaping of medical education and implementation of successful innovations, especially in the medical school at Newcastle, New South Wales where a medical education resource was established (Brooks *et al.*, 2001). In 1977, the department of educational development and research was established in the University of Maastricht (University of Maastricht, 2003). The WHO has played a leading role in establishing new medical education units worldwide. In the early 1970s, WHO regional offices supported the establishment of medical education units in countries such as Thailand, Sri Lanka (Miller, 1980) and Iran (Yadegarinia *et al.*, 2001).

The process, however, was slow. By 1977 only 72 medical schools had established medical education units, fewer than 4% of the medical schools worldwide which existed at that time (Jason & Westberg, 1982). The number of departments increased gradually. Departments of medical education were established in the Middle East from the 1980s onwards. In Europe, medical education departments were established in the universities of Bern and Geneva. During the last decade, there was a rapid increase in the number of departments of medical education in UK medical schools (Leinster, 2003). New departments of medical education were established in the Far East. Huang (1992) describes the establishment of medical education research and development units in China. Departments of medical education were established in countries such as Malaysia, the Philippines, Indonesia, Japan and more recently (2001) Singapore.

Functions and scope of a department of medical education

Medical education has progressed from the situation described by Miller (1969) where impressionists generalized, taxonomists classified and investigators evoked change. It is now accepted that a department of medical education should have an all-embracing function that includes research, teaching, service provision and nurturing the careers of the academic staff. The balance of these activities varies within individual medical education departments. Albanese *et al.* (2001) provided an overview of the research, service, evaluation, workshop, consultation and teaching areas of activity of North American departments of medical education. The special interests in a department of medical education may be reflected in its research and teaching programmes and in the assistance it provides to the local Faculty.

(1) Research

Creating a culture of educational research. As with any academic department, a department of medical education has a responsibility to innovate; evaluate the innovations; and

disseminate the results of the evaluation. While research in medical education shares many of the problems associated with other areas of research, it has particular problems not found in biomedical research. The different approaches required for meaningful research in medical education have been discussed (Harden, 1986). Concerns have been expressed regarding the quality of research in education and it has been the focus of much recent attention and discussion. ASME (Association for the Study of Medical Education) (2003) has emphasized the contribution of departments of medical education towards improving the quality of research in medical education. In clinical practice, much attention has been paid in recent years to the concept of evidence-based medicine, although the move in this direction has not been without controversy. The Best Evidence Medical Education (BEME) collaboration was established in 1999 (Harden *et al.*, 1999b) to make more explicit the impact that research findings can have on teaching and learning. Departments of medical education can contribute to research in medical education by innovating and developing new approaches to medical education and publishing their findings. They can contribute to the BEME collaboration by evaluating the results of research in medical education published in the literature. Grants available to conduct medical education research, however, are minimal (Wartman & O'Sullivan, 1989). Wartman (1994) pointed out that at present medical educational research is often neglected in making educational decisions and suggested that medical education departments should "develop the leadership to initiate, promote and sustain medical education research".

Communication concerning research. Departments of medical education can help medical teachers to keep abreast of the medical education literature and can draw the teachers' attention to articles or work particularly relevant to their own context or to problems that they are currently facing. Recent articles in the field of medical education can be reviewed at a medical education journal club or made more generally available through a medical education newsletter circulated to all medical school staff and local teachers. Relevant articles can be reviewed in such a publication and the implications for medical education practice within the school can be highlighted. These strategies are cost effective in terms of professional time. Faux (2000) worked out that if a medical teacher is to keep abreast of information in medical education, he/she needs to dedicate at least one hour per day to the task. Citing a successful medical education review in general practice education in the West Midlands region in the UK, he suggests a journal club as the practical alternative. The department of medical education can also ensure that papers with recommendations or for discussion coming to the local curriculum and assessment committees and boards of studies are referenced as appropriate to the education literature.

Publications and communications. Staff in departments of medical education can contribute useful resources in the field of medical education through publications in medical education journals such as *Medical Education*, *Medical Teacher*, *Academic Medicine*, *Advances in Health Science Education* and *Education for Health*. Some medical specialities

have their own education journals such as *Education for Primary Care*, which caters for UK general practitioners. Some departments have published books about medical education, such as Cox & Ewans (1982), Newble & Cannon (1987), Jolly & Grant (1997), Dent & Harden (2001), Norman *et al.* (2002) and Amin & Khoo (2003). They also contribute to the medical education community through publications such as Association for Medical Education in Europe (AMEE) guides and Association for the Study of Medical Education (ASME) booklets and BEME guides. Meetings on medical education are attracting an increasing number of participants and these provide a valuable forum for exchange of views and information.

(2) Teaching

The role of the teacher in the healthcare professions has become more complex. Harden & Crosby (2000) identified the 12 roles of the medical teacher. Hesketh *et al.* (2001) produced a framework for developing excellence as a clinical educator and identified the outcomes of a good teacher in the health professions. Benor (2000) predicted that there will be several types of medical teachers in the future, including specialist teachers, evaluators and process teachers. A major function of a department of medical education is to help equip the teaching staff with the necessary abilities to undertake effectively their roles as medical teachers whatever these roles may be. Issues relating to the teaching activities include what is taught, the educational approach adopted, the depth of study and the target audience.

What is taught. Departments may have a broad interest in teaching about medical education or focus on and develop a particular speciality in topics relating to:

- teaching and the facilitation of learning; for example, large- and small-group teaching and independent learning;
- instructional materials design and the preparation of instructional materials including study guides;
- the new learning technologies including simulation and e-learning;
- medical student and trainee assessment and selection issues;
- curriculum development and evaluation and course design;
- research in medical education.

Educational approach adopted: formal course and on-the-job learning. There is likely to be no one best approach to teaching and learning about medical education and a mixed economy with a range of options is desirable. Some individuals will prefer a formal course and others will benefit from on-the-job-learning with support to assist them to develop their competence in medical education as they undertake their work as medical teachers. Many will appreciate a combination approach where on-the-job learning is boosted and supported by formal courses. This combination approach allows teachers to put into practice approaches, concepts and methodologies learned in formal courses and appreciate what works for them in their own teaching practice, in their specific disciplinary context and in their

own institutional setting. Participation in a formal course can make an effective contribution. The formal course may be either face to face or by distance learning. The face-to-face course has the advantage of ensuring that a period of time is set aside for the study of medical education and allows participants to meet and talk with others with a similar interest and challenges. Participants can also study and see examples of good practice at first hand and talk with students as well as colleagues. A distance learning programme has the advantage that staff can undertake their studies in medical education when and where they want to and at a pace appropriate to their needs. They can readily individualize the course to their own specific areas of interest. Increasingly it has been found that a mixed-mode delivery is effective, combining both face-to-face learning and distance learning.

Depth of study. The importance of recognizing different levels of interest and commitment among faculty towards medical education was highlighted by Miller (1969). He emphasized the need to design a series of training opportunities tailored to varying needs, ranging from one-day workshops to PhD programmes. The level at which individuals will wish to study medical education may depend on their responsibilities within the curriculum. All teachers should have a general overview of the curriculum and the educational principles underpinning it. They need to develop an understanding of key issues and trends in medical education so that a critical mass of individuals is present within the faculty to allow informed discussion of medical education issues and informed decision-making regarding the curriculum to take place. For this to happen requires some basic understanding of the curriculum outcomes, the educational strategies employed, how students learn in relation to the teaching methods used, and the principles of student assessment. With advances in medical education it is unlikely that a teacher can develop a high level of competence in each of these areas. Teachers with specific responsibility for assessment in one part of the course will require a more in-depth understanding of issues related to assessment and to specific assessment instruments employed in the curriculum such as the objective structured clinical examination, portfolio assessment or specific written tests that are used in their institutions to assess the students. Teachers with responsibility for individual courses within the curriculum will benefit from a more detailed understanding of specific educational strategies used in the curriculum and from workshops to help them plan and implement their individual courses in line with the educational philosophy of the medical school.

The trend to require all medical teachers to undertake training in medical education and develop a general understanding of the educational process has been recognized in the UK by associate or full membership of the Institute of Learning and Teaching in Higher Education, now part of the Academy of Higher Education, or by a postgraduate certificate qualification in medical education. Some with a specialized interest in education and a personal role within the curriculum will wish to continue with their studies and work for a diploma or master's degree in medical education. Jolly (1999) pointed out that the number of medical graduates with a master's degree in medical education is increasing. Many countries now require individuals with

a specific educational role at a senior level to undertake doctoral-level studies in medical education. This will become of more importance if, as Harden (2000) predicts, based on the current trend to make medical education training compulsory for medical teachers, within the next decade appointments in medical education will be considered essential and there will be appointments made in specialized aspects of medical education.

The target audience: multi-professional or uni-professional. Staff development courses in medical education may be organized on a multi-professional or uni-professional basis. A multi-professional education programme has the benefit that the professions can learn from each other's experiences in the field. Looking at other professional areas helps to concentrate on the principles rather than on matters of detail. A multi-professional approach may be particularly appropriate where there is a more general move to multi-professional education. Some authorities, for example Bligh *et al.* (2001), predict that medical curricula of the future will be multi-professional in nature with an emphasis on team work, mutual respect and understanding. On the other hand, a medical education training programme with a uni-professional focus or even a uni-disciplinary focus, for example for teachers of surgery, can address issues of specific importance in that discipline and appear more relevant to the practising teacher. The Association for Surgical Education, for example, has developed a 'Surgeon as Educator' course, designed to provide academic surgeons with the knowledge and skills necessary to enhance surgical education administration, curriculum, teaching and evaluation (Da Rosa *et al.*, 1995).

Another related issue is whether the courses should be aimed at teachers from an individual institution where the needs of that institution (e.g. where the department of medical education is based) can be specifically addressed or at teachers from a number of institutions in the same or different countries. The advantages of focusing the course on the needs of the individual institution are that a critical mass of individuals within the institution can together learn, for example, new approaches, and introduce the new approaches to the institution. Courses where participants come from various institutions or countries have the advantage that participants with experiences of different educational practices can share ideas. Participants can convince their peers of the practicability or acceptability of a practice that is alien to, or an innovation for, the institution or country of a specific participant.

(3) Service provision

Departments of medical education are frequently service providers, helping staff in other departments within an institution with aspects of teaching and learning; advising on the development of the curriculum in accordance with best evidence medical education; providing expertise in student assessment and curriculum evaluation; and offering support in the development of instructional materials and student study guides, online learning materials and other resource materials. In some instances a service responsibility may be the main rationale for the establishment of a department of medical education.

For a department of medical education to have a service role implies a close relationship with the medical school or educational institution. It should be seen as a source of support and assistance with the development of the curriculum and the teaching, learning and assessment programme. There are significant advantages in having a close relationship with the medical institution:

- (1) The department may be valued locally not by the contributions it makes generally to medical education but through its contributions to the local curriculum.
- (2) Staff in the department of medical education, by working alongside the institution on day-to-day problems, gain practical experience of the realities of medical education and enhance their own credibility, which in turn is valuable in medical education learning programmes in which they participate.
- (3) The need for educational research and the problems that can appropriately be investigated are continually revealed in the context of day-to-day teaching practice.
- (4) Medical education is an area of applied research activity and research in medical education is at its best when it is contextualized in the practical concepts of an education programme.

The service contribution of the department of medical education to the medical school will vary with the curriculum. This contribution can be usefully analysed in terms of the 12 roles of the medical teacher (Harden & Crosby, 2000). Roles to the right such as the provision of a role model require less educational input whereas those to the left such as curriculum planning benefit from a greater educational input.

(4) Nurturing the careers of academic staff

An important role for a department of medical education is to nurture the careers of staff, who may become the medical educationists of the future. It is important to ensure that staff gain the necessary expertise in medical education and have opportunities to develop and publish in relation to their specific interests. In this way they can gain academic rewards and recognition for their educational expertise. This nurturing is essential regardless of the level of staff involvement with the department and the professional background of the staff. The WHO and British Commonwealth fellowship programmes have provided useful opportunities in career development for junior staff from medical education departments in developing countries by placing them for a period of time in an established department. It is one of the leadership roles of the head of the department of medical education to help develop the careers of more junior members of staff, who are starting on 'the medical education journey' and other members of staff can provide peer support for career development.

Staff in a department of medical education

Staff in the medical education department should be recruited to bring a broad perspective to the work of the department. A successful medical education unit requires multi-professional team working, with a range of expertise

from different professional backgrounds including medical and educational. It is helpful to have both national and international perspectives. Flexibility is the key to staffing a medical education department with the ideal mix including enthusiastic junior staff and more experienced senior academics with a broad understanding and a vision in medical education. The ideal skill mix includes organizers, thinkers, innovators and motivators. It may be hard to attract medical graduates as full-time medical educators and therefore it may be necessary to earmark potential candidates from the medical school staff and groom them. The concept here is one of 'grow your own'.

Background of staff

Health professions. Medically qualified personnel are doctors who understand medical education at all levels and who have a commitment to teaching, usually combined with educational expertise and an educational qualification. Engel (1966) highlights the need for a group of specialists who have qualified in medicine and who have studied the theory and practice of education, to help medical teachers in curriculum planning, assessment and the introduction of innovative educational methods. Other professional staff may be required depending on the professional groups for whom service is provided; for example, nurses, dentists, pharmacists, nutritionists and veterinary medicine practitioners.

Education. Educational personnel are individuals who provide educational support for the unit. Many PhD educators specialize in individual areas; e.g. assessment, course design, teaching and learning, and instructional materials design. Educational psychologists have a particular role to play in medical education departments, often contributing to technical aspects of assessment and to educational research. Educational technologists are an example of 'new professionals' currently emerging in higher education. Oliver (2002) has outlined the role that they can play in staff development, research, management and technical support. An instructional materials designer may be necessary if distance learning packages and other instructional material are being produced.

Technical support staff. Technical staff can support computing, service IT requirements, service seminar rooms and deal with ordering of equipment. Graphic designers and web designers can help with the delivery of web-based learning materials. A computer scientist may be necessary if online or computer-assisted learning is a large part of the department's activities. An information technologist may assist if library and database searches/construction are required. An editor may be required if the provision of distance learning packages and course material is a large part of the department's activities.

Secretarial and administrative support staff. General clerical and secretarial support staff are needed for the smooth running of the department. A desk-top publisher is a requirement for production of print-based material for marketing of courses, distance learning packages and newsletters to keep students, other contacts and medical school faculty in touch with the department's activities.

A librarian. If substantial print and other information sources have to be managed the appointment of a librarian is essential to avoid 'loss' of books, videos and other library material.

Full-time and part-time staff

To provide the required skills mix, various contractual arrangements and affiliations with the department of medical education need to be available for staff from various backgrounds:

- full-time contracts for core staff;
- 80% contracts for staff who need to maintain professional competence for reasons of registration with their professional body. The staff member, for example, may spend two sessions per week in their academic discipline;
- half-time contracts for clinical and other academic staff who have a particular interest in and commitment to teaching;
- one day per week: e.g. a senior lecturer in surgery or the director of the clinical skills centre may spend one day per week teaching on a master's in medical education programme run by the department or engaged in a medical education research project based in the department of medical education. Staff in training and junior lectures may also have part-time appointments with the department, particularly when they have a specific interest in medical education and a bent for it;
- consultancy: this may be short or long term depending on the needs of the department at any given time. This arrangement is appropriate for senior staff with expertise in specific areas required by the department;
- project-related staff: short-term contracts may be offered to staff needed to work on specific projects within the department;
- sabbatical: many academic staff elect to spend their sabbaticals in a medical education department. They can bring new skills and contribute to the activities of the department.

Tekian (1992) identified the need for different levels of staff involvement in a medical education department in the booklet *Educational Development Centres in the Health Sector*.

In addition to the core staff in the department there may be a network of academic staff members from other departments who are enthusiastic about medical education and sensitive to the needs of medical education. This informal network of 'friends of medical education' may prove to be crucial when the department is faced with the inevitable challenge of initiating change in medical education with the friends acting as effective change agents. This network should ideally involve all levels of seniority and as many academic disciplines as possible.

Expertise

Staff expertise is needed in:

- the content area;
- educational approaches and methodologies;
- research methodologies both qualitative and quantitative;

- management to run individual projects;
- secretarial;
- computing and IT skills.

Organization of the medical education department and its relationship with the medical faculty

(1) Is the department of medical education an identified entity?

The name of the department may hint at its position within the university structure. Albanese *et al.* (2001) found four different categories of unit title: office, division, centre and department. During a literature search we identified 71 different designations used worldwide (Appendix 1—on *Medical Teacher* website: <http://www.medicalteacher.org> and in AMEE Guide available from <http://www.amee.org>). Whatever the name, the function of such departments is to support medical education activities.

(2) Relationship with the institution

The precise situation of the medical education department will depend on the individual institution, i.e. whether it is within the medical school, within a broader structure such as an institute of health sciences, or within the university. Albanese *et al.* (2001) found, in the North American context, that there are different titles for the lead person in the unit but that most are headed by a director. Some leaders are assistant or associate deans and some of these also hold the title of director. The same authors found that there are nine different administrative titles for the individual to whom the director reports, but usually it is to a medical school dean, associate dean or vice dean. A few directors report beyond the medical school level to a vice-chancellor, vice-president or vice-provost. The majority of departments of medical education in the Albanese *et al.* (2001) survey have names which suggest that they are administrative units in the medical school dean's office, with a few free-standing departments in the medical school. The type of reporting system where the director reports beyond the medical school level to the central administration of the university suggests a broader role in the larger institution.

(3) The role of the dean

Albanese *et al.* (2001) found that a large number of medical education departments are associated with the medical school dean's office. Close communication with the dean's office can be beneficial as a dean, who is supportive and enthusiastic about medical education, is essential for successful implementation of educational innovations. Deans can promote the medical education department. Everard (1990) cited research that showed a new institutional head is more likely to initiate organizational change: 'the new broom' as a change agent. The best time to lobby for the establishment of a new medical education department may be soon after the appointment of a new dean.

(4) Who provides leadership for the department of medical education?

Worldwide, many medical education units will have a medically qualified director, but this is not universal. In the North American setting, for example, Albanese *et al.* (2001) found that 67% of directors had a PhD and only 6% had an MD.

The director provides leadership for the medical education department. Ramsden (1998) has identified the dimensions of leadership in education and these dimensions can be translated into the medical education context. The director will usually have a track record in research in medical education. He/she should be in a position to foster scholarly habits among the staff, and have a flair for teaching and a reputation for innovation and teaching development. It is important that the director can convey a sense of excitement about teaching. He/she should be a person who motivates people to do more than they ever thought that they could, sets a challenging climate for academic work and stimulates the lively exchange of ideas between colleagues.

Management skills are important as the director needs to be a fair and efficient manager of human and other resources within the department. Interpersonal skills and appropriate personal attributes are important in management of human resources. The director must show concern for the staff he/she works with. There is no place for a director who is narcissistic, egocentric, hypercritical, isolated or abrasive under pressure (Davis & Harden, 2002).

The director needs to provide vision and a strategy for the future development of the department that staff can share and buy into. Bordage *et al.* (2000) identified having the vision to bridge the current and the future state as the leading personal attribute of a director. Liaison with other medical school and university departments is an important part of the director's role as is advocating the work of the unit and its successes to other departments. The ability to promote collaboration between colleagues is essential given the multi-professional nature of staff in most medical education units and the interprofessional tensions that inevitably arise. Fostering career development and recognizing the achievements of staff are particularly important given the difficulties associated with rewards for teaching in most medical schools. Furthermore, support for the career development of others and recognition of colleagues' achievements are essential for team building (Davis & Harden, 2002).

(5) Phase of medical education

A department of medical education may have a commitment in the undergraduate, postgraduate and continuing phases of medical education or in all three phases:

- Undergraduate or basic training: a department of medical education can support undergraduate medical education by curriculum evaluation, planning and implementing curriculum changes, teacher training and improving assessment. Staff of the department can take part in the teaching/learning activities of the faculty.
- Postgraduate education: support for postgraduate education can be provided via professional postgraduate bodies or institutions, regional postgraduate offices, deaneries or

residency programmes. Important areas include improvement of assessment practice, the introduction of new teaching and learning methods and identification of postgraduate curricula.

- Continuing professional development: the work of the healthcare professional involves teaching at different levels. Teacher training can be provided by a department of medical education through organizing conferences in medical education and offering courses that are accredited for continuing medical education.
- Continuing medical education: continuing medical education involves updates in disciplines. The departments of medical education can contribute to continuing medical education by conducting workshops and short courses and developing distance learning programmes.

(6) Professional groups for whom service is provided: multi-professional or uni-professional

The services of a medical education department can be extended to other healthcare professionals. Healthcare professionals' education courses can be tailored to suit the needs of a wide range of professional groups, including:

- nurses;
- dentists;
- pharmacists;
- allied health professionals: physiotherapists; occupational therapists; nutritionists; radiographers;
- veterinary medicine practitioners.

A more general question is whether the department should be a multi-professional education department.

(7) How is the department of medical education organized internally?

Depending on the size of the unit and the activities it undertakes, there may be several sections within the department. There may be, for example, a section for each research project, each with its own section leader, responsible for his/her own research team. If teaching programmes are part of the unit's activities, there may be a leader for the teaching courses. If educational support activities encompass undergraduate, postgraduate and continuing education, there may be separate section leaders for each level of activity. Where more than one professional group is catered for by the department, there may be section leaders for each professional group. These individuals may be given the title of associate director (Tekian, 1992). Sometimes in a large department there is need for a deputy director, who stands in for the director, attending meetings on his/her behalf and running the department when the director is absent.

(8) Links with other departments of medical education

Liaison with other medical education departments is desirable. This can be achieved through the Directors of Research in Medical Education group, the Best Evidence Medical Education Collaboration (BEME) and attending international medical education meetings such as those organized by the Association for Medical Education in Europe (AMEE),

the Association of American Medical Colleges (AAMC), and the Ottawa Conference. Attendance at national meetings such as, in the UK context, ASME and the Birmingham conference are essential parts of the director's role. In Australia and New Zealand, the Association for Health Professional Education (ANZAME) organizes annual meetings and many Asian countries have instituted regional medical educational conferences, e.g. Malaysia, Singapore, Sri Lanka and Thailand. The Société Internationale Francophone d'Éducation Médicale (SIFEM) runs international conferences for the French-speaking community.

Establishment of international links is a priority for a director. Medical education is increasingly global, with groups such as the World Federation of Medical Education (WFME), the Institute for International Medical Education (IIME) and the International Virtual Medical School (IVIMEDS) actively promoting international cooperation in medical education (Prideaux, 2002). It is imperative, therefore, that a medical education department establish strong international links, for its survival and development. Establishing links is not, however, exclusively the role of the director. Other staff have a role to play in networking. Training periods overseas and sabbaticals also contribute to networking. Networking of departments of medical education facilitates exchange of information, expertise and resources in health professionals' education (Tekian, 1992).

(9) Space allocation

Space is needed for the various functions of a medical education department. The necessary space allocation may include:

- offices for academic, research, secretarial and administrative staff;
- a courses office: if a medical education programme is offered there is need for storage space for student records and files of academic work. If course work makes use of written material such as books, booklets and monographs, storage for such material is needed;
- a technician's workshop/equipment store;
- seminar rooms for teaching, for academic meetings and journal club activities;
- library: the provision of educational books that are often unavailable in medical libraries and medical education journals is a key role for the medical education unit;
- print room for production of distance learning and other instructional material. Some medical education units become publishing houses;
- a work room where video production, photography and CAL programmes can be developed;
- meeting rooms;
- a computer suite for course participants where instructional materials design can be taught and learned and where the participants can work;
- office accommodation for PhD students and other postgraduate/post-doctoral students;
- catering facilities/coffee room. This is an important area for exchange of information between staff and acquisition of support on an informal basis. Such a facility is of increasing importance as the unit expands in size.

In a large and busy department separate rooms will be needed for each function. In a smaller, quieter department, space can be used for more than one function, e.g. seminar rooms can double as meeting rooms, the library can be used for small-group teaching. Space can also be shared with other departments.

(10) Financial support

Financial support may come from government funding agencies, the university, hospital or medical school funds. Individual medical schools in developing countries have been encouraged and assisted by the WHO in the past in setting up new departments of medical education. Many departments of medical education are financially self-supporting and depend on research and development grants, industry contracts, consultancy and teaching activities for their viability. Tekian (1992) suggests that the host institution should provide the basic support for the department, including provision of buildings, basic equipment and minimal essential staff. Budgeting is essential to the efficient functioning of a department of medical education and the minimum requirements that need to be covered are equipment maintenance and staff costs (Tekian, 1992).

Setting up a medical education department

The approach to setting up a department may vary in different cultures and geographical regions. Key points for setting up a successful department of medical education include:

- (1) *Enlist the support of the dean and other powerful advocates within the medical school:* A major innovation such as establishing a new medical school department requires the support of the dean. A positive approach to medical education may not be present within the faculty and may indeed be one of the reasons the department is set up. The department of medical education may need to be set up in the face of opposition from some faculty members.
- (2) *Appoint a medically qualified director:* This may bring benefits in terms of networking. Clinically active directors have pre-existing networks established for communication with colleagues regarding patients and patient referral networks. The use of these networks for the benefit of the medical education department brings with it pre-existing trust and collaboration.
- (3) *Demonstrate practical ways in which the department of medical education can help the school early on:* Provision of expertise to the medical school and individual members of faculty will demonstrate the usefulness of the department.
- (4) *Ensure a non-threatening and non-judgemental approach to the school and faculty members:* A supportive, encouraging and facilitative approach is more likely to succeed than one depending on controlling and directing.
- (5) *Establish effective lines of reporting and communication with the medical school:* The department of medical education needs to be embedded in the organizational structure of the medical school. Integration of the

department in the medical school will promote acceptance.

- (6) *Employ appropriate staff:* An appropriate mixture of skills, expertise and background needs to be assembled to support the department's activities.
- (7) *Focus on the health professions' education:* Education in the health professions is a 'niche market'. A university-wide role may be too broad in scope.
- (8) *Create enthusiasm for teaching in medical school:* Being a medical educator should be a matter of pride for the individual and elicit respect from others.
- (9) *Obtain a guarantee of funding for a few years until self-supporting.*
- (10) *Attract financial resources:* Departments of medical education that earn grant income bring financial resources into the medical school and enhance the medical school's reputation both locally and globally. The grant income will support the activities of the department of medical education, allow it some independence and create credibility and respect for the department.
- (11) *Gain recognition for the development of the scholarship of education in the medical school:* Publications in peer-reviewed journals, presentations at national and international meetings, consultancies and grant income earned all enhance the reputation of the medical school.
- (12) *Establish contact with other groups both nationally and internationally:* Networking with other groups brings with it personal development, academic stimulus, mutual support and a practical demonstration of what can be achieved.

Mistakes to avoid when setting up a department of medical education

In recent years some departments of medical education have closed or substantially downsized. Some medical schools have dispensed with the services of their medical educationists. Sometimes this occurs due to a lack of understanding on the part of faculty or the dean as to the breadth of the role of the medical education department and to the concept that once a curriculum revision has been completed, the education work is 'finished'. Sometimes it occurs because there is a perception that the department of medical education is threatening to the faculty. This may happen if the sole responsibility of the department is with curriculum evaluation. The perception that the medical education department is 'taking over the curriculum' can be threatening to the faculty, who may respond by 'attacking' the department of medical education.

It is also a mistake to set up a department of medical education whose sole role is the provision of a service role within faculty; for example, administering an audiovisual service or the assessment processes. What is needed is a partnership across the breadth of the curriculum and its implementation. A department that is too small is highly likely to be ineffective (Engel, 1966). A department of medical education should be given equal status to its sister

departments (Tekian, 1992). However, becoming 'too big' also can cause resentment among other faculty.

Other departments have floundered because their target level has been too narrow; for example, only postgraduate education in one profession. It is desirable to integrate undergraduate and postgraduate education within one department as the educational principles and concepts are the same regardless of the level of activity.

Given the recognition of professionalism in medical education, it is argued that a department of medical education must be a means to an end and not a development for its own sake. If the department is not seen as contributing to the local curriculum and medical education initiatives, it will not be valued.

Case studies

Much of the information from this guide was obtained through a series of case studies. Ten departments of medical education were identified. They were selected because of their international reputation and their leadership within a geographical region. Both developed and developing countries were represented in the selection.

Either the head of department or a nominated representative(s) responded from nine of the 10 departments approached. Contributors to the case studies were: Zubair Amin (Medical Education Unit, National University of Singapore), Matthew Gwee (Medical Education Unit, National University of Singapore), Brian Hodges (The University of Toronto, Faculty of Medicine Donald R. Wilson Centre for Research in Education at the University Health Network, Canada), Lalitha Mendis (Postgraduate Institute of Medicine, University of Colombo, Sri Lanka), Geoff Norman (Programme for Educational Research and Development, Faculty of Health Sciences, McMaster University, Canada), Rohini Seneviratne (Staff Development Centre, University of Colombo, Sri Lanka), Trudie E. Roberts (Medical Education Unit, University of Leeds Medical School, UK), Ara Tekian (Department of Medical Education, University of Illinois at Chicago, USA) and Cees van der Vleuten (Department of Educational Development and Research, Universiteit Maastricht, Netherlands). Their responses are reproduced in full in Appendix 2 on the *Medical Teacher* website (<http://www.medicalteacher.org>) and in the AMEE Education Guide no. 28, available from the AMEE Office (<http://www.amee.org>). The case studies provide powerful examples of different organizational structures, interests and functions that will be of major interest to those wishing to set up a department of medical education.

Conclusions

Given the recognition of professionalism in medical education, it is argued that a department of medical education is an essential resource for any medical school. The activities of such a resource should encompass teaching, research, service provision and nurturing the careers of its staff. A range of skills is required for a department of medical education. Such a resource should be closely integrated with the faculty and seen as supportive to the faculty. It should not be seen as a separate entity from the faculty.

Notes on contributors

MARGERY DAVIS is a Professor and Director of Centre for Medical Education, University of Dundee.

RONALD HARDEN is a Professor, former Director of the Dundee Centre for Medical Education and currently Education Director of the International Virtual Medical School (IVIMEDS).

INDIKA KARUNATHILAKE is a Lecturer in Medical Education in the Faculty of Medicine, University of Colombo, Sri Lanka.

Acknowledgements

The authors gratefully acknowledge the following contributors to the case studies: Zubair Amin; Matthew Gwee; Brian Hodges; Lalitha Mendis; Geoff Norman; Trudie E. Roberts; Rohini Seneviratne; Ara Tekian; and Cees van der Vleuten.

References

- ALBANESE, M.A., DOTTL, S. & NOWACEK, G.A. (2001) Offices of research in medical education: accomplishments and added value contributions, *Teaching and Learning in Medicine*, 13, pp. 258–267.
- AMIN, Z. & KHOO, H.E. (2003) *Basics in Medical Education* (Singapore, World Scientific Publishing Company).
- ASME (2003) Improving the quality of research in medical education: report of the workshop held on 12–13 May, 2003, Windsor, UK. Available at: <http://www.sbm.ac.ir/Journal?MedEdu/spring2001/Med.education1.htm>.
- BENOR, D.E. (2000) Faculty development, teacher training and teacher accreditation in medical education: twenty years from now, *Medical Teacher*, 22, pp. 503–512.
- BLIGH, J., PRIDEAUX, D. & PARSELL, G. (2001) PRISMS: new educational strategies for medical education, *Medical Education*, 35, pp. 520–521.
- BORDAGE, G., FOLEY, R. & GOLDYN, S. (2000) Skills and attributes of directors of educational programmes, *Medical Education*, 34, pp. 204–210.
- BROOKS, P.M., DOHERTY, R.L. & DONALD, K.J. (2001) Expansion and diversification of medical education in Australia 1951–2000, *Medical Journal of Australia*, 174, pp. 25–28.
- BUNDRED, P. (2002) Facing up the realities of global medical education in the 21st century, *Medical Education*, 36, pp. 600–601.
- CALMAN SIR, K. (2000) Postgraduate specialist training and continuing professional development, *Medical Teacher*, 22, pp. 448–451.
- CAMPBELL SIR, C. (1997) *Planning the Medical Workforce: Medical Workforce Standing Committee: Third Report* (Campbell report), 11925 HRD 1300 IP 7RBB (London, Department of Health).
- COX, K.R. & KWANS, C.E. (Eds) (1982) *The Medical Teacher, The Medical Teacher* (Edinburgh, Churchill Livingstone).
- DA ROSA, D.A., FOLSE, J.R., SACHDEVA, A.K., DUNNINGTON, G.L. & REZNICK, R. (1995) Description and results of a needs assessment in preparation for the 'Surgeon as Educator' course, *American Journal of Surgery*, 169, pp. 410–413.
- DAVIS, M.H. & HARDEN, R.M. (2002) Leadership in education and the strategy of the dolphin, *Medical Teacher*, 24, pp. 581–582.
- DEARING, R. (1997) *Higher Education in the Learning Society: National Committee of Inquiry into Higher Education (Main Report: the Dearing Review)* (Norwich, HM Stationery Office).
- DENT, J.A. & HARDEN, R.M. (Eds) (2001) *Practical Guide for Medical Teachers, Practical Guide for Medical Teachers* (London, Churchill Livingstone).
- ECKHART, N.L. (2002) The global pipeline—too narrow, too wide or just right, *Medical Education*, 36, pp. 606–613.
- ENGEL, C.E. (1966) *Teaching Services in the Medical School*, WHO Medical Education Bulletin 1, 2 (Geneva, WHO).
- EVERARD, B. (1990) Organisation development in educational institutions, *Handbook of Educational Ideas and Practices* (London, Routledge).
- FAUX, D. (2000) Information overload, *Medical Teacher*, 22, pp. 5–6.
- GENERAL MEDICAL COUNCIL (1993) *Tomorrow's Doctors: Recommendations on Undergraduate Medical Education* (London, GMC).

- GWEE, M.C.E. (2004) Problem-Based Learning in Medical Education: Curriculum Reform and Alignment of Expected Outcomes, in Tan, Oon Seng (Ed.), *Enhancing Thinking through Problem-Based Learning Approaches: International Perspectives* (Singapore, Thomson Learning Asia Pte).
- HARDEN, R.M. (1986) Approaches to research in medical education, *Medical Education*, 20, pp. 522–531.
- HARDEN, R.M. (2000) Evolution or revolution and the future of medical education: replacing the oak tree, *Medical Teacher*, 22, pp. 435–442.
- HARDEN, R.M. & CROSBY, J. (2000) The good teacher is more than a lecturer: the twelve roles of the teacher, AMEE Education Guide No. 20, *Medical Teacher*, 22, pp. 334–347.
- HARDEN, R.M. & DAVIS, M.H. (1998) Educating more doctors in the UK: painting the tiger, *Medical Teacher*, 20, pp. 301–306.
- HARDEN, R.M., CROSBY, J.R. & DAVIS, M.H. (1999a) An introduction to outcome-based education, *Medical Teacher*, 21, pp. 7–14.
- HARDEN, R.M., GRANT, J., BUCKLEY, G. & HART, I.R. (1999b) Best evidence medical education, *Medical Teacher*, 21, pp. 553–562.
- HESKETH, E.A., BAGNALL, G., BUCKLEY, E.G., FRIEDMAN, M., GOODALL, E., HARDEN, R.M., LAIDLAW, J.M., LEIGHTON-BECK, L., MCKINLEY, P., NEWTON, R. & OUGHTON, R. (2001) A framework for developing excellence as a clinical educator, *Medical Education*, 35, pp. 555–564.
- HUANG, J. (1992) Medical education and medical education research and development activities in modern China, *Medical Education*, 26, pp. 333–339.
- IRBY, D.M. (1994) What medical teachers need to know?, *Academic Medicine*, 69, pp. 333–342.
- JASON, H. & WESTBERG, J. (1982) *Teachers and Teaching in US Medical Schools* (Norwalk, CT, Appleton-Century-Crofts).
- JOLLY, B. & GRANT, J. (1997) *The Good Assessment Guide: A Practical Guide to Assessment and Appraisal for Higher Specialist Training* (London, Joint Centre for Education in Medicine).
- JOLLY, B. (1999) An illustrated guide for the young non-clinically qualified millennialist medical educator (NOCQUAME), *Medical Education*, 33, pp. 874–875.
- JONAS, H.S., ETZEL, S.I. & BARZANSKY, B. (1992) Education programmes in US medical schools, *Journal of the American Medical Association*, 268, pp. 1083–1090.
- LEINSTER, S. (2003) Medical education in the real world, *Medical Education*, 37, pp. 397–398.
- MILLER, G.E. (1969) The study of medical education, *British Journal of Medical Education*, 3, pp. 5–10.
- MILLER, G.E. (1980) *Educating Medical Teachers* (Cambridge, MA, Harvard University Press).
- NEWBLE, D. & CANNON, R. (Eds) (1987) *A Handbook for Medical Teachers* (Lancaster, MTP Press).
- NORMAN, G.R., VAN DER VLEUTEN, C. & NEWBLE, D. (Eds) (2002) *International Handbook of Research in Medical Education* (Part I & 2) (Boston, Kluwer Academics).
- OLIVER, M. (2002) What do learning technologists do?, *Innovations in Education and Teaching International*, 39, pp. 245–251.
- PRIDEAUX, D. & BADARANAYAKE, R. (Eds) (2000) *Medical Education in Diverse Clinical Settings: Urban and Rural Communities*, Report of the 6th biennial conference for Medical Education in the Western Pacific Region (AMWEWPR), Australia.
- PRIDEAUX, D. (2002) Can global co-operation enhance quality in medical education? Some lessons from an international consortium, *Medical Education*, 36, pp. 404–405.
- RAMSDEN, P. (1998) *Learning to Lead in Higher Education* (London, Routledge).
- REGEHR, G. (2001) Report to Canadian Institutes of Health Research Committee: Research in Medical Education Fund, Association of Canadian Medical Colleges.
- ROSINSKI, E.F. (1988) *The Society of Directors of Research in Medical Education: A Brief History* (USA, Society of Directors of Research in Medical Education).
- SCOPME (1999) *Teacher Development in Hospital Medicine and Dentistry*, Standing Committee on Postgraduate Medical and Dental Education. [Copies of the report are available from the Department of Health, PO Box 410, Wetherby, LS23 7LN, UK].
- SOLOMON, D. (2003) Medical Education Online (Book Review). Available at: <http://www.med-ed-online.org/b0000008.htm>
- TEKIAN, A. (1992) Educational Development Centres in the Health Sector, World Health Organisation.
- TOWLE, A. (1998) The aims of the curriculum: education for health needs in 2000 and beyond, in Jolly, B. & Rees, L. (Eds), *Medical Education in the Millennium* (Oxford, Oxford Medical Publications).
- UNIVERSITY OF ILLINOIS AT CHICAGO (2002) Educational Leadership Programs for Health Professionals, University of Illinois at Chicago, College of Medicine, Department of Medical Education.
- UNIVERSITY OF ILLINOIS AT CHICAGO (2003) Department of Medical Education—Annual Report 2003, University of Illinois at Chicago
- UNIVERSITY OF MAASTRICHT (2003) Department of Educational Development & Research. Available at: <http://www.educ.unimaas.nl>.
- VAN DER VLEUTEN, C.P.M., DOLMANS, D.H.J.M., DE GRAVE, W.S., VAN LUIJK, S.J., MUIJTJENS, A.M.M., SCHERPBIER, A.J.J.A., *et al.* (in press) Education research University of Maastricht Faculty of Medicine, *Academic Medicine*.
- WARTMAN, S.A. (1994) Research in medical education: the challenge for the next decade, *Academic Medicine*, 69, pp. 608–614.
- WARTMAN, S.A. & O’SULLIVAN, P.S. (1989) The case for a national center for health professions education research, *Academic Medicine*, 64, pp. 295–299.
- WASSERTHEIL, J. & CURRAN, S. (2002) Master of Clinical Education (University of New South Wales), Medical Education Series, *Emergency Medicine*, 14, pp. 136–138.
- YADEGARINIA, D., ZAREIN-DOLAB, S. & ARUNLANATHAM, S. (2001) The Educational Development Center: working for change, working with change (Iranian), *Journal of Medical Education*, Available online at www.sbm.ac.ir/Journal?MedEdu/spring2001/Med.education1.htm, accessed 10 June 2005.
- York, J. (2004) Department of Medical Education—internal documents, University of Illinois at Chicago.

Copyright of *Medical Teacher* is the property of Taylor & Francis Ltd and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.