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The development and role of departments of medical education

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Summary

A department of medical education is becoming an essential requirement for a medical school. This guide 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 generalisable. Medical education departments are established in response to increased public expectations relating to health care, 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 postgraduate education, continuing professional development and continuing medical education. These activities may be extended to other health care 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 a medical education unit, a centre for medical education, a centre for educational research, an office of research in medical education or a centre for educational development. The term 'department of medical education' has been used in this guide when referring to such departments or units. The guide 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 organisational 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 health care 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 specialisation 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 health care professionals. These demands are created by the explosive increase in methods of patient investigation and management that increase the range of services that 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 health care 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

individual health care 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 specialisation 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 health care 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 recognised the need for professionalism and scholarship in education in the health care 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 audio-visual units designed to provide a service function, operating lecture theatres and audio-visual 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 was 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 (2003, University of Maastricht). 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, 2001).

The process, however, was slow. By 1977 only 72 medical schools had established medical education units, fewer than 4% of medical schools worldwide that 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 of 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, 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 generalised, 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.

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 about the quality of research in education and it has been the focus of much recent attention and discussion. ASME (The Association for the Study of Medical Education) (2003) has emphasised 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 about 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 & Ewen (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.

Teaching

The role of the teacher in the health care 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 individualise 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 recognising different levels of interest and commitment among faculty towards medical education was highlighted by Miller (1969). He emphasised 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 a 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 recognised 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 specialised interest in education and a personal role within the curriculum will wish to continue with their studies and work for a diploma or Masters 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 specialised aspects of medical education.

The target audience: multi-professional or uni-professional: Staff development courses in medical education may be organised on a multi-professional or uni-professional basis. A multi-professional education programme has the benefit that the professions can learn from each others' 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.

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 support in the development of instructional materials and student study guides, on-line 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 which 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 contextualised 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.

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 educationalists 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 wide and 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 organisers, 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 specialise 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 on-line 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.
- Eighty per cent 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 Masters 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 lecturers 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 term 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.

Organisation 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). 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 that 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 organisational 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, 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 inter-professional tensions that inevitably arise. Fostering career development and recognising 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 teambuilding (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 health care professional involves teaching at different levels. Teacher training can be provided by a department of medical education through organising 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 health care professionals. Health care 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 organised 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 sectional 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 sectional leaders for each level of activity. Where more than one professional group is catered for by the department,

there may be sectional 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 organised by the Association for Medical Education in Europe (AMEE), the Association of American Medical Colleges (AAMC), and the Ottawa Conferences. 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) organises 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'Ēducation Médicale (SIFEM) run 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 for Medical Education (WFME), the Institute for International Medical Education (IIME) and the International Virtual Medical School (IVIMEDS), actively promoting international co-operation in medical education (Prideaux, 2002). It is imperative, therefore, that a medical education department establishes 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 about 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-judgmental approach to the school and faculty members: A supportive, encouraging and facilitative approach is more likely to succeed than one dependent 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 organisational 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' educations: 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 resource: Departments of medical education that earn grant income bring financial resource 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 audio-visual 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 with 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 ten 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. The case studies provide powerful examples of different organisational 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.

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Appendix 1:
Designations of medical education departments worldwide

1. Academic Unit of Medical Education
2. Career Development and Education Center
3. Center for Educational Research & Development
4. Center for Excellence in Medical Education
5. Center for Innovation
6. Center for Learning and Teaching
7. Center for Medical Education Research
8. Center for Medical Education Research and Development
9. Center for Research and Development of Medical Education and Health Services
10. Center for Research in Medical Education and Health Care
11. Centre for Educational Development
12. Centre for Medical Education
13. Centre for Research in Education
14. Curricular Affairs Office
15. Department of Education and Development
16. Department of Educational Development & Research
17. Department of Health Science Education
18. Department of Medical Education
19. Department of Medical Education and Biomedical Informatics
20. Department of Research in Medical Education
21. Discipline of Medical Education
22. Division of Educational Development
23. Division of Educational Planning and Assessment
24. Division of Educational Service and Research
25. Division of Educational Support & Development
26. Division of Educational Support and Development
27. Division of Learning Resources
28. Division of Medical Education
29. Division of Research and Evaluation in Medical Education
30. Division of Research in Medical Education
31. Division of Studies in Medical Education
32. Education Centre
33. Educational Development Center
34. Educational Development Unit
35. Educational Research Group
36. Faculty Development office
37. Learning Resource Unit
38. Medical Education and Research Unit
39. Medical Education Center
40. Medical Education Development and Research Centre
41. Medical Education Development Center
42. Medical Education Research and Development Unit
43. Medical Education Research & Staff Development Unit
44. Medical Education Unit
45. Medical Learning Resources
46. Office of Consultation and Research in Medical Education
47. Office of Curricular Affairs
48. Office of Curriculum Affairs
49. Office of Education
50. Office of Educational Development
51. Office of Educational Development and Support
52. Office of Educational Research
53. Office of Educational Research and Development
54. Office of Educational Research and Services
55. Office of Educational Resource
56. Office of Educational Sciences
57. Office of Educational Services
58. Office of Educational Design and development
59. Office of Health Science Education
60. Office of Medical Education
61. Office of Medical Education Research and Development
62. Office of Medical Studies
63. Office of Research in Medical Education
64. Office of Service and Research in Medical Education
65. Programme for Educational Development
66. Programme for Educational Research and Development
67. Research and Evaluation in Medical Education
68. School of Medical Education
69. School of Medical Education Development
70. The Academic Department of Medical and Dental Education
71. Unit of Development and Research in Medical Education

Appendix 2: Case studies

The heads of the ten departments of medical education were approached and asked to submit a case study under the following headings:

1. When and why was the department set up?
2. What are the functions of the department? Is the department involved in teaching, research and service provision to your institution? Where does the balance lie between these activities?
3. What is the scope of the department's activities? Is the department mainly involved with the medical profession or do you also work with other professions? If so which other professions? Do you have links with other institutions nationally/ internationally? Do you mainly work in undergraduate/basic education? Are you also involved with postgraduate and continuing education? Are there areas within medical education in which you have a specific interest?
4. Organisational structure: Where is the department situated within the institution; i.e. to whom does the head of department report? What is the structure within the department? Is the department divided into sections? Is there a deputy director?
5. Staffing: What staff does the department have? Do you have affiliated staff or other arrangements by which individuals carry out work for the department?

Either the head of department or a nominated representative(s) responded from nine of the ten 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).

The case studies provide powerful examples of different organisational structures, interests and functions that will be of major interest to those wishing to set up a department of medical education.

CASE STUDY 1: Programme for Educational Research and Development (PERD), Faculty of Health Sciences, McMaster University, Canada

1 When and why was the department set up?

The Program for Educational Development (now, Program for Educational Research and Development) was set up in September 1970, one year after the first class entered the Faculty of Health Sciences. Clearly, one goal was program evaluation of the first PBL school. But more likely, the goal was more general, along the lines of "We have a new school which is explicitly interested in educational reform. So we should have a resource available of people who are interested in educational research". The founders were clearly influenced by the Office of Medical Education at Michigan State University and the Center for Educational Development at the University of Illinois, which were in their heyday. The first chair was Vic Neufeld, who had just completed a M.Sc. at the Michigan State University.

2 What are the functions of the department?

It is primarily research and development. We have few accountabilities, as a program, for any ongoing educational activities such as test development or curriculum development. We may engage in these activities as change agents and the understanding is that once the mechanisms are in place, they will be taken over by the educational program.

Is the department involved in teaching, research and service provision to your institution? Heavily in research. Probably more than 90% of the funding is directed at research. We have about 10 active research grants (with three full-time faculty) every year. We also are explicitly involved in faculty development in research, and provide a significant amount of support (both expertise and financial assistance) to help faculty do research. In this role, it is an explicit goal to develop individuals who are active in educational research, as well as leaders who understand and appreciate educational research.

We also see our role as to help faculty access the literature in educational decision-making, and maintain archives of seminal articles. We hold academic rounds and seminars. We are also used individually as a resource by programs.

The teaching we do is in the area of research methods, and we teach courses in the graduate program in methodology as well as undergraduate psychology and health sciences. We do not teach or tutor in the professional programs, except as relates to research methods

Where does the balance lie between these activities? Probably 50% research, 25% service (at the level of individual consultation with faculty around research projects) and 25% teaching.

3 What is the scope of the department's activities?

We are a Faculty of Health Sciences. Hence we are a resource to all programs. However, most effort is in the undergraduate medical program. There are some individual efforts in residency programs (radiology, anaesthesiology, psychiatry), some in rehabilitation sciences and very little in nursing and postgraduate medical sciences.

Do you have links with other institutions nationally/internationally? No formal inter-institutional links, but there are many informal, and individual links with organisations such as Association of American Medical Colleges (AAMC), American Educational Research Association (AERA), Association for Medical Education in Europe (AMEE), Canadian Association for Medical Education (CAME), Medical Council of Canada, National Board of Medical Examiners and other centres such as Toronto and Michigan.

Do you mainly work in undergraduate/basic education? Are you also involved with postgraduate and continuing education? Mostly undergraduate.

Are there areas within medical education in which you have a specific interest? Definitely: Cognitive psychology of learning; Development of expertise in clinical reasoning; Student assessment; Role of experience in expertise; Medical admissions.

4 Organisational structure

It is structured as an educational program, not a department. Hence it reports to the associate dean (academic), like all other educational programs. Individual faculty who are primarily in the PERD have faculty appointments in other departments (primarily clinical epidemiology and biostatistics). As well, there are a number of part time members with primary in clinical departments.

5 Staffing

PERD consists of three full-time faculty, 3-4 research associates, a half-time administrator, a half-time secretary, two graduate students (in psychology/ epidemiology), and a large and uncounted number of part-time members. These are not affiliated staff, but rather interested faculty, many of whom get M.Sc. degrees in education.

CASE STUDY 2: The Medical Education Unit, University of Leeds Medical School

1 When and why was the department set up?

The Medical Education Unit in Leeds originally began with the appointment of individuals with specific educational roles in curriculum facilitation, clinical skills, special study modules and community based teaching. These appointments were in response to the General Medical Council's (1993) recommendations in 'Tomorrows Doctors'. Initially this group named as the Medical Education Unit reported to the head of undergraduate medical course. In 1997 the post of director of the Medical Education Unit (MEU) was externally advertised and appointed.

2 What are the functions of the department?

The function of the MEU currently can be divided under the following headings:

- ***Healthcare educational think tank and expert resource***: The MEU provides expert resource particularly in the areas of curriculum development and assessment.
- ***Curriculum Delivery/Course Management***: At present the MEU is responsible for the organisation and delivery of the communications and basic clinical skills elements of the undergraduate course through the clinical skills unit, the senior lecturer and the senior teaching fellow in communication skills.

  Until recently the organisation of the student selected components (SSC) of the course was also delivered via the MEU. The policy of the MEU is to develop and support new elements of the course and when these have been established then to hand on the continued running of that area to the Learning and Teaching division of the School of Medicine. Consequently when SSCs were established and embedded throughout the whole five years and the major development work over then this responsibility was passed on. The academic input to the SSC strand still resides in the MEU with one senior member having responsibility for it. This plan of developing new areas and then passing on the running of them is central to the ethos of continued innovative development of the MEU and it is planned in time for the same policy to apply to communication skills and clinical skills.

  Most academic and academic-related members of the MEU are involved in teaching on the MBChB course, usually as small group facilitators or personal tutors.
- ***Research into medical education***: One of the major parts of the MEU's role is to undertake high quality healthcare related education research. The MEU has two research fellows, who undertake work under the guidance of the director of the MEU. Senior members of the MEU supervise a number of students registered for higher degrees (MSc and PhD). We have set up the Centre for Research in Professional Education, which runs a series of seminars addressing issues in professional education and staff development.
- ***Staff development***: The MEU provides educational training courses, primarily for NHS practitioners, designed to enhance the quality of teaching, learning and assessment across the School of Medicine.
- ***Managing medical student clinical placements***: Management of the contracts for the main clinical placements also come under the aegis of the MEU. The Clinical Placements Contracts Manager and the Quality Evaluation Officer monitor the clinical placements for the 2nd -5th years and provide a major contribution to the Quality Management and Evaluation (QM&E) process for work based learning.

  The MEU in Leeds continues to develop with the emphasis being much more on healthcare educational research and the expert resource rather than mainly curriculum delivery and organisation.

Where does the balance lie between these activities? Currently the balance between these activities is, in the order of priority: Curriculum delivery/course management; Research; QM&E work; Advisory role; Staff development. The balance we are aiming for is: Research and Advisory role to have equal priority; Staff development; Curriculum development; QM&E work.

3 What is the scope of the department's activities?

Most of the work we currently do is with the undergraduate MBChB course. We have collaborative links with other areas of healthcare education, such as nursing and pharmacy. We have also developed research links with sociology, gender studies and the School of Education at the University of Leeds.

Do you have links with other institutions nationally/internationally? The links we have with other institutions come through external examining and collaborative research projects. We have links in the UK with Barts and the London, Cambridge, Manchester, Newcastle and Leicester medical schools. Through these collaborations we have been successful in obtaining grants for research and development work. We are also part of a small network of medical schools that regularly organise mini lecture tours for international experts.

Are there areas within medical education in which you have a specific interest? The major areas of interest particularly research interest are: assessment, the development of transferable skills, inter-professional education, the development of competence and expertise and disability and admission to medical school.

Do you mainly work in undergraduate/basic education? Are you also involved with postgraduate and continuing education? We work mainly in undergraduate medical education but the plan is for us to expand our remit; we are expecting to provide educational resources for the School of Medicine taught postgraduate courses and to forge collaborations with the Postgraduate Deanery.

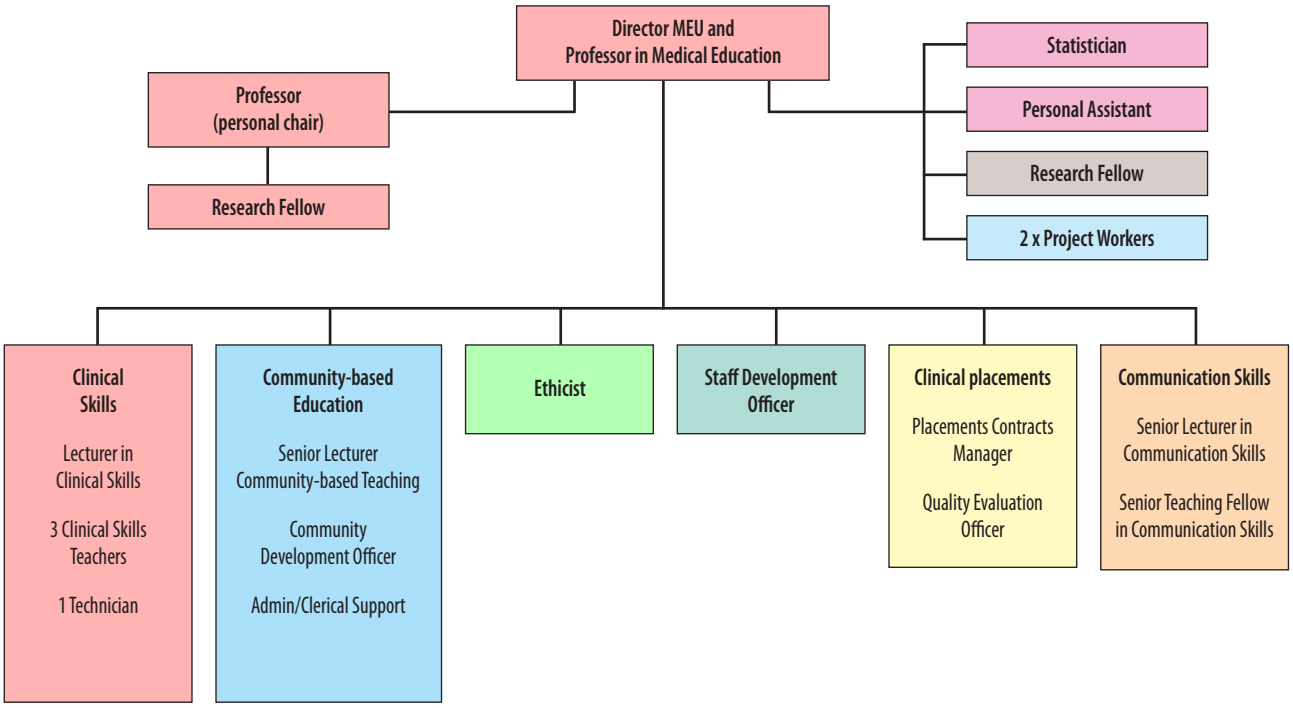
4 Organisational structure

The School of Medicine is in the middle of a major restructuring process. The MEU currently is part of the Academic Unit of Learning and Teaching. Under the new arrangements it is envisaged that the MEU will become the major contributor to the Healthcare Education Research, Development and Strategy Unit in the new Faculty of Medicine and Health. Currently the director of the MEU reports to the director of learning and teaching in the medical school.

5 Staffing

There are currently 23 members of staff in the MEU. A number of individuals have a part time commitment to the MEU. The project workers are affiliated to the MEU. The organisational structure of the MEU is shown in the Figure 1.

Figure 1: The organisational structure – Medical Education Unit, Leeds



CASE STUDY 3: The University of Toronto, Faculty of Medicine, Donald R Wilson, Centre for Reseach in Education at the University Health Network

1 When and why was the department set up?

The Centre for Research in Education (now known as The Wilson Centre after celebrated surgical educator, Dr. Donald R. Wilson) was established formally in 1997 by Dr. Richard Reznick. It is an evolution of two previous centres, the Centre for Studies in Medical Education and, prior to that, the Division for Studies in Medical Education.

2 What are the functions of the department?

The vision of the Wilson Centre is "Advancing healthcare education and practice through research". Thus the Wilson Centre is conceptualized, not as a department, but as a research unit. The Wilson Centre focuses on research endeavours related to education, and on the development of faculty, fellows, residents and students in this academic domain. Although the Wilson Centre is primarily dedicated to research and capacity building in this area, related educational services are provided to the university, the hospitals and various national organizations by members of the Wilson Centre, who are consultants to many local, national and international education committees and task forces.

Faculty development in teaching scholarship is undertaken by a partner unit called the Centre for Faculty Development which is located at St. Michael's Hospital, another fully affiliated teaching hospital of the University of Toronto. The Wilson Centre and the Centre for Faculty Development work together very closely and the respective directors are members of each other's executive committees. Further, there is a formal mechanism to ensure integrated programming so that new discoveries in healthcare education research can be integrated directly into faculty development programs. Participants in these programs can then, in turn, identify needs and opportunities for education research. This reciprocal cycle of information between the two centres ensures the translation and application of new knowledge and the relevance of new research.

3 What is the scope of department's activities?

Our mission statement reads: the Wilson Centre will:

- Foster the discovery and application of new knowledge relevant to advancing healthcare education and practice
- Promote creative synergies between diverse theoretical perspectives, and between theory and practice
- Be a world leader in education research.

While primarily sponsored by the Faculty of Medicine, the Wilson Centre is multi-professional in its mandate and multidisciplinary in its outlook. Its researchers and trainees are very broadly representative, not only of the clinical departments in the Faculty of Medicine, but also of other clinical faculties and departments such as nursing, dentistry, pharmacy, social work, physical therapy and nutrition services. Among the eight full time PhD researchers, there is great disciplinary diversity. Their backgrounds in doctoral studies include linguistics, psychology, sociology, kinesiology, and measurement.

Do you have links with other institutions nationally/internationally? The Wilson Centre has formal links with the Ontario Institute for Studies in Education and the Institute for Medical Sciences, both at the University of Toronto. Through these institutions every trainee spending two years as a fellow in the Wilson Centre completes a graduate degree. Most complete a Masters degree, although many are now pursuing doctoral level training. Over 175 members of our faculty have undertaken a Masters degree in Education. In addition to the formal links described, the unit is developing links with several other departments such as kinesiology, psychology, sociology, English and engineering, and graduate students are increasingly completing their degrees in these affiliated departments. The Wilson Centre has strong ties with the Association of Canadian Medical Colleges (ACMC), the Association of American Medical Colleges (AAMC), the Société Internationale Francophone d'Education Médicale (SIFEM), The Royal College of Physicians and Surgeons of Canada (RCPSC), the Medical Council of Canada (MCC), and many specialty organizations such as the Association of Surgical Educators (ASE) and the Association for Academic Psychiatry (AAP).

Do you mainly work in undergraduate basic education? Are you also involved with postgraduate and continuing education? The research focus of members of the centre and the fellows includes a continuum from undergraduate, postgraduate and continuing education. We are currently creating an academic plan which will identify priority areas; however, we have significant strengths in the areas of technical skills, simulation and assessment, communication skills simulation and assessment, interprofessional skills including team work communications, factors affecting diagnostic decision making, the psychometrics of performance-based assessment and the sociology of health professional education research. Wilson Centre scientists and clinician researchers publish over 100 peer reviewed articles annually and give 300-400 scientific presentations and lectures internationally.

4 Organisational structure

The Wilson Centre is located within the Toronto General Hospital of the University Health Network, one of the university affiliated teaching hospitals in the City. There are links to all departments and the health professional faculties. The director of the Wilson Centre, Dr. Brian Hodges, reports jointly to the vice-president of education of the hospital and to the associate dean of education of the Faculty of Medicine. Dr. Glenn Regehr is the associate director.

Base funding is supported by three sources: approximately 1/3 by the Faculty of Medicine Dean's office budget, 1/3 by the University Health Network budget and 1/3 various clinical departments and units who jointly fund researcher salaries. A growing source of additional income has been the securing of competitive salary support grants for researchers and, more recently endowed funds in the form of research chairs. The centre currently has two recently endowed research chairs (2 million dollars each) and last year attracted over 5 million dollars of additional research funding.

5 Staffing

The Wilson Centre has five administrative staff positions in the areas of general administration, information technology, and audiovisual, and research support. There are eight full-time PhD trained Wilson Centre scientists, several part-time researchers and over a dozen very active clinician researchers. There is also a much larger group of over 100 affiliate members within the various health science faculties. The Wilson Centre attracts fellows who come to spend two years undertaking graduate work in research and there are currently 15 fellows. As well, the Wilson Centre hosts visiting professors from different countries of the world including Australia, France, UK, Korea and Switzerland. The Wilson Centre also housed the very large University of Toronto Standardized Patient Program which provides support for teaching, assessment and research for the University of Toronto and many national education organizations.

CASE STUDY 4: The Medical Education Unit, National University of Singapore

1 When and why was the department set up?

The Medical Education Unit (MEU) of the National University of Singapore (NUS) was established in January 2002 with the broad mission of 'promoting professionalism and excellence in medical education.' Our faculty recognised the need to review and monitor the progress of the many reforms in our undergraduate medical curriculum implemented about five years ago and considered it necessary to form a support group of individuals with the appropriate expertise, experience and commitment to undertake this task and to take responsibility for the professional and personal development of our medical teachers.

2 What are the functions of the department?

MEU has three main functions: a) faculty development, b) curriculum development, and c) research in medical education. Currently our main focus is on faculty development as this is the area of greatest need. The faculty is now undertaking another major curriculum reform aimed at broad-based curricular integration, centralized student assessment and realignment of content. MEU will be playing an active role in the planning and design of the new curriculum.

Is the department involved in teaching, research and service provision to your institution? MEU also conducts medical education research. Recently, we undertook a major project called 'Profiles of Asian Medical Schools' and completed the first part by compiling profiles of medical schools in Southeast Asia. The DREEM (Dundee Ready Educational Environmental Measure) survey was also recently completed to measure the educational environment at the medical school. Several MEU members have also been invited to speak at local and regional educational/medical education conferences and presented abstracts at various conferences. Recently, MEU organised and hosted the 1st Asia Pacific Medical Education Conference (APMEC) which was a great success.

Members of MEU are actively involved in scholarly publications. Drs Zubair Amin and Khoo Hoon Eng recently published a book, 'Basics in Medical Education', as a core text for teaching faculty in medicine (Amin and Khoo, 2003). The book has been 'highly recommended' and would serve as 'excellent text for faculty development' (Solomon, 2003). Dr Matthew Gwee contributed a chapter on 'Problem Based Learning in Medical Education: Curriculum Reform and Alignment of Expected Outcomes' in the recently published (2004) book, 'Enhancing Thinking Through Problem-Based Learning Approaches: International Perspectives' (2004).

The majority of participants in our faculty development programmes are clinicians, many of whom hold senior positions. Recently, we initiated an intensive three-day faculty development program 'Seminars in Medical Education' starting with the core module which received excellent feedback from participants. MEU also conducts educational development workshops for other local institutions (e.g. schools, polytechnics) and organisations (e.g. some military units).

Do you have links with other institutions nationally internationally? We also collaborate with other institutions at the regional and international levels, with extended networking with institutions around the world, including: a visiting professorship in medical education and providing ongoing consultancy to faculty development programs at the University of Airlangga, Indonesia. Plans are being finalised to launch the Harvard-NUS Physician Educator Program as part of our intensive faculty development program.

3 What is the scope of the department's activities?

Our work commitments are presently focused mainly on undergraduate medical education. However, our major interests are presently in curriculum, faculty development and student assessment.

Our near and intermediate term goals are to form a critical mass of trained medical educators in our faculty who can further spread the educational gospel and serve as important change agents in their respective disciplines. We have several workshops and seminars planned for this year to cater for our faculty's needs, culminating with our hosting of the 2nd Asia Pacific Medical Education Conference in early December 2004. Our long-term aim is to develop the capability to establish and implement academic programmes leading to the award of a Diploma and a Masters degree in health personnel education and to intensify our research capability in medical education.

4 Organisational structure

The MEU is a Unit within the Faculty of Medicine. The head of the unit reports to the vice-dean of education. Our MEU is presently headed by an interim director with three other members appointed by the dean. There are no divisions within the MEU. There is a position of deputy director who can be appointed up to professorial level.

5 Staffing

The academic staff in MEU are all part-time appointees with primary commitments in the departments of biochemistry (1), paediatrics (1) and pharmacology (2). There are two full time staff providing administrative support. Presently we do not have any arrangement for affiliated staff.

CASE STUDY 5: The Dundee Centre for Medical Education

1 When and why was the department set up?

The Dundee Centre for Medical Education began in 1973 when Ronald Harden, its founder, was attracted to Dundee to provide educational support for the undergraduate medical curriculum and to set up a national resource in medical education.

2 What are the functions of the department?

The Dundee Centre is involved in research and development, teaching and service provision. Its research and development activities have resulted in innovations in the area of assessment (the OSCE and portfolio assessment as medical students' final examination); curriculum development (the SPICES model of educational strategies, identification of 12 exit learning outcomes for health professions' education, 10 questions that can be used as a tool for curriculum planning and evaluation, task-based learning, a PBL approach linking theory and practice for use in the clinical context, and the DREEM, a tool for measuring the educational environment); and teaching and learning (the FAIR criteria for effective learning.)

Its teaching activities include its award-bearing programme of courses, and its face-to-face short courses. The award-bearing programme of courses currently has over 900 participants studying for qualifications at postgraduate certificate, diploma and Masters level, mainly by distance learning. The programme has over 700 graduates with approximately 200 at Masters level. The centre also has a small number of doctors on its PhD programme each year. Since their inception in the 1970s, the annual face-to-face short courses have been attended by over 2000 health care professionals. Our service provision activities are widespread involving the University of Dundee and other institutions in the UK and overseas.

Is the department involved in teaching, research and service provision to your institution? Yes. We run courses for the undergraduate curriculum in the SSC (student selected component) programme. Many of our research projects have been in the context of the Dundee undergraduate medical programme. We also provide staff development for teaching for the undergraduate medical and dental schools and educational support for the undergraduate medical education committee for all aspects of its activities.

Where does the balance lie between these activities? The split is approximately equal but varies at any given time; e.g., during curriculum revision and implementation of a new curriculum at Dundee medical school, staff involvement is high.

3 What is the scope of the department's activities?

Our major involvement is with the medical profession. We have other health professions on our teaching programme (nurses, pharmacists, dentists, allied health professionals and increasingly veterinary medicine practitioners), and have produced distance learning packages for various health professions.

Do you have links with other institutions nationally/internationally? Some of our research projects are collaborative with other UK medical schools and postgraduate institutions. We provide staff development for teaching for a number of UK and overseas medical schools. We have collaborative agreement with a number of UK Royal Colleges to provide staff development in teaching and learning for these members and fellows. We also provide educational support in the area of assessment for other Royal Colleges. We have contributed to the development of ASME (Association for the Study of Medical Education) and AMEE, the Association for Medical Education in Europe. The centre also advises a range of medical schools on aspects of educational development, ranging from developing aspects of the course and to the design of the whole curriculum. Members of centre staff have worked with the GMC, the Police Force for England and Wales, National Testing Agencies and the Postgraduate Medical Education and Training Board.

Do you mainly work in undergraduate/basic education? Are you also involved with postgraduate and continuing education? Much of our curriculum development work has been in undergraduate medical education. Our assessment work has been both undergraduate and postgraduate. We are major providers of postgraduate courses in medical education with participants in 67 countries throughout the world. Our distance learning, updating packages for which we are widely known in the UK are in the area of continuing education/continuing professional development.

Are there areas within medical education in which you have a specific interest? Yes. In staff development, curriculum design and development, student assessment and educational environment.

4 Organisational structure

The Centre for Medical Education is a department of the medical school and is situated within the division of medical education, one of the seven divisions of the school. The head of department reports to the head of the division of medical education who reports to the dean of the medical school.

The administrative structure of the department follows our activities in that there is an administrator for the teaching programme and a departmental administrator who supports the centre's research activities. Secretarial support for our work with Dundee's undergraduate curriculum is provided via the centralised curriculum office and medical school office. The academic staff contribute across the centre's activities to teaching, research and service provision. There is no deputy director.

5 Staffing

One director (medical), one senior lecturer (non-medical), one lecturer (medical), a part-time project development officer (non-medical) and a research officer. We also have a senior clinical academic from another department attached to us one day per week. There are two administrators, two secretaries, a desk top publisher, a technician and a part time library secretary.

Do you have affiliated staff or other arrangements by which individuals carry out work for the department? Yes. A small number of medical school staff, who have studied with us or worked for the centre in the past, are now in senior positions in the medical school. They undertake research and development work with us and teach on our face-to-face teaching programme. Senior doctors, with whom we have worked frequently, carry out overseas work on behalf of the centre.

A small but important number of overseas academics undertake sabbatical studies in Dundee. Some of these individuals have made significant contributions to our publications, face-to-face teaching programme and medical school support activities. We collaborate with a number of overseas medical schools and medical education departments.

CASE STUDY 6: Department of Medical Education, University of Illinios Chicago

1 When and why was the department set up?

Since its inception in 1959, the Department of Medical Education (DME), previously known as the Center for Educational Development (CED), has played a major role in educating scholars from all over the world. Initially, DME was established to reform the curriculum at the College of Medicine, University of Illinois at Chicago (UIC). One of the goals was to develop a comprehensive student assessment system college-wide. This was done through the leadership and vision of George Miller and Christine McGuire.

2 What are the functions of the department?

In addition to its role in the direct training of educational leaders, DME has also, from the beginning, been a leader in consultation services to other international medical education units. The early focus in international training was on instructional methods and assessment. Later, during the 1970s, international training interests expanded into curriculum planning, program evaluation, and development of a broad spectrum of innovations in health professions' education. Faculty development became an important new focus during this time as well. By the department's 25th anniversary, strong partnerships had been forged with the colleges of medicine, dentistry, pharmacy, nursing, allied health, and public health, thus allowing interdepartmental research and training across the health professions. Also in the 1970s and 80s, educational research developed as a strong discipline, which served to both promote further development of health professions' education and validate education as a science among clinicians.

3 What is the scope of departments' activities?

The mission of DME is to provide leadership in teaching, scholarship, and development and evaluation of educational programs in support of the mission of UIC College of Medicine and in association with health professions-related academic units at UIC (DME, 2003). DME's goals are:

- To advance understanding of education in the health professions through the generation and dissemination of new knowledge locally, nationally, and internationally.
- To develop, implement, and evaluate academically rigorous educational methods and programs that span the continuum of medical education, including programs for medical students, residents, practising physicians, and academic faculty.
- To prepare health professionals for leadership roles in education.
- To extend expertise in health professions' education research, training, and program development and evaluation worldwide.

Do you mainly work in undergraduate/basic education? Are you also involved with postgraduate and continuing education? At the graduate level, the department offers the Master of Health Professions Education (MHPE) degree in both a traditional face-to-face format as well as through the Internet. More than 25 different courses are offered each academic year, and the number of students in 2004 was 90, from 18 countries. Enrolment of students is evenly divided between face-to-face and online. The MHPE website, at www.mhpe-online.org, is a valuable source of information about the MHPE program for candidates, students and others interested in the program. In the International Programs area, the department offers short-term fellowship (1-6 months). Participants choose an area of concentration from a large menu of courses and work under the supervision of faculty in their area of interest. DME has signed a memorandum of agreement with over a dozen institutions, and continues to offer diverse consultation services, ranging from advisory activities for not yet formed medical education units, training workshops for faculties undergoing curricular change, faculty development for unit revitalization and institutional/organizational diagnosis and treatment planning. These consultation activities enrich both consultant and client, and it is hoped that this work has impact beyond the mutual borders of each client/consultant team. In the international programs area, DME has offered the MHPE program onsite in China, Egypt and in Brazil.

DME presents numerous CME-certified programs for medical practitioners, which include DME Seminar series and other programs. DME sponsors and presents an online core curriculum of 13 short courses for medical and dental residents designed to prepare them for the Accreditation Council for Graduate Medical Education (ACGME) General Competencies. DME also sponsors workshop series on various aspects of teaching and learning, as well as the Faculty Development Fellowship, a one-year program for 8–10 UIC faculty who participate in workshops as well as an independent project. Faculty represent several colleges from the UIC Health Campus including pharmacy, dentistry, applied health sciences, and the college of medicine (York, 2004).

At the undergraduate level, DME presents Essentials of Clinical Medicine, a two-year course sequence for all pre-clinical medical students. The course prepares them for generalist clinical roles through introduction to patient communication skills, history and physical and the healthcare system. DME also presents numerous senior electives in clinical and research ethics, history of medicine, literature and medicine, medical practice in the 21st century, obesity in culture, and teaching skills. Additional information about DME and its activities could be found at http://www.uic-dme.org.

Do you have links with other institutions nationally/internationally? DME has been at the forefront of health professions education, research and development and has achieved a worldwide reputation of leadership through its scholarship, educational programs, and consultation with health professions and health professions' organizations and associations locally, nationally and internationally. The World Health Organization has designated DME as a collaborating center for education and health manpower development (DME, 2002).

4 Organisational structure

The head of the department is also the senior associate dean for undergraduate medical education who reports directly to the dean. Administratively, DME has directors for the following areas: Graduate studies, international programs, medical humanities, faculty development and research. These five directors report to the department head. In addition, the department oversees three other major areas: testing services, clinical performance centre and distance education.

5 Staffing

DME is the oldest and largest freestanding department devoted to medical education in the world, with 15 full-time tenured and tenure-track faculty members, four non-tenured faculty members, 32 adjunct faculty members and 15 staff members.

CASE STUDY 7: The Medical Education Development and Research Center (MEDARC), Faculty of Medicine, University of Colombo, Sri Lanka

1 When and why was the department set up?

The Medical Education and Research Center (MEDARC) of the Faculty of Medicine, University of Colombo was set up in 1998 after the faculty changed in 1995 to a new curriculum with a different educational philosophy.

The new curriculum. The existing curriculum was a traditional discipline-based one. The new curriculum was a hybrid curriculum based on the SPICES model. It was organised into five streams: the basic sciences, applied sciences, clinical sciences, community and behavioural sciences. Teaching in the basic sciences stream began from the first term and retained a didactic teaching style that students had been accustomed to at school. Behavioural and community stream curriculum which began in the second term included small group teaching, seminars, group work, debates and presentations, posters and problem based learning. Students were thus gradually initiated into the skills of self learning.

Infrastructure. MEDARC was one of several infrastructural units that were set up to support the new curriculum: others being stream offices, a computerized examination unit, a clinical skills laboratory, a computer assistant learning laboratory with internet access and an audio–visual unit.

2 What are the functions of the department?

MEDARC is perceived as the heart of the faculty and the guardian of standards and quality. It is expected to be a watchdog of the process and the product of the curriculum and a think tank.

MEDARC functions in an advisory capacity to all committees that plan curriculum. It is expected to conduct periodic reviews to see if expected outcomes of the curriculum are being realised and to examine if assessments are appropriate.

Ad hoc changes to the teaching programme or assessments are avoided when various issues are raised by students or staff. Instead such changes are made on the basis of an investigation by MEDARC. MEDARC academics are expected to keep abreast of global changes in educational theory and keep the faculty informed, and also to carry out teacher training in modern teaching/learning strategies.

MEDARC staff are expected to keep their ears to the ground and pulse student perceptions of the curriculum. They are also expected to provide guidance for students to adjust to the learning styles encouraged by the new curriculum.

Widening the critical mass of 'experts' in medical education is another function of MEDARC by involving as many academics as possible as MEDARC resource persons and, in the process, developing their expertise. Expertise in medical education should never be privy to a medical education unit.

MEDARC with others in the faculty English Language Teaching Group and the department of English is expected to organise an intensive course in English for new entrants.

MEDARC academics participate in the teaching programme. This helps them to detect specific needs and problem areas at first hand, and also to participate in timetabling and sequencing of applied sciences modules and basic sciences programmes. Participation encourages a realistic approach.

A certain sensitivity and flexibility is expected of MEDARC and an adjustment to an ever-changing role. The exact balance between teaching, research and service would depend on the role expected of MEDARC at any point in time.

3 What is the scope of the department's activities?

Most universities in Sri Lanka are in the process of modernising their study programmes. MEDARC has the capability to make a contribution to this effort. It can contribute much to postgraduate medical education in Sri Lanka.

Regional and international links will have to be forged and with these MEDARC can contribute to the South Asia region which still lacks the critical mass of experts in medical education.

The specific interests developed by MEDARC should be guided by country and regional needs more than by individual interests.

4 Organisational structure

MEDARC was set up as a unit under the Dean's Office. The director of MEDARC is answerable to the dean. This gave it a status and strength that it would not have had if it operated as a separate unit or department. As the unit develops and those in training return, it should be possible to appoint a full time director and with time if necessary a deputy director.

5 Staffing

Initially three lecturers were recruited to MEDARC. In addition many temporary demonstrators have served MEDARC over short periods of time. A promotional scheme for lecturers in medical education was developed and approval obtained from the University Grants Commission.

General Comments. The critical mass of persons trained in Medical Education is still not available in the South Asia region. MEDARC has much to contribute as a driver of change in Sri Lanka and the region.

CASE STUDY 8: The Department of Educational Development and Research, Universiteit Maastricht

1 When and why was the department set up?

The Department of Educational Development and Research was one of the first departments of the University of Maastricht. It was established in 1977, immediately following the founding of the university and of the Maastricht Medical School in 1976. Problem-based learning was used as the instructional method for the medical school and all other faculties of the university. The Department's mission is to support educational development and offer educational training programs to a number of faculties within the university and to conduct educational research. In order to facilitate this wide mission, department staff have appointments within the various faculties and many have their background in the disciplines related to those faculties. We will limit our case study to the activities for the medical school and the Faculty of Health Sciences.

2 What are the functions of the department?

Educational development is a major component of the departmental activities. Innovations that have resulted from these activities include teaching approaches, such as the PBL approach itself (tutorial approaches, PBL in the clinical context), learning in skills laboratories, new approaches to assessment (including progress testing, computer-based clinical reasoning assessment, assessment of professional behaviour and portfolio) and a quality assurance system (instruments to monitor and improve the quality of PBL and clinical teaching).

Another part of the department's mission is the development and delivery of educational training programmes. Two programmes are offered: a distance-based Masters degree in health professions' education (based in the Faculty of Health Sciences) (www.mhpe.unimaas.nl) and a full-time face-to-face programme in educational sciences (based in the Faculty of Psychology). Several national and international courses on educational innovation are also offered, such as the face-to-face Annual Summercourse in PBL (www.summercoursepbl.org). In addition, PhD theses are supervised by staff members of the department (www.educ.unimaas.nl/phdprograms.html). The department is currently expanding its course programme by a number of short specialised courses.

The developmental and training activities are accompanied by numerous research projects in different areas, such as the role and functioning of the tutor, the relative contribution to learning productivity by different elements of a PBL and/or clinical learning environment, the developmental process of (clinical) expertise from novice to expert, an educational design-based approach to assessment, and outcome research on PBL and skills teaching programmes. An overview of publications, relevant documents and audiovisual productions is presented on the department's website: www.educ.unimaas.nl.

Is the department involved in teaching, research and service provision to your institution? Yes. Department members fulfil regular teaching roles within the programme of the medical school and the Faculty of Health Sciences. An important activity is the introductory courses on PBL for university teachers. Members of the department have various managerial functions and sit on educational and examination committees. Educational development support is provided by the following task forces: Staff training; Programme evaluation; Student assessment; ICT and learning resources; Student advisors.

Where does the balance lie between these activities? About 50% of the activities are related to educational development and support and the rest is about evenly spread across research and teaching. Educational research often involves collaboration and participation from other departments. It is general departmental policy to stimulate strong involvement of staff from the professional domain in educational research projects. In addition to contributing to best evidence in medical education, the purpose of educational research is staff development and professionalisation (Van der Vleuten et al., 2004).

3 What is the scope of the department's activities?

Our major involvement is with the medical and health sciences professions. We also have a separate unit within the department that provides dedicated services to the Faculty of Economics and Business Administration. Another unit is the Centre for Active Learning, which covers the external (inter)national market for educational services and research. It is predominantly active in educational training programmes for secondary and higher education.

Do you have links with other institutions nationally/internationally? The research programme and the departmental researchers involved in it are part of a nationally accredited "research school" (Interuniversity Center for Educational Research). Some of our research projects are collaborative projects with national and international researchers. We provide staff development courses on teaching within the framework of a national programme on medical education. Several staff members have professional affiliations with medical schools around the world and other professional organizations, including the General Medical Council and colleges involved in specialty training.

Do you mainly work in undergraduate/basic education? Are you also involved with postgraduate and continuing education? The prime focus of the department's educational development activities is undergraduate medical and health sciences education. Some development and research projects are concerned with postgraduate specialty training in medicine and Continuous Professional Development (Continuing Medical Education). Our teaching activities in health professions' education are at postgraduate level. About a thousand participants from all parts of the world have attended our Summer course and about one hundred of them have gone on to do the Master's programme.

Are there areas within medical education in which you have a specific interest? The areas of special interest are: student assessment, staff development and curriculum development.

4 Organisational structure

The Department of Educational Development and Research is a department within the medical school, but it provides support and services to multiple faculties. Each faculty-related domain is the responsibility of one chairperson, who reports to the (education) dean of that faculty, in some faculties intermediated by an Institute (division) of education. The organisational structure of the medical school and the Faculty of Health Sciences can be characterised as a matrix organization, with programmes on one axis and departments on the other. Within the Department of Educational Development and Research, educational development, research and teaching are separate programmes with their own programme directors. The programme directors may actually have appointments in other departments. The matrix organisation thus ensures interdisciplinary collaboration.

5 Staffing

The department is chaired by a professor. The scientific staff consists of four associate professors, a varying number of lecturers and PhD students. In addition there is administrative and support staff. Staff have backgrounds in medicine, education and psychology. The department's annual report provides a full account of staff resources (www.educ.unimaas.nl).

Do you have affiliated staff or other arrangements by which individuals carry out work for the department?

Yes. Through the matrix structure senior and junior staff from other faculties and departments contribute to educational development, research and teaching. On a regular basis a small number of overseas academics undertake sabbatical leaves in Maastricht. We have affiliations with a number of overseas medical schools and medical education departments.