KING'S FUND MEDICAL EDUCATION PROJECT 1990-1995

A summary of five years' of work at the King's Fund Centre and suggestions for the future

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CONTENTS

EXECUTIVE SUMMARY

My work in undergraduate medical education at the King's Fund Centre from January 1990 to August 1995 is summarised. The work fell into two phases. Phase I centred on a national enquiry into the future of clinical teaching designed to raise awareness of the need for change and to build a consensus on the changes required. Phase II centred on measures to facilitate the implementation of the changes identified during Phase I. Four main issues were addressed: the sharing of ideas and good practice; improving the quality of medical education; new methods of clinical teaching and the future of health care and implications for medical education.

Two studies conducted during 1995 to evaluate the changes which have occurred over the previous five years and to clarify the changes which are still required are described. It is clear from these studies and from my personal observations, that the momentum for change in undergraduate medical education is firmly established and that the direction has been set by the General Medical Council. Every medical school in Britain is currently revising its curriculum, although the extent of the change varies from radical to `window dressing'.

The changes are, however, mostly being directed towards curriculum development and very little towards staff development or organisational change. The major known, intractable barriers to change in medical education result from the culture and organisation of medical schools. Unless these are seriously addressed, it is unlikely that all the considerable current effort which is going into changing the curriculum will result in significantly better doctors for the health care system of tomorrow.

Based on an analysis of the changes which are still needed, and the expertise, position and concerns of the King's Fund, suggestions are made for future Fund activities in medical education. The Fund could:

1. Convene a mixed group of key stakeholders to define the essential competencies and attributes of a good doctor and develop evaluation instruments appropriate to the different stages of medical education.
2. Facilitate the establishment of a national centre for medical/health professions education research, development and evaluation and the development of a national research and development agenda for education research.
3. Raise awareness among potential grant making bodies about the role they could play in influencing medical education.
4. Develop academic leadership programmes.
5. Explore the feasibility of and interest in working with specialist groups to develop training curricula for the future.
6. Monitor the deliberations of the Standing Committee on Postgraduate Medical Education Working Party on Continuing Professional Development to identify areas for future development projects.

1. DESCRIPTION OF THE PROJECT

1.1 The initial project proposal

The King's Fund Centre's work on undergraduate medical education began with my appointment in January 1990 to a loosely defined, 2-year project funded by City and Hackney Health Authority and the King's Fund Centre, based at St Bartholomew's Hospital Medical College and the Centre. The broad remit was to develop new methods of clinical teaching which were more in line with the way health services were currently delivered (ie. moving away from bedside teaching to teaching in outpatient clinics and general practice). Preliminary fact finding suggested that before developing new methods of clinical teaching, it was important to re-define what should be taught in a curriculum for the 1990s. Because of the impending NHS reforms and other pressures for change (especially in London), there was a good opportunity for expanding the project beyond the scope originally envisaged.

1.2 Phase I: Momentum and consensus- the national enquiry

As a result, in March 1990, it was decided to mount a national enquiry into the future of undergraduate clinical teaching. The enquiry used a Delphi method and involved key participants from all the medical schools in Britain. The consultation process culminated in a national conference in April 1991 and a report, *Critical Thinking*, published in July 1991. As a result of this work, a framework for change in medical education, developed through consensus, was produced. Publication of the results of the enquiry coincided with a consultation document on undergraduate medical education from the General Medical Council, which reinforced and legitimised the momentum for change.

At that point the King's Fund had to decide whether and how to take the work forward. Wide consultation with various stakeholders, particularly through two working party meetings in May and November 1991, showed a role for the Centre in facilitating change and helping with the implementation of curriculum reform, even though we were clear that we should not and could not take a lead (see Appendix 1: Working party summary reports). For a more detailed description and critical analysis of this phase of the work see Appendix 2: `Changing medical education in the United Kingdom: the role of a non-governmental organisation' (published in the *Annals of Community-Oriented Education).*

1.3 Phase II: Facilitating the implementation of change

One of the major needs identified through the consultation process was a forum for the exchange of information and ideas. The perceived independence and credibility of the King's Fund, as well as its role in stimulating a national debate through the enquiry, fitted it ideally for this purpose. It was agreed that such a forum would best be achieved by the creation of a network for those individuals committed to change and innovation for the purpose of sharing ideas and good practice, and for support and encouragement. Therefore the `Change in Medical Education' network was established at the end of 1991 (see Appendix 3: publicity leaflet). By 1995, the network membership had reached almost 600, primarily in the UK but including medical education leaders in 26 countries throughout the world.

Conscious of the fact that many reports about the need to change medical education had been published, all saying the same kinds of things with very little change happening in practice, the project has focused on the known barriers to change. The barriers and potential solutions have been highlighted in presentations (eg. Appendix 4: Discussion paper for the Chief Medical Officer's Academic Forum), and newsletter articles and workshops (see Appendix 5: List of publications and conferences/workshops).

The second phase of the work (end 1991 to present) has focused on four main issues with the following types of activities.

1. Sharing ideas and good practice

a. Informal networking - Change in Medical Education network.
b. Formal networking - Development of proposals for a Database of Initiatives in Medical Education (see Appendix 6).

2. Improving the quality of education

a. Running staff development workshops (teaching skills) for medical schools, including

providing assistance with the setting up of a staff development programme at St Mary's (*King's Fund-funded project).

b. Recognition and rewards for teaching (in collaboration with the London Hospital Medical College). Two national workshops and development of a draft strategy report (see Appendix 7).

c. Self assessment in medical education project (jointly with the University of British Columbia). Development of a test instrument and pilot testing (see Appendix 8).

3. New methods of clinical teaching

Development projects:

a. Community-based teaching (*King's Fund-funded projects at King's College and University College).

b. Simulated patients project (with London Simulated Patients group).

c. Patients as Partners (*King's Fund-funded project at CELC).

d. Outpatient teaching (Study at St Bartholomew's and King's Fund funded-project at St Mary's).

e. Community trusts and teaching.

4. Future of health care and implications for medical education

a. Future doctors and their training/education (presentations and workshops - see Appendix 9).

* Reports of King's Fund projects funded under the `Innovation in medical education' grant are with Christine Davies in the Grants Department.

1.4 Summary: highlights of the project

1. *Critical thinking* report published in July 1991, resulting from a major national enquiry into `Undergraduate Clinical Teaching in the 1990s' followed by a national conference.
2. National strategy to facilitate change in undergraduate medical education through negotiation with the General Medical Council, UK Council of Deans, Department of Health and others.
3. `Change in medical education' network to provide a forum for debate and exchange of ideas and sharing of good practice, through a series of conferences and workshops and a quarterly newsletter (15 issues). Conference topics have included community-based teaching; staff development; innovative learning and assessment. Each was followed by a published report.
4. Studies on the process of change in medical education through the holding of problem-solving workshops and the development of case studies on curriculum change in medical schools in the UK and USA. Collaboration with fellows at the King's Fund College in developing training on change management in medical education.
5. Presentations on the future of health care and implications for the medical profession and its training and education.
6. Medical education projects funded by King's Fund grants (total £100,000) at four London medical schools. (Projects addressed the move of clinical teaching from hospitals into general practice; developing patients as teachers; developing a faculty-wide staff development programme). (Final reports with Christine Davies).
7. Staff development activities at several medical schools, including workshops on a range of topics (eg. effective teaching techniques, self-directed learning, small group work, assessment, curriculum management and evaluation) and facilitation of `awaydays' for curriculum development groups.
8. Models for the use of outpatient clinics aimed at improving their effectiveness and efficiency for teaching.
9. New models for community teaching, including community-based gynaecology and psychiatry.
10. A strategy for increasing the status of teaching and the quality of medical education.

2. EVALUATION STUDIES

2.1 Survey of key stakeholders

In order to assist me to review the changes which have occurred in medical education over the last five years and to identify future needs, at the beginning of 1995 I commissioned Dr Stella Lowry of the BMA to survey on our behalf the opinions of 90 key stakeholders in undergraduate and postgraduate medical education. They were asked to identify the major changes that had occurred over the last five years, the most significant factors driving the changes and specifically what role the King's Fund had played. They were also asked to identify the main changes which need to happen over the next five years and what the King's Fund might do to facilitate those changes.

The views expressed by the people surveyed are summarised below; see Appendix 10 for the full report.

Changes over the last five years

Respondents agreed that major change which has occurred in undergraduate medical education is the response of medical schools to the GMC's latest recommendations issued as a draft document in the summer of 1991 and published as *Tomorrow's doctors* at the end of 1993. Every medical school in Britain is now reviewing its curriculum in line with the recommendations. The key driver of change has been the GMC with significant facilitation provided by the Department of Health through UMCISS (Undergraduate Medical Curriculum Implementation Support Scheme) money, and by the King's Fund. The King's Fund has been important in: i) raising awareness; ii) getting people together; iii) disseminating information; and iv) staff development.

In postgraduate medical education, the main force for change has been the Calman report on specialist training. The King's Fund has had no impact on postgraduate or continuing medical education, a fact highlighted by respondents in the survey.

Future changes

Respondents identified the following as the main changes which are still needed.

* Evaluation of the changes which are occurring.
* Research on medical education.
* More emphasis on teaching quality, measures of excellence, and recognition and reward for teaching to increase its status.
* Increased emphasis on continuing medical education/continuing professional development (CME/CPD).
* Changes in assessment (examination) procedures.
* Changes in selection procedures.
* A contracting process for education.

The main barriers to change were identified as:

* Professional conservatism.
* Departmental/specialty mentality and allegiances.
* Poor support from NHS management.
* Inadequate funding.
* Low status of teaching (emphasis on research over teaching).
* Lack of integration between undergraduate and postgraduate education.

Roles for the King's Fund

A common response was `more of the same', eg. conferences and workshops, particularly on a regional basis (roadshows). Other suggested roles were:

* Helping individual schools.
* Providing financial support.
* Developing quality measures.
* Evaluating innovative pilot schemes.
* Assisting with staff development.
* Promoting teaching excellence (eg. publication of league tables).
* Continuing to put pressure on others.
* Getting more involved with postgraduate and CME.

Conclusion
In general people think that the changes in undergraduate medical education have sufficient momentum so long as the GMC continues to give a lead and the Department of Health support. In the postgraduate area, the Calman report will continue to drive change. The area needing a major push is CME - the Royal Colleges are talking about it but there is as yet no overview or consensus. The King's Fund could have a role in facilitating debate about CME as it did for undergraduate education.

2.2 Survey of **UMCISS curriculum** facilitators
In May 1995 I surveyed the curriculum facilitators funded through the Department of Health Undergraduate Medical Curriculum Implementation Support Scheme (UMCISS). Under the scheme, about £50,000 per year is available to each medical school to fund one or more people to help implement the GMC's recommendations as set out in *Tomorrow's doctors*. Most facilitators have been in post for about 18 months. The purpose of the survey was to find out what kinds of tasks the facilitators were doing; what they saw as their main achievements and which tasks they had been unable to do; the factors which helped and hindered them; and what support they received.

Results
Replies were received from 26 of the 26 medical schools in the scheme, and from 32 of the 34 facilitators. Most tasks fell into the category of curriculum development (32%) and facilitation (30%), but 17% were purely administrative. 10% of tasks involved educational consultancy (including staff development activities) and 3% involved organisational change.

Seventeen schools reported achievements in curriculum planning, 14 in curriculum implementation and 11 in the creation of an infrastructure for curriculum development. Only 5 schools reported achievements in organisational change, 5 in improving communication and 4 in staff development. Five facilitators reported that they had achieved all their tasks; 18 reported problems, primarily due to lack of time, the low priority of teaching and no specified resources for education.

The major faciltiating factors were: support of the dean (rank score of 82 out of a total of 140); commitment of key individuals (55), project money for education (48), student's concerns (29), changes in medical practice (24), external pressure, eg. from GMC (24) and other school's experiences (18). The main barriers to change were: low status/priority of teaching (70); faculty inertia/complacency (39), no resources or defined budget for education (35), senior staff fear of loss of control (28), departmental allegiances (27); belief that there is no evidence that proposed changes will lead to improvements (26); effects of NHS pressures (22); lack of staff development (21) and lack of leadership (21).

The main sources of internal support (within the medical schools) were the dean (cited by 9 facilitators), enthusiastic teachers (8), administrative/secretarial staff (6) and key senior staff (6). External support was obtained through the UMCISS network (13), from UMCISS funding (8), King's Fund activities (7), medical teachers outside the medical school, eg. in general practice (6) and professional contacts in higher education (6).

Conclusion
The money which the Department of Health is putting into medical education through UMCISS has been important in facilitating curriculum change. However, apart from my `rough and ready' study, there has been no evaluation of the scheme, which is due to run for at least another year, possibly to become permanent. There is clearly a need for a better evaluation of the current changes in medical education, especially as the new curricula are implemented. Whether or not the changes result in the kind of doctors which are needed to deliver health care in the 21st century should be a King's Fund concern.

Two other points emerge from the evaluation. Firstly the importance of external factors in facilitating change within a medical school. External factors may be experienced as `good' eg. project money, learning from other schools, or `problematic' eg. changes in medical practice, pressure from students. As an external force, the King's Fund has various options for continuing to put pressure on medical schools, either directly or indirectly. Secondly, the study showed the importance of good leadership, particularly from senior figures in the medical school.

3. THE FUTURE - PERSONAL COMMENTARY

It is my opinion that the momentum for change in undergraduate medical education is firmly established and that the direction has been set by the GMC. There will be little opportunity to influence further change until the current process has worked itself through. However, I have major concerns that all the activity which is currently taking place will not amount to significant, sustainable change (Bloom has rightly referred to the history of medical education as being one of continuous reform without change) because they do not address the fundamental problems of the institutional culture of the medical school and the environment in which students learn. In addition, some of the major and intractable barriers to change have not been seriously addressed. It is clear, for example from the survey of UMCISS facilitators, that most medical schools are putting their major efforts into curriculum development, very little into staff development, and almost none into organisational development. The curriculum which is planned is unlikely to equate to the curriculum which is taught or to the curriculum which is learned unless the teachers and the organisation are changed at the same time as the curriculum.

My concern, and it should be one that the King's Fund shares, is that all the current considerable effort which is going into changing the undergraduate curriculum will not result in significantly better doctors, able to work effectively in the health care system of tomorrow. The content of the curriculum is less important than the culture in which students learn and the role models they observe. Much of what students learn at medical school will soon become outdated, and the challenge of effective CME is to keep doctors up-to-date with new knowledge and skills. However, the attitudes students acquire towards other people (colleagues, other health professionals, patients), towards change and learning are very difficult to change once established. Therefore, it is important to change the environment in which students learn these attitudes. This is only likely to come about through efforts directed at changing the organisation and behaviour of the staff of medical schools.

The implementation of change in medical schools poses a considerable challenge, for a variety of reasons including:

* The organisational structure of the schools.
* The lack of recognition and reward for teaching.
* Lack of staff development programmes.
* Lack of leadership and strategies for the management of change.
* Lack of resources, especially for pump priming (and evaluation).
* The sheer pace and scale of concurrent change in the health services.

Stella Lowry and I have set out some of our concerns in an editorial which we have submitted to the *British Medical Journal* (Appendix 11). In summary, I believe that the following are perhaps the most important things which need to happen over the next five years to consolidate the changes which have been embarked upon. The first three are specific to undergraduate education; the remainder are important for the whole continuum of medical education.

1. The GMC needs to have an effective system for accrediting medical schools so that it can enforce its recommendations. It is clear that some schools have no intention of making real changes but are going through a `window dressing' exercise.
2. Changes in the organisational and financial structures of medical schools are needed in order to establish central control of the curriculum and systems of accountability and quality assurance of teaching.
3. The academic leadership capabilities of those with responsibility for medical education at all levels in the medical school need to be improved.
4. The status of teaching must be increased if people are to improve the quality of teaching and spend time and effort on educational activities. At present most teachers have no training in how to teach and are generally ignorant about educational research.
5. An initiative is needed to promote educational research, development and evaluation. Despite large sums of money being spent, there is little information on what constitutes effective medical education, and almost no sources of funding for R&D.
6. Those responsible for the planning and delivery of medical education need to take account of the views of all those with an interest in the future education and training of doctors (eg. employers, other health professionals, patients).

Significant change in medical education will only come about through continued external pressure. There is too much inertia in the system to expect much progress if decisions about medical education are left to the profession alone.

4. SUGGESTIONS FOR FUTURE KING'S FUND ACTIVITIES IN MEDICAL EDUCATION

Considering the changes which are still needed (as outlined in Sections 2 and 3 above, what might the King's Fund do next in relation to medical education? The following seem to me to be important ideas which the Fund is well placed to develop further.

General

1. The Fund could convene a mixed group of key stakeholders to define the essential competencies and attributes of a good doctor. Such a group should include people from outside the medical profession, such as users, payers and other health professionals. The checklist of essential competencies and attributes could be then used to develop audit instruments appropriate to the different stages of medical education (undergraduate, postgraduate, CME). Such instruments could be used to evaluate the changes which are occurring in medical education to determine if the new educational programmes are indeed producing the kind of doctor which the the world needs.

2. The Fund could facilitate the establishment of a national centre for medical/health professions education research and development and evaluation.

   Although there are some education-related initiatives under the NHS R&D initiative, these are small-scale and fragmented. There is a serious lack of educational expertise nationally and a danger that locally-based initiatives result in the ignorant talking to the ignorant. There is a need for a coherent strategy and some centralisation/coordination of expertise. The Fund might consider facilitating the development of a national research and development agenda for medical education as in USA (see Appendix 12).

   Funding for such a centre should come from the Department of Health who spend vast sums of public money on medical education with little evaluation. The Department of Education should also be concerned, although in the past they have always shown little interest in medical education. Money could also be generated from the charitable sector (see below).

3. The Fund could raise awarenesss among potential grant making bodies about the role they could play in influencing medical education. In the USA, charitable foundations have played a major role in influencing recent changes in medical education to meet the health care needs of the public (eg. initiatives to increase the supply of generalist physicians or promote population health perspectives in the curriculum. (see Appendix 13 which summarises the role of American Foundations that support medical education). Making money available for educational research and development would also increase the status of teaching by enabling those primarily interested in teaching to bring research monies into their institution.

Undergraduate

4. The Fund could develop academic leadership programmes. See the memo which was circulated to Peter Griffiths, Robert Maxwell and Angela Coulter in March 1995 (see Appendix 14).

Postgraduate

5. The Fund could explore the feasibility of and interest in working with specialist groups to develop specialist training curricula for the future. A model for this was developed in the course of work that Christine Farrell and I did with British Society of Gastroenterologists. (Christine is following this idea up).

Continuing medical education

6. The Fund could monitor the deliberations of the Standing Committee on Postgraduate Medical Education (SCOPME) Working Party on Continuing Professional Development (CPD) in order to identify areas for future development projects. Work on defining the essential competencies of a good doctor (1. above) would naturally feed into the development of appropriate CPD.

LIST OF APPENDICES

(Appendices 2, 5 and 11 are attached; the remainder are available from Christine Farrell)

1. Working Party on the Future of Medical Education. Summary reports, 29 May and 19 November 1991.

2. Towle, A (1992) Changing medical education in the United Kingdom: the role of a non-governmental organisation. *Annals of Community-Oriented Education* 5, 249-260.

3. Change in medical education network publicity leaflet.

4. Undergraduate medical education. A discussion paper for the Chief Medical Officer's Academic Forum, 8 December 1992.

5. List of publications and conferences/workshops.

6. Database of Initiatives in Medical Education: preliminary proposal for the UK Council of Deans.

7. Recognition and rewards for teaching; towards a national strategy.

8. Towle, A, Godolphin, W & Page, G (1995) Competency in medical education: an instrument for diagnosis and treatment. *Procedings of the sixth Ottawa Conference on Medical Education, Toronto, Ontario, 26-29 June 1994.*

9. Future of health care and medical education (Paper presented at a meeting on `The future of general practice' Preston, 1 March 1995).

10. Changes in medical education. Evaluation study by Stella Lowry (including questionnaire).

11. Towle, A & Lowry, S. Changing medical education - GMC and deans must act. Editorial submitted to the BMJ.

12. Proceedings of the BHPr-AAMC Conference `Research in medical education: policies for the future', September 19-21, 1993, Fairfax, Virginia. *Academic Medicine* 69: 601-627; 1994.

13. Information about US Foundations that support medical education.

14. A proposal to establish academic leadership programmes.

APPENDIX 11

CHANGING MEDICAL EDUCATION - GMC AND DEANS MUST ACT

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CHANGING MEDICAL EDUCATION - GMC AND DEANS MUST ACT

Five years ago, there was almost no innovation or even interest in medical education in Britain. Now, every medical school is reviewing and reforming its curriculum. The General Medical Council's latest recommendations on the undergraduate curriculum have encouraged the development of integrated courses with early clinical exposure, community-based education, problem-based and self-directed learning, and increasing emphasis on communication skills and practical competency[1]. The introduction of these new programmes has been facilitated by financial support from the Department of Health through the Undergraduate Medical Curriculum Implementation Support Scheme and by the King's Fund 'Change in Medical Education' network designed for the sharing of ideas and good practice.

There is, however, still much to be done before good intentions and plans on paper are translated into a fundamentally new educational experience that will prepare future doctors for the twenty-first century. Curriculum change is a long, slow and difficult process,[2] and it is already clear that the commitment to change is stronger in some schools than in others. The barriers to change are well known but difficult to overcome because they are deeply embedded in the culture and organisation of medical schools and the world in which they operate.[3]

We recently conducted a survey of 90 key people involved in curriculum change (response rate 80%). They identified the lead given by the GMC to be the most significant force driving current changes. Our survey highlighted the major issues which still need to be addressed if the current curriculum changes are to make a difference.

Most importantly, the GMC must ensure that its recommendations are fully implemented. There are good models from other countries, such as Australia and Canada, for active and effective accreditation mechanisms which can force major changes on recalcitrant medical schools. Such accreditation processes, based on internal review, consultation and immediate feedback, are effective agents for stimulating developments in medical education of benefit to both the school being assessed and the accreditation team.[4]

Appropriate quality assessment measures for medical education are needed in preparation for the Higher Education Funding Council teaching assessment exercise in 1996. Linked with quality assessment is the need for compulsory training for teachers, standards and assessment of teaching quality, and reward and promotion on the basis of teaching excellence. Many of the respondents to our survey called for these to be developed. That these are almost entirely absent in our medical schools is a reflection of the current low status of teaching in the medical profession.

The competing demands of clinical work, research, teaching and administrative duties in a system which does not value or reward teaching, inevitably means there is little incentive for staff to devote time, effort and creative energy to educational activities. The low status of teaching is compounded by a lack of experience among the enthusiasts for innovative ways of teaching.

Many respondents to our survey commented that research is given much higher priority than teaching. There seems to be a general acceptance that it is relatively easy to measure research excellence. However, most medical teachers do not accept that there are any clear measures of teaching quality. Ironically, the usual measures of research excellence - grants attracted,

number of publications, and, more rarely, citation data, are not really valid and reliable. Moreover, there is a substantial body of literature on the measurement of the quality of teaching in higher education which is directly applicable to medical education.[5]

Concepts such as accountability, cost effectiveness and evidence-based medicine are shaping health service provision. Medical education has hardly been affected by these pressures. Britain spends over £70 million each year on medical education, yet there has been little accountability for the money spent and almost no evaluation. Time, money and expertise for medical education research, development and evaluation are scarce and a coordinated approach is needed to make most effective use of limited resources. National priorities have been set for health service research and development and funding made available. In the same way, it should be possible to develop a consensus for a national agenda for research in medical education as has been initiated in North America[6].

In our survey, "professional conservatism" and entrenched departmental territorial attitudes were seen as among the greatest barriers to change. The educational experience of students will not improve significantly without changes in the organisational and administrative structures within individual medical schools. These must establish central control of the educational programme and weaken the hold of autonomous departments.

Linked to organisational change is the need to target financial resources to where the teaching is actually happening by reallocating money on the basis of the quantity and quality of teaching done. To effect such changes medical schools require strong, politically adept and visionary leadership, committed to and understanding of good quality education. Reform in undergraduate medical education has got off to a good start. Much of the responsibility for

ensuring lasting and substantial change now rests with the G[illegible] and deans.

Angela Towle & Stella Lowry

1. General Medical Council. *Tomorrow's doctors*. London: GMC, 1993.

2. Association of American Medical Colleges. *Educating medical students. Assessing change in medical education - The road to implementation.* ACME-TRI report. Washington, USA: AAMC, 1992.

3. Bloom SW. The medical school as a social organisation: the sources of resistance to change. *Medical Education* 1989; 23: 228-241.

4. Hamilton JD. Medical school accreditation: the Australian experience. *Annals of Community-Oriented Education* 1993; 6:231-242.

5. Elton E, Partington P. *Teaching standards and excellence in higher education. Developing a culture for quality*. Sheffield: UK Universities Staff Development Unit, Committee of Vice-Chancellors and Principals, 1993.

6. Bureau of Health Professions - Association of American Medical Colleges. Proceedings of the BHPr-AAMC conference, 'Research in medical education: policies for the future', Sept 19-21, 1993, Fairfax, Virginia. *Academic Medicine* 1994; 69: 601-627.