Global Demands ON Medical Education
The Case of Iran*

Henry Walton**

Abstract

World action in medical education, notably the global programs of the World Federation for Medical Education, the Edinburgh Declaration of 1988 and the 1993 World Summit, has led to major curricular change in medical schools. For educational reform to result in improved health services of nations, an essential requirement is integration between the medical education system and the health care delivery systems of countries.

Particular countries have been viewed as models of such integration: Cuba, Thailand and latterly Iran. The Iranian system of integration between the health care services and the health education sector, regarded as a model for other countries, is of the greatest interest internationally. The progress of the Iran initiative is watched with keen attention by medical educators and health care managers worldwide. This interest requires that Iranian medical education projects and experiments be reported in the world literature, and for facilitation of visits through the fostering of international cooperation. Iran is expected to contribute significantly by example to the global movement now taking place.

1. The Position of Iran in International Medical Education

In the 1960's Cuba captured global attention as a world leader in provision of coverage of health care to the entire population of that country. By a decade later, Thailand had become the country attracting international interest for its system of delivery of medical services extending from cities into the provinces, and reaching into villages and rural areas: this nationwide health care system was led by governmental administration and implementation of medical education principles[1].

Most recently, world interest has focused on Iran. Distinguished Iranian medical educators, including Fanaee, Ghassemabadi, Haeri, and Mahmoodi had participated in 1995 at the WFME Eastern Mediterranean Regional Conference at Al Ain[2]. To implement the recommendations of this Regional Conference, a Ministerial Consultation was held at Cairo[3], where the Minister of Health and Medical Education of Iran reported the unique integration of the health care and medical education systems (one Ministry responsible for both clinical services and also medical education), with health care coverage for the entire population. integration achieved between the health delivery system and medical education brought about in his country. Marandi's subsequent report on in the international medical literature[4] gave rise to the widest interest in "the Iran Experience"; the paper by Azizi[5] further extended general awareness of medical education reform in Iran.

It can be said that during the 1980's the main emphasis was on medical education as a system. In the 1990's attention paid the *medical education in isolation* was no longer considered adequate. The question became pressing: medical education for *what*? As the massive changes took place in the delivery of health care (due to the managerial revolution, the increase of patient autonomy, and the profit motive), the emphasis shifted to emphasis on medical education *for better health care delivery*. Under present circumstances, the Iranian system is being studied by other countries as a case demonstration of medical education fully integrated with the health services, and intended to provide health care coverage for the entire population.

2. The World Federation for Medical Education

WFME, when embarking global reform of medical education, learnt from an unsuccessful but nevertheless valuable attempt[6] in the U.S. which demonstrated that the essential requirement for reform was a public, agreed and specific *statement*, which had to be arrived at, and formally adopted, by those undertaking the change process. The *Edinburgh Declaration* was the mandate for reform of medical education, which was derived from intensive enquiry starting at national level, then endorsed regionally, and finally adopted internationally. The *Declaration* was agreed by medical educators at the 1988 World Conference[7], and this global consensus was then formally approved by the world health parliament (World Health Assembly Resolution 42.38, 19 May 1989). All national governments were called upon to reorient the curricula of their medical schools in keeping with the 12 principles of the *Declaration*. Five years later, following the WFME World Summit on Medical Education[8], the World Health Assembly adopted a second similar resolution, WHA Resolution 48.8, repeating the charge to member states to reform their medical education systems. The *Edinburgh Declaration*, translated into all major languages, has been very widely adopted as a mandate for reform of medical education. There is now a greater surge of reform worldwide than at any time since the start of the century[9].

3. The Impact of the Declaration

Entire regions of the world have in recent years aimed to change their medical education systems in keeping with the 12 principles of the Declaration. For example, the Pan-American Federation of Associations of Medical Schools credits the Declaration accordingly, as do the National Associations for Medical Education of many South American countries. The Declaration was reformulated[10] to meet South American regional priorities and administrative structures [at] the 1995 international conference at Bogota, Colombia.

Individual countries perhaps illustrate most explicitly the direct impact of the *Declaration.* An example is Portugal, where UNESCO and WFME with the Portuguese government and national medical education authorities carried out a joint national project for reorienting the curricula of the medical schools, using the *Declaration* as "a reform protocol of medical education in Portugal, at the request of the Ministers of Education and Health of that country"[11]. The recent monograph which specifies in detail the extensively revised medical curriculum to be implemented in all the Faculties of Medicine in that country cites as its first reference the *Edinburgh Declaration*[12].

This demonstration of the primary importance of the *Declaration* as the very basis of reform and reorientation of curricula medical worldwide can be replicated by manifold instances where explicit acknowledgement is expressed. Equally frequent are the extensive national or institutional reforms which manifestly implement the principles of the *Declaration* without overt acknowledgement, but with close accord. The validity of the *Edinburgh Declaration* remains uncontested as a global mandate for reform of medical education.

The late James Grant[13]**,** Executive Director of UNICEF**,** spoke of **"**the historic *Edinburgh Declaration*", commenting it had been a vision in 1988 but by the 1993 *Summit* the proposed reforms had become "practical, realistic and do-able".

Table 1. The Edinburgh Declaration (1988)

Actions within the medical school
1. Widen educational settings
2. National health needs as the context for curricula

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** Past-President, World Federation for Medical Education Professor Emeritus of Psychiatry and of International Medical Education, University of Edinburgh

3. Active learning methods (tutorial, self-directed and independent) for continuity of learning throughout life
4. Require professional competence (not mere knowledge recall)
5. Train medical teachers as educators
6. Prevention of illness and health promotion
7. Integration of science and clinical practice
8. Selection of applicants, for non-intellectual as well as intellectual attributes

Requires wider involvement

9. Coordination of medical education and health care systems
10. Balence in production of categories of medical staff and other health professions
11. Multiprofessional training and teamwork
12. Provision for continuing medical education

4. Real Life Settings vs. The Ivory Tower

The very first principle of the *Edinburgh Declaration* was the insistence that the university centre alone could no longer serve unaided as the educational base for future doctors (*Table 1*):

"Enlarge the settings in which educational programs are conducted, to include all health resources of the community, not hospitals alone."

For such enlargement of the learning base to occur, all health service resources of the country have to be mobilized. *Principle **2*** requires medical education to reflect national health priorities and the resources available in countries. Ministries of Education and Ministries of Health have to cooperate, and together create the committee structures integrating the medical education system with the health care system. Perhaps such academic and health care delivery partnership is the foremost among the necessary reforms, and spells the end of academic elitism and exclusivity in medical education. District hospital, community clinics, and family practices are settings for learning in addition to the teaching hospital, as are schools and the workplace. Skills are to be acquired in the places where medical morbidity is actually encountered.

5. Active Learning

Principle 3 requires elimination of passive methods of learning. The Flexner Report at the start of the century[14] already insisted that the only sort of medical student of any use is an *active* medical student. Exactly because contemporary medicine requires a scientifically sophisticated doctor, the science base of the medical curriculum must function to activate students - and not perpetuate the passive role induced by obsolete didactic methods. Flexner could never have envisaged the disastrous misreading of his Report, leading to separate basic science departments being administered as competing fiefdoms, each with their own didactic agendas, resulting in passivity-inducing curricula becoming commonplace.

6. Information Overload

Two other liabilities result, one of which - *information overload* - is targeted by *Principle **4***. The curriculum is disfigured by emphasis, both in teaching methods and in examinations, on retention and recall of facts as a curricular aim. Much content now cluttering curricula in any case can be moved into postgraduate programs or, indeed, CME.

7. Medical Teachers as Educators

One obdurate barrier to necessary reform, which *Principle **5*** addresses, is the inertia of medical teachers - a profound obstacle within the medical school itself. Educational commitment is accorded scant regard. Many teachers, it hardly needs mention, have not ever had personal instruction about how to teach. The *ACME-TRI Report*[15] published by the AAMC showed that a main reason for failure of reform is the apathy of teaching staff: the general conclusion was that it seemed next to impossible to get a critical mass of medical teachers interested, concerned and involved in the education of medical students. At issue is the regularity with which medical education can still get dismissed as merely the harmless hobby of isolated academics. The medical education literature remains little cited in medical faculties, and medical education research is invariably a closed book to all but very few medical teachers.

Such educational obscurantism on the part of the staff of medical faculties is now altogether untenable. The entire medical professional scenario has changed, and with this transformation medical education has come of age. Economically, medical education is big business: in England the postgraduate deans receive government funds to pay half the salaries of all junior doctors (the hospitals pay the other half); and in Scotland the postgraduate deans pay the total salaries. Medical education is legally of great consequence. In the EC medical education is governed by international law: for instance, the European Court ruled against the legality of the UK specialist regulations, and this adverse legal ruling led to massive restructuring of the entire postgraduate training system of Britain, which previously had been in stasis under the aegis of the Royal Colleges. Managerially, also, medical education has become a force to be reckoned with: Medicare in the US pays half the costs of graduate medical education.

8. The New Medicine

The preamble of the *Declaration* urged: "The aim of medical education is to produce doctors who will promote the health of all people - not merely deliver curative services to those who can afford it or for whom it is readily available." The first principle insisted on extended settings for learning. Skills are to acquired in the places where medical morbidity is actually encountered. *Principle **6*** states that the *new medicine* calls for equal emphasis on promotion of health and prevention of illness, as well as curative medicine. The requirement follows that every department and branch of medicine must rethink the educational content provided as its contribution to the medical curriculum.

9. Education in the Sciences

*Principle **5*** attends to the charge that basic science education is too little, too isolated, and too simplistic. Throughout the world the medical sciences are taught separately from the clinical subjects. *Principle **7*** specifies science teaching must be integrated with clinical practice. As anomalously, the sciences are taught in isolation from each other[16]. To package different sciences in separate departments obfuscates learning, by suggesting that the sciences present clinically in separate subject or disciplinary parcels. Division of the curriculum into halves, with the so called *basic* sciences taught first, has been disastrous. Empirical surveys repeatedly show students are bored with these *preclinical* disciplines, which they regularly perceive as hurdles to be overcome before they can proceed to clinical studies.

Science must imperatively be rehabilitated in the curriculum, vested interests and expediency countered by insistence on the biosciences as integral to proper medical studies. Of the three curriculum paradigms (traditional, systems-based, and problem-based), only the first is tenable when the curriculum is bifurcated. The third paradigm is supported by *Principle **7***.

10. Three Kinds of Curriculum

Most medical curricula are *traditional*: they have a preclinical phase, they are discipline focused, and the major objective is memorization of facts, with teachers in a dominant authority role and students passive. The innovative development since the 60's was the *organ systems approach*, with basic sciences and clinical subjects integrated, and with the curriculum administered by educational committees and not controlled by individual disciplines. The third, most recent form of curriculum is *problem-based learning*, in which separate disciplines are not learned in sequence; instead, the students (working in groups) are presented with a particular "problem" (e.g. sudden, severe left chest pain), and they pursue all possible knowledge and skills to explain that phenomenon. All medical schools wish to advance from the *traditional* paradigm: the difficulty is that by and large medical teachers are not trained as educators, and do not have the skills for adopting sophisticated teaching styles, which promote self-learning on the part of their students, in recognition that the knowledge base is constantly changing.

11. Two Types of Medical School

Medical schools are either *public*, when they are government funded and in most cases part of the national university system, almost always under the Ministry of Education. Otherwise, they are *private*, independently funded, and the students pay comprehensive tuition fees. This differentiation can constitute two rather distinct spheres of medical education, administered by separate organizations (e.g. Japan). Some of the very many private medical schools around the world, within countries or "offshore", are academically substandard, inadequately funded, sometimes set up for dubious motives. On the other hand, private schools of course can be flexible and innovative: e g in Germany the only problem-based curriculum is in a private school, Witten-Herdecke.

12. Governance

Reform of any particular subject in a medical curriculum is an overall faculty undertaking and not merely a departmental matter, and may be resisted by the medical school as a whole. The politics of medical education are only now coming to be understood. The hard lesson has not yet been learnt that a curriculum should never be changed until the

system of administration and the committee structure responsible for the curriculum has first been modified appropriately. A separate, independent curriculum committee is essential to counter the influence of departments over the organization of teaching, and thus to prevent control of the curriculum by staff who are certainly not concerned primarily with education.. Information overload, which is perniciously destructive, is inevitable and progressive unless demands of departments are neutralized by taking the curriculum out of departmental control.

Bloom[17] has documented: "Educational values become subordinate to the requisites of the organizational structure of the medical school". Curricula are controlled by basic scientists or by teachers whose primary interest lies in research, clinical investigation and scientific publication. Medical school teachers appointed to be in charge of academic departments and teaching hospitals of course are scientists and specialists. They all stake claims for curriculum time. Inevitably the empire-building that results has a distorting influence on the curriculum. Special pleading by such department heads for "coverage" of their discipline is a doctrine now thorough discredited.

Those responsible for administering medical schools do not give priority to education. Certainly in the UK the deans are frank that they have too much else to do, and delegate educational matters to curriculum committees. However, such committees often have no budgets of their own, have limited autonomy, and indeed may be dominated by departmental heads. A *governance system* must be set up which reports directly and only to the dean, and is not answerable to the various departments of the medical school.

13. Institutional Leadership Needed

The solution lies in educational leadership, certainly not provided by deans at all commonly. The necessary educational administrative and committee structure is essential. Medical student involvement is necessary. The curriculum must on no account allow or require medical students to be passive. Teaching and learning must focus on clinical competence and performance, not memorization of excessive detail. Medical school staff cannot continue as educational amateurs. The curriculum is no longer to be constructed through power play among contesting departments. The literature on curriculum reform leaves no doubt about the customary sabotage maneuvers that constantly neutralize efforts at reform, and is equally explicit about methods to achieve effective change. The educational brief for institutional leadership is clear.

14. External Forces

The *final four principles* of the Declaration insist that forces extraneous to the medical school are formidable barriers to reform in medical education. Medical education is only partially under the control of medical faculties. As medical schools face up to the challenge of reform they are confronted by the brute reality that capacity to change is only partially within the power of the institution itself.

The final four principles, outside the scope of medical schools themselves, depend for implementation on external agencies, like the national government, or a national statutory body such as the General Medical Council in the UK, or a quasi-statutory body such as Wissenschaftsrad in Germany, or the Commission of the five universities with medical faculties in Switzerland. Full cognizance must be given to this crucial reality, that external agencies have statutory powers over the medical schools which may prevent reform. In Denmark, for instance, all medical schools by governmental decree now have to institute a bachelor degree within the curriculum, not conducive to countering the preclinical-clinical split.

Inept though the educational institutions have often proved at reforming the aspects of their curricula within their competence to change, their obsolescent, damaging teaching methods and examination practices particularly, medical schools, therefore, do not carry sole blame. Their room for maneuver can be drastically restricted, the limiting external forces often completely unidentified.

15 Medical Education as a Continuum

The *Declaration* concludes with *principle **12*** principle targeting continuing medical education. It is accepted as an anachronism to focus on any one of the three phases of medical education in isolation. Comprehensive planning of the entire continuum of medical education has become obligatory. The number of entrants admitted to medical school should be in keeping with the provision for postgraduate training places, and these in turn should accord with the doctors needed by the nation; the competence of such doctors must be maintained throughout professional life. This actuarial planning should also seek to achieve a proper balance between specialists and primary health care doctors (general practitioners). Medical education policy-making bodies are essential in every country, with representation from the universities, postgraduate training bodies, health services, governments, medical associations, etc.; their purpose is to ensure professional standards, warrant public confidence, and prevent the misguided production of excessive numbers of doctors with defective skills.

16 After the *Declaration*

Since its adoption, a concatenation of massive social, political, economic and managerial changes impacted worldwide in major ways on medical schools. The 1993 *World Summit on Medical Education*[8] again held at Edinburgh, was entitled "The Changing Medical Profession", precisely to emphasize that educational redefinition of medical doctors had to heed the sweeping changes in health care delivery.

The *World Summit focused* on new external and tangential forces affecting the entire practice of medicine. Prodigious changes have resulted from economic recession, the managerial revolution, and transformation of medicine into a business. Immense political changes also supervened; in Europe the demise of Communism led to the creation of 22 new countries; and worldwide genocidal wars of barbaric ferocity. The 1993 *Report* of the World Bank, launched to the medical community at the Summit, *documented* the *Health Transition*: in developing countries the same diseases as in the West were now occurring, and longevity was approaching that in developed countries. Medicine had helped create, and was confronted by, an ageing world. Moreover, an entirely new epidemic had arisen, AIDS confronting educators with the novel challenge of young, often intelligent adults requiring care, when numerous surveys had amply established that a main deficiency of contemporary doctors was inability to communicate appropriately with patients.

17 Regional Action

Implementation of the Summit *Recommendations* was carried further at six Regional Conferences[18] during 1994-5. Every region (Europe, Africa, the Americas, the Middle East, SE Asia and the Western Pacific) explored intensively, in the local context, the crucial requirement that effective medical education is no longer possible without a close relationship between the health care system and the medical education system. To achieve such harmonization between medical education and health care, all six WFME Regional Conferences called for the conjoint setting up in every country of authoritative and resourced health councils, to link Ministries of Education and of Health, the medical schools, and professional bodies[16.] Medical education reforms always need the sanction of national governments for full implementation, very often imperatively so if any practical action is to follow aspirations and plans.

For such enlargement of the learning base to occur, all health service resources of the country have to be mobilized. Ministries of Education and Ministries of Health have to cooperate, and together create the committee structures integrating the medical education system with the health care system. Perhaps such partnership is the foremost among necessary reforms, and spells the end of academic elitism and exclusivity in medical education. WHO and UNESCO have sponsored the global enquiries resulting in consensus which supports this major reorientation, and have together called the Ministerial Consultations[18] for mobilizing governmental commitment.

18 The Tide of Reform

Progress has been prodigious. An inexorable tide of reform is now flowing worldwide, greater than at any time since the start of the century when Flexner's *Report*[8] revolutionized medical education in North America. There is no doubt that the world scene is now set for decisive, effective action.

In formulating the extensive reorientation of all stages of the training of doctors, to accord with the health needs of countries, WFME has been allied in the reform process by the UN agencies concerned with health in the widest sense, notably WHO, UNESCO, UNICEF, UNDP and the World Bank, and by the international NGOs partnering the Federation, the great foundations, and the national governments[18.] The health parliament of the world, by World Health Assembly Resolutions 42.38,1989 and 48.8, 1995, has endorsed the mandates for reform arrived at by regional and global action, and has fostered political will by calling on the governments of all member states to implement the reorientation in medical education which has been outlined in the *Edinburgh Declaration*. Without a global strategy the necessary change on an international scale will never happen.

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