



Necessity of Accreditation Standards for Quality Assurance of Medical Basic Sciences

***M Rezaeian¹, Z Jalili², N Nakhaee², J Jahroomi Shirazi¹, AR Jafari³**

1. *Secretariat of Basic Medical Science, Health, and Post grad. Education, Ministry of Health & Medical Education, Tehran, Iran*

2. *Dept. of Social Medicine, Kerman University of Medical Science, Kerman, Iran*

3. *Dental School, Shahid Beheshti University of Medical Sciences, Tehran, Iran*

***Corresponding Author:** Tel: +982188364533 Email: rezaian@tums.ac.ir

(Received 14 Jun 2012; accepted 15 Sep 2012)

Abstract

Background: The present article reviews the significance of accreditation standards while emphasizing the necessity of implementation of such standards by basic medical science council, with an eye on such international standards as those published by WFME. This review article had to decide on the key words and expressions, data bases, to review relevant literature, review higher and medical education journals at GOOGLE, ELSEVIER, PUBMED, and such web sites as those of WFME and WMA's. Accreditation is a powerful leverage for institutional change and improvement and must be actively supported by academic and national health authorities worldwide. Considering the mission of the Basic Medical Science, Health and Post grad. Education, Ministry of Health and Medical Education, Tehran, Iran as accountable medical education, all specialists of the spectrum of disciplines agreed on the necessity of formulating the medical education standards for all disciplines of their interest. It is important that all efforts be joined in the endeavor to create effective and reliable instruments for quality assurance of Basic Medical Sciences Education.

Keyword: Accreditation, Higher Education, WFME Global Standards, Education, Iran

Introduction

In recent years, all over the world we witnessed a rapid growth in the number of medical education centers and disciplines (1, 2). Many such institutes were established without any regulatory supervision, no accreditation and quite often suffer from shortage of physical and human resources, educational and particularly clinical education facilities (2, 3). In the past two decades, the Islamic Republic of Iran witnessed a drastic growth in the number of educational institutes and new disciplines. Figure 1, 2 demonstrate the ascending trend of admissions into post grad disciplines at Iranian universities during the past decade; this is equally applicable to medical sciences (4). These efforts resulted in a quantitative growth in medical science graduates to cope with the societal needs

for skilled manpower. Along with this quantitative growth, policy makers now turn their attention to qualitative growth with an emphasis on quality education. International medical education bodies, nevertheless, emphasize that medical education graduates should promote community health through their services; enjoy effective communication and internal dynamic impetus for long life learning (5-7).

Medical schools are founded on the three principles of education, research, and health care services to face social challenges and meet the social needs (8). Nowadays, universities and other educational institutes are accountable for economic, political, and cultural development and manpower trainings (9).

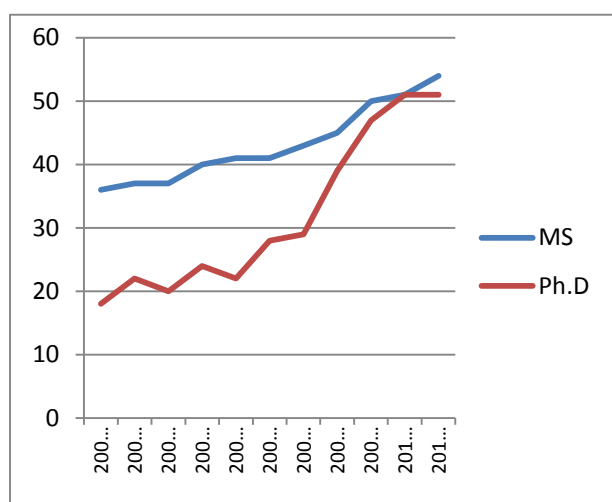


Fig. 1: Number of disciplines at medical basic science, health, and post grade studies at MS and PhD levels

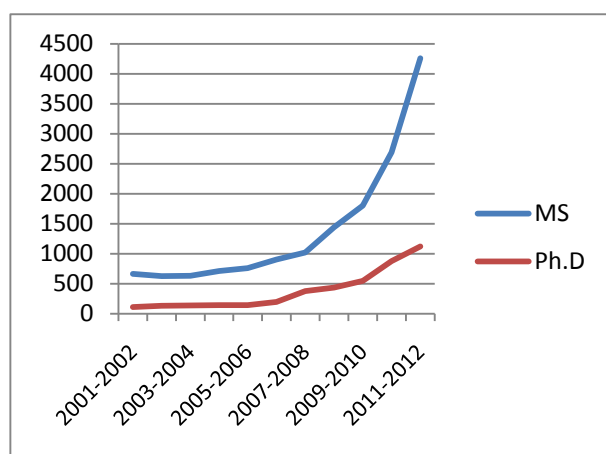


Fig. 2: numbers of students admitted into MS and PhD levels of basic medical Sciences, health, and post grad disciplines

In order to perform these important duties/tasks, universities need suitable patterns and tools to evaluate. One of the significant strategies to guarantee universities quality performance is accreditation and the establishment of defined standards for higher education.

The Standards for accreditation:

- has clearly defined purposes appropriate to an institution of higher learning;

- has assembled and organized those resources necessary to achieve its purposes;
- is achieving its purposes;
- Has the ability to continue to achieve its purposes (10).

Self-regulation is an essential element in the success of accreditation. Thus, the Standards for Accreditation were developed through a lengthy participatory process involving the membership in articulating the dimensions of quality required of institutions of higher education deserving of the public trust (11).

Quality assurance of higher education institutions and programmes is increasingly based on accreditation processes. A programme for promotion of accreditation was formulated within the WHO/WFME strategic partnership including: National specification of the WFME Standards for basic medical education, Assistance in the institutional self-evaluation, External review by WFME advisors of the institutional self-evaluation report, Site visit to medical school by a external review team, Formulation of final evaluation report, Development of an accreditation organization and accreditation council and procedure for accreditation (12).

The WHO/WFME Guidelines recommended establishing accreditation that is effective, independent, transparent, and based on criteria specific to medical education. (3,13) The global standards programme by World Federation for Medical Education (WFME) provides tools for national or regional accreditation but also guidance for reforms and quality improvement. The concept of social accountability is embedded in all parts of the WFME standards document (14).

The WFME standards are formulated at the institutional and educational program levels. They deal with all relevant aspects of structure and organization, the curricular content and teaching process, learning environment, outcome competencies and management (2,6,12). Quality assurance and accreditation system for higher education based on external review are now used in somewhat more than 70 countries (2,3).

Iranian Ministry of Health and Medical Education has taken measures since 2003 to formulate such standards. In 2004, the Office of Evaluation & Expansion of Medical Education assigned two of the most developed universities to pilot study WFME standards for international undergraduate medical education. In 2006, the national undergraduate medical education standards were formulated after the WFME standards by the Secretariat for Basic Medical Science, Health, and postgraduate education, Ministry of Health & Medical Education, Tehran, Iran. In the 32nd session of Supreme Council for Medical Education Programming, these standards were approved; they were reported to all medical schools throughout the country in academic year 2007-2008. Following its mission and task, the Basic Medical Science Council took measures to establish and implement accreditation and medical education standards in, the Secretariat of Council for Education in Postgraduate Medical Basic Science, Public Health, and Postgraduate all over the country (15).

In accordance with this mandate, the Secretariat of Council for Education in Postgraduate Medical Basic Science, Public Health, and Postgraduate launched the national accreditation standards project "on focused WFME Global standards" "with the purpose of to provide a mechanism quality improvement in basic medical sciences. Secretariat of Council for Education in Postgraduate Medical Basic Science, Public Health, and Postgraduate, across the national standards will be able to use common reference points for quality assurance and provide continuous assessment of the result and outcomes of basic sciences education. To assure the project success and facilitate actualization of national criteria for medical education, it was necessary for basic science specialists to reach consensus on the project methodology.

The standards or criteria used must be predetermined, agreed on, and made public. They can be either the WFME Global standards with the necessary national or regional specifications or a comparable set of standards specific to medical education (1,2,16-18).

This study aimed at demonstrating the significance of accreditation in medical education with an emphasis on WFME standards and the necessity of implementing educational standards by The Secretariat of Council for Education in Postgraduate Medical Basic Science, Public Health, and Postgraduate. The establishment of the standards and accreditation by Secretariat of Council for Education in Postgraduate Medical Basic Science, Public Health, and Postgraduate is hoped to lead to the establishment of an evaluation system appropriate to Iranian social conditions.

Searching Method

This review article had to decide on the key words and expressions, data bases, to review relevant literature, review higher and medical education journals at GOOGLE, ELSEVIER, PUB MED, and such web sites as those of WFME and WMA's. Key words were primarily combinations of the following key words: Accreditation, Higher Education, WFME Global standards, Basic Medical Sciences Education.

History

WFME, since 1984, has conducted an "International Collaborative Programme for the Reorientation of Medical Education". To further promote change and innovation in medical education, WFME decided to extend implementation of its educational policy to the institutional level as described in a WFME Position Paper (1998). The initial focus is on Basic (Undergraduate) Medical Education in medical schools. The initiative will subsequently be extended to Postgraduate Medical Education, and Continuing Professional Development (CPD) of Medical Doctors (2,3,6,19).

Implementation of the Global Standards Programme already started in 2000, and has comprised pilot studies of application in various institutions in all parts of the world, and translation of standards into a number of languages (2,3).

The World Health Organization (WHO) and the World Medical Association (WMA) approved the project. Between 1999 and 2002 the WFME

invited groups of medical educators from 6 continents to meet to develop global standards (19).

The WHO/WFME partnership involves the six Regional WHO Offices and WHO Headquarters in Geneva. Regional activities include reform programs, capacity building, and efforts to address accreditation issues. Comprehensive sub regional and national reform programs are being developed, for example in Eastern European and Central Asian countries, Iran, and Ecuador. Definition of national standards, using the WFME Global Standards as template, is on the agenda in many countries, including Egypt, Sudan, and China, and the impact of the partnership is also seen in other parts of the Eastern Mediterranean, Southeast Asian, and Western Pacific regions and in parts of Latin America (2,12).

In Iran, the Ministry of Health and Medical Education is currently planning and pilot-testing various changes to medical education at the country's 52 IMED-listed medical schools. The standard curriculum is under revision, and medical education accreditation standards and procedures have been developed. The countries, such as China and Iran, do not currently have a summative national system of accreditation in place, but both countries are planning for implementation. A summative national system of accreditation, under the auspices of the Ministry of Health and Medical Education, is expected to be implemented in the near future (17).

WHO/WFME Guidelines for Accreditation of Basic Medical Education, based on the recommendations of the Task Force, were published in May 2005. Quality assurance and accreditation system for higher education based on external review are now used in somewhat more than 70 countries (2). Based on the accumulated information collected at the WFME office, >500 medical schools in the world have now used the WFME standards as basis for institutional self-evaluation studies, peer reviews and other types of programme development, and about 100 countries are using the standards either directly or as a template for national standards in accreditation or other types of recognition of

programmes. Comprehensive sub regional and national reform programs are being developed, for example in central Asia countries, Iran (2).

Similarly, a great number of countries are using the WFME standards for postgraduate medical education and CPD. The vision of the WFME is that in the future, such a database could be an important instrument in quality development and international recognition of higher education institutions, allowing a kind of meta-accreditation (2, 3, 13, 19).

Concepts and definitions of medical education standards

In the educational system, standards tell students what is expected of them to succeed in the school and professional life, and the assessment provides information about how well expectations have been met. Without standards, life would become chaotic, which could often be dangerous; aircraft industry, bridge construction, tunnel digging, food production, and finally, education would be distorted. Standards differentiate between those who perform a certain task well and those others. Standard establishment is a process of decision making on what is acceptable and what is not. A standard is both a *goal* (what should be done) and a *measure of progress* toward that goal (how well it was done). Therefore to be meaningful; a standard should offer a realistic prospect of evaluation to measure whether anyone actually meets it. Without that, it has no practical value. In view of very different meanings of 'standard', the following working definition of medical education standards might be proposed:

Standards in medical education are set up, by consent of experts or by decision of educational authority, as "model designs or formulations" related to different aspects of medical education, and presented in such way to make possible assessment of graduate's performance in compliance with generally accepted professional requirements (10,15).

WFME Global Standards

The overall mission of the World Federation for Medical Education (WFME), as the global

organization concerned with education and training of medical doctors, is the improvement of health of all people through promotion of high-quality medical education. WFME is an umbrella organization for its six regional associations for medical education and for national associations of medical education worldwide; it is a nongovernmental organization related to the World Health Organization (WHO) (2, 13, 20). The WFME global standards programme should be seen as a tool for quality improvement of medical education and an instrument in safeguarding internationalization of medical doctors in a world of globalization.

WFME standards are not defined to assess only graduates' competencies, but to organize programs and educational centers at schools of medicine and other educational institutes. Measuring an institution and its programme against the standards means ensuring: educational

needs, social needs, professional needs, regulatory needs (3, 21).

The WFME Global standards presented in this trilogy cover all three phases of Medical Education: Basic Medical Education; Postgraduate Medical Education and Continuing Professional Development (CPD). The Executive Council of the WFME has formally adopted the trilogy of Global Standards (2,3, 6). The standards in all three parts of trilogy are structured in nine areas, defined as broad components of structure and process, and each area again divided in 36-38 sub-areas corresponding to performance indicators. For the standards in Basic medical education, the areas are: mission and objectives; educational programme; assessment of students; students affairs; academics staff/faculty; educational recourses; programme evaluation; government and administration; and the continues renewal (Table1) (3, 5, 20).

Table 1: WFME Trilogy of standards: Areas

Basic Medical Education	Postgraduate Medical Education	Continuing Professional Development(CPD)
1. Mission and Objectives	1. Mission and Outcomes	1. Mission and Outcomes
2. Educational Programme	2. Training Process	2. Learning Methods
3. Assessment of Students	3. Assessment of Training	3. planning and Documentation
4. Students	4. Trainees	4. The Individual Doctors
5. Academic Staff/Faculty	5. Staffing	5. CPD- Provider
6. Educational Resources	6. Training Settings and Educational Resources	6. Educational context and Resources
7. Programme Evaluation	7. Evaluation of Training	7. Evaluation of Methods and Competencies
8. Governance and Administration	8. Governance and Administration	8. Organization
9. Continuous Renewal	9. Continuous Renewal	9. Continuous Renewal

Sub-areas are defined as specific aspects of an area, corresponding to performance indicators. For each sub-area, a number of standards are defined at two levels of attainment: (a) Basic standards, meaning that the standards must be met from the outset of programme, and being especially relevant for accreditation purposes. Basic standards are expressed by a "must"; and (b) Standards for quality development, meaning that the standard is in accordance with international consensus about best practice, and that fulfillment

of-or initiatives to fulfill- some or all of such standards should be documented, and being especially relevant for programme reforms. Standards for quality development are expressed by a "should"(2, 3, 20, 22-24).

It is the opinion of WFME that the set of international standards presented can be used globally as a tool for quality assurance and development of basic medical education. This could be done in different ways, such as: Institutional Self-evaluation, Peer Review,

Combination of Institutional Self-evaluation and External Peer Review, and Recognition and Accreditation.

Depending on local needs and traditions, the guidelines can also be used by national or regional agencies dealing with recognition and accreditation of medical schools (6,21,25,26).

Results and Conclusion

Pursuant to a drastic growth in the number of disciplines in postgraduate medical education at different levels and foundation of state and private colleges many of which are lacking a mission clearly defined to be accountable to societal needs, policy makers of higher education emphasize continuing improvement in education which can be brought about by defining the standards for accreditation. In reaction, emphasis has arisen on quality assurance, expressed in term of harmonization, standardization, accreditation and mutual recognition of qualifications (3, 19).

In order to promote the programme and in keeping with its constitutional mandate, the WFME Executive Council in 1998 in a position paper launched its Programme on Global Standards. The purpose was to provide a tool for quality improvement in medical education, which could be of direct assistance to institutions, organizations and national authorities responsible for education and training of medical doctors at all levels throughout the continuum of medical education (24).

the WFME Trilogy of Global Standards, published in 2003, covering all three phases, i.e. basic (undergraduate) medical education, postgraduate medical education (specialist training etc.) and the Continuing Professional Development of medical doctors (CPD), including continuing medical education (CME) (3). Based on the accumulated information collected at the WFME office, >500 medical schools in the world have now used the WFME standards as basis for institutional self-evaluation studies, peer reviews and other types of programme development, and about 100 countries are using

the standards either directly or as a template for national standards in accreditation or other types of recognition of programmes (24).

Comprehensive sub regional and national reform programs are being developed, for example in central Asia countries, Iran (2).

Present documents evidence the efforts of Ministry of Health and Medical Education, Iran along with other countries efforts to formulate basic standards of medical education for undergraduates of medicine in the recent decade (1, 2, 14, 16). The secretariat of Basic Medical Science, Health and Postgraduate Education utilizing the results of standards formulation along with other countries, and consensus of national specialists designed the national project of designing educational standards with the following objectives:

1. Promoting the accreditation system in order to strengthen the national position of sciences
2. Proactively following upon international developments in quality assurance and higher education
3. To provide continuous assessments of the results and outcomes of Basic Sciences Education

The Secretariat of Council for Education in Postgraduate Medical Basic Science, Public Health, and Postgraduate at the ministry hopes to attract all specialists' interests and help them reach a consensus on formulating the national standards and achieving a successful implementation of them in different disciplines. It is important that that all efforts be joined in the endeavor to create effective and reliable instrument for quality assurance of medical education.

The following points deserve emphasis:

- Standards developed because without them the life would be unpredictable, chaotic and often dangerous (17)
- The WHO/WFME Guidelines for accreditation in Basic Medical Education can serve as an instrument in this process(25)

- The social accountability of medical educational must be in all accreditation process at all levels (26)
- The new WHO/WFME strategic partnership to improve medical education will have a central role in reform processes and in promotion of efficient and transparent national accreditation system worldwide (2).
- Standards should be concerned with broad categories of the content, process, educational environment and outcome of medical education (6)
- Compliance with standards must be a matter for each community, specific issues relevant to institutional and regional policy (The medical sciences schools should follow the motto “ think globally and act locally”(17)
- The WFME Standards will encourage medical sciences schools to develop an integrated programme in the theory and practice – of the bio- medical, clinical, behavioral and social sciences, including medical ethics, medical psychology , medical sociology and public health (2).

Thus, we can no longer ignore the urgent need for the development of international essential requirements and standards in education. If we do not proceed with a constructive approach guided by the knowledge and experience of medical education experts from around the world, administrative approaches may begin to dominate with possible inconsistencies and inadequacies in meeting educational and changing societal needs. The furthermore it should always be remembered that quality improvement of education is quality improvement of health care (8).

Ethical Considerations

Ethical issues including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc. have been completely observed by the authors.

Acknowledgements

The authors would like to express our special thanks to Dr. Sabouri Kashni for help with the English. The authors also thank of all the staff in the Secretariat of Council for Education in Postgraduate Medical Basic Science, Public Health, and Postgraduate at the ministry of Health and Medical Education, Tehran, Iran, for their assistance with data collection. The authors declare that there is no conflict of interest.

References

1. Yousefi A, Changiz T, Yamani N, Zahrai RH , Eshaghpour S (2009). Developing a holistic accreditation system for medical universities of the Islamic Republic of Iran. *East Mediterr Health J*, 15(3):747-756.
2. Karle H (2006). Global Standards and Accreditation in Medical Education: A View from the WFME. *Academic Medicine*, 81(12):43-48.
3. Karle H (2010). World Federation Medical Education perspectives on person-centered medicine. *Int J Integr Care*, Jan-Mar; 10(Suppl): e007.
4. Secretariat of Council for Education in Postgraduate Medical Basic Science, Public Health, and Postgraduate (2011). *Statistic of PhD, MS student admissions for different medical sciences from 2001- 2011*.
5. Niekerk JP (2003). Commentary WFME global standards receive ringing endorsement. *Med Educ*, 37: 585-586.
6. Karle H (2003). Basic Medical Education WFME Global Standards for Quality Improvement. WFME Executive Council. Available from : <http://www.iaomc.org/wfme.htm>
7. Mizazade A, Tvakoli S, Yazdani K, Taj M (2004). Accreditation, a strategy to promote and warrant quality medical education. *Iranian Journal in Medical Education*, 4(12):97-105
8. Globalization in health care: is international standardization of quality a set toward outsourcing?(2005). *Int Journal for Quality in Health Care*, 17(4): 277-79

9. Comhairle nan Dochtuiri Leighis-Medical Council (2010). Medical Council Accreditation Standards postgraduate Medical Education and training. Approved by Medical Council. Available from: <http://www.wfme.org>
10. New England Association of schools and colleges (NEASC) (2011). Standards for accreditation effective. commission on institutions of higher education. Available from : <http://www.iaomc.org/wfme.htm>
11. Wood D, Marc B (2009). Accreditation Standards osteopathic and Allopathic Medical School: Could they affect education quality? *Academic Medicine*, 84(6):724-728.
12. Karle H (2008). International recognition of basic medical education programmes. *Med Educ*, 42(1):12-17.
13. World Federation for Medical Education (WFME) (2007). European specifications for WFME global standards for quality improvement in medical education. Copenhagen: WFME; Accessed 20 April 2009 Available from: <http://wfme.org> .
14. Lindgren S, Karle H (2011). Social Accountability of Medical Education: Aspect on global accreditation. *Medical Teacher*, 33(8):667-672.
15. Supreme Council for Medical Education Programming (2006). Basic standards for undergraduate medical education : approved in 32nd session of supreme council for medical sciences programming. Ministry of Health& Medical Education, Tehran, Iran.
16. World Federation for Medical Education (2005). Promotion of accreditation of Basic Medical Education. A programme within the framework of WHO/ WFME strategic partnership to improve Medical Education. Available from: <http://wfme.org> Accessed 20 April 2006
17. Van Zanten M, Boulet J, Simon FA (2010). Flexner's Global Influence: Medical Education Accreditation in Countries That Train Physicians Who pursue Residency in the United States. *Academic Medicine*, 85(2):324-332.
18. WOJTCZAK A, SCHWARZ MR (2006). Minimum Essential Requirements and Standards in Medical Education. *Institute for International Medical Education, White Plains, New York*. Unauthorized reproduction strictly prohibited. Available from : <http://www.iaomc.org/wfme.htm>
19. WFME Global Standards in Medical Education (2003). Status and perspectives following the 2003 WFME world conference). *Med Edu*, 37:1050-1045.
20. WHO/WFME Guidelines for Accreditation of Medical Education (2005). Geneva/Copenhagen: WHO; Available from: <http://wfme.org> Accessed 20 April 2009
21. The Executive Council, the World Federation for Medical Education(1998). International standards in medical education: assessment and accreditation of medical school' educational programmes. A WFME position paper. *Med Edu*, 32: 594-58.
22. Nystrup J (2009). WFME Global Standards for quality developing in postgraduate medical education. AMSE Conference Zagreb. Available from: <http://wfme.org>
23. Bologna Working Group on Qualifications Framework of qualifications of the European higher education area (2005). Copenhagen: Ministry of Science Technology and Innovation; Available From: <http://www.bologna-bergen2005.no/DOCS/O-Main doc/o5o218QFEHEA.pdf>.
24. MacCarrick GR (2010). A Practical guide to using the World Federation for Medical Education (WFME) Standards. WFME 1 : Mission and Objectives. *Iranian J Med Sci*, 179(4):483-7.
25. WHO-WFME Guidelines for Accreditation of Basic Medical Education (2005). Available at: (<http://www.wfme.org>). Accessed June 27, 2006
26. Hamilton JD (1995). Establishing Standards and Measurement Methods for Medical Education. *Academic Medicine*, 70(7):S51-S56.