National Academic Reference Standards for Bachelors Degree of Medicine

I. Introduction

1. The National Academic Standards have been developed in order to serve as an external reference for designing and upgrading the undergraduate educational program of faculties of medicine. They also represent general expectations about the standards for the award of Bachelors Degree in Medicine and articulate the attributes and capabilities that those possessing such qualification should be able to demonstrate.

2. The standards of the MBBCh degree developed by the sector committee of medicine includes expressions of the professional/employment related abilities that graduates in medicine would be expected to have developed during their higher education including associated practice based experiences.

3. These standards represent the minimum academic quality requirements which the government regards as appropriate and reasonable in order to protect the interests of the students, the reputation of individual faculties, and the community as a whole.

4. The standards are not a curriculum or a syllabus.

5. The role of the Medical sector committee is to develop the graduate attributes, the national academic reference standards, and to review and modify them when required.

6. The role of faculties is to develop their own standards based on the relevant external reference points, guarantee that their own standards are equal or exceed the threshold of the National Academic Reference Standards and ensure that their own standards and their program design follow the regulatory frameworks and bylaws of the Sector committee.

7. Each faculty of medicine should consider additional evidence they may wish to present under each of the standards and make this clear in their self-evaluation reports and during external audit.

8. Every faculty of medicine should ensure that their academic standards are in compliance with their mission, the faculty members approve the academic reference standards and their students achieve the academic standards and outcomes.

9. Every faculty of medicine should clearly define the program and course specifications including aims and graduate profile.

10. Every faculty of medicine should have a plan to implement successfully the academic reference standards and should have a means to secure and sustain the use of these standards.

11. If any faculty of medicine develops program Intended Learning Outcomes that are different from the National Academic Reference Standards, it should be stated in its mission. For example, it may have a distinctive mission or unusual student intake, or it might be using alternative external reference points that are regarded as more relevant to the needs of its graduates and other stakeholders.

12. These standards were formed at the request of the National Quality Assurance and Accreditation Committee in partnership with the medical sector committee of the Supreme Council of Egyptian Universities.

13. These standards have been drawn up by a group of medical academics representing a wide variety of Egyptian Universities, a representative of the Medical Syndicate, Ministry of Health and Population and Army Hospitals.

14. Traditionally the medical course was divided into a pre-clinical course covering the sciences basic to medicine and the clinical course covering clinical instruction with some of the more applied medical sciences. Over the last two decades the division has been increasingly blurred and most courses now have "vertical integration" and "horizontal integration". The Sector committee recommends that all faculties of medicine must imply some degree of integration according to their capabilities.

15. There are also different approaches to education across the medical schools. The curricula in most of the medical schools are predominantly subject based, whereas in one medical school is problem based. The sector committee confirms that all faculties of medicine must have mixtures of problem-based and other educational strategies within the next two years.

16. In recent years there has been an increasing professionalism of medical education with most medical schools now having medical education departments or units. The sector committee invites all faculties of medicine to establish medical education departments or strengthen their medical education centers.

17. All courses leading to a Bachelors Degree of Medicine must meet the requirements of the medical sector committee and these standards. While it applies equally to all medical degrees, there is a variety of ways in which they may be met; such educational diversity is to be encouraged.

18. Most of the medical schools use compulsory core curriculum to all the students. The core curriculum provides the essential knowledge, understanding, clinical

skills and professional attitudes which are required by any medical graduate in order that s/he may practice as a house officer house officer and commence postgraduate training. The elective courses became one of the essential international standards all over the world. The sectors committee encourages medical schools to acquire elective studies. The aim of the elective studies is stimulation of critical thinking; it should allow students to acquire research abilities and enhance their skills in collection, evaluation, synthesis and presentation of evidence. Elective studies also provide opportunity for study in depth and may extend beyond the traditional medical disciplines.

II. Basic information

1. **Title:** National Academic Reference Standards for Bachelors Degree in Medicine
2. **Date:** June 2007
3. Publisher: Sector committee of Medicine

II. Professional information

1. Attributes of the Typical Graduate:

The Medical Graduates must:
- Work to maintain normal health, provide primary health care and deal with common health problems in the society.
- Be aware of the importance of a good doctor/ patient relationship, and work to establish and maintain it.
- Follow rules of medical ethics.
- Demonstrate appropriate communication, clinical and practical skills.
- Show appropriate attitudes and professionalism.
- Be prepared for life long learning.
- Be able to engage in post graduate and research studies.
- Acquire basic administrative capabilities.

2. National Academic Reference Standards (NARS):

Students should be prepared to approach their medical practice acquiring sufficient knowledge of the basic and clinical sciences, and an understanding of the underlying principles of scientific method. They must engage in lifelong learning to remain current in their understanding of the scientific basis of medicine.
On graduation, the graduates must possess all the competencies that enable them to carry out the duties of the house officers during the house officer year; after which they must possess the competencies essential for working as primary health care providers. Professional skills are acquired during the undergraduate education, and continue throughout the house officer year.

The medical school must ensure that before graduation the student will have demonstrated, to the satisfaction of the faculty, the knowledge and understanding, the intellectual, practical, professional attitude and behaviors, communication, general and transferable skills of the following:

2.1: Knowledge and Understanding:

2.1.01 Normal Human Body:
   a. Normal structure and function of the body (as an intact organism) and of each of its major systems.
   b. Molecular, biochemical, and cellular mechanisms which are important in maintaining the body homeostasis.
   c. Main developmental changes in humans and the effect of growth, development and aging on the individual and his family.
   d. Basics of normal and abnormal human behaviors.

2.1.02 Altered structure and function of the body and its major systems that are seen in various diseases and conditions.

2.1.03 Etiology, Pathogenesis, clinical features, differential diagnosis and complications of common and life-threatening illnesses affecting the body and each of its major organ systems, presenting throughout the age spectrum.

2.1.04 Principles of management of common diseases including:
   a. Pharmacological basis of drugs.
   b. Non invasive and invasive available intervention.
   c. Basic pre- and post operative care.
   d. Pain relief and palliative care.

2.1.05 Population Health and Health systems:
   a. The determinants of health, principles of disease prevention and early detection of common community health problems.
   b. Epidemiological principles of demography and biological variability.
   c. Principles of disease surveillance and screening.
   d. Communicable disease control and health promotion.
   e. Population-based approaches to health care services and their role in improving medical practice.

2.1.06 Basics of ethics, medico legal aspects of health problems, malpractice and common medical errors.

2.2-Intellectual Skills

2.2.01 Integrate basic anatomical, biochemical and physiological facts with clinical data.

2.2.02 Reason deductively in solving clinical problems:
  a. Recognize, define and prioritize problems.
  b. Interpret, analyze, and evaluate information objectively, recognizing its limitations.

2.2.03 Integrate the results of history, physical and laboratory test findings into a meaningful diagnostic formulation. (define problem and formulate differential diagnosis)

2.2.04 Use personal judgment for analytical and critical problem solving and seek out information.

2.2.05 Construct appropriate management strategies (both diagnostic and therapeutic) for patients with common diseases, both acute and chronic, including medical, psychiatric, and surgical conditions.

2.2.06 Design an initial course of management for stabilization of patients with serious illnesses.

2.2.07 Classify factors that place individuals at risk for disease or injury, to determine strategies for appropriate response.

2.2.08 Retrieve, analyze, and synthesize relevant and current data from literature, using information technologies and library resources, in order to help solve a clinical problem based on evidence (EBM).

2.2.09 Recognize and cope with uncertainty by:
  a. Accepting that uncertainty is unavoidable in the practice of medicine.
  b. Using appropriate cognitive strategies to deal with uncertainty when it arises.

2.2.10 Demonstrate insight into research and scientific method through:
  a. Formulating research questions that are pertinent to medicine.
  b. Recognition of the importance of precision in collecting, analyzing and interpreting medical data.

2.3-Practical Skills

Clinical Skills and Competencies acquired during the undergraduate years:

2.3.01 Take and record a structured, patient centered history.

2.3.02 Perform full physical examination appropriate to the age, gender, acute and chronic clinical conditions, and culturally sensitive.

2.3.03 Assess the mental state of the patient.

2.3.04 Formulate a management plan for common diseases.

2.3.05 Work out drug dosage based on patient's weight, age and health condition.

2.3.06 Write safe prescriptions of different types of drugs.

Procedures and Technical skills acquired during undergraduate and house officer training:

2.3.07 Perform venepuncture and collect blood samples.

2.3.08 Insert a cannula into peripheral veins.

2.3.09 Give intramuscular, subcutaneous and intravenous injections.

2.3.10 Perform suturing of superficial wounds.

2.3.11 Demonstrate competency in cardiopulmonary resuscitation and basic life-support.

2.3.12 Administer compulsory childhood vaccines.

2.3.13 Perform basic bedside laboratory tests.

2.3.14 Perform and interpret ECG.

2.3.15 Administer basic oxygen therapy.

2.3.16 Use a nebuliser for administration of inhalation therapy.

2.3.17 Insert a nasogastric tube.

2.3.18 Perform bladder catheterization.

2.3.19 Perform procedure of normal labor.

2.3.20 Adopt suitable measures for infection control.

2.4- Professional Attitude and Behavioral skills

Graduates should be able to:

2.4.01 Adopt an empathic and holistic approach to the patients and their problems.

2.4.02 Respect patients' rights and involve them and /or their caretakers in management decisions.

2.4.03 Understand and comply with the different cultural believes and values in the community they serve.

2.4.04 Recognize the important role played by other health care professions in patients' management.

2.4.05 Be aware and understand the national code of ethics.

2.4.06 Council patients suffering from complicated or terminal illness.

House Officers at the end of the year should be able to:

2.4.07 Ensure confidentiality and privacy of patients' information.

2.4.08 Treat all patients equally, and avoid stigmatizing any category regardless of believes, culture, and behaviors.

2.4.09 Demonstrate respect and work cooperatively with other health care professions for effective patient management.

2.4.10 Be willing to share in all types of inter-professional activities including collaborative and shared learning.

2.5-Communication Skills:

2.5.01 Communicate clearly, sensitively and effectively with patients and their relatives, and colleagues from a variety of health and social care professions.

2.5.02 Communicate effectively with individuals regardless of their social, cultural or ethnic backgrounds, or their disabilities.

2.5.03 Cope with situations where communication is difficult including breaking bad news.

2.5.04 Show compassion to the patients and their relatives in situations of stress and grief.

2.5.05 Honor and respect patients and their relatives, superiors, colleagues and any other members of the health profession.

2.6-General and Transferable Skills:

Students at graduation will be able to:

2.6.01 Adopt the principles of lifelong learning.

2.6.02 Use computers efficiently.

2.6.03 Retrieve, manage, and manipulate information by all means, including electronically.

2.6.04 Present information clearly in written, electronic and oral forms.

2.6.05 Communicate ideas and arguments effectively.

2.6.06 Effectively manages time and resources and set priorities.

2.6.07 Work effectively within a team.

2.6.08 Analyze and use numerical data (Use simple statistical methods).

Graduates at the end of the house officer year will be able to:

2.6.09 Use Evidence Based Medicine in management decisions.

2.6.10 Work effectively within the health care team.

2.6.11 Solve problems related to patients, work management, and among colleagues.

2.6.12 Cope with a changing work environment.

2.6.13 Apply safety and infection control measures during practice.

2.6.14 Evaluate their work and that of others using constructive feed back.

IV-Methodology of Establishment of the National Academic Reference Standards for Bachelor Degree in Medicine

The methodology in establishing the national standards of the Bachelors Degree of Medicine was designed in six steps:

▪ The outcome of the first step was to design the methodology needed to establish the standards and nominate the teams of work.

A management team to complete this task was composed of:

Dr. Nadia Badrawi: Professor of Pediatrics, Member of National Quality Assurance and Accreditation committee and coordinator of the project

Members from Sector committee:
Professor Abdel Hay Mashour: Chairperson of the Sector committee
Professor Mohamed El Batanouny: General Secretary of the Sector committee
Professor Mohamed Emara: Former President of Mansoura University
Dr. Omar Heilkal: Representative of the Army Hospital
Dr. Ossama Raslan: Representative of Medical Syndicate.
Professor Hind Hanafy: Vice president of Alexandria University
Professor Sameh Farid: Dean of Faculty of Medicine Cairo University

Members from other sectors (Stakeholders)
Professor Lamis Ragab Vice Dean of Faculty of Medicine
Professor Esmat Sheiba representative of MOHP

This step was accomplished in June 2006

▪ The outcome of the second step was to develop the first draft of the National Academic Reference Standards. The development team consisted of:

Professor Nadia Hassan Badrawi, Expert in Quality Assurance
Professor Lamis Ragab, Cairo University
Professor Esmat Shiba, MOHP
Professor Somaya Hosny, Suez Canal University
Professor Maysa Amer, Alexandria University
Professor Hala Salah Talaat, Cairo University
Professor Said Abdel Hady, Mansourah University
Professor Essam El Halaby, Tanta University
Professor Ahmed Makhlouf, Assiut University
Assistant Professor Manal Ismail AbdelGhany, Minia University

The team achieved this task by July 2007

- The outcome of the third step was to discuss, modify and obtain the final approval of the first draft. This task has been accomplished by the Sector committee Members in addition to the coordinator and the development team in August,2007

- The fourth step is to disseminate the standards to all stakeholders, receive their comments and modify the standards accordingly.

- The fifth step is the final approval of the standards by the Sector committee.

- The sixth step is the implementation of the standards by different faculties of medicine in Egypt.

III. References

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