

**NATIONAL
STANDARDS FOR
ACCREDITATION OF MEDICAL
COLLEGES
IRAQ**



**NCAMC
2018**

PREFACE

Accreditation is a step in the process of quality development that determines whether a program meets established standards for function, structure and performance. The process of accreditation encourages and supports continuous quality improvement and will allow the development of a culture in medical colleges that will sustain improvement. It also determines whether the quality of medical education meets the standards completely, partially, or does not.

Accreditation of medical colleges is usually carried out by national governments, or by national agencies receiving their authority from government. The National Council for Accreditation of Medical Colleges (NCAMC) was established in February - 2015 as an expansion of The National Committee for Accreditation of Medical Colleges in Iraq (2007). It receives its authority from the Ministry of Higher Education and Scientific Research to become the formal reference to academic accreditation in Iraq based on the standards stated in the Iraqi National Guideline on Standards for Establishing and Accrediting Medical Colleges (INGSEAMC).

The standards listed in INGSEAMC underwent continuous reviewing and updating. The present version is the 3rd version which was updated according to WFME 2015, it includes: Mission, Educational programme, student assessment, students, academic staff/ faculty, educational resources, programme evaluation, governance and administration. It is advised to read “Principles for the Proper Use by Medical Schools of the WFME Global Standards in Basic Medical Education ,*Hans Karle, Leif Christensen, Jørgen Nystrup and Hans Sjöström, the WFME Office*” ; before applying the standards.

We wish all success and prosperity to Iraqi Medical Colleges.

Prof. Yusra AR Mahmood

Head of NCAMC

MOHESR – Iraq

Sep. 2018

**MEMBERS OF
NATIONAL COUNCIL
FOR ACCREDITATION OF MEDICAL COLLEGES
NCAMC**

1	Prof. Dr. Yusra AR. Mahmood MBChB, CABP
2	Prof. Dr. Talib J. Kadhim Ph.D
3	Assist. Prof. Dr. Ali K. Shaaeli MBChB, FACS.,FRCSI
4	Prof. Dr.Faris A. Kareem MBChB, CABM, FRCPed
5	Prof. Dr. Ihsan M. Ajeena MBChB, MSc, PhD.
6	Assist. Prof. Dr. Abdudheem Y.A. Albarrak BSc, MSc, PhD, MBSI
7	Assist. Prof. Dr. Amal Swidan MBChB; FICMS/CM; JMHPE
8	Assist.Prof. Dr. Alaa J. Hassin MBChB, CABS, MRCSI
9	Assist.Prof. Dr.Firas T. Ismaeel. MBChB, FIBMS
10	Assist.Prof. Dr.Hilal B.Alsafar. MBChB, CABM, FRCP
11	Assist. Prof. Dr. Mousa M. Ali MBChB, CABOG
12	Assit. Prof. Dr. Dhafer B. Al-youzbaki M.B.Ch.B. , M.Sc. (PH) , Ph.D. (PH)
13	Dr. Hassan Muslem Abdulhussein MBChB, DCM,FICMS(O&E)
14	Assist. Prof. Dr. Nazar S.Haddad M.B.Ch.B. FIBMS (Chem. Path.)
15	Jawad Ibrahim Rasheed Alsharif MBChB, CABM, FRCP
16	Assist prof.Haitham Issa Bahoo Al-Banna MB,ChB FICMS



1. MISSION AND OUTCOMES

1.1 MISSION

Basic standards: The medical college **must**

- 1.1.1. state its mission.
- 1.1.2. make it known to its community and the health sector it serves.
- 1.1.3. in its mission outline the aims and the educational strategy resulting in a medical doctor
 - 1.1.3.1. competent at a basic level.
 - 1.1.3.2. with an appropriate foundation for future career in any branch of medicine.
 - 1.1.3.3. capable of undertaking the roles of doctors as defined by the health sector.
 - 1.1.3.4. prepared and ready for postgraduate medical education.
 - 1.1.3.5. committed to life-long learning.
- 1.1.4. consider that the mission encompasses the health needs of the community, the needs of the health care delivery system and other aspects of social accountability.

Quality development standards: The medical college **should** ensure that the mission encompasses

- 1.1.5. medical research attainment.
- 1.1.6. aspects of global health.

Annotations:

- ❖ *Mission* provides the overarching frame to which all other aspects of the educational institution and its program have to be related. Mission statement would include general and specific issues relevant to institutional, national, regional and global policy and needs. Mission in this document includes the institutions' vision.
- ❖ *Medical college* in this document is the educational organization providing a basic (undergraduate) program in medicine and is synonymous with medical faculty. The medical college can be part of or affiliated to a university or can be an independent institution of equal level. It normally also encompasses research and clinical service functions, and would also provide educational programs for other phases of medical education and for other health professions. Medical college would include university hospitals and other affiliated clinical facilities.
- ❖ *Community* would include the leadership, staff and students of the medical college as well as other stakeholders, cf. 1.4 annotation.
- ❖ *Health sector* would include the health care delivery system, whether public or private and medical research institutions.
- ❖ *Basic level* of medical education is in most countries identical to undergraduate medical education starting on the basis of completed secondary school education.
- ❖ *Any branch of medicine* refers to all types of medical practice, administrative medicine and medical research.
- ❖ *Postgraduate medical education* would include preregistration education (leading to right to independent practice), vocational/professional education, specialist/subspecialist education and other formalized education programs for defined expert functions.
- ❖ *Life-long learning* is the professional responsibility to keep up to date in knowledge and skills through appraisal, audit, reflection or recognized continuing professional development (CPD)/continuing medical education (CME) activities. CPD includes all activities that doctors undertake, formally and informally, to maintain, update, develop and enhance their knowledge, skills and attitudes in response to the needs of their

patients. CPD is a broader concept than CME, which describes continuing education in the knowledge and skills of medical practice.

- ❖ *Encompassing the health needs of the community* would imply interaction with the local community, especially the health and health related sectors, and adjustment of the curriculum to demonstrate attention to and knowledge about health problems of the community.
- ❖ *Social accountability* would include willingness and ability to respond to the needs of society, of patients and the health and health related sectors and to contribute to the national and international development of medicine by fostering competencies in health care, medical education and medical research. This would be based on the college's own principles and in respect of the autonomy of universities. Social accountability is sometimes used synonymously with social responsibility and social responsiveness. In matters outside its control, the medical college would still demonstrate social accountability through advocacy and by explaining relationships and drawing attention to consequences of the policy.
- ❖ *Medical research* encompasses scientific research in basic biomedical, clinical, behavioral and social sciences and is described in 7.4.
- ❖ *Aspects of global health* would include awareness of major international health problems, also of health consequences of inequality and injustice.
- ❖ *cf.*, an abbreviation for the Latin word confer (the imperative singular form of "conferre"), literally **meaning** "bring together", is used to refer to other material or ideas which may provide similar or different information or arguments.

1.2 INSTITUTIONAL AUTONOMY AND ACADEMIC FREEDOM

Basic standards: The medical college **must** have institutional autonomy to

1.2.1. formulate and implement policies for which its faculty/academic staff and administration are responsible, especially regarding

1.2.1.1. design of the curriculum.

1.2.1.2. use of the allocated resources necessary for implementation of the curriculum.

Quality development standards: The medical college **should** ensure academic freedom for its staff and students

1.2.2. in addressing the actual curriculum.

1.2.3. in exploring the use of new research results to illustrate specific subjects without expanding the curriculum.

Annotations:

- ❖ *Institutional autonomy* would include appropriate independence from government and other counterparts (regional and local authorities, religious communities, private cooperations, the professions, unions and other interest groups) to be able to make decisions about key areas such as design of curriculum (cf. 2.1 and 2.6), assessments (cf. 3.1), students admission (cf. 5.1 and 5.2), staff recruitment/selection (cf. 6.1) and employment conditions (cf. 6.2), research (cf. 7.4) and resource allocation (cf. 8.3).
- ❖ *Academic freedom* would include appropriate freedom of expression, freedom of inquiry and publication for staff and students.
- ❖ *Addressing the actual curriculum* would allow staff and students to draw upon different perspectives in description and analysis of medical issues, basic as well as clinical.
- ❖ *Curriculum*, cf. 2.1, annotation.

1.3 EDUCATIONAL OUTCOMES

Basic standards: The medical college **must**

1.3.1. define the intended educational outcomes that students should exhibit upon graduation in relation to

- 1.3.1.1. their achievements at a basic level regarding knowledge, skills, and attitudes.
- 1.3.1.2. appropriate foundation for future career in any branch of medicine.
- 1.3.1.3. their future roles in the health sector.
- 1.3.1.4. their subsequent postgraduate training.
- 1.3.1.5. their commitment to and skills in life-long learning.
- 1.3.1.6. the health needs of the community, the needs of the health care delivery system and other aspects of social accountability.

1.3.2. ensure appropriate student conduct with respect to fellow students, faculty members, other health care personnel, patients and their relatives.

1.3.3. make the intended educational outcomes publicly known.

Quality development standards: The medical college **should**

1.3.4. specify and co-ordinate the linkage of acquired outcomes by graduation with acquired outcomes in postgraduate training.

1.3.5. specify intended outcomes of student engagement in medical research.

1.3.6. draw attention to global health related intended outcomes.

Annotations:

- ❖ *Educational outcomes* or learning outcomes/competencies refer to statements of knowledge, skills and attitude that students demonstrate at the end of a period of learning. Outcomes might be either intended or acquired. Educational/learning objectives are often described in terms of intended outcomes. Outcomes within medicine and medical practice - to be specified by the medical college would include documented knowledge and understanding of (a) the basic biomedical sciences, (b) the behavioral and social sciences, including public health and population medicine, (c) medical ethics, human rights and medical jurisprudence relevant to the practice of medicine, (d) the clinical sciences, including clinical skills with respect to diagnostic procedures, practical procedures, communication skills, treatment and prevention of disease, health promotion, rehabilitation, clinical reasoning and problem solving; and (e) the ability to undertake life-long learning and demonstrate professionalism in connection with the different roles of the doctor, also in relation to the medical profession. The characteristics and achievements the students display upon graduation can e.g. be categorized in terms of the doctor as (a) scholar and scientist, (b) practitioner, (c) communicator, (d) teacher, (e) manager and (f) a professional.
- ❖ *Appropriate student conduct* would presuppose a written code of conduct.

1.4 PARTICIPATION IN FORMULATION OF MISSION AND OUTCOMES

Basic standard: The medical college **must**

1.4.1. ensure that its principal stakeholders participate in formulating the mission and intended educational outcomes.

Quality development standard:

The medical college **should**

1.4.2. ensure that the formulation of its mission and intended educational outcomes is based also on input from other stakeholders.

Annotations:

- ❖ *Principal stakeholders* would include the dean, the faculty council, the curriculum committee, representatives of staff and students, the university leadership and administration, relevant governmental authorities and regulatory bodies.
- ❖ *Other stakeholders* would include representatives of other health professions, patients, the community and public (e.g. users of the health care delivery systems, including patient organizations). Other stakeholders would also include other representatives of academic and administrative staff, education and health care authorities, professional organizations, medical scientific societies and postgraduate medical educators.

2. EDUCATIONAL PROGRAM

2.1 FRAMEWORK OF THE PROGRAM

Basic standards: The medical college **must**

2.1.1. define the overall curriculum.

2.1.2. use a curriculum and instructional/learning methods that stimulate, prepare and support students to take responsibility for their learning process.

2.1.3. ensure that the curriculum is delivered in accordance with principles of equality.

Quality development standard: The medical college **should**

2.1.4. ensure that the curriculum prepares the students for life-long learning.

Annotations:

- ❖ *Framework of the program* in this document is used synonymously with curriculum.
- ❖ *Overall curriculum* in this document refers to the specification of the educational program, including a statement of the intended educational outcomes (cf.1.3), the content/syllabus (cf. 2.2-2.6), learning experiences and processes of the program. The curriculum should set out what knowledge, skills, and attitudes the student will achieve. Also, the curriculum would include a description of the planned instructional and learning methods and assessment methods (cf. 3.1). Curriculum description would sometimes include models based on disciplines, organ systems, clinical problems/tasks or disease patterns as well as models based on modular or spiral design. The curriculum would be based on contemporary learning principles.
- ❖ *Instructional/ learning methods* would encompass lectures, small-group teaching, problem-based or case-based learning, peer assisted learning, practicals, laboratory exercises, bed-side teaching, clinical demonstrations, clinical skills laboratory training, field exercises in the community and web-based instruction.
- ❖ *Principles of equality* mean equal treatment of staff and students irrespective of gender, ethnicity, religion, socio-economic status, and taking into account physical capabilities.

2.2 SCIENTIFIC METHOD

Basic standards: The medical college **must**

2.2.1. throughout the curriculum teach

2.2.1.1.the principles of scientific method, including analytical and critical thinking.

2.2.1.2.medical research methods.

2.2.1.3.evidence-based medicine.

Quality development standard: The medical college **should**

2.2.1.2. in the curriculum include elements of original or advanced research.

Annotations:

- ❖ To *teach the principles of scientific method, medical research methods and evidence-based medicine* requires scientific competencies of teachers. This training would be a compulsory part of the curriculum and would include that medical students conduct or participate in minor research projects.
- ❖ *Evidence-based medicine* means medicine founded on documentation, trials and accepted scientific results.

- ❖ *Elements of original or advanced research* would include obligatory or elective analytic and experimental studies, thereby fostering the ability to participate in the scientific development of medicine as professionals and colleagues.

2.3 BASIC BIOMEDICAL SCIENCES

Basic standards: The medical college **must**

2.3.1. in the curriculum identify and incorporate the contributions of the basic biomedical sciences to create understanding of

2.3.1.1. scientific knowledge fundamental to acquiring and applying clinical science.

2.3.1.2. concepts and methods fundamental to acquiring and applying clinical science.

Quality development standards: The medical college **should**

2.3.2. in the curriculum adjust and modify the contributions of the biomedical sciences to the

2.3.2.1. scientific, technological and clinical developments.

2.3.2.2. current and anticipated needs of the society and the health care system.

Annotation:

- ❖ *The basic biomedical sciences* would - depending on local needs, interests and traditions include anatomy, biochemistry, biophysics, cell biology, genetics, immunology, microbiology (including bacteriology, parasitology and virology), molecular biology, pathology, pharmacology and physiology.

2.4 BEHAVIOURAL AND SOCIAL SCIENCES, MEDICAL ETHICS AND JURISPRUDENCE

Basic standards: The medical college **must**

2.4.1. in the curriculum identifies and incorporates the contributions of the:

2.4.1.1. behavioral sciences.

2.4.1.2. social sciences.

2.4.1.3. medical ethics.

2.4.1.4. medical jurisprudence.

Quality development standards: The medical college **should**

2.4.2. in the curriculum adjust and modify the contributions of the behavioral and social sciences as well as medical ethics and medical jurisprudence to

2.4.2.1. scientific, technological and clinical developments.

2.4.2.2. current and anticipated needs of the society and the health care system.

2.4.2.3. changing demographic and cultural contexts.

Annotations:

- ❖ *Behavioral and social sciences* would - depending on local needs, interests and traditions - include biostatistics, community medicine, epidemiology, global health, hygiene, medical anthropology, medical psychology, medical sociology, public health and social medicine.
- ❖ *Medical ethics* deals with moral issues in medical practice such as values, rights and responsibilities related to physician behavior and decision making.
- ❖ *Medical jurisprudence* deals with the laws and other regulations of the health care delivery system, of the profession and medical practice, including the regulations of

production and use of pharmaceuticals and medical technologies (devices, instruments, etc.).

- ❖ The *behavioral and social sciences, medical ethics and medical jurisprudence* would provide the knowledge, concepts, methods, skills and attitudes necessary for understanding socio-economic, demographic and cultural determinants of causes, distribution and consequences of health problems as well as knowledge about the national health care system and patients' rights. This would enable analysis of health needs of the community and society, effective communication, clinical decision making and ethical practices.

2.5 CLINICAL SCIENCES AND SKILLS

Basic standards: The medical college **must**

2.5.1 in the curriculum identify and incorporate the contributions of the clinical sciences to ensure that students

2.5.1.1. acquire sufficient knowledge and clinical and professional skills to assume appropriate responsibility after graduation.

2.5.1.2. spend a reasonable part of the program in planned contact with patients in relevant clinical settings.

2.5.1.3. experience health promotion and preventive medicine.

2.5.2. specify the amount of time spent in training in major clinical disciplines.

2.5.3. organise clinical training with appropriate attention to patient safety.

Quality development standards: The medical college **should**

2.5.4. in the curriculum adjust and modify the contributions of the clinical sciences to the

2.5.4.1. scientific, technological and clinical developments.

2.5.4.2. current and anticipated needs of the society and the health care system.

2.5.5. ensure that every student has early patient contact gradually including participation in patient care.

2.5.6. structure the different components of clinical skills training according to the stage of the study program.

Annotations:

- ❖ *The clinical sciences* would - depending on local needs, interests and traditions - include anesthetics, dermatology, diagnostic radiology, emergency medicine, general practice/family medicine, geriatrics, gynecology & obstetrics, internal medicine (with subspecialties), laboratory medicine, medical technology, neurology, neurosurgery, oncology & radiotherapy, ophthalmology, orthopedic surgery, oto-rhino-laryngology, pediatrics, palliative care, physiotherapy, rehabilitation medicine, psychiatry, surgery (with subspecialties) and venereology (sexually transmitted diseases). Clinical sciences would also include a final module preparing for pre-registration training/ internship.
- ❖ *Clinical skills* include history taking, physical examination, communication skills, procedures and investigations, emergency practices, and prescription and treatment practices.
- ❖ *Professional skills* would include patient management skills, team-work/team leadership skills and inter-professional training.
- ❖ *Appropriate clinical responsibility* would include activities related to health promotion, disease prevention and patient care.
- ❖ *A reasonable part* would mean about one third of the program.

- ❖ *Planned contact with patients* would imply consideration of purpose and frequency sufficient to put their learning into context.
- ❖ *Time spent in training* includes clinical rotations and clerkships.
- ❖ *Major clinical disciplines* would include internal medicine (with subspecialties), surgery (with subspecialties), psychiatry, general practice/family medicine, gynecology & obstetrics and pediatrics.
- ❖ *Patient safety* would require supervision of clinical activities conducted by students.
- ❖ *Early patient contact* would partly take place in primary care settings and would primarily include history taking, physical examination and communication.
- ❖ *Participation in patient care* would include responsibility under supervision for parts of investigations and/or treatment to patients, which could take place in relevant community settings.

2.6 PROGRAMME STRUCTURE, COMPOSITION AND DURATION

Basic standard: The medical college **must**

2.6.1. describe the content, extent and sequencing of courses and other curricular elements to ensure appropriate coordination between basic biomedical, behavioral and social and clinical subjects.

Quality development standards: The medical college **should** in the curriculum

2.6.2. ensure horizontal integration of associated sciences, disciplines and subjects.

2.6.3. ensure vertical integration of the clinical sciences with the basic biomedical and the behavioral and social sciences.

2.6.4. allow optional (elective) content and define the balance between the core and optional content as part of the educational program.

2.6.5. describe the interface with complementary medicine.

Annotations:

- ❖ Examples of *horizontal* (concurrent) *integration* would be integrating basic sciences such as anatomy, biochemistry and physiology or integrating disciplines of medicine and surgery such as medical and surgical gastroenterology or nephrology and urology.
- ❖ Examples of *vertical* (sequential) integration would be integrating metabolic disorders and biochemistry or cardiology and cardio-vascular physiology.
- ❖ *Core and optional (elective) content* refers to a curriculum model with a combination of compulsory elements and electives or special options.
- ❖ *Complementary medicine* would include traditional or alternative practices.

2.7 PROGRAMME MANAGEMENT

Basic standards: The medical college **must**

2.7.1. have a curriculum committee, which under the governance of the academic leadership (the dean) has the responsibility and authority for planning and implementing the curriculum to secure its intended educational outcomes.

2.7.2. in its curriculum committee ensures representation of staff and students.

Quality development standards: The medical college **should**

2.7.3. through its curriculum committee plan and implement innovations in the curriculum.

2.7.4. in its curriculum committee include representatives of other stakeholders.

Annotations:

- ❖ *The authority of the curriculum committee* would include authority over specific departmental and subject interests, and the control of the curriculum within existing rules and regulations as defined by the governance structure of the institution and governmental authorities. The curriculum committee would allocate the granted resources for planning and implementing methods of teaching and learning, assessment of students and course evaluation (cf. 8.3).
- ❖ *Other stakeholders*, cf. 1.4, annotation.

2.8 LINKAGE WITH MEDICAL PRACTICE AND THE HEALTH SECTOR

Basic standard: The medical college **must**

2.8.1 ensure operational linkage between the educational program and the subsequent stages of education or practice after graduation.

Quality development standards: The medical college **should**

2.8.2. ensure that the curriculum committee

2.8.2.1. seeks input from the environment in which graduates will be expected to work, and modifies the program accordingly.

2.8.2.2. considers program modification in response to opinions in the community and society.

Annotations:

- ❖ The *operational linkage* implies identifying health problems and defining required educational outcomes. This requires clear definition and description of the elements of the educational programs and their interrelations in the various stages of training and practice, paying attention to the local, national, regional and global context. It would include mutual feedback to and from the health sector and participation of teachers and students in activities of the health team. Operational linkage also implies constructive dialogue with potential employers of the graduates as basis for career guidance.
- ❖ *Subsequent stages of education* would include postgraduate medical education (preregistration education, vocational/professional education and specialist/subspecialist or expert education, cf. 1.1, annotation) and continuing professional development (CPD)/continuing medical education (CME).

3. ASSESSMENT OF STUDENTS

3.1 ASSESSMENT METHODS

Basic standards: The medical college **must**

- 3.1.1. define, state and publish the principles, methods and practices used for assessment of its students, including the criteria for setting pass marks, grade boundaries and number of allowed retakes.
- 3.1.2. ensure that assessments cover knowledge, skills and attitudes.
- 3.1.3. use a wide range of assessment methods and formats according to their “assessment utility”.
- 3.1.4. ensure that methods and results of assessments avoid conflicts of interest.
- 3.1.5. ensure that assessments are open to scrutiny by external expertise.
- 3.1.6. use a system of appeal of assessment results.

Quality development standards: The medical college **should**

- 3.1.7. evaluate and document the reliability and validity of assessment methods.
- 3.1.8. incorporate new assessment methods where appropriate.
- 3.1.9. encourage the use of external examiners.

Annotations:

- ❖ *Assessment methods* used would include consideration of the balance between formative and summative assessment, the number of examinations and other tests, the balance between different types of examinations (written and oral), the use of normative and criterion-referenced judgments, and the use of personal portfolio and log-books and special types of examinations, e.g. objective structured clinical examinations (OSCE) and mini clinical evaluation exercise (MiniCEX). It would also include systems to detect and prevent plagiarism.
- ❖ *“Assessment utility”* is a term combining validity, reliability, educational impact, acceptability and efficiency of the assessment methods and formats.
- ❖ *Evaluate and document the reliability and validity of assessment methods* would require an appropriate quality assurance process of assessment practices.
- ❖ *Use of external examiners* may increase fairness, quality and transparency of assessments.

3.2 RELATION BETWEEN ASSESSMENT AND LEARNING

Basic standards: The medical college **must**

- 3.2.1 use assessment principles, methods and practices that
 - 3.2.1.1. are clearly compatible with intended educational outcomes and instructional methods.
 - 3.2.1.2. ensure that the intended educational outcomes are met by the students.
 - 3.2.1.3. promote student learning.
 - 3.2.1.4. provide an appropriate balance of formative and summative assessment to guide both learning and decisions about academic progress.

Quality development standards: The medical college **should**

- 3.2.2. adjust the number and nature of examinations of curricular elements to encourage both acquisition of the knowledge base and integrated learning.
- 3.2.3. ensure timely, specific, constructive and fair feedback to students on basis of assessment results.

Annotations:

- ❖ *Assessment principles, methods and practices* refer to assessment of student achievement and would include assessment in all domains: knowledge, skills and attitudes.
- ❖ *Decisions about academic progress* would require rules of progression and their relationship to the assessment process.
- ❖ *Adjustment of number and nature of examinations* would include consideration of avoiding negative effects on learning. This would also imply avoiding the need for students to learn and recall excessive amounts of information and curriculum overload.
- ❖ *Encouragement of integrated learning* would include consideration of using integrated assessment, while ensuring reasonable tests of knowledge of individual disciplines or subject areas.

4. PROGRAMME EVALUATION

4.1 MECHANISMS FOR PROGRAMME MONITORING AND EVALUATION

Basic standards: The medical college **must**

- 4.1.1. have a program of routine curriculum monitoring of processes and outcomes.
- 4.1.2. establish and apply a mechanism for program evaluation that
 - 4.1.2.1. addresses the curriculum and its main components.
 - 4.1.2.2. addresses student progress.
 - 4.1.2.3. identifies and addresses concerns.
- 4.1.3. ensure that relevant results of evaluation influence the curriculum.

Quality development standards: The medical college **should**

- 4.1.4. periodically evaluate the program by comprehensively addressing
 - 4.1.4.1. the context of the educational process.
 - 4.1.4.2. the specific components of the curriculum.
 - 4.1.4.3. the long-term acquired outcomes.
 - 4.1.4.4. its social accountability

Annotations:

- ❖ *Program monitoring* would imply the routine collection of data about key aspects of the curriculum for the purpose of ensuring that the educational process is on track and for identifying any areas in need of intervention. The collection of data is often part of the administrative procedures in connection with admission of students, assessment and graduation.
- ❖ *Program evaluation* is the process of systematic gathering of information to judge the effectiveness and adequacy of the institution and its program. It would imply the use of reliable and valid methods of data collection and analysis for the purpose of demonstrating the qualities of the educational program or core aspects of the program in relation to the mission and the curriculum, including the intended educational outcomes. Involvement of external reviewers from other institutions and experts in medical education would further broaden the base of experience for quality improvement of medical education at the institution.
- ❖ *Main components of the curriculum* would include the curriculum model (cf.2.1.1), curriculum structure, composition and duration (cf. 2.6) and the use of core and optional parts (cf. 2.6.4).
- ❖ *Identified concerns* would include insufficient fulfillment of intended educational outcomes. It would use measures of and information about educational outcomes, including identified weaknesses and problems, as feedback for interventions and plans for corrective action, program development and curricular improvements; this requires safe and supporting environment for feedback by teachers and students.
- ❖ *The context of the educational process* would include the organization and resources as well as the learning environment and culture of the medical college.
- ❖ *Specific components of the curriculum* would include course description, teaching and learning methods, clinical rotations and assessment methods.
- ❖ *Social accountability*, cf. 1.1, annotation.

4.2 TEACHER AND STUDENT FEEDBACK

Basic standard: The medical college **must**

4.2.1 systematically seek, analyze and respond to teacher and student feedback.

Quality development standard: The medical college **should**

4.2.2. use feedback results for program development.

Annotation:

- ❖ *Feedback* would include students' reports and other information about the processes and products of the educational programs. It would also include information about malpractice or inappropriate conduct by teachers or students with or without legal consequences.

4.3 PERFORMANCE OF STUDENTS AND GRADUATES

Basic standards: The medical college **must**

4.3.1 analyse performance of cohorts of students and graduates in relation to

4.3.1.1. mission and intended educational outcomes.

4.3.1.2. provision of resources.

Quality development standards: The medical college **should**

4.3.2. analyse performance of cohorts of students and graduates in relation to student

4.3.2.1. background and conditions.

4.3.2.2. entrance qualifications.

7.3.3. use the analysis of student performance to provide feedback to the committees responsible for

7.3.3.1. student selection.

7.3.3.2. curriculum planning.

7.3.3.3. student counseling.

Annotations:

- ❖ Measures and analysis of *performance of cohorts of students* would include information about actual study duration, examination scores, pass and failure rates, success and dropout rates and reasons, student reports about conditions in their courses, as well as time spent by them on areas of special interest, including optional components. It would also include interviews of students frequently repeating courses, and exit interviews with students who leave the program.
- ❖ Measures of *performance of cohorts of graduates* would include information on results at national license examinations, career choice and postgraduate performance, and would, while avoiding the risk of program uniformity, provide a basis for curriculum improvement.
- ❖ *Student background and conditions* would include social, economic and cultural circumstances.

4.4 INVOLVEMENT OF STAKEHOLDERS

Basic standard: The medical college **must**

4.4.1. in its program monitoring and evaluation activities involve its principal stakeholders.

Quality development standards: The medical college **should**

4.4.2. for other stakeholders

4.4.2.1. allow access to results of course and program evaluation.

4.4.2.2. seek their feedback on the performance of graduates.

4.4.2.3. seek their feedback on the curriculum.

Annotations:

- ❖ *Principal stakeholders*, cf. 1.4, annotation.
- ❖ *Other stakeholders*, cf. 1.4, annotation.

5. STUDENTS

5.1 ADMISSION POLICY AND SELECTION

Basic standards: The medical college **must**

- 5.1.1. formulate and implement an admission policy based on principles of objectivity, including a clear statement on the process of selection of students.
- 5.1.2. have a policy and implement a practice for admission of disabled students.
- 5.1.3. have a policy and implement a practice for transfer of students from other national or international programs and institutions.

Quality development standards: The medical college **should**

- 5.1.4. state the relationship between selection and the mission of the school, the educational program and desired qualities of graduates.
- 5.1.5. periodically review the admission policy.
- 5.1.6. use a system for appeal of admission decisions.

Annotations:

- ❖ *Admission policy* would imply adherence to possible national regulation as well as adjustments to local circumstances. If the medical school does not control admission policy, it would demonstrate responsibility by explaining relationships and drawing attention to consequences, e.g. imbalance between intake and teaching capacity.
- ❖ The *statement on process of selection of students* would include both rationale and methods of selection such as secondary school results, other relevant academic or educational experiences, entrance examinations and interviews, including evaluation of motivation to become doctors. Selection would also take into account the need for variations related to diversity of medical practice.
- ❖ *Policy and practice for admission of disabled students* will have to be in accordance with national law and regulations.
- ❖ *Transfer of students* would include medical students from other medical college and students from other study programs.
- ❖ *Periodically review the admission policy* would be based on relevant societal and professional data, to comply with the health needs of the community and society, and would include consideration of intake according to gender, ethnicity and other social requirements (socio-cultural and linguistic characteristics of the population), including the potential need of a special recruitment, admission and induction policy for underprivileged students and minorities.

5.2 STUDENT INTAKE

Basic standard: The medical college **must**

- 5.2.1. define the size of student intake and relate it to its capacity at all stages of the program.

Quality development standard: The medical college **should**

- 5.2.2. periodically review the size and nature of student intake in consultation with other stakeholders and regulate it to meet the health needs of the community and society.

Annotations:

- ❖ Decisions on *student intake* would imply necessary adjustment to national requirements for medical workforce. If the medical college does not control student intake, it would

demonstrate responsibility by explaining relationships and drawing attention to consequences, e.g. imbalance between intake and teaching capacity.

- ❖ *Other stakeholders*, cf. 1.4, annotations.
- ❖ *The health needs of the community and society* would include consideration of intake according to gender, ethnicity and other social requirements (socio-cultural and linguistic characteristics of the population), including the potential need of a special recruitment, admission and induction policy for underprivileged students and minorities. Forecasting the health needs of the community and society for trained physicians includes estimation of various markets and demographic forces as well as the scientific development and migration patterns of physicians.

5.3 STUDENT COUNSELLING AND SUPPORT

Basic standards: The medical college and/or the university **must**

- 5.3.1. have a system for academic counseling of its student population.
- 5.3.2. offer a program of student support, addressing social, financial and personal needs.
- 5.3.3. allocate resources for student support.
- 5.3.4. ensure confidentiality in relation to counseling and support.

Quality development standards:

The medical college **should**

- 5.3.5. provide academic counseling that
 - 5.3.5.1. is based on monitoring of student progress.
 - 5.3.5.2. includes career guidance and planning.

Annotations:

- ❖ *Academic counseling* would include questions related to choice of electives, residence preparation and career guidance. Organization of the counseling would include appointing academic mentors for individual students or small groups of students.
- ❖ *Addressing social, financial and personal needs* would mean professional support in relation to social and personal problems and events, health problems and financial matters, and would include access to health clinics, immunization programs and health/disability insurance as well as financial aid services in forms of bursaries, scholarships and loans.

5.4 STUDENT REPRESENTATION

Basic standards: The medical college **must**

- 5.4.1 formulate and implement a policy on student representation and appropriate participation in
 - 5.4.1.1. mission statement.
 - 5.4.1.2. design of the program.
 - 5.4.1.3. management of the program.
 - 5.4.1.4. evaluation of the program.
 - 5.4.1.5. other matters relevant to students.

Quality development standard: The medical college **should**

- 5.4.2. encourage and facilitate student activities and student organizations.

Annotations:

- ❖ *Student representation* would include student self governance and representation on the curriculum committee, other educational committees, scientific and other relevant bodies as well as social activities and local health care projects (cf.2.7.2).
- ❖ To *facilitate student activities* would include consideration of providing technical and financial support to student organizations.

6. ACADEMIC STAFF/FACULTY

6.1 RECRUITMENT AND SELECTION POLICY

Basic standards: The medical college **must**

6.1.1. formulate and implement a staff recruitment and selection policy which

6.1.1.1. outline the type, responsibilities and balance of the academic staff/faculty of the basic biomedical sciences, the behavioral and social sciences and the clinical sciences required to deliver the curriculum adequately, including the balance between medical and non-medical academic staff, the balance between full-time and part-time academic staff, and the balance between academic and non-academic staff.

6.1.1.2. address criteria for scientific, educational and clinical merit, including the balance between teaching, research and service functions.

6.1.1.3. specify and monitor the responsibilities of its academic staff/faculty of the basic biomedical sciences, the behavioral and social sciences and the clinical sciences.

Quality development standards: The medical college **should**

6.1.2. in its policy for staff recruitment and selection take into account criteria such as

6.1.2.1. relationship to its mission, including significant local issues.

6.1.2.2. economic considerations.

Annotations:

- ❖ The *staff recruitment and selection policy* would include ensuring a sufficient number of highly qualified basic biomedical scientists, behavioral and social scientists and clinicians to deliver the curriculum and a sufficient number of high quality researchers in relevant disciplines or subjects.
- ❖ *Balance of academic staff/faculty* would include staff with joint responsibilities in the basic biomedical, the behavioral and social and clinical sciences in the university and health care facilities, and teachers with dual appointments.
- ❖ *Balance between medical and non-medical staff* would imply consideration of sufficient medical orientation of the qualifications of non-medically educated staff.
- ❖ *Merit* would be measured by formal qualifications, professional experience, research output, teaching awards and peer recognition.
- ❖ *Service functions* would include clinical duties in the health care delivery system, as well as participation in governance and management.
- ❖ *Significant local issues* would include gender, ethnicity, religion, language and other items of relevance to the college and the curriculum.
- ❖ *Economic considerations* would include taking into account institutional conditions for staff funding and efficient use of resources.

6.2 STAFF ACTIVITY AND STAFF DEVELOPMENT

Basic standards: The medical college **must**

6.2.1 formulate and implement a staff activity and development policy which

6.2.1.1. allow a balance of capacity between teaching, research and service functions.

6.2.1.2. ensure recognition of meritorious academic activities, with appropriate emphasis on teaching, research and service qualifications.

6.2.1.3. ensure that clinical service functions and research are used in teaching and learning.

6.2.1.4. ensure sufficient knowledge by individual staff members of the total curriculum.

6.2.1.5. include teacher training, development, support and appraisal.

Quality development standards: The medical college **should**

6.2.2. take into account teacher-student ratios relevant to the various curricular components.

6.2.3. design and implement a staff promotion policy.

Annotations:

- ❖ The *balance of capacity between teaching, research and service functions* would include provision of protected time for each function, taking into account the needs of the medical school and professional qualifications of the teachers.
- ❖ *Recognition of meritorious academic activities* would be through rewards, promotion and/or remuneration.
- ❖ *Sufficient knowledge of the total curriculum* would include knowledge about instructional/learning methods and overall curriculum content in other disciplines and subject areas with the purpose of fostering cooperation and integration.
- ❖ *Teacher training, development, support and appraisal* would involve all teachers, not only new teachers, and also include teachers employed by hospitals and clinics.

7. EDUCATIONAL RESOURCES

7.1 PHYSICAL FACILITIES

Basic standards: The medical college **must**

7.1.1. have sufficient physical facilities for staff and students to ensure that the curriculum can be delivered adequately.

7.1.2. ensure a learning environment, which is safe for staff, students, patients and their relatives.

Quality development standard: The medical college **should**

7.1.3. improve the learning environment by regularly updating and modifying or extending the physical facilities to match developments in educational practices.

Annotations:

- ❖ *Physical facilities* would include lecture halls, class, group and tutorial rooms, teaching and research laboratories, clinical skills laboratories, offices, libraries, information technology facilities and student amenities such as adequate study space, lounges, transportation facilities, catering, student housing, personal storage lockers, sports and recreational facilities.
- ❖ *A safe learning environment* would include provision of necessary information and protection from harmful substances, specimens and organisms, laboratory safety regulations and safety equipment.

7.2 CLINICAL TRAINING RESOURCES

Basic standards: The medical college **must**

7.2.1. ensure necessary resources for giving the students adequate clinical experience, including sufficient

7.2.1.1. number and categories of patients.

7.2.1.2. clinical training facilities.

7.2.1.3. supervision of their clinical practice.

Quality development standard: The medical college **should**

7.2.2. evaluate, adapt and improve the facilities for clinical training to meet the needs of the population it serves.

Annotations:

- ❖ *Patients* may include validated simulation using standardized patients or other techniques, where appropriate, to complement, but not substitute clinical training.
- ❖ *Clinical training facilities* would include hospitals (adequate mix of primary, secondary and tertiary), sufficient patient wards and diagnostic departments, laboratories, ambulatory services (including primary care), clinics, primary health care settings, health care centers and other community health care settings as well as skills laboratories, allowing clinical training to be organized using an appropriate mix of clinical settings and rotations throughout all main disciplines.
- ❖ *Evaluate* would include evaluation of appropriateness and quality for medical training programs in terms of settings, equipment and number and categories of patients, as well as health practices, supervision and administration.

7.3 INFORMATION TECHNOLOGY

Basic standards: The medical college **must**

7.3.1 formulate and implement a policy which addresses effective and ethical use and evaluation of appropriate information and communication technology.

7.3.2. ensure access to web-based or other electronic media.

Quality development standards: The medical college **should**

7.3.3. enable teachers and students to use existing and exploit appropriate new information and communication technology for

7.3.3.1. independent learning.

7.3.3.2. accessing information.

7.3.3.3. managing patients.

7.3.3.4. working in health care delivery systems.

7.3.3.5. optimize student access to relevant patient data and health care information systems.

Annotations:

- ❖ *Effective and ethical use of information and communication technology* would include use of computers, cell/mobile telephones, internal and external networks and other means as well as coordination with library services. The policy would include common access to all educational items through a learning management system. Information and communication technology would be useful for preparing students for evidence-based medicine and life-long learning through continuing professional development (CPD).
- ❖ *Ethical use* refers to the challenges for both physician and patient privacy and confidentiality following the advancement of technology in medical education and health care. Appropriate safeguards would be included in relevant policy to promote the safety of physicians and patients while empowering them to use new tools.

7.4 MEDICAL RESEARCH AND SCHOLARSHIP

Basic standards: The medical college **must**

7.4.1. use medical research and scholarship as a basis for the educational curriculum.

7.4.2. formulate and implement a policy that fosters the relationship between medical research and education.

7.4.3. describe the research facilities and priorities at the institution.

Quality development standards:

The medical college **should**

7.4.4. ensure that interaction between medical research and education

7.4.4.1. influences current teaching.

7.4.4.2. encourages and prepares students to engage in medical research and development.

Annotation:

- ❖ *Medical research and scholarship* encompasses scientific research in basic biomedical, clinical, behavioral and social sciences. Medical scholarship means the academic attainment of advanced medical knowledge and inquiry. The medical research basis of the curriculum would be ensured by research activities within the medical school itself or its affiliated institutions and/or by the scholarship and scientific competencies of the teaching

staff. Influences on current teaching would facilitate learning of scientific methods and evidence-based medicine (cf. 2.2).

7.5 EDUCATIONAL EXPERTISE

Basic standards: The medical college **must**

- 7.5.1. have access to educational expertise where required.
- 7.5.2. formulate and implement a policy on the use of educational expertise in
 - 7.5.2.1. curriculum development.
 - 7.5.2.2. development of teaching and assessment methods.

Quality development standards: The medical college **should**

- 7.5.3. demonstrate evidence of the use of in-house or external educational expertise in staff development.
- 7.5.4. pay attention to current expertise in educational evaluation and in research in the discipline of medical education.
- 7.5.5. allow staff to pursue educational research interest.

Annotations:

- ❖ *Educational expertise* would deal with processes, practice and problems of medical education and would include medical doctors with research experience in medical education, educational psychologists and sociologists. It can be provided by an education development unit or a team of interested and experienced teachers at the institution or be acquired from another national or international institution.
- ❖ *Research in the discipline of medical education* investigates theoretical, practical and social issues in medical education.

7.6 EDUCATIONAL EXCHANGES

Basic standards: The medical college **must**

- 7.6.1. formulate and implement a policy for
 - 7.6.1.1. national and international collaboration with other educational institutions, including staff and student mobility.
 - 7.6.1.2. transfer of educational credits.

Quality development standards: The medical college **should**

- 7.6.2. facilitate regional and international exchange of staff and students by providing appropriate resources.
- 7.6.3. ensure that exchange is purposefully organized, taking into account the needs of staff and students, and respecting ethical principles.

Annotations:

- ❖ *Other educational institutions* would include other medical schools as well as other faculties and institutions for health education, such as schools for public health, dentistry, pharmacy and veterinary medicine.
- ❖ *A policy for transfer of educational credits* would imply consideration of limits to the proportion of the study program which can be transferred from other institutions. Transfer of educational credits would be facilitated by establishing agreements on mutual recognition of educational elements and through active program coordination between

medical college. It would also be facilitated by use of a transparent system of credit units and by flexible interpretation of course requirements.

- ❖ *Staff* would include academic, administrative and technical staff.

8. GOVERNANCE AND ADMINISTRATION

8.1 GOVERNANCE

Basic standard: The medical college **must**

8.1.1. define its governance structures and functions including their relationships within the university.

Quality development standards: The medical college **should**

8.1.2. in its governance structures set out the committee structure, and reflect representation from

8.1.2.1. principal stakeholders.

8.1.2.2. other stakeholders.

8.1.3. ensure transparency of the work of governance and its decisions.

Annotations:

- ❖ *Governance* means the act and/or the structure of governing the medical school. Governance is primarily concerned with policy making, the processes of establishing general institutional and program policies and also with control of the implementation of the policies. The institutional and program policies would normally encompass decisions on the mission of the medical college, the curriculum, admission policy, staff recruitment and selection policy and decisions on interaction and linkage with medical practice and the health sector as well as other external relations.
- ❖ *Relationships within the university* of its governance structures would be specified, for example if the medical college is part of or affiliated to a university.
- ❖ *The committee structure*, which includes a curriculum committee, would define lines of responsibility, cf. B 2.7.1.
- ❖ *Principal stakeholders*, cf. 1.4, annotation.
- ❖ *Other stakeholders*, cf. 1.4, annotation.
- ❖ *Transparency* would be obtained by newsletters, web-information or disclosure of minutes.

8.2 ACADEMIC LEADERSHIP

Basic standard: The medical college **must**

8.2.1. describe the responsibilities of its academic leadership for definition and management of the medical educational program.

Quality development standard: The medical college **should**

8.2.2. periodically evaluate its academic leadership in relation to achievement of its mission and intended educational outcomes.

Annotation:

- ❖ *Academic leadership* refers to the positions and persons within the governance and management structures being responsible for decisions on academic matters in teaching, research and service and would include dean, deputy dean, vice deans, heads of departments, course leaders, directors of research institutes and centers as well as chairs of standing committees (e.g. for student selection, curriculum planning and student counseling).

8.3 EDUCATIONAL BUDGET AND RESOURCE ALLOCATION

Basic standards: The medical college **must**

8.3.1. have a clear line of responsibility and authority for resourcing the curriculum, including a dedicated educational budget.

8.3.2. allocate the resources necessary for the implementation of the curriculum and distribute the educational resources in relation to educational needs.

Quality development standards: The medical college **should**

8.3.3. have autonomy to direct resources, including teaching staff remuneration, in an appropriate manner in order to achieve its intended educational outcomes.

8.3.4. in distribution of resources take into account the developments in medical sciences and the health needs of the society.

Annotations:

- ❖ *The educational budget* would depend on the budgetary practice in each institution and country and would be linked to a transparent budgetary plan for the medical college.
- ❖ *Resource allocation* presupposes institutional autonomy, cf. 1.2, annotations.
- ❖ Regarding *educational budget and resource allocation* for student support and student organizations, cf. 5.3.3 and 5.4, annotation.

8.4 ADMINISTRATION AND MANAGEMENT

Basic standards: The medical college **must**

8.4.1. have an administrative and professional staff that is appropriate to

8.4.1.1. support implementation of its educational program and related activities.

8.4.1.2. ensure good management and resource deployment.

Quality development standard: The medical college **should**

8.4.2. formulate and implement an internal program for quality assurance of the management including regular review.

Annotations:

- ❖ *Management* means the act and/or the structure concerned primarily with the implementation of the institutional and program policies including the economic and organizational implications i.e. the actual allocation and use of resources within the medical school. Implementation of the institutional and program policies would involve carrying into effect the policies and plans regarding mission, the curriculum, admission, staff recruitment and external relations.
- ❖ *Administrative and professional staff* in this document refers to the positions and persons within the governance and management structures being responsible for the administrative support to policy making and implementation of policies and plans and would - depending on the organizational structure of the administration - include head and staff in the dean's office or secretariat, heads of financial administration, staff of the budget and accounting offices, officers and staff in the admissions office and heads and staff of the departments for planning, personnel and IT.
- ❖ *Appropriateness of the administrative staff* means size and composition according to qualifications.
- ❖ *Internal program of quality assurance* would include consideration of the need for improvements and review of the management.

8.5 INTERACTION WITH HEALTH SECTOR

Basic standard: The medical college **must**

8.5.1. have constructive interaction with the health and health related sectors of society and government.

Quality development standard: The medical college **should**

8.5.2. formalize its collaboration, including engagement of staff and students, with partners in the health sector.

Annotations:

- ❖ *Constructive interaction* would imply exchange of information, collaboration, and organizational initiatives. This would facilitate provision of medical doctors with the qualifications needed by society.
- ❖ *The health sector* would include the health care delivery system, whether public or private, and medical research institutions.
- ❖ *The health-related sector* would -depending on issues and local organization- include institutions and regulating bodies with implications for health promotion and disease prevention (e.g. with environmental, nutritional and social responsibilities).
- ❖ To *formalize collaboration* would mean entering into formal agreements, stating content and forms of collaboration, and/or establishing joint contact and coordination committees as well as joint projects.

9. CONTINUOUS RENEWAL

Basic standards: The medical college **must** as a dynamic and socially accountable institution

9.0.1. initiate procedures for regularly reviewing and updating the process, structure, content, outcomes/competencies, assessment and learning environment of the program.

9.0.2. rectify documented deficiencies.

9.0.3. allocate resources for continuous renewal.

Quality development standards: The medical college **should**

9.0.4. base the process of renewal on prospective studies and analyses and on results of local evaluation and the medical education literature.

9.0.5. Ensure that the process of renewal and restructuring leads to the revision of its policies and practices in accordance with past experience, present activities and future perspectives.

9.0.6. address the following issues in its process of renewal:

- 9.0.6.1. adaptation of mission statement to the scientific, socio-economic and cultural development of the society. (cf. 1.1)
- 9.0.6.2. modification of the intended educational outcomes of the graduating students in accordance with documented needs of the environment they will enter. The modification might include clinical skills, public health training and involvement in patient care appropriate to responsibilities encountered upon graduation.(cf. 1.3)
- 9.0.6.3. adaptation of the curriculum model and instructional methods to ensure that these are appropriate and relevant.(cf. 2.1)
- 9.0.6.4. adjustment of curricular elements and their relationships in keeping with developments in the basic biomedical, clinical, behavioral and social sciences, changes in the demographic profile and health/disease pattern of the population, and

socioeconomic and cultural conditions. The adjustment would ensure that new relevant knowledge, concepts and methods are included and outdated ones discarded.(cf. 2.2 - 2.6)

9.0.6.5. development of assessment principles, and the methods and the number of examinations according to changes in intended educational outcomes and instructional methods.(cf. 3.1 and 3.2)

9.0.6.6. adaptation of student recruitment policy, selection methods and student intake to changing expectations and circumstances, human resource needs, changes in the premedical education system and the requirements of the educational program.(cf. 5.1 and 5.2)

9.0.6.7. adaptation of academic staff recruitment and development policy according to changing needs. (cf. 6.1 and 6.2)

9.0.6.8. updating of educational resources according to changing needs, i.e. the student intake, size and profile of academic staff, and the educational program. (cf. 7.1 - 7.3)

9.0.6.9. refinement of the process of program monitoring and evaluation.(cf. 4.1 – 4.4)

9.0.6.10. development of the organizational structure and of governance and management to cope with changing circumstances and needs and, over time, accommodating the interests of the different groups of stakeholders. (cf. 8.1 – 8.5)

Annotation:

- ❖ *Prospective studies* would include research and studies to collect and generate data and evidence on country-specific experiences with best practice.

BIBLIOGRAPHY

The bibliography covers publications and documents that provide background and development of the WFME standards and links to present pages, illustrating, without being complete, present (as of September 2015) development of the medical education standard field.

PREVIOUS AND PRESENT WFME STANDARDS

- World Federation of Medical Education (WFME). Basic Medical Education. WFME Global Standards for Quality Improvement [Internet]. 2003.
Available from: <http://wfme.org/standards/bme/3-quality-improvement-in-basic-medical-educationenglish/file>
- World Federation of Medical Education (WFME). Basic Medical Education. WFME Global Standards for Quality Improvement. New edition [Internet]. 2012.
Available from: <http://wfme.org/standards/bme/78-new-version-2012-quality-improvement-inbasic-medical-education-english/file>
- World Federation of Medical Education (WFME). Basic Medical Education. WFME Global Standards for Quality Improvement. New edition 2012, revised. 2015
- World Federation for Medical Education (WFME). Postgraduate Medical Education. WFME Global Standards for Quality Improvement [Internet]. 2003.
Available from: <http://wfme.org/standards/pgme/17-quality-improvement-in-postgraduate-medicaleducation-english/file>
- World Federation for Medical Education (WFME). Postgraduate Medical Education. WFME Global Standards for Quality Improvement. New edition. 2015.
- World Federation for Medical Education (WFME). Continuing Professional Development of Medical Doctors. WFME Global Standards for Quality Improvement [Internet]. 2003.
Available from: <http://wfme.org/standards/cpd/16-continuing-professional-development-cpd-ofmedical-doctors-english/file>
- World Federation for Medical Education (WFME). Continuing Professional Development of Medical Doctors. WFME Global Standards for Quality Improvement. New edition. 2015.
- World Federation for Medical Education (WFME) and The Association of Medical Schools in Europe (AMSE). WFME Global Standards for Quality Improvement in Medical Education. European Specifications [Internet]. 2007.
Available from: <http://wfme.org/standards/european-specifications/21-european-specificationsenglish/file>

GENERAL

- Boelen C, Bandaranayake R, Bouhuijs PAJ, Page GG, Rothman AI. Towards the Assessment of Quality in Medical Education [Internet]. WHO/HRH/92.7;1992. Available from: http://whqlibdoc.who.int/hq/1992/WHO_HRH_92.7.pdf
- Christensen L, Karle H, Nystrup J. Process-outcome interrrelationship and standard setting in medical education: the need for a comprehensive approach. Med Teach. 2007;29:672-7.
- Cohen J. Defining international standards in basic medical education: the World Federation for Medical Education has initiated a timely discussion. Commentary. Med Educ. 2000;34:600-1.
- Cohen J. Academic medicine's latest imperative: achieving better health care through global medical education standards. Med Educ. 2003;37:950-1. European Commission. Directive 2013/55/EU of the European Parliament and of the Council [Internet]. 2013. Available from: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32013L0055>

- Gastel BA. Toward a global consensus on the quality of medical education: serving the needs of populations and individuals. *Acad Med.* 1995;70 (Suppl 7):S73-5.
- General Medical Council (GMC). Good medical practice [Internet]. 2013 with update 2014. Available from: www.gmc-uk.org/guidance/good_medical_practice.asp
- Gordon D, Christensen L, Dayrit M, Dela F, Karle H, Mercer H. Educating health professionals: the Avicenna project. *Lancet.* 2008;371:966-7.
- Gordon D, Christensen L, Karle H, Walters T. The Avicenna Directories – A new tool in quality assurance of medical education. *World Medical Journal.* 2009;55:9-11.
- Hays R. International accreditation of medical schools. Letter to the Editor. *Med Educ.* 2003;37:662.
- Hays R. and Baravilala M. Applying global standards across national boundaries: lessons learned from an Asia-Pacific example. Commentary. *Med Educ.* 2004;38:582-4
- Karle H. Global standards in medical education for better health care. Commentary. *Med Educ.* 2002;36:1116.
- Karle H. Global Standards and Accreditation in Medical Education : A view from the WFME. *Acad Med.* 2006;81(Suppl 12):S43-8.
- Karle H and on the behalf of the Executive Council World Federation for Medical Education. International recognition of basic medical education programmes: A WFME Position Paper. *Med Educ.* 2008;42:12-7.
- Karle H, Walton H, Lindgren S. The World Federation for Medical Education (WFME). History of the First Forty Years 1972-2012 [Internet]. 2012. Available from: <http://wfme.org/documents/about-wfme/79-wfme-history-of-the-first-forty-years-1972-2012/file>
- Lilley PM, Harden RM. Standards and medical education. Editorial. *Med Teach.* 2003;25:349-51.
- Lindgren S, Karle H. Social accountability of medical education: Aspects on global accreditation. *Med Teach.* 2011;33:667-72.
- van Niekerk JP. WFME Global Standards receive ringing endorsement. Commentary. *Med Educ.* 2003;37:585-6.
- van Niekerk JP, Christensen L, Karle H, Lindgren S and Nystrup J. WFME Global Standards in Medical Education: status and perspectives following the 2003 WFME World Conference. Conference Report. *Med Educ.* 2003;37:1050-4. Organisation for PhD Education in Biomedicine and Health Sciences in the European System (ORPHEUS), Association of Medical Schools in Europe (AMSE) and World Federation of Medical Education (WFME). Standards for PhD Education in Biomedicine and Health Sciences in Europe. A proposal [Internet]. 2012. Available from: <http://wfme.org/standards/phd/57-standards-for-phd-education-in-biomedicineand-health-sciences-in-europe/file>
- Prideaux D. Globalisation and Health Professional Education. Editorial. The ANZAME Journal “Focus on Health Professional Education: A Multi-Disciplinary Journal”. 2003;5:V. Royal College of Physicians and Surgeons of Canada. CanMEDS 2005 Framework [Internet]. 2005. Available from: http://www.royalcollege.ca/portal/page/portal/rc/common/documents/canmeds/framework/the_7_canmeds_roles_e.pdf
- Royal College of Physicians and Surgeons of Canada. The Draft CanMEDS 2015 Physicians Competency Framework [Internet]. Frank JR, Snell LS, Sherbino J, editors. 2015. Available from: http://www.royalcollege.ca/portal/page/portal/rc/common/documents/canmeds/framework/canmeds_2015_framework_series_III_e.pdf.

- Segouin C, Nystrup J, Christensen L, Karle H. Faut-il prescrire des standards internationaux en éducation médicale? Compte-rendu de la conférence mondiale organisée par la World Federation for Medical Education (WFME) à Copenhague (15-19 Mars 2003) “Global standards in medical education for better health care”. Pédagogie Médicale. 2004;5:1-3.
- The Edinburgh Declaration. Notes and Views. The Lancet. 1988;8068:464.
- World Federation for Medical Education (WFME). Proceedings of the World Summit on Medical Education. Med Educ. 1994;28 (Suppl s1):1-171.
- World Federation for Medical Education (WFME). The Executive Council. International standards in medical education: assessment and accreditation of medical schools’ educational programmes. Med Educ.1998;32:549-58.
- WFME World Conference “Global Standards for Medical Education – For Better Health Care”. Copenhagen 15-19 March 2003.
- World Federation for Medical Education (WFME) and Federation for Advancement of
- International Medical Education and Research (FAIMER). New World Directory of Medical Schools. In collaboration with WHO and the University of Copenhagen [Internet]. 2014. Available from: <http://www.wdoms.org>
- World Health Organization (WHO).World Health Assembly (WHA). WHA Resolution 42.38;1989.
- World Health Organization (WHO). World Health Assembly (WHA). Reorientation of medical education and medical practice for health for all [Internet]. WHA Resolution 48.8;1995. Available from: http://www.who.int/hrh/resources/WHA48-8_EN.pdf?ua=1
- World Health Organization (WHO). Division of Development of Human Ressources. Changing Medical Education. An Agenda for Action [Internet]. WHOEDUC/91.200;1991. Available from: http://apps.who.int/iris/bitstream/10665/60494/1/WHO_EDUC_91.200.pdf?ua=1
- World Health Organization (WHO). Division of Development of Human Ressources. Priorities at the interface of health care, medical practice and medical education: Abbreviated report of the global conference on international collaboration on medical education and practice [Internet]. WHO/HRH/95.3;1994. Available from: http://apps.who.int/iris/bitstream/10665/59554/1/WHO_HRH_95.3.pdf
- World Health Organization (WHO). Doctors for health. A WHO global strategy for changing medical education and medical practice for health for all [Internet]. WHO/HRH/96.1;1996. Available from: http://whqlibdoc.who.int/hq/1996/WHO_HRH_96.1.pdf
- World Health Organization (WHO). World Directory of Medical Schools, 7th ed. Geneva; 2000.
- World Health Organization (WHO). Department of Human Resources for Health. Global standards for the initial education of professional nurses and midwives [Internet]. 2009. Available from: http://www.who.int/hrh/nursing_midwifery/hrh_global_standards_education.pdf
- World Health Organization (WHO) and World Federation for Medical Education (WFME). WHO/WFME strategic partnership to improve medical education [Internet]. 2004. Available from: <http://who.int/hrh/links/partnership/en/>
- World Health Organization (WHO), Regional Office for Eastern Mediterranean (WHO/EMRO) and World Federation for Medical Education, Association for Medical Education in the Eastern Mediterranean (WFME-AMEEMR). Regional consultation on accreditation of health professions education [Internet]. WHO-EM/HRH/629/E;2011. Available from:

http://apps.who.int/iris/bitstream/10665/116094/1/IC_Meet_Rep_2011_EN_14538.pdf?ua=1

- World Medical Association (WMA). Medical Ethics Manual, 2nd ed [Internet]. 2009. Available from: http://www.wma.net/en/30publications/30ethicsmanual/pdf/ethics_manual_en.pdf

BME-RELATED

- American Medical Association (AMA). Future Directions for Medical Education. A Report of the Council on Medical Education. Chicago;1982.
- Association of American Medical Colleges (AAMC). Physicians for the Twenty-First Century. 1984.
- Association of American Medical Colleges (AAMC) and the American Medical Association (AMA). Liaison Committee on Medical Education. Functions and Structure of a Medical School. Standards for Accreditation of Medical Education Programs Leading to the MD Degree [Internet]. 2015. Available from: <http://www.lcme.org/publications.htm>
- Australian Medical Council Limited (AMC). Standards for Assessment and Accreditation of Primary Medical Programs by the Australian Medical Council [Internet]. 2012. Available from: <http://www.amc.org.au/joomla-files/images/Accreditation/FINAL-Standards-and-Graduate-Outcome-Statements-20-December-2012.pdf>
- European Commission. Advisory Committee on Medical Training. Report and Recommendations on Undergraduate Medical Education. Doc. III/F/5127/3/92;1992.
- Gastel B, Rogers DE, editors. Clinical education and the doctor tomorrow. Proceedings of the Josiah Macy Jr Foundation National Seminar on Medical Education. New York Academy of Medicine;1989.
- General Medical Council (GMC). Tomorrow's Doctors. Outcomes and standards for undergraduate medical education [Internet]. 2009. Available from: http://www.gmc-uk.org/Tomorrow_s_Doctors_1214.pdf_48905759.pdf
- Grant J, Marshall J, Gary NE. Pilot Evaluation of the World Federation for Medical Education's global standards for basic medical education. Med Educ. 2005;39:245-6.
- Institute for International Medical Education (IIME). Core Committee. Global Minimum Essential Requirements [Internet]. Available from: <http://www.iime.org/gmer.htm>
- World Federation on Medical Education (WFME). WFME Task Force on Defining International Standards in Basic Medical Education. Report of the Working Party, Copenhagen, 14-16 October 1999. Med Educ. 2000;34:665-75.
- World Health Organization (WHO). Regional office for the Western Pacific [Internet]. WHO Guidelines for Quality Assurance of Basic Medical Education in the Western Pacific Region [Internet]. 2001. Available from: http://iris.wpro.who.int/bitstream/10665.1/5593/1/9290610204_eng.pdf
- World Health Organization (WHO) and World Federation for Medical Education (WFME). WHO/WFME Guidelines for Accreditation of Basic Medical Education [Internet]. 2005. Available from: <http://wfme.org/accreditation/whowfme-policy/28-2-who-wfme-guidelines-foraccreditation-of-basic-medical-education-english/file>