National Academic Reference Standards (NARS)

Medicine

2nd Edition

2017

Forward

In line with NAQAE's legal mandate as the authority responsible for   Quality Assurance of Education in Egypt, and out of its commitment to be a promoter of quality and an agent for change; NAQAAE has developed the 2nd edition of the National Academic Reference Standards (NARS) -Medicine (2017). These standards represent the minimum academic quality requirements, which NAQAAE & the relevant Stakeholders regard as necessary and appropriate to protect the interests of the students, and of the community at large.

It has always been our conviction that quality is primarily the responsibility of the institution itself, and that the academic standards adopted by any institution should support the achievement of its mission. Thus, it is crucial to emphasize that the NARS are meant to be used as reference points that provide guidance in the design, delivery and review of academic programs, and are not intended by any means to represent a national curriculum in the subject. Instead, NAQAAE was keen to ensure that the NARS allow for flexibility and innovation in program design and teaching strategies, within a framework agreed by the subject community.

NAQAAE has always supported the autonomy and academic freedom of educational institutions and acknowledged -and assimilated- the diversity of their missions, hence, institutions are invited to consider adopting other reference points that better reflect their mission if they need to, provided that these adopted academic standards are equal to or higher than the NARs.

Finally, it should be noted that the 2nd edition NARS- Medicine will be effective starting academic year 2018-19; institutions applying for accreditation during the transitional period (academic year 2017-18) have the choice of adopting either the NARS 2009 or 2017.

Youhansen Eid
Chairman of the Board

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I.   Introduction

According to the law 82-2006, the National Authority for Quality Assurance and Accreditation of Education "NAQAAE " is responsible for Quality Assurance of education as well as for building the confidence in - and ensuring the recognition of - the output of the Egyptian education system, i.e. graduates / qualifications. The law has granted NAQAAE the authority to set standards and policies and to develop the tools needed to fulfill its defined responsibilities.

While recognizing the existence of- and the need for- diverse institutional missions and educational objectives, NAQAAE believes that any medical education program (as any other educational program) must provide assurances that the graduates exhibit general professional competencies that meet the expectations of the community and that serve as the foundation for a process of lifelong learning and professional development of the medical graduate. To help institutions provide this assurance and to protect the interests of the community and the students themselves, NAQAAE has developed Subject Specific National Academic Reference Standards (NARS) for medical education programs as well as for other subject sectors. The NARS-Medicine are meant to express the stakeholders' expectations about the graduate of a medical school in Egypt, defining (and articulating) the attributes and competencies that holders of the qualification " Bachelor Degree in Medicine and Surgery (MBBCh) " should exhibit.

As a bachelor degree, MBBCh is a level 5 qualification on the Egyptian National Qualification Framework. According to the Egyptian NQF descriptors, the holder of a level 5 qualification should be able to*:*

- Apply integrated general/ professional knowledge covering a broad spectrum of facts, principles and theories within inter-related domains with specialization in a field of study or work.
- Use analytic critical thinking to solve specialized problems in predictable and non-predictable contexts, while dealing with variation and interfering factors.
- Master a wide spectrum of specialized skills using familiar and less familiar tools.
- Critically evaluate the results of achieved tasks to establish multi-dimensional correlations and build technical expertise.
- Identify occupational hazards and design mitigation measures for them
- Apply cost/effectiveness measures.
- Manage processes in familiar and less familiar contexts.

- Use digital tools and media to deal with academic / professional challenges in a critical and creative manner.
- Work or study autonomously under general systems and rules, assuming full responsibility for own learning and self-development.
- Take informed decisions in familiar contexts.
- Assumes responsibility for own and team performance.
- Evaluate the performance of subordinates and support their development.
- Uses efficiently and develops workplace resources.
- Embrace work ethics.
- Ensures the application of quality assurance standards and procedures, enhancing methodologies and processes.

NAQAAE - being responsible for guaranteeing the quality of qualifications and of education, was keen while developing the medical NARS with different stakeholders to ensure that those standards benchmark with the descriptors of level 5 qualifications on the Egyptian NQF and that they reflect the paradigm shift in medical education from time bound to competency based medical education as will be evident throughout this document.

II.   About the NARS

What are the NARS

- The National Academic Reference Standards (NARS) are 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 Bachelor Degree in Medicine (MBBCh) and articulate the attributes and competencies that those possessing such qualification should be able to demonstrate.

- 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.

- The first edition of the National Academic Reference Standards was published in 2009 as outcome-based standards. In the last ten years there has been a significant progress -on the international level- in medical education. NAQAAE, to align with international medical updated standards, and after consultation with the main stakeholder in Egypt decided to shift the Egyptian NARS from learning outcomes to competency based.

The shift to competency based medical education

- Historically, medical education has been a "Structure/Process" education based learning model that is time and teacher centered, where studying standardized courses and participating in a particular number of cases and years of training were the determinants of completing a medical education program.

- In the recent past a shift occurred to the Learning Outcomes (LO)-based education, where intended learning outcomes were articulated in the form of Knowledge, Skills and Attitudes that a student must achieve. Despite its being a relatively successful student centered and outcome oriented model for education; the LO based medical education model worked with a critical assumption that achieving separate learning outcomes (that were often subject-specific) will enable the medical student to reach an appropriate level of competence to practice medicine with some degree of autonomy.

- Through the past decade with higher societal expectations from graduates of medical schools to demonstrate the development of higher competence standards and with the culminating literature supporting the value of integrated learning, the medical education worldwide responded by a paradigm shift towards a more holistic and integrated approach to education, that is competency-based medical education (CBME).

- CBME thus emerged out of a need to focus medical education on patient/ practice related outcomes, and to emphasize learners' abilities and foster the good practices of integrated learning.

Methodology for the developing NARS- Medicine 2017

- Under NAQAAE's coordination, NARS-Medicine 2017 have been developed by a group of medical academics and professionals representing a wide variety of key partners including: Egyptian Universities, the Medical Sector Committee of the Supreme Council of Universities, the Medical Syndicate, the Ministry of Health and Population, Armed Forces Hospitals, private hospitals and students.

- The NARS were developed through the following process:
  - Establishment of the "NARS-Medicine" development committee which constitutes a technical task force of experts in medical education.
  - Review of the literature regarding developments in medical education, competency based education, subject benchmarks for medicine and existing competency frameworks for medical school graduates.
  - Analysis of the feedback from Egyptian faculties of Medicine on the NARS for Medicine, as well as analysis of NAQAAE's external review reports on the faculties of Medicine that went through the accreditation process since the year 2009.
  - Study of the NQF – Egypt to identify the descriptors of a Bachelor degree qualification.
  - Holding brain Storming sessions with different stakeholders to define the attributes and competencies of the medical school graduate.
  - Preparing a first draft document of the NARS.
  - Holding numerous referee/discussion sessions with stakeholders' representatives to refine the draft document.

- o Conducting a series of workshops in different public and private medical schools to present the NARS and explain the planned process for online feedback.
- o Getting feedback on the developed NARS from a wide base of stakeholders through an   online survey.
- o Modifying the NARS according to the obtained feedback
- o Holding a referee session for the developed NARS, with the participation of the Medical Sector Committee of the Supreme Council of Universities, the Medical Syndicate, the Ministry of Health as well as high profile national and international experts.
- o Accreditation of the developed NARS by NAQAAE's board.

Overview of the structure of NARS- Medicine 2017

- The competency framework of the NARS-Medicine 2017 consists of 6 competency areas, each competency area articulates a defined function of the graduating physician, and collectively the 6 competency areas contribute to the fulfillment of the graduate attributes.

- The competency areas of the NARS- Medicine competency framework are:

    I- The graduate as a health care provider.

    II-The graduate as a health promoter.

    III- The graduate as a professional.

    IV- The graduate as a scholar and scientist.

    V- The graduate as a member of the health team and a part of the health care system.

    VI- The graduate as a lifelong learner and researcher.

- Each competency area is broken down to a number of key competencies that in the aggregate define the desired outcomes for a medical school graduate in that particular competency area.

- In total, the NARS –Medicine competency framework encompasses 65 key competencies under its 6 competency areas.
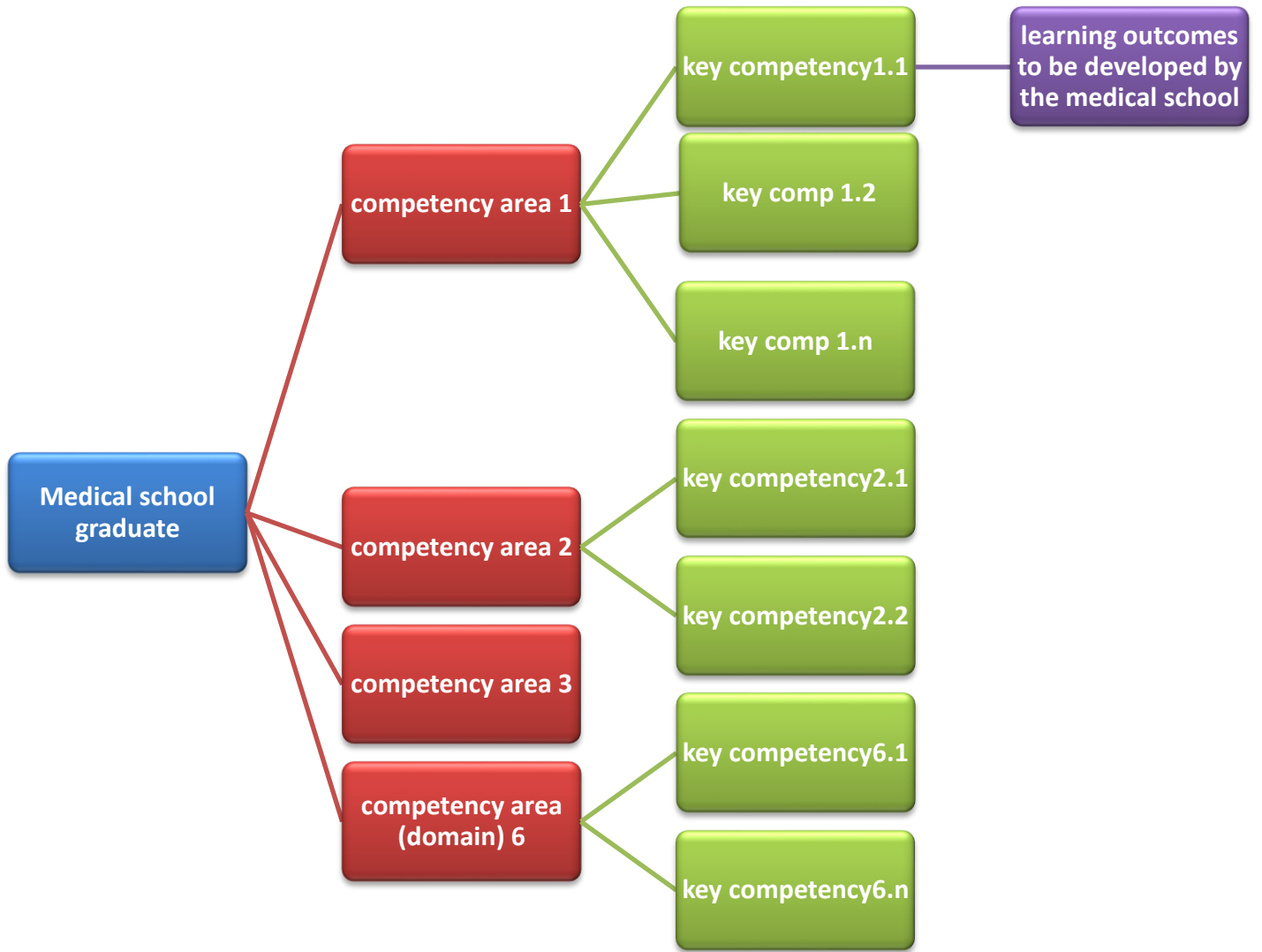
Structure of the NARS-Medicine 2017 Competency Framework

Role of Key partners

NAQAAE

The role of NAQAAE is to:

- Coordinate the development of the NARS with wide stakeholders' involvement.
- Approve and Publish the NARS.
- Disseminate the NARS using different means.
- Build the capacity of Medical schools to enable them to properly apply the NARS.
- Assure the application of the NARS through the conduct of the external reviews.
- Periodically review and develop the NARS, keeping up with developments in medical education.

The Medical Sector Committee of the Supreme Council of Universities

- The role of the Medical Sector Committee is to participate in the development and dissemination of the NARS, and to facilitate its implementation.

Faculties of Medicine

The role of each faculty of medicine is to:

- Formally adopt the NARS and ensure that they are in compliance with its mission.
- The faculty may opt to adopt other Academic Reference Standards (ARS) (whether these are external or developed by the faculty) that are more consistent with its mission, and in this case the faculty must submit its ARS to NAQAAE to accredit as being equal or higher than the NARS.
- Raise awareness of the faculty members and students about the adopted standards.
- Have an executive plan to successfully implement and monitor the academic reference standards and means to secure and sustain the use of these standards.
- Clearly define the program and course specifications including aims and Intended Learning Outcomes, keeping constructive alignment between learning outcome, teaching modalities, assessment methods and available learning resources.
- Make available all evidences they may wish to present under each of the standards and make this clear in their self-evaluation reports and during external audit.
- Adhere to the Guidelines for application of the NARS presented later in this document.

III. Attributes of the Graduates of Medical Schools

The Medical Graduate must:

1. Work to maintain health and promote human wellbeing.

2. Behave professionally and adhere to medical ethics.

3. Provide -quality and safe patient-centered care, focusing on primary health care and dealing with common health problems in his/her community.

4. Value the importance of a good doctor/ patient relationship, and work to establish and maintain it.

5. Work effectively with other health care professionals respecting their roles and their contribution to the team.

6. Recognize his/her role as a part of health care system, respecting its hierarchy and rules and using his managerial and leadership skills to add value to the system.

7. Contribute to the development and empowerment of his/ her community.

8. Work as a lifelong learner- on his/her own continuous professional development, including being equipped to engage in post- graduate and research studies.

IV.   The NARS for Medicine

Competency Area I: The graduate as a health care provider

The graduate should provide quality, safe, patient-centered care, drawing upon his/her integrated knowledge and clinical skills, and adhering to professional values. The graduate should collect and interpret information, make clinical decisions, and carry out diagnostic and therapeutic interventions - with an understanding of the limits of his/her expertise- considering the patient's circumstances and preferences as well as the availability of resources. The graduate should be able to:

1.1.   Take and record a structured, patient centered history.
1.2.   Adopt an empathic and holistic approach to the patients and their problems.
1.3.   Assess the mental state of the patient.
1.4.   Perform appropriately timed full physical examination 1of patients appropriate to the age, gender, and clinical presentation of the patient while being culturally sensitive.
1.5.   Prioritize issues to be addressed in a patient encounter.
1.6.   Select the appropriate investigations and interpret their results taking into consideration cost/ effectiveness factors.
1.7.   Recognize and respond to the complexity, uncertainty, and ambiguity inherent in medical practice.
1.8.   Apply knowledge of the clinical and biomedical sciences relevant to the clinical problem at hand.
1.9.   Retrieve, analyze, and evaluate relevant and current data from literature, using information technologies and library resources, in order to help solve a clinical problem based on evidence (EBM).
1.10. Integrate the results of history, physical and laboratory test findings into a meaningful diagnostic formulation.
1.11. Perform diagnostic and intervention procedures[2] in a skillful and safe manner, adapting to unanticipated findings or changing clinical circumstances.
1.12. Adopt strategies and apply measures that promote patient safety.
1.13. Establish patient-centered management plans in partnership with the patient, his/her family and other health professionals as appropriate, using Evidence Based Medicine in management decisions.
1.14. Respect patients' rights and involve them and /or their families/carers in management decisions.
1.15. Provide the appropriate care in cases of emergency, including cardio-pulmonary resuscitation, immediate life support measures and basic first aid procedures.
1.16. Apply the appropriate pharmacological and nonpharmacological approaches to alleviate pain and provide palliative care for seriously ill people, aiming to relieve their suffering and improve their quality of life.
1.17. Contribute to the care of patients and their families at the end of life, including management of symptoms, practical issues of law and certification.

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[1] Refer to appendix A for recommended fundamental physical examination skills
[2] Refer to appendix B for recommended basic diagnostic and intervention procedures

Competency Area II: The graduate as a health promoter

The graduate should advocate for the development of community and individual measures which promote the state of well-being, he/she should empower individuals and communities to engage in healthy behaviors, and put his/her knowledge and skills to prevent diseases, reduce deaths and promote quality life style. The graduate should be able to:

2.1 Identify the basic determinants of health and principles of health improvement.

2.2 Recognize the economic, psychological, social, and cultural factors that interfere with wellbeing.

2.3 Discuss the role of nutrition and physical activity in health.

2.4 Identify the major health risks in his/her community, including demographic, occupational and environmental risks; endemic diseases, and prevalent chronic diseases.

2.5 Describe the principles of disease prevention, and empower communities, specific groups or individuals by raising their awareness and building their capacity.

2.6 Recognize the epidemiology of common diseases within his/her community, and apply the systematic approaches useful in reducing the incidence and prevalence of those diseases.

2.7 Provide care for specific groups including pregnant women, newborns and infants, adolescents and the elderly.

2.8 Identify vulnerable individuals that may be suffering from abuse or neglect and take the proper actions to safeguard their welfare.

2.9 Adopt suitable measures for infection control.

Competency Area III: The graduate as a professional

The graduate should adhere to the professional and ethical codes, standards of practice, and laws governing practice. The graduate should be able to:

3.1. Exhibit appropriate professional behaviors and relationships in all aspects of practice, demonstrating honesty, integrity, commitment, compassion, and respect.

3.2. Adhere to the professional standards and laws governing the practice, and abide by the national code of ethics issued by the Egyptian Medical Syndicate.

3.3. Respect the different cultural beliefs and values in the community they serve.

3.4. Treat all patients equally, and avoid stigmatizing any category regardless of their social, cultural, ethnic backgrounds, or their disabilities.

3.5. Ensure confidentiality and privacy of patients' information.

3.6. Recognize basics of medico-legal aspects of practice, malpractice and avoid common medical errors.

3.7. Recognize and manage conflicts of interest.

3.8. Refer patients to appropriate health facility at the appropriate stage.

3.9. Identify and report any unprofessional and unethical behaviors or physical or mental conditions related to himself, colleagues or any other person that might jeopardize patients' safety.

Competency Area IV: The graduate as a scholar and scientist

The graduate should build his clinical practice on a base of knowledge of scientific principles and methods of basic medical and social sciences, applying this knowledge into clinical care, and using it as a foundation for clinical reasoning, care provision, further professional development and research. The graduate should be able to:

4.1   Describe the normal structure of the body and its major organ systems and explain their functions.

4.2   Explain the molecular, biochemical, and cellular mechanisms that are important in maintaining the body's homeostasis.

4.3   Recognize and describe main developmental changes in humans and the effect of growth, development and aging on the individual and his family.

4.4   Explain normal human behavior and apply theoretical frameworks of psychology to interpret the varied responses of individuals, groups and societies to disease.

4.5   Identify various causes (genetic, developmental, metabolic, toxic, microbiologic, autoimmune, neoplastic, degenerative, and traumatic) of illness/disease and explain the ways in which they operate on the body (pathogenesis).

4.6   Describe altered structure and function of the body and its major organ systems that are seen in various diseases and conditions.

4.7   Describe drug actions: therapeutics and pharmacokinetics; side effects and interactions, including multiple treatments, long term conditions and non-prescribed medication; and effects on the population.

4.8   Demonstrate basic sciences specific practical skills and procedures relevant to future practice, recognizing their scientific basis, and interpret common diagnostic modalities, including: imaging, electrocardiograms, laboratory assays, pathologic studies, and functional assessment tests.

Competency Area V: The graduate as a member of the health team and a part of the health care system

The graduate should work and collaborate effectively with physicians and other colleagues in the health care professions, demonstrating an awareness of and a respect for their roles in delivering safe, effective patient- and population-centered care. He/she should be committed to his/her role as a part of health care system, respecting its hierarchy and rules and using his/her administrative and leadership skills to add value to the system. The graduate should be able to:

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

5.2   Respect colleagues and other health care professionals and work cooperatively with them, negotiating overlapping and shared responsibilities and engaging in shared decision-making for effective patient management.

5.3   Implement strategies to promote understanding, manage differences, and resolve conflicts in a manner that supports collaborative work.

5.4   Apply leadership skills to enhance team functioning, the learning environment, and/or the health care delivery system.

5.5   Communicate effectively using a written health record, electronic medical record, or other digital technology.

5.6   Evaluate his/her work and that of others using constructive feedback.

5.7   Recognize own personal and professional limits and seek help from colleagues and supervisors when necessary.

5.8   Apply fundamental knowledge of health economics to ensure the efficiency and effectiveness of the health care system.

5.9   Use health informatics to improve the quality of patient care.

5.10 Document clinical encounters in an accurate, complete, timely, and accessible manner, in compliance with regulatory and legal requirements.

5.11 Improve the health service provision by applying a process of continuous quality improvement.

5.12 Demonstrate accountability to patients, society, and the profession.

Competency Area VI: The graduate as a lifelong learner and researcher

The graduate should demonstrate a lifelong commitment to excellence in practice through continuous learning and professional development. He should reflect on his own performance, and plan for his own development making use of all possible learning resources. The graduate should have an inquisitive mind and adopt sound scientific research methodology to deal with practice uncertainty and knowledge gaps and to contribute to the development of his profession as well as for the purpose of his own academic development. The graduate should be able to:

6.1 Regularly reflect on and assess his/her performance using various performance indicators and information sources.

6.2 Develop, implement, monitor, and revise a personal learning plan to enhance professional practice

6.3 Identify opportunities and use various resources for learning.

6.4 Engage in inter-professional activities and collaborative learning to continuously improve personal practice and contribute to collective improvements in practice.

6.5 Recognize practice uncertainty and knowledge gaps in clinical and other professional encounters and generate focused questions that address them.

6.6 Effectively manage learning time and resources and set priorities.

6.7 Demonstrate an understanding of the scientific principles of research including its ethical aspects and scholarly inquiry and Contribute to the work of a research study.

6.8 Critically appraise research studies and scientific papers in terms of integrity, reliability, and applicability.

6.9 Analyze and use numerical data including the use of basic statistical methods.

6.10 Summarize and present to professional and lay audiences the findings of relevant research and scholarly inquiry.

V.   Guidelines for application of the NARS

The following are General guidelines and requirement for achievement of the NARS

1. **Curriculum Management**: Every Faculty of Medicine **must** establish a system for curriculum management that inclusively but not exclusively comprise authoritative committees for curriculum development, implementation, student's assessment and program evaluation.

2. **Educational Strategies**: NAQAAE and the Sector Committee require that all faculties of medicine adopt educational strategies that enhance students' participation in the learning process and help the development of students' **self-learning abilities**. The Medical school **must ensure early clinical exposure** with adequate **clinical training opportunities**. The **training in skills laboratories** must support this early clinical encounter. The Medical school educational strategy must also include **students' independent research throughout the years of medical school**.

3. **Curriculum Integration**. Traditionally the medical program was divided into a pre-clinical phase covering the sciences basic to medicine and the clinical phase covering clinical instruction with some of the more applied medical sciences. Contemporary medical education however recognizes integration of basic and clinical disciplines as good practice in medical education. NAQAAE and the SCU require that **all faculties of** medicine apply some degree of integration beginning from step 5 to step 11 on the integration ladder (Harden, 2000). There are different types of integrated curricula in medical education, e.g. the curriculum can be Problem Based Learning (PBL), Team Based learning (TBL), Competency-Based (CBME), Modular Medical Integrated curriculum (MEDIC), Community Based, System Based or Case Based curricula. Every faculty of medicine has the freedom to choose the type of integrated curriculum that fits its mission and resources and covers the scope of the NARS competency framework.

4. **Elective Courses**: Most of the medical schools adopt a compulsory core curriculum to all the students to achieve the competencies needed for the graduate. As elective courses became one of the essential international standards in medical education, NAQAAE and the Sector Committee request medical schools to include elective studies within their undergraduate courses. The aim of the elective studies is to provide flexible programs, stimulate critical thinking, and allow students to acquire research abilities and enhance their skills in collection, evaluation, synthesis and presentation of evidence. Elective

studies also provide opportunity for in depth study of areas of student interests and may extend beyond the traditional medical disciplines.

5. **Student Assessment** is an essential component in the educational process, the faculty should use both formative and summative assessments, as it drives learning and allows the institution to ensure that the students have achieved the desired intended learning outcomes to the degree determined by the academic standards. The NARS emphasizes that the Faculty should make all the efforts to establish an assessment system that utilizes **a variety of methods and techniques** to ensure that all the curricular outcomes have been adequately met. This requires the use of objective questions (MCQs, matching etc.) in addition to modified essay and problem solving and case studies in written exams. Similarly, the Faculty **must** ensure that assessment of clinical and practical skills encompasses tools that allow the coverage of a wide variety of required competencies. This should inclusively - but not exclusively - include the wider implementation of Objective Structured Practical and Clinical Exams (OSCE/SP), extended direct observation of students interviewing and examining patients throughout their clinical clerkships, Mini Clinical Encounter Evaluation [Mini-CEX] as well as the assessment of procedural skills in skills labs. Assessment of attitudes and ethics though relatively difficult, yet must be sought through the reflection of the attitudes on the students' behaviors by extended direct observation from their teachers. All Faculties **must** make necessary arrangements to monitor the assessment process through students and staff feedback.

6. **Medical Education Center /Department:** In recent years, there has been an increasing professionalism in medical education, NAQAAE and the Medical Sector Committee request all faculties of medicine to establish medical education departments or medical education centers.

VI. Appendices

Appendix A

Fundamental physical examination skills

	Skills
1.	Measuring body temperature
2.	Measuring pulse rate, respiratory rate and blood pressure
3.	Anthropometric Measurements and assessment of nutritional status
4.	Chest examination
5.	Heart examination
6.	Abdominal examination
7.	Locomotor system examination
8.	Nervous system examination
9.	Examination of the jugular veins
10.	Ear examination
11.	Throat examination
12.	External Eye and fundus examination
13.	Breast examination
14.	Examination of the thyroid
15.	Lymph nodes examination
16.	PV examination
17.	Assessment of uterine fundus level in pregnancy
18.	PR examination
19.	Examining lumps

Appendix B

Basic diagnostic and intervention procedures

	Skills
1.	Performing venipuncture and collect blood samples.
2.	Inserting a cannula into peripheral veins.
3.	Establishing peripheral intravenous access and setting up an infusion; use of infusion devices
4.	Giving intramuscular, subcutaneous, intradermal and intravenous injections.
5.	Suturing of superficial wounds.
6.	Performing cardiopulmonary resuscitation and basic life-support
7.	Performing and interpreting basic bedside laboratory tests
8.	Performing and interpreting ECG
9.	Managing an electrocardiograph (ECG) monitor
10.	Taking swabs for different diagnostic purposes
11.	Using a nebulizer for administration of inhalation therapy
12.	Performing male and female bladder catheterization
13.	Administering basic oxygen therapy
14.	Wound care and basic wound dressing
15.	Managing Blood transfusion
16.	Inserting a nasogastric tube.
17.	Administering local anesthetics
18.	Performing the procedure of normal labor

Appendix C

Practical skills

	Skills
1.	Dissecting the different parts and organs of the human body
2.	Performing Biochemical and microscopic urine and stool analysis
3.	Performing basic biochemical blood tests
4.	Preparing urine and stool specimen for microscopic examination
5.	Identification of parasites and parasitic ova under the microscope
6.	Identification of different normal tissue sections under the microscope
7.	Identification of different pathological alterations in tissue sections under the microscope
8.	Identification of gross pathological alterations in different body organ specimens
9.	Determining blood group and performing cross matching and computability tests
10.	Preparing and examining blood films and assessing hemoglobin value in a blood sample
11.	Obtaining and handling a blood sample for culture
12.	Performing and interpreting basic respiratory function tests.
13.	Identifying different bacteria and fungi under the microscope
14.	Differentiating different bacterial growth in culture

VII. Glossary

Academic Standards

Reference points prescribed (defined) by an institution comprising the collective outcomes/competencies to be gained by the graduates of a particular program. The academic standards should surpass the NARS, and be approved by NAQAAE.

Competency

An observable ability of a health professional, integrating multiple components such as knowledge, skills, values, and attitudes. Since competencies are observable, they can be measured and assessed to ensure their acquisition

Competency areas

Broad distinguishable areas of competence that, in the aggregate, constitute a general descriptive framework for a profession.

Competency-based medical education

An outcomes-based approach to the design, implementation, assessment of learners, and the evaluation of medical education programs, using an organizing framework of competencies.

Competency framework

An organized and structured representation of a set of interrelated and purposeful competency objects.

Graduate Attributes

Characteristics, qualities, attitudes and dispositions that graduates should possess upon completion of a particular program.

Intended Learning Outcomes (ILOs)

Subject-specific knowledge, understanding and skills intended by the institution to be gained by the learners completing a particular educational activity. The ILOs emphasize what is expected that learners will be able to do as a result of a learning activity

National Academic Reference Standards (NARS)

Reference points defined by NAQAAE to outline/describe the expected minimum competencies to fulfill the requirements of a program of study.

The National Qualifications Framework (NQF)

A framework that provides a systematic description of all qualifications within the educational systems of the state and categorizes them according to a set of standards that determine the level of learning outcomes for each qualification gained. The NQF is used as a tool for benchmarking, quality assurance, comparison and coordination between the different qualifications.

The Program

A set of educational courses and activities designed by the institution to determine the systematic learning progress. The program also imparts the intended competencies required for the award of an academic degree.

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