WCAME 教育部临床医学专业认证工作委员会
Working Committee for the Accreditation of Medical Education, MOE

Standards for
Basic Medical Education in China
(The 2022 Revision)

中国本科医学教育标准
—临床医学专业

2022 版

教育部临床医学专业认证工作委员会

北京大学医学出版社

Standards for Basic Medical Education in China

The 2022 Revision

Working Committee for the Accreditation of Medical Education,
Ministry of Education, P. R. China

Contents

Preface

Medical education programs in China carry out the mission of training competent health professionals, thusly closely related to the health outcomes of all citizens. Since the Ministry of Education (MOE) and the former Ministry of Health issued *Standards for Basic Medical Education (for Trial Implementation)* in 2008, the accreditation system of basic medical education in China has been gradually developed. The Working Committee for the Accreditation of Medical Education (WCAME) of the MOE has been established, the official *Guidelines for Accreditation of Medical Education (for Trial Implementation)* has been released, and the accreditation activities have been steadily conducted. In 2016, WCAME officially released *Standards for Basic Medical Education in China (The 2016 Revision)*, which was used as the basis for a new round of accreditation.

In June 2020, WCAME was officially recognized by the World Federation for Medical Education (WFME), marking that China's medical education standards and accreditation system have achieved international substantive equivalence, and the quality of medical education accreditation has been internationally recognized. By the end of 2021, WCAME had completed the first round of accreditation of basic medical education in China.

In order to ensure that the medical education standards keep pace with the times and better promote the new round of accreditation, WCAME summarized the beneficial experience of accreditation for basic medical education in China, timely introduced the latest concepts of medical education, started the revision of the 2016 Standards in 2021, and formed *Standards for Basic Medical Education in China (The 2022 Revision)*.

The 2022 revision is still composed of two parts: graduate outcomes of basic medical education, and standards for basic medical education in China. In standards for basic medical education in China, it still incorporates at two levels of attainment, the basic standard (B) and quality development standard (Q). The basic standard in principle must be met by every medical school providing basic medical education, which is expressed with a "must" statement. The quality development standard is in accordance with international consensus on the best practices in basic medical education hereby representing the trend of development, which is expressed with a "should" statement. Fulfillment of quality development standards will vary with the phases of development, available resources, educational policy and other conditions of the medical schools. Compared with the 2016 revision, the set of standards in the 2022 revision is still grouped into 10 main areas and 40 sub-areas; the original 113 basic standards and 80 quality development standards

were adjusted to 117 basic standards and 76 quality development standards. At the same time, to enhance the readability, we adopt a digital index for the annotations (A) with a total of 86 items.

The 2022 revision, applicable to basic medical education in China, serves as the basis for its accreditation. As the first stage of the continuum of medical education, basic medical education is to develop a medical graduate with foundational clinical ability, life-long learning capability and desired quality of professionalism through complete medical training processes. It lays an essential foundation for postgraduate medical education and practice in various health care institutions for the medical students. The professional capability of basic medical graduates in clinical practices needs to be gradually formed and improved in the postgraduate medical education, the continuing professional development and the continuing medical practices.

The 2022 revision reflects the international trend, taking consideration of the domestic needs and societal expectations of medical education systems in China, which is the basis for formulating educational programs and standardizing educational management. Each medical school is required to determine its educational objectives, formulate its expected educational outcomes and curriculum, and establish its program evaluation system and quality assurance mechanism based on its own characteristics and standards in the 2022 revision.

The revision also acknowledges the differences in geographic locations and among institutions, and respects the autonomy of each medical school. With the prerequisite of adhering to the basic principles of medical education, the revision does not set many specific and compulsory requirements to educational program apart from essential ones, so that there is sufficient space for the development and operations of each institution. It should be highlighted that these standards implement the education policy of the country, strengthen morality education of talents, and are committed to guiding the practice of medical education in China, so as to improve the quality of medical talent training.

Graduate outcomes of basic medical education

The graduates of basic medical education in China should develop the correct views of the world, life and values. They should possess core values of patriotism and collectivism, and be loyal to the people. Besides abiding by the law, they should be willing to make a lifetime dedication to the development of the health care service of the country and the physical and mental well-being of mankind.

The graduate outcomes of basic medical education in China are presented in four domains: Science and Scholarship, Clinical Practice, Health and Society, and Professionalism. More specific requirements of the expected outcomes should be formulated by each institution on the basis of actual situation.

Medical education is a continuum covering basic education, postgraduate education and continuing professional development. At the end of basic medical education, the graduates will possess corresponding foundations for medical practice. However, the graduates do not have rich clinical experiences upon graduation, which requires them to keep upgrading their professional competence in time with the advancing pace in medicine. The education and training graduates obtained and scientific methods they acquired in school will provide support for their lifelong learning and development.

1. Science and Scholarship: the medical graduate as a scientist and a scholar

At the end of basic medical education, graduates are able to:

1.1 Possess the fundamental knowledge of the disciplines such as natural sciences, humanities and social sciences and medicine, and apply scientific methods, which will be applicable in future study and medical practices.

1.2 Apply medical and other scientific knowledge to deal with medical or health related problems in individuals, populations and health systems.

1.3 Understand and describe the prevention and etiology, pathology, course, clinical manifestations, diagnosis, treatment, outcome, prognosis and rehabilitation of diseases at all stages of life.

1.4 Master the basic features of traditional Chinese medicine and its basic principle of diagnosis and treatment.

1.5 Access, critically appraise, interpret and apply evidence from the medical and scientific literature.

1.6 Apply knowledge of common scientific methods to formulate relevant research questions.

2. Clinical Practice：the medical graduate as a practitioner

At the end of basic medical education, graduates are able to:

2.1 Conduct effective communications with patients, their family members or guardians, colleagues and health professionals of other disciplines.

2.2 Take a medical history in a proper, comprehensive and systematic way.

2.3 Perform a full and accurate physical examination, including a mental state examination, and write medical records as required.

2.4 Integrate and interpret findings from the medical history and examination, to arrive at an initial assessment including a relevant differential diagnosis. Discriminate between possible differential diagnoses and propose rational management principles.

2.5 Select and justify common investigations, with regard to the pathological basis of disease, utility, safety and cost effectiveness, and interpret the results.

2.6 Select and perform common procedures safely.

2.7 Make clinical judgements and decisions based on available evidence. Identify and justify relevant treatment options under the guidance of supervising physicians.

2.8 Understand patients' questions, views, concerns and preferences, and ensure patients and their families or guardians' full understanding of their situations and options. Communicate on the risks and benefits of treatment options, and involve patients and their families or guardians in the decision-making and planning of their treatments (shared decision-making).

2.9 Provide information to patients, and their families or guardians where relevant, to enable them to make fully informed choices among various diagnostic, therapeutic and treatment options.

2.10 Apply prevention, early detection, health maintenance and chronic disease management where relevant to clinical practices.

2.11 Propose safe, effective, and economical treatment options based on objective evidence.

2.12 Recognise and evaluate changes in the patient's condition and its severity, and to provide

possible emergency treatment for patients requiring urgent care.

2.13 Master the principles of end-of-life care for patients and communicate with patients and their families or guardians. Use symptomatic, psychological support and other palliative treatment methods to achieve humanitarian purposes, so as to improve the quality of death.

2.14 Retrieve, interpret and record information effectively in clinical information systems.

3. Health and Society: the medical graduate as a health advocate

At the end of basic medical education, graduates are able to:

3.1 Have responsibility to protect and advance the health and well-being of individuals and populations.

3.2 Understand factors that contribute to health, dignosis and effective treatment of populations, including issues relating to health equalities, diversity of cultural and community values, and socio-economic and physical environment.

3.3 Communicate effectively with wider roles in various situation, such as doctors, health advocates, researchers, etc.

3.4 Explain and evaluate common population health screening and prevention approaches, including the use of technology for surveillance and monitoring of the health status of populations, and provide instructions on patients' follow-up visits, medications and rehabilitative therapies, etc.

3.5 Understand the quality assurance system and safety management system of health care in hospitals, and be aware of their own competence, responsibilty and limits in medical practice. Attach importance to patients' safety, and recognize relevant risk factors in time.

3.6 Understand the structures and functions of the national health care system in China, and the roles and relationships between health agencies and services, and understand the principles of rational allocation of resources, to meet the needs of individuals, populations and national health systems.

3.7 Understand the global health issues and the affecting factors of health and diseases.

4. Professionalism: the medical graduate as a professional

At the end of basic medical education, graduates are able to:

4.1 Provide humanistic and quality health care services to all patients in accordance with the *Ethic*

Principles of Chinese Physicians.

4.2 Demonstrate professional values in health practice, including empathy, respect for all patients and committement to high quality clinical service standards, and form personal qualities of honest, integrity, teamwork and leadership.

4.3 Master and apply the main principles of medical ethics in clinical practices. Communicate effectively with patients and their family members or guardians, colleagues and other health care professionals regarding ethical issues in medicine.

4.4 Be aware of the factors affecting physicians' health and wellbeing, such as fatigue, stress management and infection control, to mitigate health risks of professional practice, and identify the potential risks posed to patients by their own health.

4.5 Abide by the laws and regulations regarding clinical practice as well as professional ethics.

4.6 Recognize the limits of their own expertise, and show respect for other health care professionals, to learn and work effectively as a team.

4.7 Demonstrate awareness of self-directed learning and lifelong learning. Recognize the importance of continuous self-improvement and demonstrate a commitment to excellence.

Standards for Basic Medical Education in China

1. Mission and Outcomes

1.1 Mission

Basic standards:

The medical school **must**

- state its mission and make it known to its stakeholders including the leadership, staff and students of the school and health sectors and etc. (B 1.1.1)
- elaborate the overall objectives and the implementation of educational strategy in its mission, to make sure its medical graduates meet the graduate outcomes of basic medical education. (B 1.1.2)
- on the premise of abiding by relevant laws, consider that the mission encompasses the health needs of the community, the needs of the health care system and other aspects of social accountability. (B 1.1.3)

Quality development standards:

The medical school **should**

- ensure that the mission encompasses:
  - orientation of medical research. (Q 1.1.1)
  - requirements for the concepts of one health and aspects of global health. (Q 1.1.2)

Annotations:

- *Mission* illustrates the overarching framework of medical education of a medical school, including its positioning, educational philosophy and expected outcomes. It should match the resources and management of the school, while taking into consideration the local and national, regional and global expectations of medicine and the needs of development. It should also reflect the history, culture, and the development vision of the school. The positioning of the school should reflect its purpose, type and level of the education it provides, the community it serves and its development goals. The educational philosophy should reflect the concepts and ideas it upholds in the training of medical students. (A 1.1.1)

- *The Medical school* is the educational institution offering basic medical education programs. The medical school can be an independent institution or part of or affiliated to a university. Medical schools would include university affiliated hospitals and other affiliated clinical facilities. Medical school not only provides basic medical education, medical research and medical services but also provides educational programs for other stages of medical education and for other health professions. (A 1.1.2)
- *Encompassing the health needs of the community* refers to 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. (A 1.1.3)
- *Social accountability* refers to the 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 global development of medicine by fostering competencies in health care, medical education and medical research. This would be based on the autonomy of the school. In matters outside its control especially health related issues, the medical school would still demonstrate social accountability by explaining relationships and drawing attention to consequences. (A 1.1.4)
- *Medical research* would include basic biomedical sciences, clinical sciences and skills, public health and preventive medicine sciences and other medical related scientific research. (A 1.1.5)
- *Aspects of global health* refers to the awareness of major global health priorities and concerns in different regions, including awareness of major international health problems, and of health consequences of inequality and injustice due to racial differences, regional and wealth disparity, and of cross-disciplinary, cross-sector and cross-border health management to address above challenges. (A 1.1.6)

1.2 Participation in formulation of mission

Basic standard:

The medical school **must**

- ensure that its principal stakeholders on campus participate in formulating the mission. (B 1.2.1)

Quality development standard:

The medical school **should**

- have a mechanism for its stakeholders off campus to participate in the formulation of the mission and effectively implement it. (Q 1.2.1)

Annotations:

- *Principal stakeholders on campus* would include teachers, students, leadership and administrative staff of a university/school. (A 1.2.1)
- *Stakeholders off campus* would include representatives of education and health care authorities, employers, the community and public (e.g., users of the health care delivery system, including patient organizations), academic and administrative staff, professional organizations, medical scientific bodies and postgraduate educators. (A 1.2.2)

1.3 Institutional autonomy and academic freedom

Basic standards:

The medical school **must**

- have the autonomy to formulate and implement policies in compliance with relevant laws and regulations, especially regarding
  - design of the curriculum. (B 1.3.1)
  - allocation and use of the resources necessary for implementation of the curriculum. (B 1.3.2)
- obtain the academic support of medical education from the disciplines such as natural sciences, humanities and social sciences. (B 1.3.3)
- ensure academic freedom for its academic staff/faculty and students. (B 1.3.4)

Quality development standard:

The medical school **should**

- enhance the integration of humanities, social and natural sciences with the medical sciences. (Q 1.3.1)

Annotations:

- *Institutional autonomy* would include appropriate independence from government and other counterparts (regional and local authorities, private co-operations, the professions, unions and other interest groups) to be able to make decisions in key areas such as student admission, design of curriculum, assessments, staff recruitment/selection and employment conditions,

research and resource allocation. Institutional autonomy should be respected on the premise of complying with national laws and regulations and the developmental principles of medical education. (A 1.3.1)

- *Academic freedom* should be respected on the premise of complying national laws and regulations. (A 1.3.2)

1.4 Educational outcomes

Basic standards:

The medical school **must**

- define the intended educational outcomes that students should exhibit upon graduation in relation to science and scholarship, clinical practice, health and society, and professionalism, and clarify the educational outcomes that are consistent with the school's mission. (B 1.4.1)
- ensure appropriate student conducts with respect to fellow students, faculty members, other health care professionals, patients and their families or guardians. (B 1.4.2)

Quality development standards:

The medical school **should**

- specify and co-ordinate the linkage of outcomes to be acquired by graduation with acquired outcomes in postgraduate training. (Q 1.4.1)
- specify requirements for and expected outcomes of student engagement in medical research. (Q 1.4.2)
- specify requirements for students' understanding of one health and global health. (Q 1.4.3)

Annotation:

- *Educational outcomes* can be measured and evaluated by corresponding means, such as academic assessment, student comprehensive evaluation, student development and graduate survey, employment and career development analysis, etc. Academic assessment includes curricular assessment, graduation assessment, the Level Test of Basic Medical Education (undergraduate) in Medical Schools, the National Medical Licensing Examination (NMLE), etc. (A 1.4.1)

2. Curriculum

2.1 Curriculum design and implementation

Basic standards:

The medical school **must**

- make its curriculum suitable for the mission, objectives and educational outcomes of the school, which based upon the medical and health needs of the community and society, the advances in medical sciences and the transforming trends of healthcare services. (B 2.1.1)
- ensure that the curriculum upholds the principles of strengthening foundational learning and skills training, emphasizing professionalism and personal quality development. (B 2.1.2)
- define the curriculum models. (B 2.1.3)
- define the suitable instructional and learning methods employed which is based upon different curricular objectives, contents and teaching objects. (B 2.1.4)
- ensure that the curriculum and instructional/learning methods could stimulate, prepare and support students to take responsibility for their self-directed learning. (B 2.1.5)
- ensure that the curriculum is delivered in accordance with principles of equality. (B 2.1.6)

Quality development standards:

The medical school **should**

- have a scientific and systematic design and implementation of the fostering of students' self-directed learning and lifelong learning ability. (Q 2.1.1)
- reflect the new trend of scientific development in the curriculum. (Q 2.1.2)

Annotations:

- *Curriculum* in this document refers to the educational program and it includes a statement of the training objectives, intended educational outcomes, curriculum models, experiences and processes of the program (consisting of a description of the course structure and composition, credit hours and time allocation), assessment principles, etc. The curriculum shall have a matched curriculum syllabus. The syllabus covers the teaching objectives, teaching contents, instructional and learning methods, learning resources, assessment requirements and other contents of the course. Each part of the syllabus should coordinate with each other and adapt to

the training objectives. (A 2.1.1)

- *Curriculum models* would include models based on disciplines, or various integration. (A 2.1.2)

- *Instructional and learning methods* encompass lectures, small-group teaching, problem-based and case-based learning, peer assisted learning, laboratory teaching, clinical demonstrations, bedside teaching, clinical skills laboratory training, situational teaching, simulation/virtual teaching, online and offline hybrid teaching, etc. (A 2.1.3)

- *Self-directed learning* refers to a kind of learning behavior that learners are driving themselves, judging their own learning needs, formulating suitable learning goals, identifying and integrating relevant learning content and resources, selecting appropriate learning methods and strategies, monitoring their own learning process, evaluating their own learning effects, and constantly adjusting themselves. (A 2.1.4)

- *Principles of equality* refers to that schools abide by the principles of fairness and diversity in the implementation of teaching. The gender, ethnicity, religion and socio-economic status of students shall be fully considered when formulating rules and regulations on teaching management and student evaluation. (A 2.1.5)

- The *curriculum and instructional and learning methods* would be based on contemporary learning principles. (A 2.1.6)

2.2 Scientific method

Basic standards:

The medical school **must**

- throughout the curriculum teach
  - the principles of scientific methods, including the ability to analyze and solve problems and critical thinking. (B 2.2.1)
  - medical research methods. (B 2.2.2)
  - evidence-based medicine. (B 2.2.3)

Quality development standards:

The medical school **should**

- encourage and support students to participate in research projects and include scientific research training throughout the curriculum. (Q 2.2.1)
- include elements of original or advanced research in the curriculum. (Q 2.2.2)
- integrate scientific principles, medical research method and innovation awareness throughout the curriculum. (Q 2.2.3)

Annotation:

- *Scientific method* refers to the fostering of scientific methods and scientific consciousness in the curriculum. (A 2.2.1)

2.3 Humanities and social sciences and natural sciences

Basic standards:

The medical school **must**

- in the curriculum identify and incorporate the contributions of:
  - humanities and social sciences, especially ideological morality, medical ethics, health laws and regulations, etc. (B 2.3.1)
  - natural sciences. (B 2.3.2)

Quality development standards:

The medical school **should**

- integrate humanities and social sciences into medical education, with emphasis on professionalism, in the curriculum adjust and modify the contributions of the humanities and social sciences to:
  - scientific, technological and clinical developments. (Q 2.3.1)
  - current and anticipated needs of the society and the health care system. (Q 2.3.2)
  - changing demographic and cultural contexts. (Q 2.3.3)

Annotations:

- *Humanities and social sciences* include history of medicine, medical ethics, medical jurisprudence, medical psychology, medical sociology, health services administration, etc. Its content and depth depend on program objectives. The medical school is encouraged to

integrate humanities and social sciences effectively into the course contents of medical disciplines or other professional trainings. (A 2.3.1)

- *Natural sciences* include mathematics, physics and chemistry, etc. (A 2.3.2)

2.4 Basic biomedical sciences

Basic standard:

The medical school **must**

- in the curriculum identify and incorporate the contributions of the basic biomedical sciences to create understanding of scientific knowledge, concepts and methods fundamental to acquiring and their applying in clinical practice. (B 2.4.1)

Quality development standard:

The medical school **should**

- in the curriculum adjust and modify the contributions of the basic biomedical sciences to the scientific, technological and clinical developments as well as current and anticipated needs of the society and the health care system. (Q 2.4.1)

Annotation:

- *Basic biomedical sciences* would include core courses or contents like human anatomy (include systematic anatomy and regional anatomy), histology and embryology, cell biology, medical genetics, biochemistry and molecular biology, physiology, pathogenic biology, medical immunology, pathology, pharmacology, pathophysiology and developing courses or contents which related with medical discipline development like neurobiology. All the above courses or contents can also be presented in the form of integration. Core courses or contents are always compulsory and developing courses or contents can be compulsory or elective based on program objectives and the schools' resources. (A 2.4.1)

2.5 Public health and preventive medicine sciences

Basic standard:

The medical school **must**

- in the curriculum identify and incorporate the contributions of public health and preventive medicine sciences to develop students' awareness of population health and disease prevention

strategies, allowing them to function well in health education, promotion and management efforts, and to apply these knowledge and skills in clinical practice. (B 2.5.1)

Quality development standards:

The medical school **should**

- integrate public health and preventive medicine into the whole process of medical education. (Q 2.5.1)
- ensure that the curriculum expands the students' vision in global health, so the learners understand the global health issues and think in global health perspectives. (Q 2.5.2)

Annotation:

- *Public health and preventive medicine sciences* include medical statistics, epidemiology, maternal and child health care, child and adolescent health, social medicine, environmental hygiene, nutrition and food hygiene, occupational health and occupational medicine, global health, health promotion and health education, etc. (A 2.5.1)

2.6 Clinical sciences and skills

Basic standards:

The medical school **must**

- in the curriculum identify and incorporate the contributions of the clinical sciences to ensure that students acquire sufficient clinical science knowledge and clinical skill, and professionalism to assume appropriate responsibilities after graduation. (B 2.6.1)
- ensure that students spend a reasonable part of the program in planned contact with patients in relevant clinical settings. (B 2.6.2)
- ensure the effective integration of medical knowledge and clinical clerkship. (B 2.6.3)
- ensure that each student completes his or her internship at affiliated hospital of the medical school and the clinical site that has written agreement with the medical school and possesses appropriate teaching qualifications. (B 2.6.4)
- satisfy the time requirement of clinical internship prior to graduation, which is no less than 48 weeks, and the rotation is mainly arranged in internal medicine, surgery, gynecology and obstetrics, pediatrics and community. (B 2.6.5)

- ensure that the time students spend on the rotation shall not be less than 3 weeks in respiratory medicine, cardiovascular medicine and digestive medicine of internal medicine respectively, and shall not be less than 6 weeks in general surgery including gastrointestinal surgery and hepatobiliary surgery of surgery. (B 2.6.6)
- organize clinical trainings with appropriate attention to patient and student safety. (B 2.6.7)
- in the curriculum identify and incorporate the contributions of communication skills related with the doctors' responsibilities to ensure that students communicate professionally with patients, their families or guardians, peers and other medical team members. (B 2.6.8)
- include necessary traditional Chinese medicine courses in the curriculum. (B 2.6.9)
- encourage early clinical exposure. (B 2.6.10)
- structure different elements of clinical skills training reasonably according to the teaching objectives of different phases in the program. (B 2.6.11)

Quality development standards:

The medical school **should**

- include early clinical exposure into the curriculum, so as to allow students to contact patients more. (Q 2.6.1)
- provide students opportunities for interprofessional education (IPE) to work with medical professionals and student teams from other specialties. (Q 2.6.2)

Annotations:

- *The clinical sciences* would include core courses or contents like diagnostics (including physical diagnostics, laboratory diagnostics, imaging diagnostics), internal medicine, surgery, gynecology, obstetrics, pediatrics, anesthesiology, psychiatry, neurological diseases, infectious diseases, ophthalmology, otolaryngology, dermatovenerology, stomatology, traditional Chinese medicine and pharmacy and general practice/family medicine; and developing courses or contents like emergency medicine, rehabilitation, geriatrics. The courses for clinical medicine can also be presented in the form of integration. Refer to 2.4 (basic biomedical sciences) for the meanings of core courses and developing courses. (A 2.6.1)
- *Clinical skills* include history taking, physical examination, communication skills, auxiliary examination, diagnosis and differentiated diagnosis, clinical procedural performance,

prescription and treatment practices, etc. (A 2.6.2)

- *A reasonable part* would mean the fact that the clinical teaching time is no less than half of the program and that the contact with patients in the clinical settings accounts for no less than one third of the program. (A 2.6.3)

- *Clinical teaching sites with teaching qualification* indicate qualified teaching hospitals that have been accredited by education and/or health authorities. (A 2.6.4)

- *Patient and student safety* would require close supervision of clinical activities conducted by students under superior physician to ensure the patients' safety and provide safe learning environment for students. (A 2.6.5)

- *Early clinical exposure* would partly take place in primary care settings and would primarily include history taking, physical examination and communication with patients, families and healthcare professionals. (A 2.6.6)

- *Structure different elements of clinical skills training reasonably* means that the content of skill training is set according to different learning phases; Clinical skill training includes bedside skill training and simulated clinical training. Simulated clinical training is a supplement to bedside teaching. (A 2.6.7)

- *Interprofessional education (IPE)* refers to the joint learning and effective cooperation of students from two or more majors, which mainly aims at developing students' ability of teamwork and collaboration. (A 2.6.8)

2.7 Curriculum structure, composition and duration

Basic standards:

The medical school **must**

- sketch the content, extent and sequencing of courses and other curricular elements to ensure appropriate coordination among humanities and social, natural, basic biomedical, public health and preventive medicine and clinical subjects. (B 2.7.1)

- include elective courses in curriculum and define the balance between the core and elective courses according to school's talent training objectives. (B 2.7.2)

- give play to the guiding role of the curriculum syllabus and revise the syllabus in a timely manner. (B 2.7.3)

Quality development standard:

The medical school **should**

- conduct integration of related discipline courses in the curriculum in different forms. (Q 2.7.1)

Annotation:

- *Integration* could be different forms of integration of basic biomedical sciences, clinical sciences, public health and preventive medicine sciences, humanities and social sciences and other disciplines. Examples of integration could be horizontal integration, vertical integration, and thematic blocks integration. (A 2.7.1)

2.8 Curriculum management

Basic standards:

The medical school **must**

- have a curriculum committee, which is under the governance of the academic leadership (the Dean) responsible for reviewing the curriculum to secure its intended educational outcomes. (B 2.8.1)
- in its curriculum committee ensure proper representation of staff and students. (B 2.8.2)
- specify the department or organization responsible for the overall design of the curriculum and set up grassroots teaching organizations to ensure the effective implementation of the curriculum. (B 2.8.3)

Quality development standards:

The medical school **should**

- through its curriculum committee plan and implement innovations in the curriculum. (Q 2.8.1)
- in its curriculum committee include representatives of other stakeholders. (Q 2.8.2)

Annotations:

- The authority of the *curriculum committee* would include the control of the curriculum within existing rules and regulations. The curriculum committee would allocate the granted

resources for planning and implementing of the curriculum and evaluation of courses, as well as the evaluation of student development. (A 2.8.1)

- *Other stakeholders* would include other participants in the educational process, representing the teaching hospitals, clinical facilities, employer, alumni, other health professions or faculties in the University. Other stakeholders might also include groups representing the community and public (e.g., users of the healthcare delivery system, including patient organizations). (A 2.8.2)

2.9 Linkage with postgraduate medical education and continuing medical education

Basic standard:

The medical school **must**

- ensure operational linkage between the educational program and the subsequent stages of training or practice after graduation, making it possible for the graduates to receive continuing medical education. (B 2.9.1)

Quality development standard:

The medical school **should**

- ensure that the curriculum committee seeks input from institutions in which graduates will be expected to work, and modify the program accordingly, and considers program modification in response to feedback from the community and society. (Q 2.9.1)

Annotation:

- *The operational linkage* implies identifying healthcare needs and defining required educational outcomes. This requires clear definition and description of the elements within the educational programs and their inter-relationships with training and practice after graduating, 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 the basis for career guidance. (A 2.9.1)

3. Assessment and Evaluation of Students

3.1 Assessment and evaluation methods

Basic standards:

The medical school **must**

- define, state and publish the principles, methods and practices used for assessment and evaluation of its students, including the type and frequency of assessment and evaluation, composition of marks, criteria, number of allowed retakes, etc. (B 3.1.1)
- ensure that assessment and evaluation cover the four areas of science and scholarship, clinical practice, health and society, professionalism. (B 3.1.2)
- use a reasonable and diverse assessment and evaluation methods depending on different objectives. (B 3.1.3)
- use a system for appeal of assessment and evaluation results. (B 3.1.4)

Quality development standards:

The medical school **should**

- establish assessment and evaluation systems and methods that are compatible with training objectives and curriculum models. (Q 3.1.1)
- actively initiate research of its assessment and evaluation system and methods, and incorporate new assessment and evaluation methods where appropriate. (Q 3.1.2)
- ensure that assessments and evaluations are open to scrutiny by medical education experts. (Q 3.1.3)

3.2 Relationship between assessment and evaluation and learning

Basic standards:

The medical school **must**

- use assessment and evaluation principles, methods and practices that
  - ensure that the intended educational outcomes are met by the students. (B 3.2.1)
  - promote student learning. (B 3.2.2)
  - provide an appropriate balance of formative and summative assessments and timely

feedback to guide learning. (B 3.2.3)

Quality development standards:

The medical school **should**

- encourage both acquisition of the knowledge base and integrated learning by adjusting the number and type of assessment and evaluation of curricular elements. (Q 3.2.1)
- ensure timely, targeted and constructive feedback to students on the basis of assessment and evaluation results. (Q 3.2.2)

Annotations:

- *Assessment and evaluation principles, methods and practices* would design overall correspond to the education objectives, and encourage the use of special types of examinations, e.g. objective structured clinical examination (OSCE), mini clinical evaluation exercise (mini-CEX), direct observation of procedural skills (DOPS), computer-based case simulations (CCS), and the evaluation of entrustable professional activities (EPAs). (A 3.2.1)
- *Summative assessment* is performed after the educational activities, which is used to determine whether the education objectives have been achieved. Summative assessment focuses on the evaluation of performances and learning outcomes. (A 3.2.2)
- *Formative assessment* stresses the combination of education and evaluation procedures, attaches importance to and emphasizes the timely feedback and modification during the course of teaching and learning. Formative assessment is both helpful for the teachers to know their teaching effectiveness and optimize teaching, and for the students to evaluate their own progress in learning and adjust their learning strategies accordingly. (A 3.2.3)
- *Integrated learning* would include consideration of using integrated assessment, while ensuring reasonable tests of knowledge of individual disciplines or subject areas. (A 3.2.4)

3.3 Analysis and feedback of assessment and evaluation results

Basic standards:

The medical school **must**

- analyze the assessment results based on the educational measurement after all the examinations are finished. (B 3.3.1)

- provide feedback on analysis and results of assessment and evaluation to students, faculty and academic affairs administrators. (B 3.3.2)

Quality development standards:

The medical school **should**

- apply the analyzed results in the improvement of teaching and learning. (Q 3.3.1)
- enhance the reform efforts and research of assessments and evaluation. (Q 3.3.2)

Annotation:

- *Analysis of assessment results* includes the degree of difficulties, differentiation, reliability, validity, content coverage, and student performance scores of the tests. (A 3.3.1)

4. Students

4.1 Admission policy and selection

Basic standards:

The medical school **must**

- formulate an admission plan based on the national admission policy and periodically review it for adjustment. (B 4.1.1)
- pay attention to the diversity of students on the premise of guaranteeing the quality of enrolled students. (B 4.1.2)
- have no discrimination and bias under the condition of meeting the requirements of the program. (B 4.1.3)
- make the admission policies and the related information known to the public. (B 4.1.4)
- have a policy and implement a practice for transfer of students from other programs and institutions. (B 4.1.5)
- use a system for appeal of admission decisions. (B 4.1.6)

Quality development standard:

The medical school **should**

- state clearly the relationship between student selection and the mission of the school, the educational program and the graduate outcomes of basic medical education. (Q 4.1.1)

Annotation:

- *Admission policies and the related information* include the school prospectus, programs, admission plan, tuition and fees, scholarships, and mechanism for appeal, etc., and describe the process of student selection and make the curriculum known to the applicants on the internet. (A 4.1.1)

4.2 Student intake

Basic standard:

The medical school **must**

- define the size of student intake based on relevant national policies, the health needs of the

community and society, and the educational resources of the school. (B 4.2.1)

Quality development standards:

The medical school **should**

- take the advice of stakeholders into consideration when reviewing and adjusting the size of student intake. (Q 4.2.1)
- make the students intake reflect the orientation of the school and needs of the society. (Q 4.2.2)

Annotations:

- *The health needs of the community and society* would include consideration of national and regional demands for medical workforce as well as 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 students in remote areas and minorities. (A 4.2.1)
- *Educational resources* would include the consideration of shared use of clinical education resources by the students of other medical specialties. (A 4.2.2)
- *Stakeholders* would include the education and health authorities, health facilities, faculty and students, and representatives of the public. (A 4.2.3)

4.3 Student counseling and support

Basic standards:

The medical school **must**

- have a system for academic counseling and support of its students. (B 4.3.1)
- offer support and guidance to students in their activities of learning, living, taking part-time jobs and choosing careers. (B 4.3.2)
- have an effective system of psychological counseling. (B 4.3.3)
- allocate resources for student support and pay attention to the building of student affairs team. (B 4.3.4)
- ensure confidentiality in relation to counseling and support. (B 4.3.5)

Quality development standards:

The medical school **should**

- offer individualized academic guidance and counseling based on the student progress in learning. (Q 4.3.1)
- offer students career planning guidance. (Q 4.3.2)

Annotations:

- *Academic counseling* would include questions related to choice of electives, residency preparation, etc. (A 4.3.1)
- *Student support* would include medical services, career guidance, suitable accommodation for students (including disabled students), and implementation of a student aid system offering scholarships, loans, subsidies and allowances for disadvantaged students in need of financial assistance. (A 4.3.2)
- *Individualized academic guidance and counseling* in addition to learning guidance would include appointing academic mentors for individual students or small groups of students. (A 4.3.3)

4.4 Student representative

Basic standards:

The medical school **must**

- formulate and implement a policy, that ensures the participation of student representatives and appropriate participation in the design, management and evaluation of the curriculum, and in other matters relevant to students. (B 4.4.1)
- support students to establish student organizations allowed by law, guide and encourage organized student activities in providing equipment, spaces, and technical and financial support. (B 4.4.2)

Quality development standard:

The medical school **should**

- have student representatives serving in relevant committees, bodies and departments of the school and ensure that they have certain roles to play. (Q 4.4.1)

Annotation:

- *Student organizations* would include relevant bodies for student self-governance, self-education and self-service. (A 4.4.1)

5. Academic Staff/Faculty

5.1 Recruitment and selection policy

Basic standards:

The medical school **must**

- formulate and implement a staff qualification certification and selection system, to make sure that the teachers meet the performance demands in teaching, research and service functions. (B 5.1.1)
- have a well-structured faculty team composed of a sufficient number of qualified academic staff/faculty based on the school mission, scale and instructional model, especially ensure that a sufficient number of full-time teachers with medical background teach basic biomedical sciences related content. (B 5.1.2)
- outline the responsibilities of the academic staff/faculty to ensure an appropriate ratio and balance between teaching, research and service functions. (B 5.1.3)
- set merit criteria for teaching, research and services, and evaluate the performance of the academic staff/faculty regularly. (B 5.1.4)
- have a corresponding mechanism to ensure that the results of teacher performance evaluation play a role in school decisions for promotions and appointments of academic, administrative or entitlement nature. (B 5.1.5)
- have a corresponding mechanism to ensure that non-medical staff have the necessary knowledge of medicine. (B 5.1.6)

Quality development standards:

The medical school **should**

- in its policy for staff recruitment and selection take into account the school mission and the requirements for reform and development. (Q 5.1.1)
- take into account the reasonable and effective use of personnel expenditure and resources when formulating the selection policy to ensure the balanced development of teaching, research and service functions. (Q 5.1.2)
- have a corresponding mechanism to guarantee clinical teachers' participation in basic

biomedical sciences teaching. (Q 5.1.3)

Annotations:

- *Qualified academic staff/faculty* would indicate that the academic staff/faculty should possess good professional ethics and the scholarship and teaching ability that match their academic ranks, deliver corresponding courses and assume required teaching assignments, and be certified by the corresponding educational authorities. (A 5.1.1)
- *Merits* would be measured by formal qualifications, professional experience, teaching awards, research output, student evaluation and peer recognition. (A 5.1.2)

5.2 Staff activity and staff development

Basic standards:

The medical school **must**

- formulate and effectively implement policies related to faculty training, development, support and appraisal, to ensure that the central focus is on educating students. These policies should
  - guarantee the legal rights of the academic staff/faculty. (B 5.2.1)
  - recognize and support the professional development of the academic staff/faculty. (B 5.2.2)
  - encourage that the academic staff/faculty apply their clinical experience and research findings in teaching. (B 5.2.3)
  - ensure that the academic staff/faculty have access to be directly involved in the curriculum design and the decision-making process related to educational management. (B 5.2.4)
  - promote the communication among the academic staff/faculty. (B 5.2.5)
  - ensure that the academic staff/faculty possess and maintain their competence in teaching, and encourage teaching innovation. (B 5.2.6)
  - promote a balance of faculty roles in teaching, research and service functions. (B 5.2.7)

Quality development standards:

The medical school **should**

- have a special institution or department to formulate development plans for medical staff/faculty and establish long-term training mechanisms. (Q 5.2.1)
- establish a mechanism for the academic staff/faculty to participate in the management and policy-making. (Q 5.2.2)
- have a corresponding policy to ensure a balance of faculty roles in teaching, research and service functions. (Q 5.2.3)
- ensure sufficient knowledge by individual staff members of education objectives and the curriculum. (Q 5.2.4)
- have corresponding mechanisms to ensure mutual communication and cooperation between teachers of different disciplines who undertake teaching tasks, especially basic biomedical teachers and clinical teachers. (Q 5.2.5)

Annotations:

- *Staff activity and development* would involve not only new teachers, but also all the teachers in basic biomedical sciences and clinical sciences. (A 5.2.1)
- *Staff development* would pay attention to the promotion of teaching abilities, and provide training in educational theory, curriculum design, teaching methods and teaching evaluations, as well as consultation, guidance, technical support and feedback. (A 5.2.2)
- *Decision-making process related to educational management* would also include having roles to shape decisions on student admission and services. The school should also ensure that teachers also take part in the decision-making of other important issues. (A 5.2.3)
- *Sufficient knowledge by individual staff members of the curriculum* would include knowledge about overall curriculum content, teaching methods and assessment methods, for the purpose of fostering the cooperation of teachers and integration of curricular contents among different disciplines, and offering students appropriate guidance for learning. (A 5.2.4)
- *Communication among the academic staff/faculty* would include interdisciplinary and cross-disciplinary communications, and in particular, the communications among teachers of clinical sciences, basic biomedical sciences, public health and preventive medicine sciences and humanities and social sciences. Furthermore, would support staff to attend teaching related

academic conferences. (A 5.2.5)

- *Competence in teaching* would include adapting to the educational objectives of the school, following its basic principles, designing appropriate teaching activities, and choosing student assessment methods. (A 5.2.6)

- *A balance of faculty roles in teaching, research and service functions* would include provision of protected time for each function. *Service functions* would include clinical duties in the health care delivery system, student guidance, participation in governance and management and other social services as well. (A 5.2.7)

6. Educational Resources

6.1 Educational funds and allocation of resources

Basic standards:

The medical school **must**

- have reliable and diversified access to fund raising. (B 6.1.1)
- have sufficient financial support to sustain a sound program of medical education and institutional goals. (B 6.1.2)

Quality development standards:

The medical school **should**

- have the autonomy to make overall use of financial and other resources for medical education. (Q 6.1.1)
- support research and implementation of medical education reforms financially. (Q 6.1.2)

Annotations:

- In the *educational founds*, the tuition charged by the medical school must be managed and used according to national regulations. The funds used for teaching and their proportion in the annual final account of the school must meet national regulations. Relevant authorities shall ensure that the funds allocated to medical students meet the needs of medical education. Schools should consider the high cost of medical education when allocating funds used for teaching. (A 6.1.1)
- *Diversified access to fund raising* would include government appropriation, tuitions, investments made by civic organizations and private citizens, donations and funds, supports of affiliated and teaching hospitals, incomes from school-run enterprises and social services, etc. (A 6.1.2)

6.2 Physical facilities

Basic standards:

The medical school **must**

- have sufficient physical facilities for staff and students to ensure that the curriculum can be

delivered effectively. (B 6.2.1)

- ensure a learning environment, which is safe for staff, students and patients. (B 6.2.2)
- provide sufficient sites and equipment for simulated clinical training to students. (B 6.2.3)

Quality development standards:

The medical school **should**

- improve the learning and living environment by regularly updating and modifying or extending the physical facilities to match the developments of medical education. (Q 6.2.1)
- update and effectively utilize simulated clinical training equipment to develop simulation-based clinical pedagogies. (Q 6.2.2)

Annotations:

- *Physical facilities* would include all types of class-rooms, multimedia equipment, tutorial rooms, laboratories, equipment, specimen and consumable material for basic medical sciences, clinical skills center and simulation equipment, clinical demonstration rooms, libraries, information technology, network resources and amenities including accommodation and recreational facilities. The physical facilities should consider the humane care for human specimens and animals used for teaching and scientific research. (A 6.2.1)
- *A safe learning environment* refers to the safe learning space provided by the school in the process of teaching, which should ensure the personal and property safety of staff and students; it would provide provisions of necessary information and protection from harmful substances, specimens, organisms, plants and animals, laboratory safety regulations and safety equipment, and publish its policies and procedures for addressing emergency and disaster preparedness. Necessary explanations and training on laboratory safety, pathogen exposure, handling of dangerous and radioactive substances, etc. shall be provided. (A 6.2.2)

6.3 Clinical training resources

Basic standards:

The medical school **must**

- have tertiary class-A affiliated hospitals that can undertake the whole process of clinical teaching, clerkship and internship as clinical teaching sites. (B 6.3.1)

- have sufficient clinical teaching sites to ensure adequate clinical experience and necessary resources in clinical teaching, including sufficient patients and clinical training facilities. The number of students in the medical specialties and the number of patient beds in these hospitals should have a ratio of less than 1:1. (B 6.3.2)
- have enough staff from appropriate disciplines, and with the necessary skills and experience to deliver teaching and support students' learning. (B 6.3.3)

Quality development standard:

The medical school **should**

- continuously evaluate, adapt and improve clinical training resources to meet the needs of teaching and healthcare services. (Q 6.3.1)

Annotations:

- *Affiliated hospitals* are subsidiaries of the medical school, which are under the direct control of the medical school. The school has the right to appoint or dismiss the main responsible person of the affiliated hospital or the affiliated hospital's organization relationship of the Communist Party of China belongs to the school. (A 6.3.1)
- *Clinical teaching sites* encompass teaching hospitals, training hospitals and community health centers in addition to the affiliated hospitals. Teaching hospitals, training hospitals, etc. have no affiliation with the medical school. A teaching hospital must meet the following requirements: governmental documents certifying it as a clinical teaching site of a medical school; written agreements between the medical school and the hospital; be capable of and responsible for delivering the medical courses such as clinical teaching, clerkship and internship. A clinical teaching site must have specialized organizations and staff in charge of the administration and management of clinical trainings. (A 6.3.2)
- *Clinical teaching resources* also include adequate numbers of patients with wide range of diseases, in addition to pedagogical equipment. (A 6.3.3)
- *Medical specialties* in this document refer to the medical specialties that award the degree of Bachelor of Medicine, including clinical medicine, anesthesiology, medical radiology, ophthalmology and optometry, psychiatry, radioactive medicine, pediatrics, stomatology, traditional Chinese medicine, clinical discipline of Chinese and western integrative medicine, basic medicine, forensic medicine and preventive medicine, etc. The students of medical

specialties include undergraduate students from the above specialties, overseas students taught in Chinese/ English and junior college students. (A 6.3.4)

- *Patient beds* refer to the total in affiliated hospitals and teaching hospitals. The patient beds in affiliated hospital refer to the sum of them in the affiliated comprehensive hospitals and specialized hospitals responsible for clinical teaching and practices. The patient beds in teaching hospitals refer to the number of beds in the teaching hospitals responsible for the whole process of clinical teaching, clerkship and internship and the hospitals should also possess graduate students of clinical medicine, but the patient beds in the specialized hospitals are excluded. The number of patient beds is recognized as the number in the official reports of the hospital submitted to the health authorities at the end of the previous year. The number of patient beds should be the smaller one of the number registered and the number used. (A 6.3.5)

- *Staff* include residents and above, as well as community doctors who meet the teaching requirements of the school. Medical schools need to have access mechanisms for clinical teachers to ensure that they are competent for teaching. (A 6.3.6)

- *Evaluation of clinical training resources* would include the assessment in regards of settings, equipment, number and categories of patients, as well as health practices, supervision and administration to measure whether they meet the teaching requirements. The resources in the affiliated and teaching hospitals shared by students from other medical schools should also be considered. (A 6.3.7)

6.4 Information technology

Basic standards:

The medical school **must**

- own adequate information and communication technology infrastructure and support systems. (B 6.4.1)

- formulate and implement policies which address the effective use of information and communication technology and resources in medical education to ensure the delivery of the educational program. (B 6.4.2)

Quality development standards:

The medical school **should**

- enable teachers and students to use existing and explore appropriate new information technology to support self-directed learning. (Q 6.4.1)
- optimise student access to relevant patient medical record data and health care information systems on the premise of conforming to medical ethics. (Q 6.4.2)
- present and defend virtual learning methods (digital, distance, distributed, or e-learning) as an alternative or complementary educational approach under appropriate circumstances, including societal emergencies. (Q 6.4.3)

Annotations:

- *Effective use of information and communication technology* would include the use of computers, internal and external networks and other means. This would include coordination with library resources and IT services of the institution. The policy would include common access to all educational items through a learning management system. Information and communication technology would be useful for fostering of students' ability for self-directed learning and life-long learning, and preparing students through continuing professional development (CPD)/ continuing medical education (CME). (A 6.4.1)
- *Distributed learning* means that a varied and planned course of study, designed and developed to address the curriculum for students who are in different locations away from the central teaching institution, supported by teaching and supervisory staff who are also physically or virtually distributed across those locations. Distributed and distance learning is a whole-systems approach, including all teaching and learning, formative and summative assessments, feedback on learning, support for students and teachers, management, and quality assurance. Distributed and distance learning might refer to an entire course, or a part of it. (A 6.4.2)

6.5 Educational expertise

Basic standard:

The medical school **must**

- formulate and implement a policy that has access to educational expertise involved in deciding on important issues concerning medical education, including the development of curriculum, the selection, adjustment and reform of teaching and assessment methods. (B 6.5.1)

Quality development standards:

The medical school **should**

- allow the educational expertise to play an important role in faculty development. (Q 6.5.1)
- pay attention to the development of on-campus expertise in program evaluations and in research on medical education. (Q 6.5.2)

Annotation:

- *Educational expertise* would rely on experts who have experience in studying and solving problems in medical education and these experts would include teachers, medical doctors, administrators and researchers with research experience in medical education. It can be provided by the school itself or be acquired from another institution. (A 6.5.1)

6.6 Educational exchanges

Basic standards:

The medical school **must**

- formulate and implement a policy for national and international collaboration with other educational institutions. (B 6.6.1)
- facilitate regional and international exchange of staff and students by providing appropriate resources. (B 6.6.2)
- formulate and implement a policy for transfer of educational credits. (B 6.6.3)

Quality development standard:

The medical school **should**

- ensure that exchange is purposefully organized, taking into account the needs of staff and students, respecting the customs of each teaching site and following ethical principles. (Q 6.6.1)

Annotation:

- *A policy for transfer of educational credits* would be facilitated by establishing agreements on mutual recognition of educational elements and through active program coordination between medical schools. It would also be facilitated with the use of a transparent system of credit units and flexible interpretation of course requirements. (A 6.6.1)

7. Program Evaluation

7.1 Mechanisms for program monitoring and evaluation

Basic standards:

The medical school **must**

- have full-time staff for program monitoring and evaluation and establish a mechanism with emphasis on the monitoring and evaluation of curriculum, educational process and outcome. (B 7.1.1)
- establish detailed requirements for all educational components according to the quality standards of medical specialties. (B 7.1.2)
- ensure the relevant results of evaluation improve the curriculum. (B 7.1.3)
- enable the faculty, students and administrators to understand the system of education program monitoring and evaluation. (B 7.1.4)

Quality development standards:

The medical school **should**

- conduct a comprehensive evaluation of the curriculum regularly and form periodic reports. (Q 7.1.1)
- follow up student progress, such as learning processes, changes in learning abilities, and student life and academic assistance, and give timely feedback to the stakeholders such as students, staff and administrative departments. (Q 7.1.2)
- establish a specialized department for educational evaluation and effectively play its role. (Q 7.1.3)
- provide training for relevant personnel in charge of the evaluation, so that they are able to choose and use appropriate and effective evaluation methods. (Q 7.1.4)

Annotations:

- *Program evaluation* is the process of systematic gathering of information to judge the effectiveness and adequacy of curriculum, educational process and outcomes, so as to provide references for the improvement of education quality and making decisions on education issues. It

would imply the use of reliable and valid methods of data collection and analysis. The information and data may include policies, rules and regulations, meeting minutes, joint agreements with other educational institutions; it may also include quality report on undergraduate medical education, evaluation data and results of students, faculties, supervisors, external experts, employers, authorities and other stakeholders on teaching and learning. (A 7.1.1)

- *Program monitoring* would imply the observation and supervision of key aspects of the curriculum, including routine collection of data and so on, which for the purpose of ensuring that the educational process is on track and for identifying any areas in need of intervention. Such information collection is often a part of the administrative process related to enrollment, student assessment, graduation, etc. (A 7.1.2)

- *Periodic reports* addressing the context of the educational process, the specific components of the curriculum, the educational outcomes acquired, and its social accountability. The context of the educational process would include the institutional environment, resource environment, learning environment and culture of the medical school. The educational outcomes can be reflected through the examinations organized inside and outside the school [such as comprehensive examinations at different phases, the Level Test of Basic Medical Education (undergraduate) in Medical Schools, the National Medical Licensing Examination (NMLE), qualifying examinations for standardized residency training, etc.], career choices, employment destinations, and performance of graduates, which can be used as a reference for the improvement of undergraduate medical education. (A 7.1.3)

7.2 Teacher and student feedback

Basic standard:

The medical school **must**

- apply multiple evaluation methods, systematically seek and analyse information, and give feedback to teachers and students. (B 7.2.1)

Quality development standard:

The medical school **should**

- use feedback results for curriculum development and achieve expected improvement. (Q 7.2.1)

Annotation:

- *Feedback* would include information about the processes and outcomes of the educational programs. It would also include information about school policies and regulations, malpractices or inappropriate conducts involving teachers or students with or without legal consequences. (A 7.2.1)

7.3 Performance of students and graduates

Basic standard:

The medical school **must**

- analyze performance of cohorts of students and graduates in relation to its mission, intended educational outcomes, curriculum, and provision of resources. (B 7.3.1)

Quality development standard:

The medical school **should**

- use the results of student development evaluations and graduate analysis to shape admission policies, revise education programs and offer consultation services to students. (Q 7.3.1)

Annotations:

- *Performance of cohorts of students and graduates* can be reflected by collecting and using various education outcomes data, as well as by indicating the degree of completion of education objectives. (A 7.3.1)

- *Student development* includes physical and mental development and academic development of students at school. The measurement and analysis of academic development include learning duration, test scores, test passing rate, academic completion rate and dropout rate. The school can make value-added assessment on students' development through questionnaires, symposiums, academic achievement data analysis, etc. (A 7.3.2)

- Measures of *graduate analysis* would include information about career choice, performance in clinical service delivery and post-graduation promotion as well as other job performance measures for graduates. (A 7.3.3)

7.4 Involvement of stakeholders

Basic standard:

The medical school **must**

- in its program monitoring and evaluation activities involve its principal stakeholders on campus such as academic staff, students and administrators. (B 7.4.1)

Quality development standards:

The medical school **should**

- encourage other stakeholders to contribute to its course and program evaluation and have access to the evaluation results. (Q 7.4.1)
- seek other stakeholders' feedback on the performance of graduates and on the curriculum. (Q 7.4.2)

Annotation:

- *Other stakeholders* would include other representatives of academic and administrative staff, representatives of the community and public (e.g., users of the health care system), education and health care authorities, professional organizations, medical scientific bodies and postgraduate educators. (A 7.4.1)

8. Scientific Research

8.1 Education and scientific research

Basic standards:

The medical school **must**

- formulate and implement a policy that promotes the coordinated development of scientific research and education programs. (B 8.1.1)
- strengthen the study of medical education and management, to provide theoretical basis for the educational reform and development. (B 8.1.2)

Quality development standards:

The medical school **should**

- incorporate scientific research activities and outcomes into the educational process, to train students' ability in scientific methods, scientific thinking and spirits of science, and to ensure positive interactions of scientific research and education activities. (Q 8.1.1)
- establish special medical education research department to play a practical role in promoting medical education reform and improving teachers' educational scientific research ability. (Q 8.1.2)

Annotation:

- *Medical education research* refers to the educational scientific research carried out according to relevant theories on medical education activities, mainly focusing on the theoretical, practical, and social aspects of medical education. The purpose is to deeply reveal the laws of medical education and provide theoretical and research support for medical education reform. (A 8.1.1)

8.2 Scientific research by staff

Basic standards:

The medical school **must**

- encourage academic staff to conduct scientific research and provide basic resources needed for the complementary development of scientific research and education. (B 8.2.1)
- ensure academic staff to be equipped with corresponding ability in scientific research. (B 8.2.2)

Quality development standard:

The medical school **should**

- have the corresponding mechanisms to guarantee involvement of academic staff in the research of medical education, so as to enhance the teaching effectiveness. (Q 8.2.1)

8.3 Scientific research of students

Basic standards:

The medical school **must**

- use the scientific research activities as an important pathway to foster students' scientific literacy and creativity, and adopt effective measures to provide students with opportunities and resources needed for scientific research. (B 8.3.1)
- actively engage in activities which are instrumental in fostering students' research competencies, such as incorporating comprehensive experiments and self-designed experiments in the curriculum, holding academic lectures and organizing scientific research teams. (B 8.3.2)
- make students understand the basic methods and ethical principles of medical science research. (B 8.3.3)

Quality development standard:

The medical school **should**

- provide funds for the scientific research activities of students. (Q 8.3.1)

9. Governance and Administration

9.1 Governance system and mechanism

Basic standards:

The medical school **must**

- articulate its governance system and structures among the university, medical school and affiliated hospitals, define the management functions of the three, and establish an effective management mechanism among university, medical school and affiliated hospitals, so as to ensure the integrity of medical education, as well as the effective operation and sustainable development of teaching. (B 9.1.1)

- establish functional committees in its governance structures to review and discuss important issues involving the curriculum, educational reform and scientific research. The committees should include principal stakeholders on campus such as the school leaders, representatives of teachers and students, and administrative staff. (B 9.1.2)

Quality development standards:

The medical school **should**

- in its corresponding committees include other stakeholders such as representatives of governmental authorities and regulatory bodies, health care sectors, and the community and public. (Q 9.1.1)

- ensure transparency of the work of governance and its decisions. (Q 9.1.2)

Annotations:

- *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 education, 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. (A 9.1.1)

- Members of the *committees* should be widely representative. The activities of the committees should be organized by the persons in charge, and recorded in details concerning the time, issues discussed, decisions and participants. (A 9.1.2)

- *Transparency* would be obtained by newsletters, web-information or disclosure of meeting minutes. (A 9.1.3)

9.2 Medical education leadership

Basic standards:

The medical school **must**

- clearly illustrate the management responsibilities and authority in terms of human, financial, and physical resources of its medical education leadership on medical education, and ensure the effective execution accordingly. (B 9.2.1)
- pay attention to the professional background of the leaders in charge of medical education. (B 9.2.2)
- ensure that the medical education leadership is relatively stable. (B 9.2.3)

Quality development standard:

The medical school **should**

- periodically evaluate the performance of its medical education leadership in the process of teaching management. (Q 9.2.1)

Annotation:

- *Medical education leadership* refers to the leaders who are mainly responsible for the medical education and the personnel working in administrative department who are responsible for making decisions on academic matters such as teaching, scientific research and services. (A 9.2.1)

9.3 Administrative staff and management

Basic standards:

The medical school **must**

- have a complete administrative staff team with effective management structures and advanced educational philosophy that is appropriate to support implementation of medical education. (B 9.3.1)
- establish a sound management system and operating procedures to ensure rational deployment of resources. (B 9.3.2)

- have corresponding measures to ensure that the administrative staff understand medical education and the whole process of it. (B 9.3.3)

Quality development standard:

The medical school **should**

- regularly evaluate and improve the management of medical education. (Q 9.3.1)

9.4 Interaction with health sector

Basic standards:

The medical school **must**

- have constructive interaction and communication with the health related sectors for support to medical education. (B 9.4.1)
- sign agreements with relevant health sectors, so as to ensure the successful delivery of the curricula. (B 9.4.2)

Quality development standard:

The medical school **should**

- formalize extensive cooperation and exchanges with medical and health related sectors, and ensure a sustainable development of the cooperation and exchanges. (Q 9.4.1)

Annotations:

- *Relevant health sectors* would not only include the healthcare delivery system, whether public or private, medical research institutions, but the institutions and regulatory bodies with implications for health promotion and disease prevention, etc. (A 9.4.1)
- To *formalize extensive cooperation and exchanges* would mean entering into formal agreements, stating the content and forms of collaboration, and/or establishing joint projects. (A 9.4.2)

10. Reform and Development

Basic standards:

The medical school **must**

- systematically design the reform of medical education, carry out evidence-based research, and scientifically evaluate the effect of the reform. (B 10.0.1)
- establish corresponding mechanism, regularly review and evaluate self-development, understand its own problems and make continuous improvement. (B 10.0.2)

Quality development standards:

The medical school **should**

- base the process of continuous development on prospective studies and analyses and on results of local evaluation and the literature on medical education. (Q 10.0.1)
- ensure that the process of continuous development and restructuring leads to the revision of its policies and practices in accordance with past experience, present activities and future perspectives. (Q 10.0.2)
- adjust education strategies based on changes in health needs and social and technological development trends. (Q 10.0.3)