

Tbilisi State Medical University

Faculty of Medicine

One Step Educational Program for MD

Program Capacity - 360 ECTS credits

Preface

Result-orientated education nowadays is regarded as an optimal model for medical education. It is based on international standards of medical education, anticipates national health care demands and provides preparation of successful and competitive physician.

In according to Georgian legislation for Medical Activity, medical practice is: “the professional activity of a person with medical background, professional skills and practical experience the aim of which is to protect, maintain and restore the health or ease suffering of a human being in accordance with medical and ethical standards and medical traditions recognized in Georgia”.

Quality of basic medical education appears as a predictor for successful medical practice. Its matching to international standards is a crucial for providing of national health care system optimal functioning. It is necessary to obtain not only theoretical knowledge in fundamental humanitarian and clinical sciences but also to achieve high level of clinical skills in medical practice. Ethic values and formation of specific relations are also the highly important factors. All these are reflected in the competency standards for general and medical practice.

MD program aims

MD program aims to bring up competitive qualified physicians with proper competences, who are ready for further postgraduate education and special training. The program also aims to prepare medical staff in according to demands from national health care system.

The program should provide:

- Medical education corresponding to progressive and current knowledge and technologies;
- ability and motivation for the future physicians during the whole life;
- preparation of medical staff by utilization of modern informative and teaching technologies;
- matching of medical education to the demands and abilities of National Health Care system.

Educational program for the Faculty of medicine at TSMU is one step, partially integrated and confines 360 credits (1 credit equals to 30 academic hours). The program duration is 6 academic years (12 semesters) including internship (1 academic year). The program aims to work out results for medical practice which corresponds to the second step of higher education. Corresponding qualification of Educational program for medical practice is MD.

MD graduate from the Faculty of medicine at TSMU:

- has knowledge in basic, clinical, behavioral and social sciences which are essential for medical practice
- has general clinical skills
- can evaluate and use properly obtained medical information for solving different clinical problems.
- can assess health condition of each member of society and improve national health service on the basis of knowledge obtained in clinical, biomedical and behavioral sciences
- can critically evaluate scientific and clinical news and utilize them in improvement of clinical practice;
- understands essentiality of continuous medical education and professional development

Terms of enrollment in MD program

- Secondary-general school certificate
- Unified National Exam Certificate – for citizens of Georgia

MD educational program involves:

General educational modules: Physics, Biology, Georgian Language, Foreign Languages, Medical Terminology, History of Medicine;

Fundamental sciences' modules: Biophysics, Anatomy, Bioethics, Histology-Cytology-Embryology, Biochemistry, Physiology,

Preclinical modules: Pathologic Anatomy, Pathologic Physiology, Microbiology, Immunology, Topographic Anatomy, Pharmacology, Hygiene & Medical Ecology, Propedeutics of Internal Medicine, General Surgery.

Clinical modules: Internal Medicine (Cardiology, Pulmonology, Endocrinology, Gastroenterology, Nephrology, Rheumatology, Allergology & Clinical Immunology, Occupational Diseases, Hematology), Surgery (Surgery, Urology, Surgery (Emergency), Traumatology & Orthopedics, Pediatric Surgery, Oncology, Neurosurgery), Obstetrics & Gynecology, Family Medicine, Radiology, Dermatovenerology, Neurology, Pediatrics (Child & Adolescent Medicine, Pediatric Neurology, Pediatric Infectious Diseases), Oto-Rhino-Laryngology, Ophthalmology, Phthysiatry, Clinical Toxicology, Infectious Diseases, Psychiatry, Narcology, Stomatology, Forensic Medicine & Medical Law, Anesthesiology & Resuscitation, Rehabilitation, Health Resort Therapy & Physiotherapy with Medical Tourism, Elective subjects (Rheumatology, Cardiology, Plastic Surgery, Angiosurgery, Proctology, Thoraco-abdominal Surgery, Head & Maxillo-facial Oncology, Neonatology, Laboratory work, Reproductive Health);

Social sciences and health management cycle: Medical Ethics, Evidence based Medicine & Research, Epidemiology with Biostatistics, Health Care & Management.

Clinical skills: clinical communication and consulting, skills in clinical and emergency aid.

The program is based on learning of the following items: human body structure, physiological and biochemical processes, pathogenesis of the diseases, path morphology, clinical course, epidemiology, treatment prevention and rehabilitation.

- Human body development, its macro and micro structures (biology, genetics, embryology, anatomy, histology, cytology topographic anatomy);
- Functioning mechanisms of the human body: (biophysics, physiology, biochemistry, hygiene);
- Disease development mechanisms: (path. anatomy, path. physiology, microbiology, immunology);
- Principles of disease clinical features, diagnostics, treatment, prevention and rehabilitation (Internal medicine, surgery, obstetrics and gynecology, skin and venerology, neurology, pediatrics, ENT, ophthalmology, phthysiatry, toxicology, infectious diseases, psychiatry, stomatology, legal aspects of medicine, narcology, anesthesiology-reanimatology, epidemiology, rehabilitology, curortology with physiotherapy and medical tourism, social health care and management

Program structure and study plan:

The curriculum of the faculty of medicine is partially integrated. The partially integrated curriculum consists of as solitary disciplines as integrated modules. In clinical disciplines (internal medicine, surgery) teaching is integrated. Integrated module for “Internal medicine - 1” involves parts of: cardiology, pulmonology, and endocrinology.

“Internal medicine-2” involves: gastroenterology, nephrology, rheumatology, allergology and clinical immunology, occupational diseases and hematology. Module “Surgery-1” involves: surgical diseases and urology. Module “Surgery-2” involves: urgent surgery, trauma and orthopedics, pediatric surgery, oncology and neurosurgery.

Clinical case based teaching - which is essential for successful medical practice - takes important part among the other teaching methods. Modern information technologies are broadly used in teaching and learning processes. Clinical skills development is achieved in clinical skills center, family medicine department and other clinical departments.

Integrated teaching also comprises new method of students’ evaluation so called OSCE – Objective Structured Clinical Examinations which is already used in the department of internal diseases’ propedeutics and clinical skills center (see the attached study plan).

Specific results of MD program learning:

1.1 Field competences

Field knowledge

Knowledge of :

- basic and humanitarian sciences
- behavioral and social sciences
- clinical sciences
- Medication and drug prescription
- Social health care system and understanding the role of physician in the system
- Ethical and legal principles

Field abilities

1. MD graduate should

- consult a patient
- take history of illness
- make physical examination
- be able for clinical thinking and decision making
- support and defense the patients' rights
- evaluate psychological status of patient

2. Evaluation of clinical cases, making examination, differential diagnosis, discussion about diseases management

- understanding and evaluation of complexity of clinical case report
- proper examination and interpretation of the results
- differential diagnosis
- discussion with patients and personnel plan of the disease management
- care for terminal patients and their family
- management of chronic diseases

3. First aid in case of emergencies

(first aid and resuscitation)

- recognition and evaluation of emergencies
- treatment of emergencies
- basic first aid
- basic life saving and cardiopulmonary resuscitation according to current guidelines
- cardiopulmonary resuscitation
- advantage life saving measures according to current guidelines
- trauma management according to current guidelines

4. Medication

- prescription of medicines in understandable and accurate way
- making close links between medication and cynical activities
- discussing benefits and risks of medication for the patients.
- pain and stress treatment

- consideration interaction of medications during complex treatment

5 Practical procedures

- measurement of arterial pressure
- venepuncture
- lumbar puncture
- vein catheterization
- provision of oxygen supply
- intravenous medication and infusion systems
- subcutaneous and intramuscular injections
- patients' transportation and care
- making stitches
- blood transfusion
- catheterization of the urine bladder
- urine analysis
- functional tests of the respiratory system

6 Effective communication in medical context

- communication with patients
- communication with colleagues
- communication in case of bad news
- communication with patients relatives
- communication with disables
- communication for informational consent
- written communication
- communication in case of conflict
- communication with support of the third person
- communication with legal organs and mass media
- effective communication with any person in spite of his/her social, cultural, religious, racial or ethnical character.

Ethical and legal principles in medical practice

- confidentiality
- using ethical principles and analytical abilities during treatment
- getting informational consent and making proper written statement
- to ask for autopsy (in cases regulated by Georgian legislation)
- utilizing Georgian and International legislations during treatment.
- making medical practice in multicultural societies

7. Evaluation of psychological and social aspects connected to disease

- evaluation of disease relevance and psychological factors affecting on a patient
- evaluation of disease relevance and social factors affecting on a patient
- stating stress which is caused by specific disease
- stating drug and alcohol abuse

9. Utilization of evidence based principles abilities and knowledge

- Evidences in practice
- Correct definition and conduction of proper literature review
- Published literature Critical evaluation, decision making and utilization in practice;

10. Effective use of information and information technologies in medical context

- Accurate and full storage of clinical notes
- Application of modern technologies in practice
- Searching for specific informational resources
- Storage and further usage of information
- Ability to keep personal notes (portfolio)

11. Scientific principles, methods and knowledge of Biomedicine in medical practice and research

- Knowledge of methodology of scientific research; Ability of making: design of research, detailed planning, interpretation of the results and decision taking.
- Ability to use achievements of biomedical sciences in practice
- Writing a review on the basis of critical analysis of scientific literature
- Knowledge of ethical principles for conduction of scientific research
- An effective work and involvement in health care system
- Conduction the type of treatment which makes risk down to minimum for patients
- Conduction of measures against infection spreading
- Understanding of personal health problems and evaluation of personal health regarding to personal occupation/profession;
- Taking part in health care supporting activities as on individual as population level

Thus MD graduate in his/her competences can utilize obtained knowledge and practical skills for provision of ever-increasing quality in work planning and conducting on a proper level. H/she is able to evaluate properly and precisely the needs of professional help and provide patient's safety.

1.2. General competences

- a. knowledge and understanding – has deep and systemic knowledge of the field which provides ground for new, original ideas and solving problems.

Can use full spectrum of learning-informative resources. Can manage personal learning process. Understands importance of continuous renovation. has ability for objective evaluation of personal knowledge and skills;

- b. Ability of: utilization of knowledge in practice; action in a new, unpredictable and multidisciplinary environment; searching for new original ways for solving complex problems and among them ability to conduct research independently with modern technologies and approaches;

Can: critically evaluate, analyze, complex, incomplete and contradictory data; interpret in an understandable way the results of the analysis and after using them in practice; analyze, make decision and summation for different data; provide evidences and/or counterarguments in analyzing of the results;

- c. Conclusion making - making evidence based conclusions on the ground of critical analysis in case of complex and incomplete information (including modern researches); Innovative synthesis of information issued from modern data.

MD graduate can: identify specific problems, finding a reliable, operative and safe ways for problem solving and after proper conclusion making acting properly;

- d. Communication ability – communication with academic and professional societies about self issues, arguments and research methods on Georgian and foreign languages in regards with academic honesty standards and achievements in informative-communicative technologies; has observing, listening, questioning, as well as non verbal communicative abilities. Can participate in meetings and express his/her suggestions as orally as in written manner. Can conduct negotiation in a professional manner and participate in conflict solving.
- e. Learning ability – to conduct studies independently, understanding specific features of study process and providing high level of strategic planning.

Can: obtain information from different sources; deal with and critically evaluate a large volume of information; has ability to utilize obtained information in practice.

- f. Values – evaluation of self and others dependency on values. Personal contribution in establishing new values.

2. Learning and teaching methods and evaluation system

Essential terms for teaching on the faculty of medicine are: integration of theoretical and practical teaching; development of clinical skills in virtual simulation centers (for junior students) and clinical environment (for senior students). New technologies must have an advantage during the teaching. Verbal exams, tests, OSCE, presentations, thesis are forms of evaluation for knowledge and skills. Teaching is a student orientated which means students' active participation in the study process and involves case teaching, discussions, empiric teaching, seminars and projects.

Teaching forms used in study process:

- Interactive lectures, seminars, colloquiums
- Studying in clinical environment
- Simulators and moulages
- Performing a roll of patient or physician
- Laboratory teaching
- Presentations
- Participation in scientific research
- Practice

The teaching result evaluation for basic medical education involves evaluation as for theoretical knowledge as practical skills. Development of clinical skills has a crucial importance in basic medical education. In this sense, simulations or computerized study programs with different complicity are broadly used. Those systems maximally reflect real disease, diagnostic and treatment procedures.

Utilization of virtual teaching methods supports defense of patients' safety. Also it decreases a number of students in clinics, who as in great quantities can't establish proper contact with patient and develop clinical skills.

The structure of the study programs on the Faculty of Medicine consists of three barriers (after 4th, 6th and 10th semesters). Overcoming of the barriers means a chance for students to study the subject once again only until commencement of scheduled stage. European Credit Transfer System (ECTS) is nowadays used in the university.

3. Quality assurance system for medical education

Abilities of teaching quality development - there is a quality assurance department in TSMU. The department is represented by the quality group and heads of quality assurance in each faculty. The Head of department of quality assurance conducts the policy of quality development and is accountable for its realizations to academic board.

The head represents current accounts, evaluations, recommendations to the Academic Board. The head also makes annual account at the end of each year.

There is a united conception for quality development in the University. That's why head of the faculty quality assurance is functionally subjected to the head of University quality assurance department and acts correspondingly to the faculty program. The scheme excludes different interpretations of information and approaches and supports for the same understandings of the university mission.

The University quality assurance department fully adopts quality assurance paradigm which is known as Shewhart cycle -PDCA.

This model greatly corresponds to the context of continuous development of quality in the university. Ending one turn of the cycle means beginning for other.

The university quality assurance department defined the aim positions:

- activity aspects and address structures
- study departments
- educational programs (bachelor, magistracy, one step education, doctoral)
- research programs
- Scientific and study production issued from TSMU
- Planned work was carried out under TSMU regulations, and in according to criteria and plan adopted by quality assurance department;
- statistically confident analysis of the results and discussion;

- Recommendations and suggestions issued from the analysis are presented to the academic structures, faculty or academic (in some cases to the representative) boards.

Thus the quality assurance department offers to the university-academic board (the highest regulation body) objective, evidence based, statistically confident, analyzed information and recommendations, which are after used as a ground for decisions issued from regulations bodies.

TSMU quality assurance department regulatory mechanisms assumes two models of quality development

- assessment of existing situation (first of all on the faculty level);
- proposing of recommendations based on assessment

The quality assurance department actively collaborates with all academic, administrative structures and students of the university.

The criteria issued from the quality assurance department are public and available on the university web page. Results of different trials conducted by the quality assurance department are presented to the academic board and placed on the web. Assessment of study process doesn't mean control of the process itself. Registration of students' presences and absences on lectures and seminars is beyond the functions of the quality assurance department but anyway in the aspects of academic environment assessment elements of study process monitoring coincide with the assignments of the quality assurance department.

The periods of assessment and analysis of quality assurance department are as follows:

- for study programs - at least once an academic year
- for students - at least once a semester;
- for research/doctoral programs – as needed
- for printed study and scientific production- as needed
- for students academic progress - at least once a semester

The forms of internal and external assessment are used by the quality assurance department. In both cases interest conflict is excluded. The main criteria for evaluator is his/her filed competency:

- reputation and field competency
- international experience
- working experience in assessment;
- no evidence of so called joined publications

The quality assurance department prepares accounts about TSMU planned self evaluations, authorizations and accreditations (in according to proper criteria and indicators); takes part in students mobility process, collaborates with the Quality Development National Center.