



**Sectoral Benchmark Statement of Higher Education in
Medicine
Level VII of the National Qualifications Framework
II Level of Higher Education**



I. Introduction

This sectoral benchmark statement is the standard of academic education in Medicine, which defines the benchmarks of the 0912 field of Medicine, and reflects the minimum requirements for the relevant learning outcomes of Level 7 of the National Qualifications Framework and also the teaching-learning and evaluation methods and other essential features necessary to achieve them. The document also sets out all the minimum competencies that are required for a qualified medical practitioner. In particular, the specific range of knowledge, skills, autonomy and responsibilities that a graduate of one-level educational programme for Medicine will have.

The purpose of the present sectoral benchmark is to support the higher education institutions implementing higher education pre-diploma programme in Medicine in the development of a competency-based Certified MD Programme/curriculum in accordance with the international standards, implementation of the modern methodology of teaching, studying and evaluating, international recognition of graduates qualifications, mobility and establishment of the competencies which will provide the graduate with the opportunity to pursue professional training at the doctoral level of medical education and/or continue their doctoral studies, realize their opportunities in public or life-long professional development and advance their career.

Validity period of the sectoral benchmark is 7 years.

Educational programmes in Medicine and entry into the profession of a doctor are regulated by the legislation of Georgia (Law of Georgia on Higher Education, Law of Georgia on Medical Activity).

According to the International Standard Classification of Occupations of the International Labor Organization (ILO), the name of the profession is Doctor ISCO-08 code -221.

The title of the benchmark in English - Sectoral Benchmark Statement of Medicine.

It is recommended to introduce the Sectoral Benchmark Statement to:

- the academic, invited and administrative staff of the higher education institution involved in the development and implementation of the one-level educational programme in Medicine;
- to applicants interested in studying medicine;
- to students who study at one-level educational programme in Medicine.
- international students within the framework of exchange programs and projects, who intend to pursue their studies in Georgia in a higher educational institution implementing one step educational programmes of Medicine;
- employers who are interested in employing graduates of educational programmes relevant to the sectoral benchmark;
- experts of education, who are periodically assigned to evaluate and monitor the relevant educational



programmes defined by this Sectoral Benchmark Statement and to determine their compliance with applicable accreditation standards;

- members of the Accreditation, Authorization and Appeals Council who are involved in the process of evaluation of education programmes and in decision-making on their compliance with the accreditation standards.

The given sectoral benchmark statement differs both in content and format from the valid benchmarks approved in 2018, due to a number of important international and national conceptual innovations, which are reflected in the relevant documents. The most important of them are two global standards developed by the World Federation of Medical Education (WFME) - Global Standards for Pre-Diploma Medical Education (2020) and Distributed and Distance Learning in Medical Education (2021). Also, in 2021, the results of the thematic analysis of medical education programmes in the country conducted by the National Center for Educational Quality Enhancement. In terms of format, the main changes involve listing new teaching, learning and assessment methods to achieve graduate competencies; Also, an additional chapter, in which the methodology of developing and implementing an educational programme in Medicine is described in detail. In the form of an annex, information is given about the specifics of medical education in foreign countries.

II. Description of the Field of Study

Medical work is the most important field in healthcare which affects human health and life. Its purpose is to maintain and improve human health. According to Law of Georgian on Medical Practice, the medical practice is “professional activities of a person with medical education, appropriate skills and practical experience, who aims to protect, maintain, and restore the health of human beings and relieve their suffering by applying nationally recognized medical standards and ethical norms, as well as considering medical traditions” (Article 5). Medical studies are the significant prerequisite of the successful Medical practice, thus, their compliance with the international standards is a very common challenge while ensuring the optimal functioning of the country’s Healthcare system. In medical practice it is necessary not only to acquire theoretical knowledge in biomedical and clinical sciences, but also to develop clinical skills and form ethical values and attitudes that are significant for this profession. The present document defines the competencies of graduates of one-level/pre-diploma higher education programme in Medicine in accordance with the Georgian National Qualifications Framework and current legislation, global standards of quality enhancement (2020) of the World Federation for Medical Education (WFME), guidelines of the International Association for Medical Education (AMEE) and other conceptual documents.

2.1. Main Regulatory and Conceptual Documents of the Field



1. Law of Georgia on "Higher Education" (2004);
2. Law of Georgia on "Medical Practice" (2001);
3. WORLD FEDERATION FOR MEDICAL EDUCATION. Standards for distributed and distance learning in medical education. (2021);
4. European Resuscitation Council Guidelines 2021: Executive summary. European Resuscitation Council. Published by Elsevier B.V. 2021. (www.sciencedirect.com)
5. WORLD FEDERATION FOR MEDICAL EDUCATION. Basic Medical Education. WFME Global Standards for Quality Improvement. (2020);
6. Outcomes for graduates. General Medical Council 2018 (updated 2020);
7. Practical Skills and Procedures. General Medical Council (2019);
8. Experience Based Learning (ExBL): Clinical teaching for the twenty-first century. AMEE Guide 129. Dornan T., Conn R., Monaghan H., Kearney G., Bennett D. (2019);
9. Preparing medical students for the e-patient. AMEE Guide 116. Masters K. (2017);
10. Curriculum Development for the Workplace using Entrusted Professional Activities (EPAs). AMEE Guide 99. Ten Cate O., Carrie Chen H., Hoff R.G., Peters H., Bok H., Van der Schaaf M.F. (2015);
11. CanMEDS 2015 Physician Competency Framework (2015);
12. Summary of the main changes in the Resuscitation Guidelines. ERC GUIDELINES (2015);
13. The Objective Structured Clinical Examination (OSCE). AMEE Guide No 81. Khan K.Z., Ramachandran S., Gaunt K., Pushkar P. (2013);
14. DIRECTIVE 2013/55/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 October 2013 Directive 2005/36/EC on the recognition of professional qualifications and Regulation (EU) No 1024/2012 on administrative cooperation through the Internal Market Information System ('the IMI Regulation') (2013);
15. A TUNING Guide to Designing and Delivering an Outcomes-Based Undergraduate Medical Curriculum (2013);
16. Integrating Professionalism into the Curriculum. AMEE Guide No 61. O'Sullivan., Van Mook W., Fewtrell., Val Wass (2012);
17. Learning outcomes/Competences for undergraduate medical education in Europe (The Tuning Project (Medicine). MEDINE (2008);
18. E-Learning in Medical Education. AMEE Guide 32. Ellaway R., Masters K. (2008);
19. Workplace-based assessment as an educational tool. AMEE Guide No 31. Norcini J., Burch V. (2007);
20. DIRECTIVE 2005/36/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 7 September 2005 on the recognition of professional qualifications (2006).

2.2. Possible Field/Fields of Employment and Special Requirements

2.2.1. Possible Field(s) of Employment:

A graduate of a one-level medical education programme may be employed as a junior physician, who shall perform the duties of a doctor according to the instructions and under the responsibility of an independent medical practitioner (Article 5, Law of Georgia on Medical Practice). A graduate of the educational programme has the right to: a) to take a Medical residency course and after passing the Unified State Certification Exam, receive the right to independent medical practice (Law of Georgia "On Medical Activities", Art. 17) and/or b) to



continue studying for a doctoral level, engage in pedagogical and/or scientific activities.

2.2.2. Special Requirements:

According to the Law of Georgia on Medical Practice (Law of Georgia on Medical Practice, Article 7), “a citizen of Georgia or a foreigner or a stateless person who has graduated from a higher medical school with state accreditation of Georgia and has received a state certificate certifying the right to independent medical activity has the right to independent medical practice.”

2.2.3. Terms and Dates for the Sectoral Benchmark to Enter into Force

- The sectoral benchmark statement enters into force upon approval, with the exception of the terms specified in the text of the entry into force of separate norms, which apply only to programmes already in force.
- In accordance with the current legislation, the institutions must provide an action plan to the Center for Educational Quality Enhancement *within 6 months from the approval of the sectoral benchmarks* on bringing the education programme of Medicine into compliance with the current sectoral benchmark statement.

2.3. Definition of Terms and Abbreviations

- CBCR - Case-Based Clinical Reasoning
- CBD - Case-based Discussion
- CBL - Case-Based Learning
- DOPS - Direct Observation for Procedural Skills
- EPAs - Entrustable Professional Activities
- Mini-CEX - Mini Clinical Evaluation Exercise
- OSCE - Objective Structured Clinical Examination
- OSPE - Objectively Structured Practical Exam
- PBL - Problem-Based Learning
- TBL - Team-Based Learning
- WPBA - Workplace Based Assessment

Upon completion of the programme, a student is awarded the qualification of a Medical Doctor (MD)

2.4. Volume and Structure of the Higher Education Programme



Duration	6 yeats	Structure	☐	Specialty (Medicine)	min 330 credits	Incl uding	<ul style="list-style-type: none"> • Core and Elective Courses/Modules • Scientific-research skill components
Volume, ECTS	min 360 credits		☐	General and/or free components	max 30 ECTS	Incl uding	<ul style="list-style-type: none"> • Core and Elective Courses/Modules

Note" - According to the amendment made in Order №3 of the Minister of Education and Science of Georgia, issued on January 5, 2007 on "Approval of the Rule on Calculation of Higher Education Programmes in Credits", the duration, volume and structure of the educational programme of a certified Medical Doctor, the student's study load during one academic year includes 60 (ECTS) credits. According to the individual curriculum of a student, the annual study load of a student can be determined by more than 60 credits, while the total number of credits added above 60 within the duration determined by the sectoral benchmarks of the Certified MD Programme should not exceed 15 credits."

2.5. Special Admission Requirements of the Educational Programme

The prerequisites for the admission of an entrant to the educational programme of a qualified medical doctor without Unified National Exams are the following in accordance with the rules and timeframes established by the legislation:

- for a foreign citizen - an internationally recognized certificate confirming at least B1 level of English (IELTS, TOEFL, Cambridge English, UNICert®, EnglishScore, etc.)

or

a relevant document (e.g.: diploma, certificate, etc.) confirming that an entrant with the foreign citizenship received education in English, and also for a citizen of Georgia who has received full general education or its equivalent education in a foreign country in English and who has studied in a foreign country in the last 2 years of full general education and presents a relevant document (e.g. diploma, certificate, etc.).

or

a confirmation of the abovementioned level of knowledge by the higher educational institution as a result of an exam (including listening, comprehension and analysis of the read text, speaking) organized by the institution itself to determine the level of English language proficiency of a foreign citizen.

Verification of the fulfillment and observance of the above admission prerequisites is carried out by the Center in accordance with the procedures established by the law, within the framework of authorization of higher education institutions and/or accreditation of higher education programmes.

The amendments shall enter into force 1 year after the approval of the sectoral benchmark.



III. Learning Outcomes

Medical education combines three areas/domains - *knowledge, skills and attitudes* (adherence to professional ethics, principles and norms of behavior). Accordingly, the outcomes of the Pre-diploma Educational Programme in Medicine reflect the competencies of all three areas.

N	Competence	Description of competence	Recommended teaching and learning methods for achieving competence	Recommended methods to assess the competency
	<u>Field knowledge</u>			
1.	Knowledge of basic biomedical clinical, behavioral and social sciences	<ul style="list-style-type: none"> • Basic Biomedical Sciences <ul style="list-style-type: none"> - The structure of the human body (anatomy, histology), - The functioning of the human body (physiology), - Metabolism and hormonal function of the human body (biochemistry), - Immune function and microbiology of the human body, - Cell Biology, - Molecular Biology (Norm), - Embryology. • Clinical Sciences 	<p>Minimum standard Lecture (interactive) CBL, doctor-patient role play. Laboratory work</p> <p>Recommended PBL, TBL, CBCR, "flipped classroom", bedside teaching;</p>	<p>Minimum standard Oral/written exam, Single and/or multiple choice tests</p> <p>Recommended OSPE Use of the method - "Open-book exam".</p>



		<ul style="list-style-type: none">- Pathology,- Infectious diseases and microbiology,- Clinical immunology,- Genetics, hereditary diseases,- Knowledge of clinical sciences in various medical specialties and subspecialties;- Clinical access and experience obtained from clinical work in the following areas of medical services:<ul style="list-style-type: none">• Treatment of patients with acute disease on the spot and in the emergency department,• Treatment of internal diseases in the reception unit,• Treatment of surgical patients in the reception unit,• Work in primary care;• Treatment of the elderly,• Treatment of children,• Treatment of terminally ill patients,• Palliative care• Treatment of psychiatric patients,• Treatment of Gynecological diseases, management of physiological (normal) labour• Treatment of critical conditions in the intensive care unit,• Treatment of various diseases (cardiology,		
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		<p>nephrology, pulmonology, etc.), etc.)</p> <ul style="list-style-type: none">• Anesthesiology,• Rehabilitation Medicine,• Treatment of surgical conditions of various profiles.- Use of antibiotics and- Resistance to antibiotics,- Principles of prescribing medications,- Peculiarities of prescribing medications to the elderly,- Peculiarities of prescribing medications to children.- Drug side effects- Medications interactions,- Transfusion of blood and blood products,- Drug effects, pharmacokinetics.- Pharmacogenomics,- Drug groups. <p>• Behavioral and Social Sciences</p> <ul style="list-style-type: none">- Psychology:- Human development (child, adolescence, adulthood, elderly),- Sociology,- Prevention of diseases,- Lifestyle, diet, and nutrition,- Health promotion,- Disease screening and disease surveillance,- Promoting the health of the elderly,- Gender issues in healthcare,- Epidemiology,		
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		<ul style="list-style-type: none"> - Influence of cultural and ethical factors on health care, - Resource allocation and health economics, - Global health and inequality - The rights of the patients, - The rights of people with disabilities in the field of medical services, - Principles of relations with colleagues, - Legislation related to medicine, - Systems of professional regulation, - Principles of clinical audit, ways of access to health care. 		
	<u>Sectoral skills</u>			
2.	Consult a patient	<p>Collecting medical history; Conducting a physical examination, Clinical thinking, and decision-making</p> <p>Relevant explanations and advice, Support the patient and protect his / her rights.</p> <p>Evaluation of the psycho-emotional status of the patient</p>	<p>Minimum standard Teaching communication with the patient, bedside teaching, CBL</p> <p>Recommended CBCR, TBL, doctor and patient role play.</p>	<p>Minimum standard OSCE Portfolio/Log-book.</p> <p>Recommended WPBA, which includes the following assessments: 360-degree evaluation scale; MiniCex - Mini Clinical Evaluation Exercise; CBD - Case-based Discussion.</p>



3.	<p>Clinical case evaluation, appointment of examinations, differential diagnosis, discussion of disease management plan.</p>	<ul style="list-style-type: none"> • Understanding and evaluating the complexity of the clinical manifestation of the disease; • Prescription of relevant tests and interpretation of results; • Conducting differential diagnosis; • Review of the disease management plan with patients and their caregivers; • Care for the terminally ill patient and his/her family; • Chronic disease management. 	<p>Minimum standard Interactive lecture, CBL, doctor-patient role play, a bedside teaching;</p> <p>Recommended “Flipped classroom”, PBL, CBCR.</p>	<p>Minimum standard Using tests, role play, OSCE (standardized/simulated patient), portfolio/Log-book.</p> <p>Recommended WPBA, which includes the following assessments: 360-degree evaluation scale; MiniCex - Mini Clinical Evaluation Exercise; CBD - Case-based Discussion.</p>
4.	<p>Providing assistance during emergency medical situations (first aid and resuscitation measures)</p>	<ul style="list-style-type: none"> • Identification and assessment of emergency medical condition (DRSABCDE); • Age features of providing basic first aid to infants, children and the elderly (on simulators); • Conducting basic life support and cardiopulmonary resuscitation measures according to the guideline (on the simulator) Conducting advanced life support measures in accordance with guidelines (on the simulator) • Emergency assistance in case of trauma in accordance with the 	<p>Minimum standard Teaching using appropriate simulators, bedside-teaching.</p> <p>Recommended Teaching with the use of virtual simulation.</p>	<p>Minimum standard OSCE portfolio/ Log-book</p> <p>Recommended WPBA, which includes the following assessments: 360-degree evaluation scale; MiniCex - Mini Clinical Evaluation Exercise; CBD - Case-based Discussion. portfolio/Log-book. DOPS</p>



		<p>guidelines (on the simulator);</p> <ul style="list-style-type: none"> • First aid for anaphylactic shock. 		
5.	Selection and prescription of medication	<ul style="list-style-type: none"> • Prescribing of medications clearly and correctly, considering the age aspects; • Linking the relevant medications with the clinical context; • Reviewing the appropriateness of medications and other treatment and evaluating potential benefits and risks for the patient; • Treatment of pain and distress; • Considering compatibility of medications when appointing treatment. 	<p>Minimum Standard</p> <p>Teaching using appropriate simulators, bedside-teaching.</p> <p>Recommended</p> <p>“Flipped classroom”, PBL, CBL, CBCR, TBL</p>	<p>Minimum standard</p> <p>OSCE</p> <p>Recommended</p> <p>WPBA, which includes the following assessments: 360-degree evaluation scale; MiniCex - Mini Clinical Evaluation Exercise; CBD - Case-based Discussion, DOPS, Portfolio/Log-book.</p>
6.	Use of practical procedures	<ul style="list-style-type: none"> • Identifying vital signs: Pulse, respiration, temperature (of a patient); • Blood pressure measurement (for a patient); • Determination of saturation (for a patient); • Peripheral venipuncture (on a simulator); • Peripheral vein catheterization (using a simulator); • Intravenous administration of drugs and use of infusion device (using a simulator); • Making subcutaneous and intramuscular 	<p>Minimum Standard</p> <p>Teaching using simulators, practice with ambulatory and hospitalized patients, bedside teaching;</p> <p>Recommended</p> <p>Scenario-based simulation learning through a standardized patient.</p>	<p>Minimum standard</p> <p>OSCE</p> <p>Note: All graduates should be able (target benchmark 100%) to perform some procedures (e.g. blood pressure measurement, basic first aid).</p> <p>Recommended</p> <p>WPBA, DOPS</p>



		<p>injection (using a simulator);</p> <ul style="list-style-type: none">• Oxygen therapy (with a patient);• Patients transportation and treatment (simulator/simulated patient)• Putting a stitch (on the simulator);• Wound cleaning and bandaging (simulated patient);• Urinary bladder catheterization (on the simulator);• Recording an electrocardiogram (for a patient);• Conducting functional tests of pulmonary system;• Use of inhalation medications• Wash hands;• Taking a sample from the nose and throat (on the simulator);• Use and disposal of personal protective equipment (gloves, coveralls, goggles, shield, mask, respirator, disposable shoe cover, cap).	<p><i>Note: Practical skills are acquired in a simulation center for clinical skills training or in a suitably equipped clinical setting.</i></p>	
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7.	Effective communication in a medical context	<ul style="list-style-type: none">• Communication with a patient;• Communication with colleagues;• Communication while informing about bad news;• Communication with patient's relatives;• Communication with people with disabilities;• Communication for receiving an informed consent;• Written communication (including medical records)• Communication in case of a conflict;• Communication through an assisting person;• Communication with law enforcement organs and mass media;• Efficient communication with any person irrespective of social, cultural, religious or ethnic affiliation	Minimum standard Interactive lecture, CBL, doctor-patient role play, a bedside teaching; Recommended “Flipped classroom”, PBL, CBL, CBCR, TBL	Minimum standard OSCE Recommended WPBA, which includes the following assessments: 360-degree evaluation scale; MiniCex - Mini Clinical Evaluation Exercise; CBD - Case-based Discussion. portfolio/Log-book.
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8.	Applying ethical and legal principles in medical practice	<ul style="list-style-type: none">• Keep confidentiality;• Application of ethical principles and analytical skills during treatment,• Receive informed consent and make appropriate records;• Issuing the death certificate;• Demand for autopsy (in cases provided by the Georgian legislation);• Use of Georgian and international legislation during treatment,• Conducting medical activities in multicultural society.	Minimum standard Interactive lecture, CBL, doctor-patient role play, a bedside teaching; Recommended “Flipped classroom”, PBL, CBL, CBCR, TBL	Minimum standard OSCE Examination - using oral/tests. Recommended WPBA, which includes the following assessments: 360-degree evaluation scale; MiniCex - Mini Clinical Evaluation Exercise; CBD - Case-based Discussion. portfolio/Log-book.
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9.	Evaluation of psychological and social aspects related to the patient's disease	<ul style="list-style-type: none">• Evaluation of the psychological factors of disease manifestation and impact on the patient• Evaluation of social factors of disease detection and impact on a patient• Determining the stress related to the disease;• Determining alcohol and drug addiction.	Minimum standard Interactive lecture, CBL, doctor-patient role play, a bedside teaching; Recommended “Flipped classroom”, PBL, CBL, CBCR, TBL	Minimum standard OSCE Examination - using oral/tests. Recommended WPBA, which includes the following assessments: 360-degree evaluation scale; MiniCex - Mini Clinical Evaluation Exercise; CBD - Case-based Discussion. Portfolio/Log-book.
10.	Using evidence-based principles, skills and knowledge	<ul style="list-style-type: none">• Use of evidence in practice;• Define and conduct relevant literary research properly;• The critical evaluation of published literature, making conclusions and using them in practice.	Minimum standard Interactive lecture, CBL, doctor-patient role play, a bedside teaching; Recommended “Flipped classroom”, PBL, CBL, CBCR, TBL	Minimum standard OSCE Examination - using oral/tests. Recommended WPBA, which includes the following assessments: 360-degree evaluation scale; MiniCex - Mini Clinical Evaluation Exercise; CBD - Case-based Discussion. Essay; Portfolio/Log-book.



11.	<p>Efficient use of information and information technologies in medical contexts</p>	<ul style="list-style-type: none"> • Proper maintenance and complete preservation of clinical records • Use modern information technologies in practical activities • Looking for specific informational resource • Saving information and using it afterwards • Ability to keep personal records (portfolio). 	<p>Minimum standard Interactive lecture, teaching the use of ambulatory and inpatient documentation teaching the use of electronic medical histories;</p> <p>Recommended “Flipped classroom”, teaching with the use of information technology.</p>	<p>Minimum standard OSCE Examination - using oral/tests.</p> <p>Recommended WPBA, which includes the following assessments: 360-degree evaluation scale; MiniCex - Mini Clinical Evaluation Exercise; CBD - Case-based Discussion. Portfolio/Log-book.</p>
12.	<p>Application of scientific principles, methods and knowledge of biomedicine in medical practice and research</p>	<ul style="list-style-type: none"> • Knowledge of scientific research production methodology • Ability to design research, detailed planning, processing the results obtained, draw conclusions • Ability to apply the achievements of biomedical sciences in practical activities; • Ability to write abstract/review based on critical analysis of scientific literature in biomedicine • Knowledge of ethical principles to conduct a scientific research. 	<p>Minimum standard Interactive lecture; CBL; bedside teaching;</p> <p>Recommended “Flipped classroom”, PBL, CBL, CBCR, TBL Participation in the scientific research process</p>	<p>Minimum standard Exam with the use of tests, at the clinical stage of teaching, essay.</p> <p>Recommended CBD; portfolio/Log-book.</p>



13.	Implementation of health promoting measures, involvement in public health issues, effective work in the health care system	<ul style="list-style-type: none"> • Conduct treatment with a minimal risk of harm to the patient; • Knowledge of prevention of contagious and non-contagious diseases; • Awareness of one's own health problems and the ability to assess own health in relation to professional duties, • Participation in health promotion activities both at the individual and population levels. 	<p>Minimum standard Lecture (interactive) CBL,</p> <p>Recommended "Flipped classroom", seminars, Problem-Based Learning (PBL), Clinical Case Based Learning, "methods of health self-assessment".</p>	<p>Minimum standard Exam - oral/using tests, scientific presentations</p> <p>Recommended Portfolio/Log-book. (Participation in public health promoting events)</p>
14.	Professionalism (values, behavior, attitude)	<ul style="list-style-type: none"> • Relationship between a doctor and a patient • Responsibility • Altruism • Adherence to the ethical principles • Attitudes towards colleagues • Empathy • Time Management • Inter-professional skills • Creativity • Skills of leadership • Team-work skills • Readiness for the life-long professional development 	<p>Minimum standard Teaching in clinical environment (bedside teaching), role playing; mentoring and feedback</p> <p>Recommended PBL, CBL, CBCR, TBL, Teaching in an inter-professional group.</p>	<p>Minimum standard OSCE portfolio/ Log-book</p> <p>Recommended 360- degree assessment; Professionalism Mini-Evaluation Exercise P-MEX</p>

If the EPA “Entrustable Professional Activities” methodology is implemented at the clinical stage of training, it is possible to combine two or more of the competencies listed below into one entrusted activity.



IV. Teaching, Learning and Evaluation

1). The Medical Education Programme/curriculum is a document that combines management, ideology, and planning of the teaching process. The structure, content, learning, teaching and assessment methods of the curriculum should be in line with the mission of the higher education institution, the expected learning outcomes and resources. The model and structure of the curriculum depends on the choice of the medical school/faculty itself, however, it is currently established that the optimal model for improving the quality of medical education is an integrated curriculum.

2). The integrated curriculum implies the integration of fundamental and clinical subjects (**vertical and horizontal integration**). Unified modules of different courses are created within one course (of the semester, academic year) during the horizontal integration. In vertical integration, separate issues of core subjects are integrated into clinical disciplines. In turn, individual issues of clinical disciplines are integrated into core subjects (e.g., teaching patient communication in the first academic year or integrating immunology and microbiology issues into teaching of infectious diseases). Integrated curriculum enables us to avoid fragmentation of knowledge and to develop independent clinical thinking in students from early stages. The curriculum of the educational programme can be **partly or fully** integrated. The fully integrated curriculum includes only trans-disciplinary modules, while partial integration curriculum consists of separate disciplines as well as integrated modules.

3). The development of clinical skills is of particular importance. In this regard, different complexity simulators and computerized learning programmes should be used to describe real disease, diagnostic or medicinal procedure. The use of virtual learning methods facilitates the protection of patients' safety (because not all procedures can be performed on the patient, even with their consent), it will significantly relieve medical institutions from large groups of students who often do not have any clinical abilities, especially in the preliminary stage of study, through direct contact with the patient. Simulated and standardized patients are used in the teaching and assessment process to develop communication skills. At the end of the educational programme, graduates should be able to demonstrate clinical skills generated during the study. This can be done independently, on simulators or under the supervision.

4). The list of courses and/or titles of a specific educational programme varies according to the institutional context. At the same time, there are common competencies that form the basis of becoming a licensed physician. Within six years of study, it is necessary to envisage **at least 10 credits** in a curriculum for **clinical skills** at the Clinical Skills Center/Laboratory and **at least 10 credits for scientific skills**. The essential requirement for integrated teaching is the initial involvement of a student in the scientific work. The research component is included in the integrated curriculum. The role of students in research is gradually increasing. It is crucial that students learn not only critical assessment of scientific information, but also basic principles to plan, organize, handle a research, analyze and present outcomes.

5). The section of elective courses of the specialty includes courses/modules related with medical field that



will facilitate the performance of professional duties and/or expand competencies in the field of medicine. The number of elective courses provided in the curriculum should gradually increase and reach a maximum in the last semesters of teaching.

6). The educational programme should include those compulsory and elective training courses aimed at the development of general (transferrable) competencies, which do not belong to the specialty component.

7). In order to achieve the learning outcomes defined by the curriculum, it is recommended to use appropriate **teaching, learning and assessment** methods.

Among the modern methods of **teaching and learning** (except for traditional lectures and seminars), the following are recommended:

- Problem-based and case-based learning (PBL and CBL, respectively). For the development of clinical reasoning, it is also recommended to introduce a training course of Case-Based Clinical Reasoning (CBCR) at the preclinical stage of the studies. The advantage of both PBL and CBCR over traditional teaching methods is that students develop skills for problem-solving and teamwork, which is crucial to the successful implementation of a doctor's professional practice.
- The so-called "Flipped Classroom" is especially recommended when teaching remotely - when students are provided with information on the topic of the lecture in advance, and the topic is interactively discussed with the students already prepared for the lecture.
- When teaching large groups, the so-called TBL- Team Based Learning is recommended. In this type of teaching, as in the case of "flipped classroom", students are provided with lecture material in advance. During the lecture, students are divided into small groups (5-6 students per group), and their knowledge is assessed (both in groups and individually) through pre- and post-tests. There are various modifications of TBL that are used in all stages of teaching.
- At the clinical stage of teaching, especially in the final year, a new methodology of teaching in a clinical environment is recommended - EPAs (Entrustable Professional Activities) - an entrusted professional activity, which refers to an activity (usually a combination of several competencies) that a student can be entrusted to perform without supervision after he or she has fully acquired the competencies necessary to perform this activity

8). **Assessing** the learning outcomes defined by the programme involves assessing not only theoretical knowledge but also practical skills and professionalism (a list of information resources on modern teaching, learning and assessment methodologies is provided at the end of this chapter). From modern assessment methods (except traditional written, oral and test exams), the following are recommended:

- OSCE (Objective Structured Clinical Examination) - is widely used today to assess the clinical competence (clinical skills) of students and residents in many higher medical schools around the world. During the OSCE exam, students demonstrate clinical skills using simulators or patient role models (standardized or simulated patients). The OSCE is recognized as one of the key standards in



medical education by the World Federation for Medical Education and the World Health Organization. The number of OSCE stations in the final exams is desirable to exceed 10 (12 stations are optimal). The assessment threshold for each station depends on the task to be performed (e.g., basic emergency care, pressure measurement, examination of vital signs requires 100% performance).

- OSPE - Objective Structured Practical Examination is used at the stage of teaching basic disciplines (e.g. Histology evaluates the identification of the drug under a microscope, etc.);
- At the basic stage of teaching, in the formative and final evaluation, it is recommended to use Objective Structured Practical Examination (OSPE) that is similar in format to the OSCE, however, in this case the number of stations may be less (4-6 stations).
- Work Place Based Assessment (WPBA), so-called assessment in the work (clinical) environment is recommended for the final stage of clinical training (5th-6th years). Typically, this assessment methodology is used in formative assessment. WPBA is a combination of several assessment methods. Depending on the training course, some or all of the component methods may be used. These methods are as follows:
 - *DOPS - Direct Observation of Procedural Skills*
 - *Mini-CEX (Mini Clinical Evaluation Exercise)*
 - *CBD - Case-based Discussion*
 - *MSF Multi-source feedback, 360-degree evaluation - multi-angle assessment*
- While evaluating **professionalism**, the following methods are used:
 - Portfolio (so called "Longitudinal" - long-term (6-year) assessment evaluates student activities, e.g., participation in conferences, also, in examination and treatment of a patient, social activity, self-reflection, Personal Development Plan, etc.). The assessment is based on documents/evidence that reflect the student's activity from the first year of study to the end of the sixth year. The portfolio has a significant impact on the ongoing and final assessment of student's academic achievements, as it objectively and substantively reflects the student's clinical thinking, skills, strengths and weaknesses in general professional development, reveals its shortcomings and ways to correct them.
 - WPBA methods;
 - P-MEX - Professionalism Mini-Evaluation Exercise (assesses skills of communication with a patient, empathy, time management, inter-professional relationship, punctuality).

9). To maintain the quality of medical education and the sustainability of the programme during global or country-wide emergency situations (for example, a pandemic), it is recommended that the medical school/faculty, based on the rules and conditions established by the law, within 1 month from the approval of the sectoral benchmark statements, to have developed a corresponding plan/concept for the implementation of electronic/distance/semi-distance learning with a corresponding modification of the curriculum. It is important that the above mentioned plan doesn't not change - the goals of the educational programme, expected learning outcomes of the programme, and the qualification to be awarded.



General recommendations for remote/hybrid type of teaching:

1. Curriculum Modification - transfer of practical and theoretical components within the education programme and its components (study courses/modules).
2. Modification/Adaptation of assessment components;
3. Providing the necessary electronic resources for remote teaching;
4. Ensure the preparation of human resources for remote/hybrid teaching and conduct the teaching process in an interactive format.

10). It is recommended that the curriculum pays **special attention** to the **topical issues** of the healthcare of the Georgian population, such as:

- Cardiovascular diseases (namely, arterial hypertension and its complications, which are the most common causes of morbidity and mortality in the population);
- Infectious Diseases
- Public health with a special focus on epidemiology
- Gerontology and Geriatrics issues
- Oncological diseases.

11). The foreign language educational programme should include teaching of the Georgian language (at least 12 credits) for effective communication with patients and medical staff. *The amendments shall enter into force 6 months after the approval of the sectoral benchmark.*

12). The programme should address current pathologies in the region of residence of international students.

13). **General competencies of a graduate of the educational programme (according to the Framework of National Qualifications)**

- **Knowledge and Understanding**
- Deep, systemic knowledge of study and/or work field and its critical understanding, which includes some latest achievements of the field of study and/or work and creates foundation for innovations, development of new original ideas.
- **Skills**
Searching new, original ways of solving difficult problems in strange and multifaceted environment or/and implementing a research independently by following principles of academic integrity, by using latest methods and approaches. Critical analysis of complex or incomplete information (including recent research), innovative synthesis of information, evaluation and formulation of conclusions that reflect social and ethical responsibilities. Presenting own opinions, arguments and research results to academic as well as professional community by following ethical standards.
- **Responsibility and Autonomy**
Manage complex, non-predictable or multifaceted learning and/or working environment and adapting



through new strategic approaches. Contribute to the development of the professional knowledge and practice. Take responsibility for other persons' work and professional development, independently lead his/her own study process.

4.1. Recommended information resources for the development of the Pre-diploma Programme in Medicine

1. Guiding principles for undergraduate medical education in the time of the COVID-19 pandemic. Muller D., Parkas C., Amiel J. et al. (2021);
2. The recommended description of an entrusted professional activity. AMEE Guide No 140. Ten Cate O., Taylor D.R. (2020);
3. Medical Education fit for the 21st century: A response to “the lecture-free curriculum: Setting the stage for life-long learning”. Siracusa F., Boichuk A. (2020);
4. Experience Based Learning (ExBL): Clinical teaching for the twenty-first century. AMEE Guide 129. Dornan T., Conn R., Monaghan H., Kearney G., Bennett D. (2019);
5. Principles and Practice of Case-based Clinical Reasoning Education. A Method for Preclinical Students. Eds. Ten Cate O., Custers E., Durning S. Springer. (2018);
6. Practical Guide to the Evaluation of Clinical Competence. Holmboe E.S., Durning S.J., Hawkins R.E. Practical Guide to the Evaluation of Clinical Competence. Elsevier, 2nd Ed. (2018);
7. Preparing medical students for the e-patient. AMEE Guide 116. Masters K. (2017);
8. The foundations of measurement and assessment in medical education. Tavakol M., Dennik R. (2017);
9. Longitudinal integrated clerkships. Hudson J.N., Poncelet A.N., Weston K.M. et al. (2017);
10. Curriculum Development for the Workplace using Entrusted Professional Activities (EPAs). AMEE Guide 99. Ten Cate O., Carrie Chen H., Hoff R.G., Peters H., Bok H., Van der Schaaf M.F. (2015);
11. The integrated curriculum in medical education. AMEE Guide No 96. Braue D.G., Ferguson K. (2014);
12. Electives in undergraduate medical education. AMEE Guide No 88. Lumb A., Murdoch-Eaton D. (2014);
13. The Objective Structured Clinical Examination (OSCE). AMEE Guide No 81. Khan K.Z., Ramachandran S., Gaunt K., Pushkar P. (2013);
14. Problem-based learning (PBL): Getting the most out of your students – Their roles and responsibilities. AMEE Guide No 84. Bate E., Hommes J., Duvivier R.J., Taylor D.C.M. (2013);
15. Simulation in healthcare education: A best evidence practical guide. AMEE Guide No 82. Motola I., Devine L.A., Chung H.S. et al. (2013);
16. Integrating Professionalism into the Curriculum. AMEE Guide No 61. O’Sullivan., Van Mook W., Fewtrell., Val Wass. (2012);
17. Team-based learning: a practical guide. AMEE Guide No 65. Parmelee D., Michaelsen L.K., Cook S., Hudes P. (2012);
18. Portfolios for assessment and learning. AMEE Guide No 45. Tartwijk J.V., Driessen E.W. (2009);



19. The use of simulated patients in medical education. AMEE Guide No 42. Cleland J.A., Abe K., Rethans J-J. (2009);
20. E-Learning in Medical Education. AMEE Guide No 32. Ellaway R., Masters K. (2008);
21. Problem-based learning: Where are we now? Taylor D., Mifflin B. (2008);
22. E-Learning in medical education. AMEE Guide 32, Part 2. Technology management and design. Masters K., Ellaway R. (2008);
23. Teaching in the clinical environment. AMEE Guide No 34. Ramani S., Leinster S. (2008);
24. Workplace-based assessment as an educational tool. AMEE Guide No 31. Norcini J., Burch V. (2007);
25. Portfolios as a method of student assessment. AMEE Guide No 24. Friedman M., Davis M.H., Harden R.M. et al. (2001).

V. Additional Information

5.1. Requirements for Human Resources

Aspect	Special Requirements
<p style="text-align: center;">The Methodology of Medical Education</p>	<ul style="list-style-type: none"> • Academic staff and invited specialists/teachers should be trained in medical education methodology on a regular basis (once every 2 years), which should be confirmed by a relevant certificate.
<p style="text-align: center;">Personnel Workload</p>	<ul style="list-style-type: none"> • It is advisable for the institution to use the Full time equivalent (FTE) methodology for determining the weekly workload of academic, scientific and invited staff. • The basis for determining the number of student quotas is the number of places indicated in the authorization application submitted by the higher education institution to the Center or in the application for increasing the number of students. • The maximum number of students indicated in the application by the higher educational institution should be based on the methodology of determining the maximum number of students of the educational program of the institution, which envisages: <ul style="list-style-type: none"> • Requirements of Sectoral Benchmarks • Specifics of the educational programme • The resources of the institution, practice facilities, laboratory and clinical bases



<p>Clinical Disciplines</p>	<ul style="list-style-type: none">• Relevant certificate of specialty,• Experience:<ul style="list-style-type: none">a) Professor: Pedagogical - at least 6 years, clinical - at least, last 9 years,b) Associate Professor: Pedagogical - at least 3 years, clinical - at least, last 5 years,c) Assistant-professor: Clinical - at least the last 3 years,d) Assistant - doctoral student in clinical specialty,e) Invited specialist/teacher: Clinical - at least, last 3 years.
<p>English-Language Educational Programme in Medicine</p>	<ul style="list-style-type: none">• At least 3 years of teaching experience in the English language programme in Medicine or• experience of medical activities in English in a clinic operating abroad for at least 1 year; or• experience of teaching/research activities in English in the field of Biomedicine for at least 1 year in a research institution operating abroad; or• completion of an English-language pre- or post-diploma programme, as evidenced by the relevant document; or• Certificate of English Language Competence, at least B2 level (IELTS, TOEFL, Cambridge English, UNICert). <p><i>The mentioned norm shall enter into force 1 year and 6 months after the approval of the sectoral benchmarks.</i></p>



5.2. Requirements for Material Resources

Aspect	Special Requirements
Clinical Disciplines	<ul style="list-style-type: none"> • Teaching clinical subjects is carried out in university/educational medical institutions - at the clinics providing outpatient and inpatient services. University and affiliated teaching clinics should be provided with adequate training space. Students should have access to educational resources (electronic, books) from clinics. • At the University/training clinic and/or affiliated clinic (on a contract basis), during the study course/curation, the patient/student ratio should be as follows: <ul style="list-style-type: none"> - In therapeutic profile departments - no more than 10 students per patient; - In surgical profile departments - no more than 10 students per patient; - In the Department of Obstetrics and Gynecology - no more than 10 students per patient; - In the Department of Pediatrics - no more than 10 students per patient; - In resuscitation/intensive care departments - no more than 6 students per patient. <p><i>The amendments shall enter into force 2 years after the approval of the sectoral benchmark.</i></p>
	<ul style="list-style-type: none"> • "A higher education institution should have its own, well-equipped Clinical Skills Center/Laboratory (for an example, see Annex #1)". Clinical Skills Centre/laboratory • A regularly updated contract signed with the university and its affiliated clinic should give a detailed description of the rights and obligations of the parties, including: <ul style="list-style-type: none"> - the maximum number of students admitted from a higher educational institution during one academic year; - clinical training courses conducted in the clinic and their duration; - information on the higher educational institution/s implementing clinical modules, as well as a timetable/schedule about the possibility of accepting the number of students in the same period of time during a specific study course. - Within 30 calendar days after signing the contract, the higher educational institution provides the National Center for the Enhancement of Quality of Education with the information on the average number of patients the clinic receives and serves in a year. The mentioned condition does not apply to those entities which, in accordance with the legislation, started functioning in the reporting year or the year before the reporting year, so that a full calendar year of the reporting year has not been completed since the beginning of functioning. In the case of a clinic that has been open for less than a year, the higher education institution provides relevant interim



	<p>information about the number of patients treated by the clinic within 6 months after signing the contract with the HEI.</p> <ul style="list-style-type: none">• Also, in case of change of the terms of the contract, cancellation of the contract or conclusion of a new agreement, the higher education institution is obliged to notify the Center in writing within 30 calendar days upon concluding, cancellation or amendment of the contract and submit the relevant agreement. <p><i>The norm shall enter into force 2 years after the approval of sectoral benchmark statements.</i></p>
Fundamental Disciplines	<ul style="list-style-type: none">• "The institution should have its own appropriately equipped teaching and research laboratory. Taking into account the specifics of the research activities provided by the educational programme, in order to carry out scientific-research activities, the institution may have its own laboratory equipment for fundamental and applied research and/or have signed a memorandum/agreement with the relevant scientific-research institute. The laboratory must be in compliance with bio and labor safety norms established in the country.• The existence of an appropriate environment for research/practical work of students (at least 5-6 students) should be considered, following the established safety rules.• Resource and IT infrastructure for synchronous and/or asynchronous remote workshops and forums (including within the framework of international communication). <p><i>The amendments shall enter into force 1year after the approval of the subject sectoral benchmark statement.</i></p>
Information and Communication Technologies	<ul style="list-style-type: none">• A higher educational institution should have its own library, electronic learning resources and IT-infrastructure for conducting synchronous and/or asynchronous remote workshops and forums (including within the framework of international communication).



VI. Members of the Groups Developing the Sectoral Benchmark Statements

6.1. Members of the Sectoral Council of Higher Education in Healthcare

№	Name, surname	Organization/Institution	Position
1.	Gaiane Simonia	LEPL Tbilisi State Medical University	Professor, Head of the Academic Development and Strategic Development, Head of Geriatrics Department, Head of AMEE International Networking Center.
2.	Maia Zarnadze	Ltd - Petre Shotadze Tbilisi Medical Academy	Doctor of Medicine, Associate Professor, Manager of Continuous Professional Development Service of Tbilisi Medical Academy
3.	Rusudan Agladze	Ltd - Bokhua Memorial Cardiovascular Center	Doctor of Medicine, Head of Cardiology Department
4.	Ivane Chkhaidze	M. Iashvili Children's Central Hospital	Professor
5.	Tinatin Gagua	Ltd - Gagua Clinic	Head of Residency Service, Associate Professor
6.	Sophio Kakhadze	Ltd - Acad. F. Todua Medical Center	Professor
7.	Nana Kalmakhelidze	Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia	Senior specialist of the Health Protection Policy Division of the Policy Department, senior specialist of the third category.
8.	Khatuna Todadze	LEPL Tbilisi State Medical University	Professor
9.	Nino Tabagari-Bregvadze	Ltd - David Tvildiani Medical University	Dean of the Faculty of Medicine, Professor
10.	Leila Akhvlediani	Ltd - BAU International University	Dean of the Faculty of Medicine, Academic Doctor; Professor;



11.	Nino Chikhladze	LEPL Ivane Javakhishvili Tbilisi State University	Professor of the Faculty of Medicine, Head of Quality Assurance Service
12.	Ivane Abiatari	LEPL Ilia State University	Head of Medical School, Associate Professor
13.	Irine Pkhakadze	LEPL Akaki Tsereteli State University	Dean of the Faculty of Medicine, Professor
14.	Maia Advadze	Ltd - Georgian National University (GNU)	Dean of the Faculty of Medicine, Head of the English-language one-level educational programme of medicine
15.	Zviad Kirtava	Ltd - The Caucasus University	Caucasus School of Medicine and Healthcare Management, Professor, Co-head of the English-language one-level educational programme for a qualified physician
16.	Khatuna Saganelidze	N(N)LE - New Vision University	Head of the Quality of Life Development Center, Member of the Quality Culture Committee, Professor (in the direction of medical rehabilitation)
17.	Sophio Beridze	LEPL Batumi Shota Rustaveli State University	Doctor of Medicine, Professor
18.	Tamar Lobzhanidze	Ltd - University of Georgia	Director of the School of Health Sciences
19.	George Gabisonia	Ltd - Georgian-American University	Vice Dean of the School of Medicine in the direction of quality assurance
20.	Jilda Cheishvili	Ltd - East European University	Associate Professor



21.	Ilia Meskhi	Ltd - Davit Aghmashenebeli University of Georgia	Associate Professor
22.	Zaza Berishvili	Ltd - Grigol Robakidze University	The head of the one-level educational programme of a medical doctor, Professor
23.	Sophio Kasradze	Ltd - Caucasus International University	Affiliated Associate Professor of the Faculty of Medicine
24.	Tinatin Gognadze	Ltd - Kutaisi University	Doctor of Medicine, Professor The head of the one-level educational programme of a medical doctor.
25.	Mariam Velijanashvili	Ltd - Teaching University Geomedi	Doctor of Medicine, Associate Professor
26.	Zaza Avaliani	Ltd - European University	Professor
27.	Kakhaber Lazarashvili	Ltd - East European University	Chairperson of the Council of the Healthcare Faculty, Associate Professor
28.	Ketevan Chakhnashvili	Ltd - Alte University	Dean of the International School of Medicine
29.	Nino Shiukashvili	Ltd - Ken Walker International University	Deputy Head of the Quality Assurance Service



6.2. Members of the Sectoral Council of Higher Education in Medicine

№	Name, surname	Organization/Institution	Position
1.	Irma Manjavidze	LEPL Tbilisi State Medical University	Head of Department/Center for Clinical Skills and Multidisciplinary Simulation Professor
2.	Eka Ekaladze	LEPL Tbilisi State Medical University	Associated Professor of the Department of Biochemistry, Director of the American MD Programme
3.	Nino Tevzadze	LEPL Tbilisi State Medical University	Associate Professor of the Department of Histology, Cytology and Embryology Deputy Director of the American MD Programme



VII. Transitional Provisions of the Sectoral Benchmark Statement of Higher Medical Education

1. Subparagraph 2.5 of paragraph 2 (Description of the field of study) of the Sectoral Benchmark Statement of Higher Education in Medicine (hereinafter - Sectoral Benchmark Statement) - "Special conditions for admission to the educational programme" shall enter into force 1 year after the approval of the Sectoral Benchmark Statement.

2. The entry in paragraph 11 of paragraph 4 (Teaching, Learning and Evaluation) of the Sectoral Benchmark Statement - "The Foreign-language educational programme should include the teaching of the Georgian language for effective communication with patients and medical personnel (at least 12 credits)" - to enter into force within six months after the approval of the Sectoral Benchmark Statement.

3. The entry in the "English-language programme of medicine" provided for in subparagraph 5.1 (requirements for human resources) of paragraph 5 (Additional Information) of Sectoral Benchmark Statement - "At least 3 years of teaching experience in an English-language programme

or at least 1 year of medical activity in English in a clinic operating abroad";

or implementation of teaching/research activities in English in the field of Biomedicine for at least 1 year in a research institution operating abroad;

or completion of an English-language bachelor's or master's programme, as evidenced by the relevant document;

or with an internationally recognized certificate proving knowledge of the English language at least B2 level (IELTS, TOEFL, Cambridge English, UNiCert, EnglishScore, etc.)." - to enter into force 1 year and 6 months after the approval of the Sectoral Benchmark Statement.

4. The entry in the "Clinical Disciplines" column provided for in sub-paragraph 5.2 (requirements for material resources) of paragraph 5 (Additional Information) of the Sectoral Benchmark Statement - "At the university/teaching clinic and/or affiliated clinic (on the basis of the contract), the patient/student ratio during the training course/curation should consist of:

- In therapeutic profile departments - no more than 10 students per patient;

- In surgical profile departments - no more than 10 students per 1 patient;

- In the Department of Obstetrics and Gynecology - no more than 10 students per 1 patient;

- In the Department of Pediatrics - no more than 10 students per 1 patient;

- in resuscitation/intensive care departments - no more than 6 students per 1 patient" - shall enter into force within two years after the approval of the Sectoral Benchmark Statement.

5. The entry in the "Clinical Disciplines" column provided for in sub-paragraph 5.2 (requirements for material resources) of paragraph 5 (Additional Information) of the Sectoral Benchmark Statement: "A



higher education institution should have its own, well-equipped Clinical Skills Center/Laboratory (for an example, see Annex #1)".

A regularly updated contract signed with the university and its affiliated clinic should give a detailed description of the rights and obligations of the parties, including:

- the maximum number of students admitted from a higher educational institution during one academic year;
- clinical training courses conducted in the clinic and their duration;
- information on the higher educational institution/s implementing clinical modules, as well as a table/graph about the possibility of receiving the number of students in the same period of time during a specific study course.
- within 30 calendar days after signing the contract, the higher educational institution provides the National Center for Educational Quality Enhancement with the information on the average number of patients the clinic receives and serves in a year. The mentioned condition does not apply to those entities which, in accordance with the legislation, started functioning in the reporting year or the year before the reporting year, so that a full calendar year of the reporting year has not been completed since the beginning of functioning. In the case of a clinic that has been open for less than a year, the higher education institution provides relevant interim information about the number of patients treated by the clinic within 6 months after signing the contract with the HEI.

Also, in case of change of the terms of the contract, cancellation of the contract or conclusion of a new agreement, the higher education institution is obliged to notify the Center in writing within 30 calendar days upon concluding, cancellation or amendment of the contract and submit the relevant agreement - shall enter into force two years after approval of the Sectoral Benchmark Statement.

6. The entry in the "Clinical Disciplines" column provided for in sub-paragraph 5.2 (requirements for material resources) of paragraph 5 (Additional Information) of the Sectoral Benchmark Statement:

"The institution should have its own appropriately equipped teaching and research laboratory. Taking into account the specifics of the research activities provided by the educational programme, in order to carry out scientific-research activities, the institution may have its own laboratory equipment for fundamental and applied research and/or have signed a memorandum/agreement with the relevant scientific-research institute. The laboratory must be in compliance with bio and labor safety norms established in the country.

The existence of an appropriate environment for research/practical work of students (at least 5-6 students) should be considered, following the established safety rules.

There should be resources and IT-infrastructure for conducting synchronous and/or asynchronous remote work meetings and forums (including within the framework of international communication)" - to enter into force within one year from the approval of the Sectoral Benchmark Statement.



I. Annexes

Annex #1 Recommended List of Simulators, Models, and Manikins for Medical Manipulations

N	Title	Characteristics	Opportunities	Recommended field competencies
1.	Adult patient care manikin	<ol style="list-style-type: none"> 1. Manikin is made of durable, strong, waterproof plastic (injection places are made of soft rubber (total of 6 on the simulator), while the organs and genitals are elastic. 2. It is possible to bend upper and lower limbs and make movements similar to the movements of a human being. 3. Manikin has simulated lungs, heart, stomach, bladder and intestines; the organs can be removed and inserted. 4. Catheterization can be performed. 	<ul style="list-style-type: none"> • Cleaning and personal hygiene; • Mobilization; • Putting on a bandage and wound debridement; • Eye, ear, nose, stomach, intestine and bladder irrigation; • Intramuscular and hypodermic injections; • Nasogastric lavage; • Provision of oxygen and artificial respiration; • Tracheostomy care; • Catheterization of the bladder (woman and man); • Stoma care; • Enema; 	Practical procedures
2.	Venipuncture simulator pad	<ol style="list-style-type: none"> 1. Venous network of the venipuncture pad represents a sponge-covered board depicting a venous system and a cubital fossa of the right arm. 2. Filling of the venous network of the simulator pad is performed separately and it is not connected to a special blood pack. 3. The epidermis of the pad cover is durable and is easy to wash with soap and water. 	<ul style="list-style-type: none"> • Finding vein with palpation; • Venipuncture; • Catheterisation; • Management of blood circulation; • Drawing blood; 	Practical procedures



3.	Intravenous Injection Training Arm	<ol style="list-style-type: none"> 1. Intravenous injection training arm is made of durable silicone. 2. The arm has a network of basilic, cephalic, ulnares, rete venosum, dorsal manus veins. 	<ul style="list-style-type: none"> • Performing the intravenous injection; • Peripheral venipuncture 	Practical procedures
4.	Venous imitator (moulage)	<ol style="list-style-type: none"> 1. Venous pipe creates 2 lines: one is normal and the other is thin. 2. The artificial vein wall has resistance similar to the real. 3. Artificial veins are easily replenished with liquid from a soft plate bottle that works with the help of a piston. 4. It is possible to remove the puncture board and put it on the arm of the human or another manikin. 5. Injection pad is a rubber frame in which artificial veins are covered with special sponge. 	<ul style="list-style-type: none"> • Venipuncture; • Intravenous injection; 	Practical procedures
5.	Multi-functional Training Arm for Venipuncture	<ol style="list-style-type: none"> 1. The arm is a device that is attached to a special stand. The arm is covered with high quality silicon/rubber and has simulative veins which are connected to the package full of blood substitute. 2. The arm has a venous pressure regulating balloon. 3. The training arm has special space for tuberculin testing. 4. While injecting into the vein the feeling is similar to real. 5. The training arm is covered with a complete venous system. 6. The training arm has a basilic vein, a cephalic vein, ulnar veins, radial veins. 7. It is possible to make intramuscular injections in the deltoid muscle in this area, on the front shoulder and shoulder. 8. It is possible to draw off blood. 	<ul style="list-style-type: none"> • Making intravenous, intramuscular and subcutaneous injections. 	Practical procedures



6.	Hip Intramuscular Injection Simulator	<ol style="list-style-type: none">1. The simulator represents a lower body part from the waist to the knee.2. On the one side of the simulator we can see the external muscular and vascular anatomic picture while on the other side it is possible to make intramuscular injections.	<ul style="list-style-type: none">• Making an intramuscular injection on the upper square part of the bottom;• Making an intramuscular injection in the lower ventrogluteal area of the hip/bottom;• Making an intramuscular injection in the lateral area of a thigh;• Making a subcutaneous injection in the upper inguinal region of the abdominal wall;• Determining localization of femoral vein and artery;• Examination/palpation of the hip region;	Practical procedures
7.	Subcutaneous, Intracutaneous and Intramuscular Injection Simulator (moulage)	<ol style="list-style-type: none">1. The injection pad is not made of latex.2. The model creates the stimulatory layers of the following tissues: epidermis, derma, fat and muscular.3. It is possible to remove the stimulatory layer of epidermis and drain the accumulated liquid, then fix it back and inject another dose of the liquid with a syringe.4. It is possible to drain the liquid which was injected intramuscularly.5. Epidermis is durable and easily changeable.6. It is possible to put/fix the simulator on a student's or trainer's arm or foot.7. The model is a soft sponge attached to a plastic frame, covered with a special epidermis.	<ul style="list-style-type: none">• Subcutaneous, intradermal and intramuscular injections	Practical procedures.



8.	A model of a surgical suture arm	<ol style="list-style-type: none"> 1. The model is made of vinyl skin stretched on the hard foam. 2. The skin is maximally close to natural with its wrinkles, pores and fingerprints. 3. The model has several wounds. 	<ul style="list-style-type: none"> • Suture of wounds; • After suturing old wounds on the arm, in case of skin damage, making of new wounds is possible. 	Practical procedures.
9.	Male Urinary Catheterization Simulator	<ol style="list-style-type: none"> 1. Does not contain latex. 2. Has a resistant urethral sphincter for a realistic reaction. 3. Has a valve without a dropper. 4. The simulator represents a flaccid penis; it is possible to pull down the frenulum of prepuce. 5. The simulator comes with a tripod to which a package with liquid is attached. 6. It is possible to use local anesthetic gel. 7. It is possible to use aseptic technique in catheterization. 	<ul style="list-style-type: none"> • Study of anatomy of men's genitals. • Aseptic Catheterization; • 14-16 F Foley catheter insertion; • Managing the liquid; • Removing off a catheter; • Inserting a catheter in a pelvis; 	Practical procedures.
10.	Moulage for Urinary Bladder Catheterization of a Female	<ol style="list-style-type: none"> 1. Does not contain latex; 2. Has a resistant urethral sphincter for a realistic reaction. 3. Has a valve without a dropper. 4. Big and small vulvar lips are represented on the mold partly in the way, which shows the formation of vaginal hole and urine. 5. The simulator comes with a tripod to which a package with liquid is attached. 6. It is possible to use local anesthetic gel. 7. It is possible to use aseptic technique in catheterization. 	<ul style="list-style-type: none"> • Study of anatomy of women's genitals. • Aseptic Catheterization; • 12-16 F Foley catheter insertion; • Managing the liquid; • Removing off a catheter; • Inserting a catheter in a pelvis; 	Practical procedures.



11.	Pressure Measuring Simulator	<ol style="list-style-type: none">1. Pre-installed examples/samples based on WHO classification for individual and group studies.2. It is possible to monitor the pressure decrease in the cuff.3. Simulator can also be used to evaluate the student's objective skills.4. Also, there is an auscultatory gap and "Fifth Korotkoff sound" as well, as different samples of blood pressure.	<p>Placement of the cuff, manual tonometry, auscultation of Korotkoff sounds, palpation of the radial pulse, reading of arterial pressure, "loosening" of the cuff. Visible digital indicators:</p> <ul style="list-style-type: none">• The level of loosening of the cuff and arterial blood pressure indicators are visible digitally, that allows for an objective assessment,• Simulator can be connected to external amplifier (is not attached) in order to hear the Korotkoff sounds. <p>Installed samples: Desirable, norm, prehypertension, hypertension (1-3 stage), isolated systolic hypertension, auscultative gap, fifth Korotkoff sound".</p>	Practical procedures.
12.	Injured Adult Patient Manikin	<ol style="list-style-type: none">1. The carotid (sleeping) pulse can be examined to the manikin.2. The following are anatomically marked on the body of the manikin: The breast bone, costal arch and the umbilical artery underneath the breast bone (substernal).3. Cardiovascular resuscitation and artificial respiration procedures can be made using the manikin.4. Manikin has an arm for intravenous injections.5. The simulator comes with a special wound packet.	<ul style="list-style-type: none">• The following procedures can be performed using the manikin: pulmonary resuscitation techniques, namely, indirect heart massage, artificial ventilation of the lung.• Primary treatment of wounds, intravenous injection preparation can be performed with the manikin.• It is possible to transport the manikin with different kinds of wounds on a stretcher.	Providing medical aid in case of an emergency (first aid and resuscitation measures)



13.	Manikin for Maintaining Vital Functions	<ol style="list-style-type: none">1. Manikin has a head with a breathing system suitable for artificial respiration procedures performed from mouth to mouth and from mouth to nose.2. It is possible to bend the manikin's head to divert respiratory tract.3. Ventilation of the lungs can also be performed with the help of a bag valve mask.4. In case of exceeding the actual limit of pressure and the minimum depth of pressure at minimum margin, it produces a sound, made by the special variable springs.5. Low price, easily replaceable respiratory tracts are responsible for facilitating hygienic use and easy maintenance of the manikin.	The manikin represents a torso with all necessary anatomical details which make it ideal to find all necessary areas for indirect heart massage.	Providing medical aid in case of an emergency (first aid and resuscitation measures)
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Annex #2. Medical Education in Foreign Countries

(Marjo Wijnen-Meijer, William Burdick, Lonneke Alofs, Chantalle Burgers & Olle ten Cate (2013) Stages and transitions in medical education around the world: Clarifying structures and terminology, Medical Teacher, 35:4, 301307, DOI: [10.3109/0142159X.2012.746449](https://doi.org/10.3109/0142159X.2012.746449))

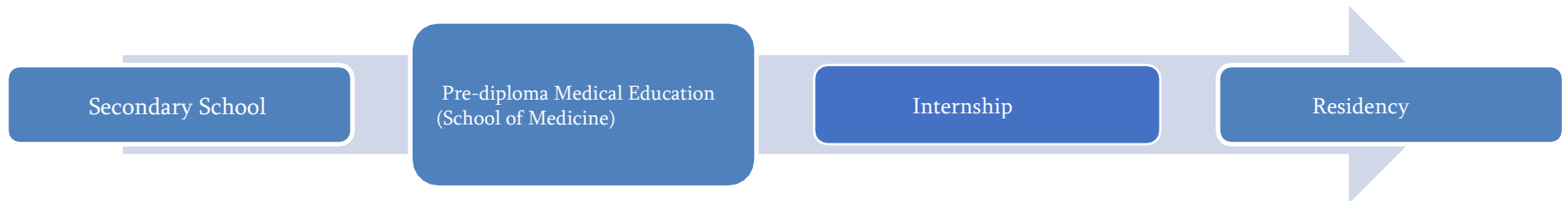
Titles of Relevant Qualification of Certified Medical Doctor

Title of Qualification	Countries
MBBS (Bachelor of Medicine, Bachelor of Surgery)	Australia, Bangladesh, India, Nigeria, Pakistan, Saudi Arabia
MBBCh, MBBS, MB, ChB (Bachelor of Medicine, Bachelor of Surgery)	South Africa
MbChB, MBBS, BMBS, MB (Bachelor of Medicine, Bachelor of Surgery)	Great Britain
MBBCh (Bachelor of Medicine, Bachelor of Surgery)	Egypt
MBBCh (Bachelor of Medicine, Bachelor of Surgery)	South Sudan, Sudan
MD (Medical Doctor)	Georgia, Germany, Iran, Israel, Japan, Mexico, the Netherlands, the Philippines, Peru, Sweden, Turkey, Ukraine, Uruguay, the USA
Licenciado en Medicina	Spain
Doctor in Medicine and Surgery	Nicaragua
Doctor in Medicine	Congo, Italy, Russia
Medico Cirujano (Surgeon Physician)	Colombia
Dokter (dr)	Indonesia
Medico	Argentina, Brazil



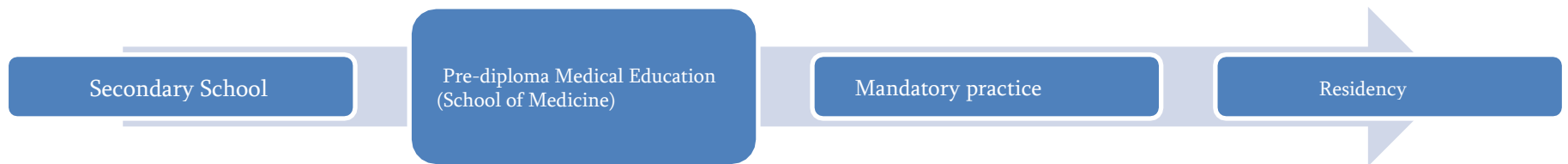
Pre-Diploma and Post-Diploma Medical Education

1. Georgia, Germany, France, Italy, the Netherlands, India, Russia, Argentina, Brazil, China, Congo, Mexico, Saudi Arabia.



2. Great Britain, Sweden, Denmark, Australia, Israel, Japan, Pakistan, Bangladesh

3. Colombia, Dominican Republic, Ethiopia, Iran, Nicaragua, Peru, Turkey

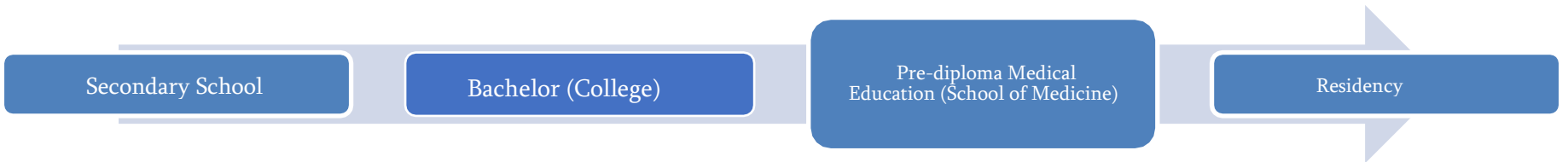




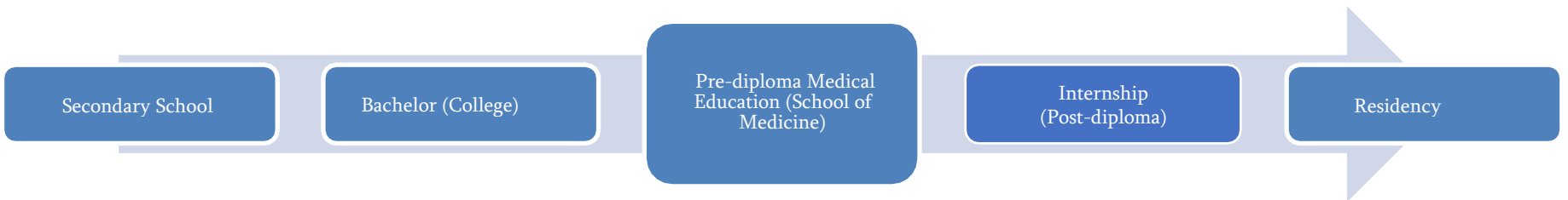
4. Egypt, Nigeria, South Africa, Sudan, Indonesia



5. Canada, USA



6. Australia, Philippines





Duration of Pre-Diploma Medical Education

Country	Pre-diploma Medical Education (Years)
Georgia	6
Denmark	6.
France	6
Israel	6
Japan	6
Germany	6 (+3 months internship)
Netherlands	6
Russia	6
Ukraine	6
Italy	6
Turkey	6
Denmark	6
Colombia	6
Egypt	6
South Africa	6
Sudan	6
Argentina	6
Brazil	6
Ethiopia	6
Mexico	6
Nigeria	6
Saudi Arabia	6
Iran	7
Peru	7
Uruguay	7
Nicaragua	7
Australia	3.5 (College) +5 years at School of Medicine
Canada	4 (College) +4 (School of Medicine)
USA	4 (College) +4 (School of Medicine)
Sweden	6.5



Great Britain	6/5.5 + 1 year (compulsory internship/Foundation Programme)
Finland	6
Switzerland	6
India	5 +1