



INDEPENDENT AGENCY FOR  
ACCREDITATION AND RATING

# **STANDARDS**

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## **OF SPECIALIZED ACCREDITATION OF HIGHER EDUCATION AGENCIES EDUCATIONAL PROGRAM BY 5B110300 “PHARMACY” SPECIALTY**

Astana 2014



Independent agency for  
accreditation rating

**STANDARDS  
OF SPECIALIZED ACCREDITATION OF  
HIGHER EDUCATION AGENCIES**

**EDUCATIONAL PROGRAM BY  
5B110300 “PHARMACY” SPECIALTY**

**GENERAL PROVISIONS**

**Astana 2014**

## Foreword

1 **DEVELOPED AND INTRODUCED** by the Non-Profit Institution "Independent Agency For Accreditation and Rating."

2 **APPROVED AND PUT INTO EFFECT** by the order of the Director of the Non-Profit Institution "Independent Agency for Accreditation and Rating" as of June 12, 2014 no. 23-14-OD (as amended and supplemented by the Order of the Director as of February 15, 2017 no. 8-17-OD).

3 This Standard implements provisions of the Law of the Republic of Kazakhstan "On Education" as of July 27, 2007 no. 319-III.

4 **INITIALLY INTRODUCED**

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Standards are developed taking into consideration the recommendations of the Ministry of Health and Ministry of Education and Sciences of the Republic of Kazakhstan.

CONTENT

Applicable scope ..... 5  
Regulatory References ..... 5  
Terms and Definitions ..... 6  
Designations and abbreviations ..... 7  
Main provisions ..... 7  
Main objectives of specialized accreditation standards implementation ..... 8  
Principles of specialized accreditation standards establishing ..... 9  
Stages and procedures of specialized accreditation performance ..... 9  
Follow-up procedures ..... 12  
Procedure for introduction of amendments and additions to designated accreditation standards ..... 13  
**ACCREDITATION STANDARDS** ..... 13  
Mission, planning and administration ..... 13  
Educational program ..... 15  
Evaluation of the educational program ..... 21  
Students ..... 23  
Evaluation of the students ..... 24  
Academic staff/teachers ..... 25  
Educational resources ..... 27  
Bibliography ..... 30

## **STANDARD**

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### **Standards of the specialized accreditation of educational programs in the specialty 5B110300 “PHARMACY”**

#### **Main provisions**

##### **Applicable scope**

This standard determines the statutory requirements to the main provisions of standards of the specialized accreditation of the educational program in the specialty “Pharmacy” of medical organizations of education.

This standard is used during the accreditation procedure of educational program in the specialty “Pharmacy” of medical organization regardless of their status, legal corporate form, institutional subordination and form of ownership.

This standard may also be used by:

- a) medical organizations of education for internal evaluation and external assessment of educational program;
- b) to develop correspondent internal regulatory documents.

##### **Regulatory References**

This standard contains references to the following regulatory documents:

2.1 The Code of the Republic of Kazakhstan "On public health and health care system" dated on September 18, 2009 No 193-IV.

2.2 The Law of the Republic of Kazakhstan "On Technical Regulation" as of November 9, 2004 no. 603.

2.3 The Law of the Republic of Kazakhstan "On Education" as of June 27, 2007 no. 319-III.

2.4 The Law of the Republic of Kazakhstan "On accreditation of the conformity assessment" as of July 5, 2008 no. 61-IV.

2.5 Decree of the President of Kazakhstan as of March 1, 2016 no. 205 “On approval of the State Program on the Development of Education and Science of the Republic of Kazakhstan for 2016-2019”.

2.6 The State program of development of health care of the Republic of Kazakhstan of "Densaulyk" for 2016 - 2019, approved by the Presidential Decree of the Republic of Kazakhstan of January 15, 2016 No. 176.

2.7 Governmental decree of the Republic of Kazakhstan as of August 23, 2012 no. 1080 "On approval of the state compulsory standards of education of the correspondent levels of education."

2.8 Order of the Minister of Education and Science of the Republic of Kazakhstan as of November 1, 2016 no. 629 “On approval of the Rules for recognition of accreditation bodies, including foreign, and the formation of the

register of recognized accreditation bodies, accredited educational organizations and educational programs."

2.9 Standards of the specialized accreditation (educational programs) of the Higher Educational Institution. Main provisions approved by the Order of the Director of NPO "Independent Agency for Accreditation and Rating" as of April 26, 2012 no. 08-OD.

### **Terms and Definitions**

This standard applies the terms and definitions in accordance with the Laws of the Republic of Kazakhstan "On Education" as of July 27, 2017 no. 319-III, the Republic of Kazakhstan Governmental Decree as of August 23, 2012 no. 1080 "On approval of the state compulsory standards of education of the correspondent levels of education"; International standards of the World Federation of Medical Education to improve the quality of basic medical education (WFME, University of Copenhagen, 2012), Standards and guidelines for the accreditation of professional pharmacy programs (Accreditation standards and guidelines for the professional program in pharmacy leading to the doctor of pharmacy degree, Adopted: January 23, 2011, Effective: February 14, 2011).

**In addition this standard uses the following definitions:**

**3.1 Accreditation of educational organizations** - the recognition procedure of accreditation bodies of the compliance of educational services to the established accreditation standards in order to provide objective information about their quality and to confirm the availability of effective mechanisms for quality increase.

**3.2 Accreditation bodies** - legal entities that develop standards (regulations) and accredit educational organizations based on the developed standards (regulations);

**3.3 Institutional accreditation** - the quality evaluation process of the educational organization by the accreditation body for the compliance of the former to the stated status and standards established by accreditation body.

**3.4 International accreditation** - the process of evaluating the quality of activities by educational organizations (institutional accreditation) and individual educational programs (specialized accreditation) for compliance with the standards of quality assurance, conducted by the national or foreign accreditation body, entered in the Register 1;

**3.5 National Accreditation** - the process of evaluating the quality of activities by educational organizations (institutional accreditation) and individual educational programs (specialized accreditation) for compliance with the standards of quality assurance, conducted by the national accreditation body, entered in the Register 1;

**3.6 Specialized Accreditation** - quality assessment of individual educational programs implemented by the organization of education;

**3.7 Standards (regulations) of accreditation** - documents of accrediting body, establishing requirements to the accreditation procedure.

**3.8 The educational program** - a single set of basic characteristics of education, which includes objectives, outcomes and content of training, the organization of the educational process, means and methods of their implementation, the criteria for assessing learning outcomes.

**3.9 Competence** - written statements describing the level of knowledge, skills and values acquired by students who have completed an educational program.

**3.10 Competence** - the level of the required knowledge, skills and values possessed by the student and can be used in the process of self-practice after the completion of the training program.

**3.11 Student/resident** - a person studying in the educational organization, implementing the educational program of technical and vocational, post-secondary and higher education.

**3.12 The quality of education** - level of knowledge of students and graduates complying with the requirements of the State Compulsory Educational Standards and additional requirements established by the university;

**3.13 Mission** - a brief description of the key characteristics of the institution of higher education, philosophy and psychology of educational organization;

**3.14 procedure** - specified way to carry out activities or processes;

**3.15 efficiency** - the ratio between the result achieved and the resources used

### **Designations and abbreviations**

This standard uses abbreviations in accordance with the paragraph 2 of the regulatory documents.

Furthermore, this standard uses the following designations and abbreviations:

- **HEI** – Higher Educational Institution;
- **MOH** - Ministry of Health of the Republic of Kazakhstan;
- **MES** - Ministry of Education and Science of the Republic of Kazakhstan;
- **CPD** – Continuous professional development;
- **CME** – Continuous medical education;
- **RSI** - Research and Science Institute;
- **OSCE** - Objective Structured Clinical Examination
- **TS** – Teaching staff;
- **MM** – Mass-media;

**SWOT-analysis** - analysis of strengths and weaknesses, challenges and opportunities of organization, the abbreviation of the English language words: S - strengths, W - weaknesses, O - opportunities, T - threat.

## **5. Main provisions**

5.1 Specialized accreditation is carried out on the basis of the standard “The education system of the Republic of Kazakhstan. Specialized accreditation standards. Standard “Specialized accreditation” The main provisions; Standard “Mission, planning and administration”; Standard “Educational program”; Standard “Evaluation of students”; Standard “Students”; Standard “Academic staff/teachers”;

Standard “Educational resources”; Standard “Evaluation of the educational program”; Standard “Continuous improvement”.

The standards are comprehensive and reflect the process of implementing an educational program in “Pharmacy”, applicable to all institutions that offer programs of pharmaceutical education

Standards of the specialized accreditation of educational program “Pharmacy” of the medical education institution are developed based on International standards of the World Federation for Medical Education (Copenhagen, 2012) for Quality Improvement of Basic Medical Education and the North American model of accreditation of professional programs in pharmacy with the introduction of the national peculiarities of the health system of the Republic of Kazakhstan.

5.2 The following forms of accreditation are distinguished:

1) by the structure:

5.2.1 institutional accreditation;

5.2.2 specialized accreditation;

2) by territorial recognition

5.2.3 the national accreditation;

5.2.4 international accreditation.

5.3 The decision on accreditation is taken by the Accreditation Council

5.4 The composition of the Accreditation Council consists of representatives of the MES, MH RK, medical education institutions, research organizations, health care organizations, professional associations, employers, the public, students and international experts.

## **6. Main objectives of specialized accreditation standards implementation**

Quality assessment in education programs is a basis of accreditation standards and incorporates the objectives:

6.1 Major objectives of designated accreditation standards implementation are:

6.1.1 implementation of accreditation model, harmonizable with international practice of education quality assurance;

6.1.2 assessment of professional and education programs quality for improving competitiveness of the national system of higher education;

6.1.3 encouragement of quality culture evolution in the higher educational institutions, medical educational institutions, scientific organizations;

6.1.4 assistance to improvement and continuous upgrading of education programs of medical educational organizations in compliance with the requirements of rapidly changing environment;

6.1.5 consideration and protection of public interests and consumer rights by provision of authentic information on the quality of education programs;

6.1.6 use of innovations and scientific investigations;

6.1.7 public announcement and distribution of information on accreditation results for education program by “Pharmacy” specialization of the medical education institutions.



6.1.8 In addition to above mentioned the accreditation standards for dental education programs are designed for accomplishment of the following goals:

- Protection of social well-being and health of communities;
- Assistance to development of education environment conducive to innovations and permanent improvement;
- Ensuring of institutional accompaniment and guidance for education programs development;
- Provision the confidence to the students in that education program will attain the desired goals.

## **7. Principles of specialized accreditation standards establishing**

7.1 Presented standards for quality assurance for education programs of higher vocational education are based on the following principles:

7.1.1 voluntariness – procedure of education programs accreditation is performed on a voluntary basis;

7.1.2 honesty and transparence – internal and external assessment are performed maximally honestly and transparently, information accessibility for all participants of performed accreditation process;

7.1.3 objectivity and independence – internal and external assessment are performed reasonably, independent from the third parties (rgovernment agencies, HEI administration and public opinion) and obtained results;

7.1.4 responsibility of medical educational organizations – primary responsibility for higher education quality is attached to medical educational organizations

7.1.5 confidentiality – information submitted by HEI is applied by the accreditation agency confidentially;

7.2 External assessment is performed independently from the third parties (government agencies, medical educational organizations and public organizations).

7.3 Public information countrywide and abroad on accredited education programs is performed in mass media, incl. provision of information on web-site of accreditation agency.

## **8. Stages and procedures of specialized accreditation performance**

8.1 The procedure for the specialized accreditation begins with the filing of the medical educational institution of an application for the specialized accreditation. The application includes a copy of the state license, the annex to the license for the legal grounds of educational activity, a brief description of the correspondent educational institution's activity.

8.2 Consideration by IAAR of the application submitted by educational organization.

8.3 IAAR decision to start the procedure for the specialized accreditation. An agreement between the agency and the medical educational organization to conduct the specialized accreditation is concluded.

8.4 Management the medical educational organization and IAAR organize training for internal experts to explain the criteria and procedures for the specialized accreditation of organization at the special seminars on the theory, methodology and techniques of the specialized accreditation.

8.5 Medical organizations of education conduct self-assessment according to the requirements established by IAAR, and submit self-assessment report (in Kazakh, Russian and English languages) to IAAR in e-format and 1 copy on paper in each of the languages.

8.6 On the basis of self-assessment report of educational organization IAAR has the right to make the following decisions:

- to develop recommendations on the need to refine materials of self-assessment report;
- to conduct an external peer review;
- to postpone the accreditation term due to the inability to conduct the specialized accreditation procedure due to the inconsistency of the self-assessment report to the criteria of these standards.

8.7 In the event accreditation continues IAAR generates external expert panel, which shall be approved by the IAAR director to assess the educational organization. The number of experts is determined depending on the review volume and quantity of educational programs. The structure of the external expert panel includes representatives of the academic community, stakeholders in Kazakhstan, including employers, students, and foreign / international experts.

8.8 In the event accreditation continues IAAR agrees with the medical educational organization on the dates for the specialized accreditation and program for the external expert panel's visit.

8.9 The duration of the external expert panel's visit accounts for 3-5 days. During the visit, the organization of education creates working conditions for the external expert panel under the Service Agreement:

- provides for each member of the Panel an electronic and paper version of the self-assessment report;
- provides the necessary office equipment in consultation with the IAAR representative and based on the number of external expert panel members;
- organizes the inspection of infrastructure and resources, meetings, questionnaires, interviews and other forms of external expert panel's work in accordance with the visit program of the external expert panel;
- provides information requested;
- organizes photo and video recording of the external expert panel's work;
- prepares a video clip for the IAAR Accreditation council meeting containing a brief description of the educational organization and information on the external expert panel visit.

8.10 At the end of the visit external expert panel is preparing a report on the evaluation of medical organization of education and a presentation on the progress of the visit of the external expert panel.

8.11 The report contains a description of the external expert panel's visit, a brief assessment of the educational organization, recommendations to the

organization for performance improvement and quality assurance, the recommendation to the Accreditation Council. Recommendations to the Accreditation Council provide information on the status of the educational organization and recommended accreditation period.

8.12 The report of the external expert panel, including the recommendations is prepared by members of the external expert panel collectively.

8.13 The external expert panel's report on the evaluation of educational organization and the self-assessment report of educational organization serve as the basis for the Accreditation Council's decision on the specialized accreditation.

8.14 The Chairman of the external expert panel presents to the Accreditation Council outcomes of the external expert panel's visit. If there are objective reasons IAAR director appoints a member of the external expert panel to attend a meeting of Accreditation Council and present a report. Replacement of the Chairman of external expert panel is made by the order of IAAR Director.

8.15 The exclusive competence of the IAAR Accreditation Council includes decision-making on accreditation or refusal of accreditation of educational organization. The composition of the Accreditation Council is determined in accordance with the Regulations of its activities. The meeting is held if a quorum is present. Accreditation Council shall have the right to make a grounded decision not complaint with the recommendations of the external expert panel.

Accreditation Council makes decision:

- on accreditation:

- 1 year - in the event of compliance with the criteria as a whole, but with some shortcomings and opportunities for improvement;
- 3 years - with positive results in general, but with some minor shortcomings and opportunities for improvement;
- 5 years - with positive results in general.

- on non-accreditation.

On expiry of the accreditation period of **5 years** and successful completion of the post accreditation monitoring the educational organization shall be entitled to apply for a re-accreditation. In the case of re-accreditation and its positive results, the organization of education has the right to apply for the period of **7 years**.

8.16 In the event of positive decision on accreditation the Accreditation Council of IAAR sends an official letter to the education organization with the results of the accreditation and a certificate of the specialized accreditation of the educational program, signed by the IAAR Director. The decision on accreditation of educational organization the Agency sends to the MES for inclusion in the Register of accredited educational institutions (Register 3) and publishes the information on the IAAR website. The report of external expert panel is also published on the website.

After receiving the certificate of accreditation the educational organization publishes a self-assessment report on its website.

8.17 In the event of the Accreditation Council's negative decision on accreditation the IAAR sends a letter to the organization of education indicating the adopted decision.

8.18 The organization of education in the prescribed manner under the Service Agreement and the Regulations of the Commission on Appeals and complaints may send to IAAR an appeal against the decision of the Accreditation Council. In case of doubts in the competence of the external expert panel and representatives of the Agency, or gross violations committed by members of the external expert panel, the organization of education may file a complaint to IAAR.

## 9. Follow-up procedures

9.1 In the event of positive accreditation decision of the IAAR Accreditation Council, the educational organization submits to IAAR an Action Plan on the quality improvement within the framework of the external expert panel recommendations (hereinafter - the Plan), which is signed and sealed by the chief executive officer, an organization enters into a Service Agreement with IAAR. An agreement and Plan are the basis for the post accreditation monitoring.

9.2 In accordance with the Regulations on the post accreditation monitoring procedure of educational organizations / educational programs, accredited education institutions should prepare interim reports under the Plan. Interim reports are sent to the IAAR before the expected date of post accreditation monitoring.

9.3 Post accreditation monitoring of medical institutions of education is conducted as follows:

Duration of the accreditation term	3 years	5 years	7 years
Periodicity of interim reports	One time in 1,5 years	two times in two years	three times in two years
Visit	once	twice	3 times

9.4 In the event of failure to implement the Plan and the requirements put forward by the IAAR in relation to the medical college, as well as lack of awareness of the changes carried out in the educational organization the Accreditation Council shall have the right to adopt the following decisions:

- to temporarily suspend the effectiveness of the specialized accreditation of the educational program;

- to revoke accreditation of the educational organization by excluding it from the Registry 3, which may result in the cancellation of all earlier achieved results of accreditation.

9.5 In the event of waiver of the educational organization from the post accreditation monitoring through the failure to sign the Service Agreement with IAAR, under the paragraph 9.4 IAAR Accreditation Council may decide to terminate and withdraw accreditation status.

6.6 In the event of early termination and withdrawal of accreditation the educational organizations are not allowed to submit an application for accreditation to IAAR within one year after the decision to revoke the accreditation of educational organization.

## **10. Procedure for introduction of amendments and additions to designated accreditation standards**

10.1 Amendments and additions are introduced to the current accreditation standard for the purpose of further improvement thereof.

10.2 Introduction of amendments and additions to the standard is performed by Independent agency for accreditation and rating.

10.3 In case of initiating of amendments and additions to current standard by educational organizations and other interested organizations the suggestions and remarks are to be sent by them to the Independent agency for accreditation and rating.

10.4 Independent Agency for Accreditation and Rating studies and carries out examination of suggestions and remarks obtained from initiators with respect to justification and expediency.

10.5 Amendments and additions to the current accreditation standard after acceptance thereof are approved by the Order of the Independent Agency for Accreditation and Rating Director redrafted as amended or in the form of brochure-insert to the effective standard.

## **ACCREDITATION STANDARDS**

### **MISSION, PLANNING AND ADMINISTRATION**

#### **1.1 Determination of the mission**

1.1.1 Medical education institution **must** define its mission and bring it to the attention of stakeholders and the health sector.

1.1.2 The mission statement **must** contain objectives and educational strategy, allowing preparation of the qualified pharmacist at undergraduate pharmacy education:

- with an appropriate basis for a further career in any field of pharmacy, including all types of pharmaceutical services, pharmaceutical production, administration and research;
- able to fulfill the role and functions of the pharmacist in accordance with the requirements of the health sector and pharmacy;
- prepared for post-graduate training, including master's programme, specialization;
- with a commitment to lifelong learning, including professional responsibility to support the level of knowledge and skills through performance evaluation, audit, study of their own practice and recognized activities in CPD/CME.

1.1.3 The medical education **must** ensure that key stakeholders are involved in the development of the mission.

1.1.4 Mission and objectives of the medical education institution **must** correspond to the available educational resources, medical education institution opportunities, market requirements, and the ways to support them must be identified and an access to information about the mission, objectives of the medical education

institution to the public (the availability of information in the media, Web site of the HEI) must be provided, mission and objectives of the medical education institution are approved by the Advisory and Consultative Council of the YSO/HEI.

1.1.5 Activities of medical education institution should be based on the values that provide the educational program of Pharmacy in terms of adherence to humanistic culture of learning environment by:

- ensuring cooperation, mutual respect, harmonious relations between the administrative personnel, staff, faculty, students, alumni;
- maintaining and growing the professionalism and ethical conduct, encouraging an open communication, the manifestations of leadership among teachers, students and staff

## **1.2. Planning**

1.2.1 Medical education institution **must** have a strategic plan, which includes improving the quality of pharmaceutical education, development of science and practice of pharmacy and pharmaceutical manufacturing technology, approved by the consultative and advisory council of medical education institution/HEI.

1.2.2 When planning it **must** take into account all the resources (including faculty, staff, teachers, technicians, finance, and others) necessary for high quality implementation of educational programs in pharmacy, and make changes if required.

1.2.3 Medical education institution **must** establish regular mechanisms for monitoring, evaluation and documentation of progress in achieving the goals and objectives of the strategic plan, in general, and in particular with regard to pharmaceutical education.

## **1.3 Administration and financing**

1.3.1 The medical education institution **must** comprise an independent unit responsible for the implementation of educational programs in pharmaceutical specialties and reflected in the organizational structure of medical education institution/HEI.

1.3.2 Unit responsible for the implementation of educational programs in pharmaceutical specialties **must** have a vision of pharmaceutical education, practice and research consistent with the pharmacy profession in modern conditions of development of medicine and public health.

1.3.3 The structural unit responsible for educational programs **must** be responsible for and has the authority to plan and implement an educational program, including the allocation of resources allocated for the planning and implementation of teaching and learning methods, student evaluation and evaluation of educational program and training courses, in order to ensure the achievement of educational outcomes.

1.3.4 The head of the unit responsible for the implementation of educational programs in pharmaceutical specialties **must** be the dean (or other head) having pharmaceutical education and with the appropriate qualification, practical and research experience to provide leadership of pharmaceutical education, practice and research.

1.3.5 The dean (or other head) **must** be responsible for ensuring compliance of the educational program in a specialty “Pharmacy” with the accreditation standards.

1.3.6 Medical education institution **must** have sufficient financial resources to implement the goals and objectives of the educational program in “Pharmacy”.

1.3.7 The medical education institution **must** ensure adequate financial, logistical, resource (scientific research, faculty, staff, students, practice site, teachers, library, technology) and administrative support to the unit responsible for the implementation of the educational program in Pharmacy.

#### **1.4 The institutional autonomy and academic freedom**

1.4.1 The medical education institution **must** have institutional autonomy for the development and implementation of policies for which the faculty and administration are responsible, particularly in relation to:

- the development of educational program;
- hire and development of faculty and staff;
- development of internal procedures for assessing the quality of education;
- use of the resources necessary for the implementation of the educational program.

The medical education institution **should** ensure the academic freedom to its employees and students:

1.4.2 in respect of the current educational program, within which it will allowed reliance on the various points of view in the description and analysis of issues in medicine.

1.4.3 in the opportunities to use the results of new research to improve the study of specific subjects/issues without the extension of the educational program.

**1.5 The medical education institution *should* direct the renewal process to the following questions:**

- adaptation of the provisions of the mission and outcomes of training to the scientific, socio-economic and cultural development of society
- initiate the procedures for regular review
- review the structure and function.
- allocate resources for continuous improvement.
- ensure that the process of renewal and restructuring leads to revision of its policy and practices in line with previous experience, current activities and future perspectives.
- improving the organizational structure and management principles to ensure efficient operation under changing circumstances and needs, as well as in the long term, to meet the interests of different stakeholder groups.

## **EDUCATIONAL PROGRAM**

### **2.1 Objectives of the educational program**

2.1.1 The educational program in a specialty “Pharmacy” **must** have a clear purpose and objectives consistent with the mission of the medical/pharmaceutical educational institution, meeting the demands of potential customers and programs

aimed at the formation and development of professional knowledge, skills, attitudes and values of students, based on best practices and research.

2.1.2 The educational program in a specialty “Pharmacy” **must** include mandatory and optional (elective) courses, which goals and objectives are aimed at the development of student achievement and professional competencies.

2.1.3 The medical education institution **must** systematically explore demands of potential consumers of the educational program (students, applicants and their parents, employers, teachers, including the partner universities) and use them in the development and improvement of the educational program.

2.1.4 Medical education institution **must** have an effective mechanism to ensure the achievement and adjustment of the program objectives.

2.1.5 The medical education institution **must** ensure that the educational program develops students' ability to lifelong learning.

2.1.6 The medical education institution **must** ensure that the educational program is implemented in accordance with the principles of equality.

2.1.7 The medical education institution **must**, prior to commencement of each course, provide students with information about the goals, objectives and requirements for each course curriculum, including course content, methods and forms of evaluation.

2.1.8 The medical education institution **should** use the education program and teaching methods based on modern principles of learning that encourage, prepare and support students and ensure that students have responsibility for their own learning process.

2.1.9 The medical education institution **should** apply the teaching methods aimed at developing students' critical thinking, decision-making skills related to their future profession.

## **2.2. Education outcomes**

Education outcomes and competences: include knowledge, skills and attitudes that students are expected to demonstrate at the end of the training period.

2.2.1 Medical education institution **must** determine the level of competence necessary for a graduate to begin practice in the field of pharmacy, including:

- provision of pharmaceutical services in the field of medicines, including the planning and arrangement of pharmaceutical activities, wholesale and retail sales, research, development, production, quality control, standardization, certification, state registration, advertising, use and disposal of old medicines;

- quality control and standardization of medicines and medicinal plants at the stages of their development, production, storage and use;

- provision the population with efficient, safe drugs used for prevention, diagnosis and treatment, rehabilitation and care;

- organization and implementation of the production of medicines of intrapharmacy manufacturing and industrial production;

- organization and implementation of drug supply and premedical care to the sick and injured in extreme situations;

- development of innovative programs and measures for implementation thereof;



- the effective use of information and communication technologies for access to reliable information, to improve provision of people with drugs, work in a unified information network of the health system;

- introduction of innovative technologies in the field of medicines.

- implementation of scientific and educational activities in the field of pharmaceutical education and science.

2.2.2 Medical education institution **must** identify the expected education outcomes that students must demonstrate after graduation, with respect to:

- their achievements at a basic level in relation to knowledge, skills and attitudes;

- an appropriate framework for a future career in any field of pharmacy;

- their future roles in the health sector and the pharmaceutical industry;

- their subsequent post-graduate training;

- their commitment to lifelong learning;

- health needs of public health, health system requirements and other aspects of social responsibility.

2.2.3 The medical education institution **must** ensure that the student fulfills the obligations in respect of doctors, pharmacists, engineers, teachers, patients and their families in accordance with the Code of Conduct.

The medical education institution **should**:

2.2.4 identify and coordinate connection of the education outcomes required after completion, with those required in postgraduate training.

2.2.5 determine the results of student involvement in research in the field of pharmacy.

2.2.6 draw attention to the outcomes related to global health.

### **2.3 The scientific method**

2.3.1 The medical education institution **must**, throughout the educational program, teach students:

- the principles of scientific methodology, including analytical and critical thinking;

- scientific research methods in pharmacy;

- evidence-based medicine, which require the proper competency of the teachers and will be a mandatory part of the educational program and will involve students in the conduct of, or participation in small research projects.

2.3.2 The medical education institution **should** include in the educational program the elements of basic or applied research including mandatory or elective analytical and experimental studies, thereby facilitating participation in the scientific development of medicine as professionals and colleagues.

### **2.4 The basic biomedical disciplines**

2.4.1 The medical education institution **must** identify and include in the educational program the achievements in the basic biomedical **disciplines** for formation and students' understanding of the scientific concepts and methods in the field of basic biomedical sciences, which are fundamental for the acquisition of scientific knowledge and their application in practice.

2.4.2 The medical education institution **must** ensure the inclusion in the educational program of basic biomedical disciplines that are essential for the formation and development of professional competence in the field of pharmacy practice of a graduate.

2.4.3 The medical education institution **must** ensure that the graduates of the educational program are competent in the application of biomedical scientific knowledge in the organization of pharmaceutical production and pharmaceutical care for population.

2.4.4 The medical education institution should in the educational program correct and introduce new achievements of basic biomedical disciplines to better students' understanding of the classification of drugs, the general laws of the pharmacokinetics and pharmacodynamics of drugs, foundations pharmacococontrol and pharmacotherapy, toxicology and environmental hygiene.

## **2.5 General education disciplines, medical ethics**

2.5.1 The medical education institution **must** determine and include in the educational program the achievement of the behavioral sciences, medical ethics, ensuring that students will be able to demonstrate the application of the principles of ethical thinking, decisions and actions, professional liability in respect of patients and consumers of drugs.

2.5.2 The medical education institution **must** ensure that the graduates of the educational program are competent in the application of the fundamental principles of behavioral sciences, contributing to the implementation of patient-centered approach that promotes public health and the organization of pharmaceutical care to the population.

2.5.3. Graduates of an educational program in a specialty "Pharmacy" **must be** competent in applying the principles of ethical decision-making and professional responsibility.

2.5.4 The medical education institution **must** determine and include in the educational program the achievements of social sciences, medical jurisprudence, which will provide: knowledge, concepts, methods, skills and attitudes necessary for understanding socio-economic, demographic and cultural conditioning causes, dissemination of various diseases that will contribute to the analysis of problems of public health, effective communication, clinical decision making and ethical practices.

2.5.5 The medical education institution in the educational program **should** correct and introduce the new achievements of behavioral and social sciences and medical ethics as for scientific, technological and clinical development, current and anticipated needs of society and the health care system, as well as changing demographic and cultural conditions.

## **2.6 Pharmaceutical disciplines**

In the educational program the medical education institution **must** define and introduce the achievements of the pharmaceutical disciplines and ensure that students:

- 2.6.1 acquire sufficient knowledge and skills, including:
- basic principles of pharmaceutical care to the population;

- basics of Pharmacy;
- processes of marketing management in pharmacy, conducting and analyzing market research, pharmaceutical management basics;
- basic principles of organization of the production process and manufacture of drugs of extemporaneous and industrial production, herbal remedies, medical and cosmetic, parapharmaceutical and veterinary drugs, dietary supplements and natural products;
- the basic principles and provisions governing the quality of medicines;
- the general principles of pharmaceutical analysis, the basic methods and techniques of quality research of medicines;
- the general principles of pharmaceutical analysis, the basic methods and techniques of research of quality medicines;
- basic principles of macro- and microscopic, merchandising analysis and standardization of medicinal plants.

2.6.2 The medical education institution should ensure that students spend at least one third of the program in laboratories, industries, to develop professional skills.

2.6.3 The medical education institution **must** arrange practical training with appropriate attention to patient safety and consumer of medicines, including supervision of the actions carried out by students in a clinical sites, laboratories and production facilities.

2.6.4 The medical education institution in the educational program should be correct and introduce the new achievements of Pharmaceutical Sciences for scientific, technological and clinical developments, as well as current and expected needs of the community and the health system.

2.6.5 The medical education institution **should** structure the different components of learning to practical skills in accordance with a specific stage of the educational program (training in the laboratories of the HEI, research institutes, pharmaceutical production, pharmacies and others).

## **2.7 The structure of the educational program, the content and duration**

2.7.1 The medical education institution **must** describe the content, scope and sequence of courses and other elements of the educational program to ensure compliance with the appropriate ratio between basic biomedical, behavioral, and social and pharmaceutical disciplines

The medical education institution **should** in the educational program:

2.7.2 ensure the horizontal integration of related sciences and disciplines

2.7.3 provide vertical integration of pharmaceutical sciences with basic biomedical and behavioral and social sciences

2.7.4 provide an opportunity of elective content (elective subjects) and determine the balance between compulsory and elective part of the educational program, which includes a combination of compulsory elements and electives or special components for choice.

## **2.8 Management of the program**

2.8.1 The medical education institution **must** have the educational program committee or equivalent that provides a systematic review, development, evaluation and changes to the program.

The medical education institution **should** ensure that the structural unit responsible for the educational program:

2.8.2 takes into account the environment in which graduates will be expected to work and accordingly modify the educational program.

2.8.3 considers the modification of the educational program based on feedback from the community and society as a whole.

2.8.4 The medical education institution **must** ensure representation of teachers and students in the unit responsible for educational programs.

2.8.5 The medical education institution **should** plan and implement innovations in educational program through a structural unit responsible for educational programs.

2.8.6 The medical education institution **should** include representatives from of other relevant stakeholders, in the structural unit of the medical education institutions, responsible for educational programs, including other members of the educational process, representatives from clinical facilities, pharmaceutical industries, graduates of the medical education institutions, health professionals, involved in the training or other teachers of departments of the HEI.

## **2.9 Connection with medical practice and health care system**

2.9.1 The medical education institution **must** ensure operational link between the educational program and the subsequent stages of training (master's program, specialization, CPD/CME) or practice that the student will start at the end of training, including the definition of health problems and the definition of the required education outcomes, a clear definition of and a description of the elements of the educational program and their connections at various stages of preparation and practice, with due regard to local, national, regional and global environment, and also feedback to/from the health sector and the participation of teachers and students in the work of a team of specialists in health care.

**2.10 The medical education institution should direct the renewal process to the following matters:**

- adaptation of the educational program model and methodological approaches in order to ensure that they are relevant and appropriate to take into account the current theories in education, adult education methodology, principles of active learning;

- adjustment of the elements of the educational program and their relationship in accordance with achievements in biomedical, educational, clinical and pharmaceutical sciences with changing demographics and health/disease pattern of the population and socio-economic and cultural conditions, and the adjustment process shall assure inclusion of the new relevant knowledge, concepts and methods and deletion of obsolete;

- modification of the education outcomes of graduates in accordance with documented needs of the post-graduate training environment, including clinical

skills, training in public health and participation in patient care in accordance with the responsibilities conferred upon graduates after HEI graduation.

## **EVALUATION OF THE EDUCATIONAL PROGRAM**

### **3.1 Mechanisms for monitoring and evaluation of the program**

3.1.1 The medical education institution should have a program relative to the educational program for monitoring the processes and results, including the routine collection of data on key aspects of the educational program in order to ensure that the educational process is carried out appropriately, and to identify any areas requiring intervention, and the data collection is a part of the administrative procedures in connection with the admission of students, evaluation of students and completion of training

The medical education institution **must** establish and implement mechanisms for evaluating educational programs that:

3.1.2 are aimed at the educational program and its major components, including a model of the educational program, structure, content and duration of the educational program and the use of compulsory and elective units (see Standard “Educational program”).

3.1.3 focus on student progress.

3.1.4 identify and deal with the problems that include poor achievement of the expected education outcomes, and will involve the collection of information on the education outcomes, including the shortcomings and problems, and used as feedback for events and corrective action plans to improve educational programs and educational program subjects.

The medical education institution **should** conduct periodical comprehensive evaluation of educational program focused on:

3.1.5 the context of the educational process, which includes the organization and resources, learning environment and culture of the medical education institution.

3.1.6 the specific components of the educational program, which includes a description of discipline and teaching and learning methods, clinical rotations, and evaluation methods.

3.1.7 general outcomes to be measured by the results of national examinations for licensing, benchmarking procedure, international exams, career choice and results of postgraduate training.

3.1.8 its social responsibility.

### **3.2 Feedback of a teacher and student**

3.2.1 The medical education institution **must** systematically collect, analyze and provide teachers and students feedback, which includes information on the process and products of the educational program, and also include information on malpractice or misconduct of teachers or students and/or legal consequences

3.2.2 The medical education institutions **should** use the results of feedback to improve the educational program.

### **3.3 Educational achievements of students and graduates**

The medical education institution **must analyze** the educational achievements of students and graduates regarding to:

3.3.1 its mission and education outcomes of the educational program, which includes information on the average duration of study, GPA, pass and failure rates at examinations, success and dismiss rates, student reports about conditions in their courses, the time spent to explore the areas of interest, including the components of choice, as well as interviews with students at the repeat courses, and interviews with students who quit the training program.

3.3.2 educational program.

3.3.3. endowments.

3.3.4 The medical education institution **should** analyze the academic achievement of students with respect to their prior experience and conditions, including social, economic and cultural conditions, as well as the level of training at the time of admission to the medical education institution.

3.3.5 The medical education institution **should** use the analysis of educational achievements of students to provide feedback to the unit responsible for the selection of students, educational program planning, student counseling.

### **3.4 Stakeholder Involvement**

3.4.1 The medical education institution **must** involve faculty and students, its administration and management in its program of monitoring and evaluation activities of the educational program.

3.4.2 The medical education institution **should** to other interested parties, including other members of the academic and administrative staff, members of the public, the competent authorities of the education and health care, professional organizations, as well as those responsible for post-graduate education:

- provide access to the results of the course and educational program evaluation;

- collect and examine feedback from them in pharmaceutical practice of the graduates;

- collect and examine feedback from them on an educational program.

The medical education institution **should**:

3.4.3 provide access to the results of the evaluation of courses and programs;

3.4.4 collect and examine feedback from them in clinical practice of the graduates;

3.4.5 collect and examine feedback from them on an educational program.

### **3.5. The medical education institution *should* base its renewal process on:**

- prospective studies, analysis and results of its own research and literature on the medical/pharmaceutical education

- improving the monitoring and evaluation of the educational program.

## **STUDENTS**

### **4.1 Policy of admission and selection**

4.1.1 The medical education institution **must** define and implement a policy of admission, including a clearly defined position on the process of selection of students, which includes the rationale and methods of selection, such as the results of high school, other relevant academic experience and other entrance exams and interviews, evaluation of a motivation to become a pharmacist/pharmaceutical production technologist, including changes in the needs associated with a variety of medical and pharmaceutical practice.

4.1.2 The medical education institution **must** have policy and introduce the practice of admission of students with disabilities in accordance with existing laws and legal documents of the country.

4.1.3 The medical education institution **must** have policy and introduce the practice of transfer students from other programs and the medical education institutions.

The medical education institution **should**:

4.1.4 establish a relationship between the selection of students and the mission of the medical education institution, educational program and desired qualities of graduates.

4.1.5 review regularly the admission policy on the basis of the relevant data from the public and professionals in order to meet the health needs of the population and society as a whole, including the consideration of the admission of students based on their gender, ethnicity and language, and the potential need for a special admission policy for students from low-income families and minorities.

4.1.6 use the system to appeal the admission decisions.

### **4.2 Admission of students**

4.2.1 The medical education institution **must** determine the number of students admitted in accordance with the logistics and opportunities at all stages of education and training in accordance with national requirements for human resources of health care. In the case of the medical education institutions do not control the number of admitted students it is necessary to demonstrate their commitment by explaining the whole relationship, paying attention to the consequences of decisions (imbalance between student admission and logistical and academic potential of the medical education institution/HEIE).

4.2.2 The medical education institutions **should** review regularly the amount and nature of student in the consultation process with relevant stakeholders responsible for the planning and development of human resources in the health sector, with experts and organizations on the global aspects of human resources for health care (such as insufficient and uneven distribution of human resources for health care, migration experts, the establishment of new the medical education institutions).

### **4.3 Counselling and support for students**

The medical education institution **must**:

4.3.1 have a system of academic counselling of their students (advisors), which includes issues related to the selection of elective courses, preparation for

residency, career planning, the appointment of academic mentors (tutors) for individual students or small groups of students.

4.3.2 propose a program of support to students, aimed at the social, financial and personal needs, including support for the social and personal problems and events, health problems and financial issues, access to health care, immunization programs and health insurance, as well as financial services assistance in the form of financial aid, scholarships and loans.

4.3.3 allocate resources to support students.

4.3.4 ensure the confidentiality of counseling and support.

The medical education institution **should** provide counseling that:

4.3.5 is based on the monitoring of student progress and is aimed at social and personal needs of students, including academic support, support for personal problems and situations, health problems, financial issues;

4.3.6 includes counseling and career planning.

4.3.7 includes a procedure of receiving, reviewing and responding to complaints from students.

#### **4.4 Representation of students**

4.4.1 The medical education institution **must** define and implement a policy on student representation and participation in the development, management, evaluation of the educational program and other issues relevant to students (student government, the participation of students in the council of a faculty, the HEI, and other relevant bodies, social activities and local health projects).

4.4.2 The medical education institution **should** assist and support the student activities and student organizations, including providing technical and financial support for student organizations.

#### **4.5 Graduates**

4.5.1 In the higher education institution should have a study system of employment, demand, career support and continuing professional development of graduates.

4.5.2 Data obtained using this system must be used to further improvement of the educational programs.

**4.6 The medical education institution *should* focus the renewal process** on adaptation of student admission and selection methods policy subject to the changing expectations and circumstances, human resource needs, changes in the system of pre-university education and the needs of the educational program.

### **EVALUATION OF THE STUDENTS**

#### **5.1 Methods of evaluation**

The medical education institution **must**:

5.1.1 identify, approve and publish the principles, methods and practices used to assess the students, including the number of examinations and other tests, the balance between written and oral examinations, the use of methods of evaluation based on the criteria and reasoning, and special examinations, as well as define the criteria for setting the pass grades, ratings and number of permitted re-tests.

5.1.2 ensure that the evaluation covers the knowledge, skills and attitudes.



5.1.3 use a wide range of evaluation methods and formats, depending on their “assess the utility”, which includes a combination of validity, reliability, impact on training, acceptability and effectiveness of the methods and format of the evaluation.

5.1.4 ensure that the methods and results of the evaluation avoid conflicts of interest.

5.1.5 ensure that the process and methods of evaluation are available for examination by external experts.

The medical education institutions **should**:

5.1.6 document and evaluate the reliability and validity of evaluation methods that require the appropriate quality assurance process of the existing evaluation practices;

5.1.7 adopt new methods of evaluation according to the needs;

5.1.8 use the system to appeal the evaluation results.

## **5.2 The relationship between evaluation and education**

5.2.1 The medical education institution must use the principles, methods and practices of evaluation, including academic achievement of students and evaluation of knowledge, skills and professional values which:

- are clearly comparable with the methods of learning, teaching and education outcomes;

- ensure that students achieve education outcomes;

- contribute to learning;

- provide an appropriate balance between formative and summative evaluation, to control learning and evaluate the academic progress of the student, which requires the establishment of rules for evaluating progress and their relation to the evaluation process.

The medical education institution **should**:

5.2.2 regulate the amount and nature of examinations of the various elements of the educational program in order to encourage the knowledge and integrated learning, and to avoid the adverse impact on the learning process and eliminate the need to study too much information and overload of the educational program.

5.2.3 ensure the provision of feedback to students on the basis of the evaluation results.

**5.3 The medical education institution *should* focus the renewal process** on the development of evaluation principles and methods of conduct and the number of examinations in accordance with changes in the education outcomes and teaching and learning methods.

## **ACADEMIC STAFF/TEACHERS**

### **6.1 Policy of staff selection and hire**

6.1.1. The medical education institution **must** provide an educational program with sufficient number of teachers and staff to meet the stated goals and objectives.

6.1.2 The educational program **must be** staffed with teachers who are entitled to teach and educate pharmaceutical specialties, have practical and/or academic experience in pharmacy/pharmaceutical manufacturing technology included in the program.

The medical education institution **must** determine and implement a policy of selection and hire of the staff that:

6.1.3 defines a their category, responsibilities and balance of academic staff/teachers of basic biomedical sciences, behavioral and social sciences and pharmaceutical sciences for an adequate implementation of educational program, including the balance between medical, non-medical and pharmaceutical, academic staff, full and part-time employment and the balance between academic and non-academic staff.

6.1.4 contains the criteria for scientific, educational, clinical and pharmaceutical advantages of applicants, including the balance between teaching, research and professional qualifications.

6.1.5 identifies and monitors the responsibilities of academic staff/teachers of basic biomedical sciences, behavioral and social sciences and pharmaceutical sciences.

The medical education institution **should** take into account criteria below in its policy for the selection and hire of the staff:

6.1.6 attitude to its mission, the importance of local context, including gender, ethnicity, religion, language and other conditions pertaining to the medical education institution and educational program

6.1.7 The economic opportunities that take into account the institutional conditions for the financing of staff and efficient use of resources

## **6.2 Policy of development and activity of the staff**

6.2.1 The medical education institution **must** demonstrate a process of continuous development of faculty and staff engaged in the implementation of an educational program in “Pharmacy”, including:

- conduct and participation in the development activities of the educational and pedagogical activities;
- participation in regional and national education meetings;
- mentoring of new teachers development in the professional fields;
- scientific productivity;
- maintenance of existing and development of new and/or developing skills.

The medical education institution **must** define and implement policy staff activity and development that:

6.2.2 allows for maintenance of a balance between teaching, research and service functions, which include the establishment of time for each activity, considering the needs of the medical education institution and professional development of teachers

6.2.3 ensures duly recognition of the academic activities with appropriate emphasis on teaching, research and professional qualifications and takes the form of rewards, promotion and/or remuneration

6.2.4 ensures that the professional activities and research are used in teaching and learning

6.2.5 ensures sufficient knowledge of each employee of the education program, which includes knowledge of the teaching/learning methods, the total

educational program in a specialty “Pharmacy”, knowledge of other disciplines and subject areas in order to motivate cooperation and integration

6.2.6 includes training, development and support of teachers, which involves all teachers, not only newly hired, as well as teachers, drawn from hospitals, laboratories, pharmacies, pharmaceutical industries, pharmaceutical companies

6.2.7 The medical education institution **should** apply an evaluation process, which provides an objective measurement of the performance of each teacher.

The medical education institutions **should**:

6.2.8 take into account the ratio of “teacher-student” depending on the various components of the educational program.

6.2.9 Develop and implement a policy of promoting and motivating employees.

**6.3. The medical education institution *should* focus the renewal process on adaptation of academic staff hiring and formation policy to meet changing needs.**

## **EDUCATIONAL RESOURCES**

### **7.1 Facilities and resources**

The medical education institution **must**:

7.1.1 have sufficient facilities and resources for teachers and students, allowing for adequate implementation of the goals and objectives of the educational program in a specialty “Pharmacy”.

7.1.2 provide a safe environment for staff, students, patients, and include the provision of necessary information and protection against harmful substances, microorganisms, compliance with safety regulations in the laboratory and use of the equipment.

7.1.3 provide students with the professional and scientific literature corresponding to the content of the educational program that encourages and supports research activities.

7.1.4 The medical education institution **should** improve the learning environment of students through regular renewal, expansion and strengthening of facilities and resources, to match developments in the practice of teaching.

### **7.2 Resources for professional training**

The medical education institution **must** provide the necessary resources to acquire by students of adequate practical experience, including:

7.2.1 sufficient number and categories of production facilities that include clinics, hospitals, research centers, laboratories, production and centers for pharmaceutical skills development, provision of necessary equipment for training and rotation in major pharmaceutical disciplines;

7.2.3 monitoring the professional practice of students.

7.2.4 The medical education institutions **should** examine and evaluate, adapt and improve resources for professional training to meet the needs of the population served, which will include the relevance and quality of training programs regarding production facilities, equipment, number and category of patients, observation as a supervisor and administration.

### **7.3 Information Technology**

7.3.1 The medical education institution **must** define and implement policy that is aimed at the efficient use and evaluation of appropriate information and communication technologies in the educational program.

7.3.2 The medical education institution **should** make available to teachers and students the opportunities to use information and communication technologies:

- for self-study;
- access to information;
- carrying out research;
- work in the health system.

7.3.3 The library **must** contain the necessary learning materials-educational, technical, scientific and reference literature, various periodic medical publications, etc.

7.3.4 The medical education institution/scientific organization **must** regularly monitor the library resources, study and introduce the strategies to meet current and future needs of students.

7.3.5 The medical education institution **should** direct the improvement process to renewal of educational resources according to changing needs, such as student admission, size and profile of academic staff, the educational program.

### **7.4 Research in the field of medicine and scientific achievements**

The medical education institution **must**:

7.4.1 have research activities in the field of medicine and pharmacy, as well as scientific achievements as the basis for the educational program.

7.4.2 identify and implement policy that contributes to the relation between research and education.

7.4.3 provide info he medical education institution.

7.4.4 The medical education institution **should** ensure that the relationship between research and education is taken into account in teaching, encourages and prepares students to participate in research in the field of medicine and their development.

### **7.5 Expertise in the field of education**

Information on the research framework and priorities in the field of scientific research of t

The medical education institution **must**:

7.5.1 have access to expertise in the field of education, where necessary, and carry out expertise which studies the processes, practices and problems of the medical education institution and may involve doctors with research experience in the medical education, psychologists and sociologists in the field of education, which is provided by the department of medical education development of the university, or involving the experts from other national and international institutions.

The medical education institution **must** determine and implement a policy of using expertise in the field of education:

7.5.3 in the development of the educational program.

7.5.4 in the development of teaching methods and evaluation of knowledge and skills.

The medical education institution **should**:

7.5.5 provide evidence of the use of internal or external expertise in the field of the medical education for the development of employees' potential.

7.5.6 pay due attention to the development of expertise in the evaluation of education and research in the medical education as a discipline that includes the study of theoretical, practical and social issues in the medical education.

7.5.7 assist in the aspirations and interests of employees in research in the medical education.

#### **7.6 Exchange in the field of education**

The medical education institution **must** define and implement policy for:

7.6.1 cooperation at the national and international levels with other medical education institutions, universities, schools of pharmacy.

7.6.2 transfer and credit of grades, which includes consideration of the scope of the educational program that can be transferred from other educational institutions and which may contribute to the conclusion of agreements on mutual recognition of the elements of the educational program, active coordination of programs between HEIs and the use of a transparent system of credits and flexible course requirements.

The medical education institutions **should**:

7.6.3 contribute to the regional and international exchange of staff (academic, administrative and teaching staff) and students by providing adequate resources.

7.6.5 ensure that the exchange is arranged in accordance with the objectives, taking into account the needs of staff, students, and in compliance with ethical principles.

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