



«АККРЕДИТЕУ ЖӘНЕ РЕЙТИНГТИҢ  
ТӘУЕЛСІЗ АГЕНТТІГІ» КЕМ

НУ «НЕЗАВИСИМОЕ АГЕНТСТВО  
АККРЕДИТАЦИИ И РЕЙТИНГА»

INDEPENDENT AGENCY FOR  
ACCREDITATION AND RATING

# REPORT

on the results of the work of the external expert  
commission for the evaluation

for compliance with the requirements of the standards of specialized  
accreditation of the educational program of the master's program based on  
WFME / AMSE standards (medical and pharmaceutical education)

7M10104 - Medicine (Clinician-scientist)

**AL-FARABI KAZAKH NATIONAL UNIVERSITY**

in the period from 2 to 4 December 2021

**INDEPENDENT AGENCY FOR ACCREDITATION AND RATING**  
*External expert commission*

*Addressed to  
Accreditation  
council of the IAAR*



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in the period from 2 to 4 December 2021**

December 4, 2021  
Almaty

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**(I) LIST OF SYMBOLS AND ABBREVIATIONS**

<b>HEI</b>	Higher educational institution
<b>HSPH</b>	Higher School of Public Health
<b>HSM</b>	Higher School of Medicine
<b>SAC</b>	State Attestation Commission
<b>SCES</b>	State Compulsory Education Standards
<b>DPE</b>	Department of Postgraduate Education
<b>QMS</b>	Quality Management System
<b>DEF</b>	Department of Economics and Finance
<b>IWP</b>	Individual work plan
<b>IC</b>	Individual curriculum
<b>CMS</b>	Candidate of Medical Sciences
<b>CQAES MES</b>	Committee for Quality Assurance in Education and Science of the Ministry of
<b>RK</b>	Education and Science of the Republic of Kazakhstan
<b>CT</b>	Comprehensive testing
<b>CED</b>	Catalog of elective disciplines
<b>CE</b>	Comprehensive exam
<b>LEC</b>	Local Ethics Commission
<b>MH RK</b>	Ministry of Health of the Republic of Kazakhstan
<b>MES RK</b>	Ministry of Education and Science of the Republic of Kazakhstan
<b>NJSC Al-Farabi KazNU</b>	Non-profit joint-stock company "Al-Farabi Kazakh National University"
<b>RI</b>	Research Institute
<b>SC</b>	Science Center
<b>EMC</b>	Educational and Methodological Council
<b>OHPE</b>	Organization of higher and postgraduate education
<b>PH</b>	Public health
<b>RaDMD</b>	Registration and defense of a master's dissertation
<b>RC</b>	Required component
<b>EP</b>	Educational program
<b>PTS</b>	Professorial-teaching staff
<b>PP</b>	Production practice (Internship)
<b>The RK</b>	The Republic of Kazakhstan
<b>NRCHD</b>	National Research Center for Health Development
<b>RCEH</b>	Republican Center for Electronic Health
<b>LO</b>	Learning outcomes
<b>GC</b>	General curriculum
<b>IWMST</b>	Independent work of master's student under the guidance of a teacher
<b>MM</b>	Mass media
<b>TC</b>	Typical curricula
<b>AC</b>	Academic Council
<b>EMCD</b>	Educational-methodical complex of the discipline
<b>FMaH</b>	Faculty of Medicine and Health care
<b>EDS</b>	Electronic digital signature
<b>ECTS</b>	European Credits Transfer System
<b>CBL</b>	Challenge Based Learning
<b>GPA</b>	Grade Point Average
<b>MBA</b>	Master of Business Administration
<b>TBL</b>	Team Based Learning
<b>PBL</b>	Problem Based Learning

**(II) INTRODUCTION**

In accordance with the order 156-21-OD dated November 1, 2021 of the Independent Agency for Accreditation and Rating, from December 2 to December 4, 2021, an external expert commission assessed the compliance of the educational program 7M10104 Medicine (Clinician-scientist) of the Al-Farabi Kazakh National University with standards specialized IAAR accreditation (dated May 25, 2018 No. 68-18/1-OD, second edition) in a hybrid format.

The report of the external expert commission (EEC) contains an assessment of the submitted educational program to the IAAR criteria, recommendations of the EEC for further improvement of the educational program and profile parameters of the educational program.

**The composition of the EEC:**

**1. Chairman of the IAAR Commission** - Belykh Yury Eduardovich, Candidate of Physical and Mathematical Sciences, Associate Professor, Vice-Rector for Academic Affairs, Yanka Kupala State University of Grodno (Grodno, Republic of Belarus) (*offline*);

**2. IAAR expert** – Chizhovich Veslav Aleksandrovich, Professor, Doctor of Economics, Graduate School of Law and Administration of the University of Law in Rzeszow, specialist in international customs law, member of the International Academy of Customs Law (ICLA), co-author of professional standards of the World Customs Organization (Warsaw, Poland) (*offline*);

**3. IAAR Expert** - Sousana Michailidou, PhD, Professor, Vice-Rector for Academic Affairs Webster Athens (Athens, Greece) (*online*);

**4. IAAR expert** – Aleksey Nikolaevich Kalyagin, Doctor of Medical Sciences, Vice-Rector for General Medicine and Postgraduate Education, Head of the Department of Propaedeutics of Internal Diseases of the Irkutsk State Medical University of the Ministry of Health of Russia, expert of the Federal Accreditation Agency (Irkutsk, Russian Federation) (*online*);

**5. IAAR Expert** – Prof. Dr. Guljanat Kurmangaliyeva Ercilasun, Professor, Ankara University Haji Bayram Veli (Ankara, Republic of Turkey) (*offline*);

**6. IAAR expert** - Aktamov Innokenty Galimalaevich, Candidate of Pedagogical Sciences, Doctor of Philosophy (PhD), Head of the Laboratory "Center for Translations from Oriental Languages" of the Institute of Mongolian, Buddhist and Tibetan Studies of the Siberian Branch of the Russian Academy of Sciences, Associate Professor of the Department of History and Regional Studies of Asian Countries, Buryat State University named after D. Banzarov, expert of the Federal Accreditation Agency (Ulan-Ude, Russian Federation) (*offline*);

**7. Expert IAAR** - Bizhkenova Aigul Ermekovna, Doctor of Philology, Professor, Eurasian National University. L.N. Gumilev (Nur-Sultan, Republic of Kazakhstan) (*offline*);

**8 . IAAR Expert** – Kurmangaliev Kairat Bolatovich, Candidate of Medical Sciences, Associate Professor, NAO "West Kazakhstan Medical University. Marat Ospanov "(Aktobe, Republic of Kazakhstan) (*offline*);

**9 . IAAR Expert** - Rozentsvaig Anna Igorevna, PhD in Law, Associate Professor, Head of the Internal Control Department, Samara National Research University named after Academician S.P. queen, expert of the Russian Accreditation Agency (Samara, Russian Federation) (*offline*);

**10. Expert IAAR** - Zhumagulova Bakhitgul Sakenovna, Doctor of Philology, Professor, Kazakh National Pedagogical University named after Abai (Almaty, Republic of Kazakhstan) (*offline*);

**11. Expert IAAR** - Zharkenova Svetlana Bakhytovna, Ph.D. in Law, Professor, Eurasian National University. L.N. Gumilyov (Nur-Sultan, Republic of Kazakhstan) (*offline*);

**12. Expert IAAR** - Ivanchenko Nellya Nikolayevna, candidate of medical sciences, Kazakh. National Medical University named after S.D. Asfendiyarov (Almaty) (*offline*);

**13. Expert IAAR** - Burbekova Saule Zhorabekovna, Candidate of Philology, Associate Professor, Astana IT University (Nur-Sultan, Republic of Kazakhstan) (*offline*);

**14. IAAR expert-employer** – Abildayeva Tolkin Zheksengazievna, Head of the Human Capital Development Department of the Chamber of Entrepreneurs of Almaty (Almaty, Republic of Kazakhstan) (*offline*);

**15. IAAR Expert Employer** – Rakhimova Nurbike Altaykyzy, expert of the 1st category of the Human Capital Development Department of the Chamber of Entrepreneurs of Almaty (Almaty, Republic of Kazakhstan) (*online*);

**16. IAAR Student Expert** – Bolatbekova Ayganym Aibolkyzy, doctoral student of the Public Health Programme, Karaganda Medical University, member of the Alliance of Students of Kazakhstan (Karaganda, Republic of Kazakhstan) (*online*);

**17. IAAR Student Expert** – Dzhangeldinova Saltanat Bolatovna, 1st year doctoral student of the educational program Foreign language: two foreign languages, Karaganda University named after academician E.A. Buketov (Karaganda, Republic of Kazakhstan) (*online*);

**18. IAAR Student Expert** – Niyazova Zulfira Rigantovna, master student of the 2nd year of the educational program Linguistics, Kazakh National Pedagogical University named after Abai (Almaty, Republic of Kazakhstan) (*online*);

**19 . IAAR Student Expert** – Astanayeva Diana Abdizhapparkyzy, 1st year master student of the educational program Foreign Philology (Turkish), International Kazakh-Turkish University named after Khoja Ahmed Yasawi (Turkestan, Republic of Kazakhstan) (*online*);

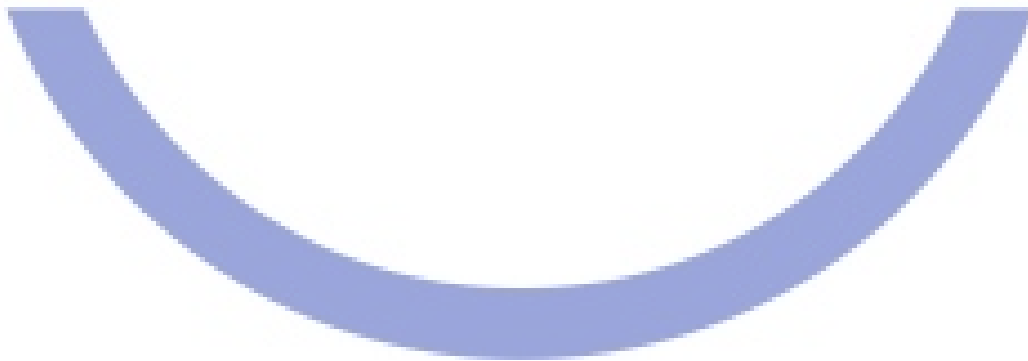
**20 . IAAR Student Expert** – Kamasheva Gulnara Mukhamedshaykyzy, 7th year student of General Medicine, Karaganda Medical University, member of the Alliance of Students of Kazakhstan (Karaganda, Republic of Kazakhstan) (*online*);

**21. Expert-student of IAAR** - Bulatov Zhansen Baurzhanovich, 4th year student of the educational program Law and Law Enforcement, KAZGUU University named after M.S. Narikbaeva (Nur-Sultan, Republic of Kazakhstan) (*online*);

**22. Expert student of IAAR** - Shibovskaya Lidiya Nikolaevna, master student of the educational program "222 - Medicine", International European University (Kyiv, Ukraine);

**23 . IAAR coordinator** – Kanapyanov Timur Yerbolatovich, PhD, Deputy General Director for International Cooperation of the IAAR (Nur-Sultan, Republic of Kazakhstan) (*offline*);

**24. IAAR coordinator** - Aikyz Bauyrzhankyzy, PhD, specialist in international projects and public relations of the IAAR (Nur-Sultan, Republic of Kazakhstan) (*offline*).





**(III) REPRESENTATION OF EDUCATIONAL ORGANIZATION**

In the system of higher and postgraduate education of the Republic of Kazakhstan, Al-Farabi Kazakh National University is a special role, being the country's leading multidisciplinary university that trains specialists at all levels of education in a wide range of areas. Al-Farabi KazNU has 16 faculties and 67 departments, 8 research institutes of natural science and technology, 29 research institutes and centers of socio-humanitarian profile. The university has a highly qualified teaching staff with more than 2 thousand people, including: 9 academicians of the National Academy of Sciences of the Republic of Kazakhstan, 548 doctors, 891 candidates of science, 435 PhDs. More than 35% of teachers speak a foreign language, including IELTS and TOEFL certificates. Al-Farabi KazNU implements more than 760 undergraduates, graduate and PhD educational programs that are consistent with employers and international partners. On the basis of the University, the Educational and Methodological Association of the Republican Educational and Methodological Council operates in 9 areas of training.

Al-Farabi Kazakh National University in December 2015, in an effort to contribute to the development of the healthcare system and medicine in Kazakhstan and to reach the world level in the field of life sciences in the near future, opened the fifteenth faculty - the Faculty of Medicine, currently renamed the Faculty of Medicine and healthcare (FMaH). The structure has 2 Higher Schools: HSPH and HSM.

In 2018, the master's program 7M10104-Medicine (clinician-scientist) was developed in accordance with the requirements of foreign universities. The educational program is built on a modular principle based on a competency-based approach. A professor from McGill University (Canada) took part in the development of the program. The head of the Higher School of Health is Daniyarova A.B. Head of the Department of Health Policy and Organization, implementing the master's program is Kapanova G.Zh.

Description of the EP: number of ECTS credits - 120. Duration of study - 4 semesters. The form of education is full-time. The cost of training on a contractual basis for citizens of the Republic of Kazakhstan is 1,350,600 tenge; for foreign citizens - 2,347,000 tenge. In the 2020-2021 academic year, a total of 38 undergraduates are studying.

Personnel potential of the EP: the program is conducted by leading associate professors and professors with practical experience and knowledge. 2 Doctors of Science, 3 Doctors of PhD, 5 Candidates of Science are involved in the implementation of the EP. Specialists from the world's leading universities are also invited as visiting professors.

Academic mobility: in translational medicine, undergraduates undergo internships and training in the laboratory of translational medicine, immunology and cell technologies Marburg Phillip University (Germany), McGill University (Canada), other universities in the country and abroad.

Material and technical base of the EP: for the implementation of the educational program, the Department of Health Policy and Organization has contractual relations with leading clinics in Almaty, where a number of disciplines and topics can be mastered directly on the clinical basis. The department has two branches: in the PHC organization (City polyclinic No. 29) and in the hospital (LLP "Institute of Surgery"). In addition, the leading medical organizations and scientific centers of Almaty serve as bases for practices.

To implement the educational program, the faculty has laboratories, a research laboratory for the environment and health. The employees of the departments of the Higher School of Public Health have carried out 5 research programs and projects, published 59 articles indexed in the Web database of Science, Scopus.

Upon completion of training in EP 7M101-Medicine (Clinician-scientist), the following main types of professional activity of the graduate are possible:

- a doctor with a qualification in personalized medicine;
- University lecturer in the specialty "Personalized Medicine" and / or "Systemic Medicine";
- researcher with a specialization in personalized and/or systems medicine;

Related types of professional activities in practical healthcare are:

- an employee of the licensing authorities;
- employee of health departments and other administrative bodies;
- an employee of a pharmaceutical company;
- research associate of research institutes;
- scientific project manager;
- continue with doctoral studies.

#### **(IV) DESCRIPTION OF THE PREVIOUS ACCREDITATION PROCEDURE**

Educational program 7M10104 Medicine (Clinician-scientist) is being accredited by the IAAR for the first time.

#### **(V) DESCRIPTION OF THE EEC VISIT**

The work of the EEC was carried out on the basis of the approved Program of the hybrid visit of the expert commission for specialized accreditation of educational programs of the Al-Farabi Kazakh National University from December 2 to December 4, 2021.

In order to coordinate the work of the EEC, on December 1, 2021, an on-line kick-off meeting was held, during which powers were distributed among the members of the commission, the schedule of the visit was clarified, and agreement was reached on the choice of examination methods.

To obtain objective information about the quality of the educational program and the entire infrastructure of the university, to clarify the content of self-assessment reports, meetings were held with vice-rectors of the university in areas of activity, heads of structural divisions, heads of departments, teachers, students, graduates, employers. The meeting with the rector of the university did not take place due to operational reasons. In total, 57 people took part in the meetings, 23 of them directly in the accredited specialty (Table 1).

Table 1 - Information about employees and students who took part in meetings with the EEC IAAR:

<b>Participant category</b>	<b>Quantity</b>
Rector	-
Vice-Rector's Corps	2
Heads of structural divisions	Eighteen
Deans	4
Heads of departments	12
Teachers/tutors	5
Undergraduates	5
Graduates	6
Employers	5
<b>Total</b>	<b>57</b>

During the visual inspection, the EEC members got acquainted with the state of the material and technical base, visited the laboratories: scientific and educational laboratories of chemistry, biology, environmental and health laboratory.

At the meetings of the EEC IAAR with the target groups of the university, the mechanisms for implementing the policy of the university were clarified and certain data presented in the self-assessment report of the university were specified.



EEC members visited the practice bases of the accredited program: Republican Allergology Center of Research Institute of Cardiology and Internal Disease, LLP "Mediterra Institute of Surgery", Research Institute of Oncology and Radiology.

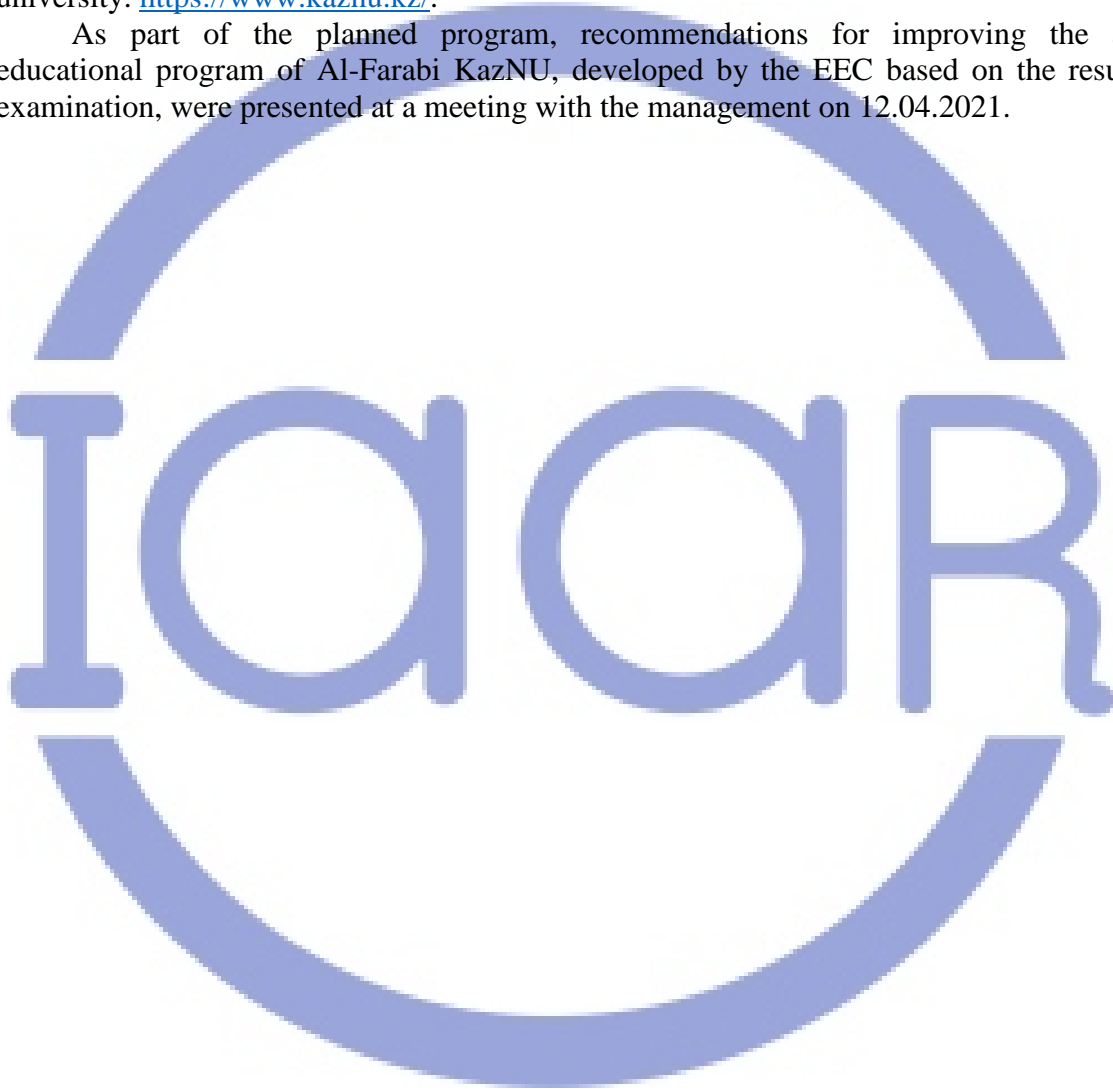
Members of the EEC attended training sessions:

Topic: Fundamentals of precision and translational medicine. Date: 03.12.2021 15.00-16.00. Lesson in online format. Lecturer - Dauletbaev N.

In accordance with the accreditation procedure, a survey of 220 teachers, including 4 in the accredited specialty; 320 students, including the accredited specialty - 15.

In order to confirm the information presented in the self-assessment report, the working documentation of the university was requested and analyzed by external experts. Along with this, the experts studied the Internet positioning of the university through the official website of the university. <https://www.kaznu.kz/>.

As part of the planned program, recommendations for improving the accredited educational program of Al-Farabi KazNU, developed by the EEC based on the results of the examination, were presented at a meeting with the management on 12.04.2021.



**(VI) COMPLIANCE WITH SPECIALIZED ACCREDITATION STANDARDS****6.1. Standard "MISSION AND OUTCOMES OF TRAINING "**

*Definition of the mission of the educational program*

*The medical education organization should define its mission of the educational program and bring it to the attention of stakeholders and the healthcare sector.*

*The medical education organization must ensure that the main stakeholders are involved in the development (formulation) of the mission of the educational program.*

*The mission statement of the educational program should contain the goals and educational strategy of the program, allowing to prepare a competent researcher at the level of postgraduate medical/pharmaceutical education.*

*The medical education organization must ensure that the stated mission of the educational program includes the problems of public health, the needs of the medical and pharmaceutical care system, and other aspects of social responsibility.*

*The medical education organization must ensure that the mission of the educational program is consistent with the mission of the organization and allow the preparation of a competent researcher at the level of postgraduate medical education.*

*A medical education organization must have a strategic plan for the development of an educational program that corresponds to the stated mission of a medical education organization, including issues of improving the quality of master's programs and approved by the advisory board of a medical education organization.*

*The medical education organization should systematically collect, accumulate and analyze information on the quality of the implementation of master's programs; conduct an assessment of strengths and weaknesses (SWOT analysis), on the basis of which the rectorate ( pro -rectorate ), together with the advisory council, should determine policy and develop strategic and tactical plans*

*Mission and goals of the educational program:*

- should correspond to the available resources, opportunities and requirements of the market;
- ways to support them should be determined.

*The medical education organization must provide access to information about the mission, goals of the medical education organization for the public (availability of information in the media, on the website of the university).*

*The mission of the educational program, as well as the mission and goals of the medical education organization, must be approved by the advisory board*

*Institutional autonomy and academic freedom*

*An organization implementing master's degree programs should have institutional autonomy to develop and implement policies for which the faculty and administration are responsible, especially with regard to:*

*development of an educational program;*

*use of allocated resources necessary for the implementation of the educational program.*

*A medical education organization should guarantee academic freedom to its employees and undergraduates:*

- in relation to the current educational program, in which it will be allowed to rely on different points of view in the description and analysis of issues in medicine and pharmacy;
- in the possibility of using the results of new research to improve the study of specific disciplines / issues without expanding the educational program.

*Learning Outcomes*

*The medical education organization must determine the expected learning outcomes that undergraduates must exhibit after completing the master's program.*

*Master's studies with the award of an academic master's degree should provide undergraduates with the competencies that will allow them to become a qualified teacher and / or researcher in accordance with the principles of best research practice.*

*Completion of a master's program should be of potential benefit to those pursuing a career outside of the medical organization and applying their competencies developed during the master's program, including - critical analysis, assessment and solution of complex problems, the ability to transfer new technologies and synthesis of new ideas.*

*The medical education organization should ensure that a regular (at least once a year) process of updating and restructuring leads to the modification of the final learning outcomes of graduates in accordance with the responsibilities that are assigned to graduates after graduation from the master's program.*

***Evidence part.***

Mission of NJSC Al-Farabi KazNU consists in the formation of human resources - competitive and sought-after specialists in the national and international labor markets, the achievement of a qualitatively new effect in the formation of citizens of the country and the world, and in promoting the sustainable development of society through the transfer and enhancement of knowledge (<https://www.kaznu.kz/ru/20518/page/#>).

The mission of the master's degree program 7M10104 - Medicine (clinician-scientist) is the high-quality training of specialists for the development of translational medicine and machine learning in medicine. The mission of the EP corresponds to the mission and vision and charter of KazNU, reflects the main areas of activity presented in the University Development Strategy for 2017-2021. The mission statement fully reflects its individuality and uniqueness. It should be noted that the mission is focused on the training of modern in-demand medical professionals who meet today's priorities and future challenges.

The mission of the EP is reflected in the program passport, which is placed in the register of the EP of the MES RK and is available on the corporate website of the university <http://www.kaznu.kz/ru/14960/page/>.

The master's program has a plan for the development of the educational program for 2019-2022, which was developed by the head of the department of the Higher School of Public Health and approved by the dean of the FMaH on June 19, 2019.

Training according to OP 7M10104 - Medicine (clinician-scientist) is carried out for two years in the scientific and pedagogical direction. The final result of the experimental research/research work of a master student is a master's thesis. Upon completion of the master's degree program in the scientific and pedagogical direction, graduates can continue their careers outside the medical organization and apply the competencies formed during the master's program. The main final competencies are understanding the principles and using methods for evaluating research results, interpreting medical information, solving research and practical problems, compiling the design and program of scientific research, and applying statistical methods in data processing. The EP reflects a perspective focused on learning outcomes and notes an effective balance between the needs of the health system and the EP offer.

The University is working to collect information about its activities and self-assessment in all areas. Based on the ongoing SWOT analysis, the program for the development of the EP is being updated.

***Analytical part***

At a meeting with the leadership of the university, the leaders of the master's degree program 7M10104 - Medicine (clinician-scientist), the experts were convinced of the responsibility of administrative and managerial personnel in understanding the importance of strategic planning in achieving the goals and objectives, that the university has a strategic development plan, the corresponding mission and vision of the university. The University analyzes the achievement of development targets, monitoring and improvement activities.

In the course of meetings with Professorial-teaching staff, EEC experts observed the responsibility and participation of the teaching staff in the development of the educational program and the allocation of resources necessary for its implementation, the participation of the teaching staff of the university in the development and review of the SES, model curricula of disciplines at the republican level, work programs of disciplines. This is confirmed by the results of the teaching staff survey: over 90% of respondents are satisfied with the degree of academic freedom, the opportunities provided by the university for professional development and career growth.

During meetings with students, based on the results of a survey, EEC experts established that undergraduates know the final learning outcomes, competencies that will allow them to become a qualified teacher or researcher in accordance with the principles of best research practice.

***Strengths***

- not identified by this standard

***There are no recommendations for this standard.***

**Conclusions of the EEC according to the criteria:**

**According to the standard "MISSION AND OUTCOMES OF TRAINING", the educational program 7M10104 Medicine (clinician-scientist) has:**

**strong positions - 0**

**satisfactory positions - 12**

**requiring improvement - 0**

**unsatisfactory – 0**

## 6.2. Standard "RESEARCH ENVIRONMENT AND EDUCATIONAL RESOURCES"

### *Research environment*

*The success of individual master's programs must be ensured by the organization of a strong and effective research environment.*

*The quality of the research environment should be assessed by analyzing:*

*publications of research results (number of publications, impact factor, etc.) on the profile of a master's program in a medical education organization;*

*the level of attracting external funding for scientific research in a medical educational institution;*

*the number of qualified and competent teachers, researchers in the group, at the faculty, educational institution;*

*national and international cooperation with research groups of medical organizations, universities, research centers.*

*Research must be conducted in accordance with international ethical standards and approved by the relevant and competent ethics committees.*

*In order to provide access to the means necessary to write a dissertation, master's programs may include studies in other laboratories, preferably in another country, thus ensuring internationalization*

*The implementation of the master's program should take place in the conditions of joint planning of training and research and the general responsibility of the supervisor and undergraduate for the final results.*

*The medical education institution should explore the possibility of providing joint master's degree programs from both universities and joint leadership to support cooperation between higher education institutions.*

*The medical education organization should ensure that the process of updating educational resources is carried out in accordance with changing needs, such as the recruitment of undergraduates, the number and profile of academic staff, the master's program.*

*The medical education organization should:*

*- provide sufficient autonomy in the distribution of resources, including decent remuneration of teachers in order to achieve the final learning outcomes defined by the relevant indicators;*

*When allocating resources, take into account:*

*a) scientific achievements in the field of medicine;*

*b) public health problems and needs*

*Material and technical base*

*A medical education organization must have material and technical support that meets the licensed indicators, which include the following criteria:*

*classrooms, laboratories and their equipment must be modern and adequate to the goals and objectives of the master's program;*

*undergraduates should be provided with conditions for the implementation of independent educational and research work;*

*renewal and improvement of the material and technical base should be carried out regularly.*

*The medical education organization must have sufficient resources for the proper implementation of the master's program.*

*The resources of the organization should provide:*

*admission of undergraduates,*

*organization of training in the master's program,*

*dissertation work,*

*scientific guide,*

*advising undergraduates,*

*review, review and evaluation of the dissertation,*

*awarding an academic master's degree,*

*operating costs,*

*expenses for participation in training courses, in international scientific conferences,*

*payment for tuition in the master's program in institutions where it is practiced.*

*Resources also include a Master's Scholarship, however fees may vary.*

*The resource policy should be aimed at maintaining and ensuring the constant professional growth of teachers of the master's program.*

*The medical education organization must provide a safe environment for employees, undergraduates and those who ensure the implementation of the program, including providing the necessary information and protection from harmful substances, microorganisms, observing safety rules in the laboratory and when using equipment.*

*A medical education organization should have a service and support service for future undergraduates, including a registrar office, research centers and laboratories, a canteen, a medical center, sports grounds and halls.*

*The medical education organization has approved procedures for improving the learning environment for undergraduates through regular renewal, expansion and strengthening of the material and technical base, which should correspond to the development in teaching practice.*

### *Information Technology*

*A medical education organization must have information support that meets the goals and objectives of the master's program.*

*The library should contain the materials necessary for training - educational, technical, scientific and reference literature, various medical periodicals, etc.*

*Undergraduates should have timely and free access to library resources.*

*The library should have basic technical equipment to support daily activities: fax machines, copiers, computers, printers available for public use, and a telephone with voice mail or answering machine.*

*The library must have an information website. The website may contain the following elements: links, interlibrary loan forms, full-text electronic journal articles, and a feedback form.*

*The medical education organization should regularly monitor library resources, study and implement strategies to meet the existing and future needs of undergraduates.*

*Undergraduates should use computer classes and terminals with access to information resources (local network, Internet).*

*In a medical educational institution, accessibility and adequate use of information resources by undergraduates should be monitored.*

*In a medical educational organization, constant updating, improvement and expansion of the information resource base should be carried out with the provision of access for undergraduates to modern electronic databases, including foreign databases (Thomson Reuters ( Web of Science, Thomson Reuters ), Scopus, Pubmed , Elsevier and others).*

*A medical education organization must open and constantly update a section on its website dedicated to master's programs containing the following information:*

*structure and staff of the department of magistracy, duties of the head and employees of the department;*

*admission policy, including clear rules about the selection process for undergraduates;*

*list of master's programs;*



*structure, duration and content of master's programs;*  
*criteria for the appointment of a supervisor, outlining the characteristics, duties and qualifications of the supervisor;*  
*methods used to evaluate undergraduates;*  
*criteria for designing and writing a dissertation;*  
*description of the dissertation defense procedure;*  
*description of the work of the State Attestation Commission for the defense of master's theses;*  
*program of quality assurance and regular evaluation of the master's program;*  
*information about undergraduates, taking into account the year of study;*  
*information about the employment of graduates of the master's program for the last 3 years, taking into account the direction of study (scientific and pedagogical, specialized).*

***Evidence part.***

The implementation of the master's degree program 7M10104-Medicine (clinician-scientist) is provided by the departments of the Faculty of Medicine and Health care. The graduating department is the Department of Health Policies and Organizations. The personnel potential is 2 Doctors of Science, 3 Doctors of PhD, 5 Candidates of Science. The degree of the department at the master's level is 66%. Among the teaching staff implementing EP, 50% speak English from the intermediate level and above.

For the educational process, the Faculty of Medicine and Health care has been allocated 15 classrooms with a total area of 1092.6 sq.m. with the number of seats - 607. Classes for undergraduates are held in 7 classrooms. The number of computers at the faculty is 105.

In the 2021/2022 academic year, 3 foreign professors were involved in the educational process of the department, who have high rates of publication activity (Hirsch index over 5.0): prof. Grzhibovsky A.M., prof. Vinnikov D.V., prof. Usataeva G.M. Cooperation in this area made it possible to provide the opportunity for scientific internships in leading scientific centers of the world and the publication of articles in high-ranking publications with the participation of foreign collaborators.

The Faculty of Medicine and Healthcare has signed agreements with 26 foreign universities and clinics, including: universities in Canada, Germany, South Korea, Turkey, Japan, leading universities in Russia (Moscow State University named after M.V. Lomonosov, First Moscow State Medical University named after I.I. M. Sechenov and others), CIS countries. Within the framework of the signed agreements, undergraduates can undergo foreign internships and invite teachers to read disciplines according to the curriculum.

The experts were shown supporting documents on the passage of a 10-day internship for 10 undergraduates in Marburg Philipp University (Germany) in the laboratory of translational medicine, immunology and cell technologies in 2019 and 2020. For them, a separate training program was formed in the disciplines of systemic medicine, medicine of the future, and molecular-biological and cellular technologies in clinical practice in the laboratory of translational medicine.

Currently, 7 research projects are being implemented at the Department of Health Policy and Organization, in which employees of the department are involved. Sources of funding - grant funding of the Ministry of Education and Science of the Republic of Kazakhstan, initiative work. At the same time, taking into account the scientific potential of the department, external sources of funding (business environment, foreign funds) should be attracted to improve the quality of research work.

International projects are being implemented:

- International multicenter project Population Urban Rural epidemiological study (PURE), held in 27 countries, initiated by the Canadian scientific organization PHRI, Hamilton Health Science Corporation, McMaster University, Canada.

- International multicenter clinical trial INVICTUS, conducted in 40 countries under the leadership of the Canadian scientific organization PHRI, Hamilton Health Science Corporation, McMaster University, Canada.

- International project to create a register of patients with familial hypercholesterolemia, in collaboration with Imperial College, London, UK.

- psychological impact of COVID -19 on people employed in small and medium-sized businesses in the health care system urban and rural areas, a project for grant funding of the Ministry of Education and Science of the Republic of Kazakhstan

- Development innovative And highly effective technology, directed on the decline risk premature mortality from diseases systems circulation, chronic respiratory diseases And diabetes , a project for grant funding of the Ministry of Education and Science of the Republic of Kazakhstan.

At a meeting with the head of the EP and teaching staff, the experts found that the Faculty of Medicine and Health care has concluded agreements with the leading clinics in Almaty. The department has two branches: in the PHC organization (City polyclinic No. 29) and in the hospital (LLP "Mediterra Institute of Surgery"), where a number of disciplines and educational topics can be mastered directly at these clinical bases. During the visual examination, the experts visited the Research Institute of Oncology and Radiology, and LLP "Mediterra Institute of Surgery".

The main sources of funding are the Ministry of Education and Science of the Republic of Kazakhstan, the Ministry of Health of the Republic of Kazakhstan. The results of scientific research are used in educational work, in practical classes, are reflected in textbooks and methodological recommendations for undergraduates. For example, prof. Dauletbaev N.D. introduced into the educational process in the study of precision medicine multivariate analysis of clinical, morphological and molecular genetic characteristics of the tumor in predicting the results of surgical treatment of patients with intrathoracic tumors using neural networks. When studying translational medicine and mathematical modeling, the development of an individual mathematical model is used to predict the results of survival of patients with tumors of intrathoracic localization

It should be noted as the strength of the university its library, which is located in a separate 4-storey building with a total area of over 17 thousand square meters. and is the largest university library in the country, the fund of which contains about 3 million copies of books. Access to subscription databases and perpetual access to electronic books of the world's largest publishers (EBooks) in the EBSCO, Springer, Elsevier databases, as well as to the Polpred full-text database, the IPRbooks electronic library system, domestic databases «Заң — Закон», «Эпиграф». The book fund of the faculty of the Higher School of Public Health in 2021 has 34,322 books (in 2020 - 33,950). The necessary literature is issued using RFID tags and through RFID cards. There is a unified system of library services. There is a website of the library (<http://elibrary.kaznu.kz/ru/>), which informs about resources, working hours, services provided and about all the changes and news taking place in the library.

For the effectiveness of the educational process, the UNIVER system is used, which allows you to manage the selection committee and analyze the recruitment of the contingent; educational activities (formation of curricula, certification, etc.); electronic educational document management for the entire technological cycle of the educational process; monitoring the organization of a data bank of electronic educational and methodological materials for each discipline.

The recruitment of undergraduates depends on the needs and is determined by the allocation of the state order of the Ministry of Health of the Republic of Kazakhstan. Educational resources are updated when normative and regulatory documents (state educational standards) are changed, when catalogs of elective disciplines are updated, as well as when innovative technologies are introduced into the educational process. The cost of training on a contractual basis is formed based on the real costs of providing the educational process. Tuition fees are regulated in accordance with the state order of the Ministry of Health of the Republic of Kazakhstan.

The development of elective disciplines is carried out with active work with potential employers, representatives of practical healthcare through regular consultations, joint meetings. For example, with the participation of employers, the results of training were revised, the



description of disciplines in the module "systemic medicine" was expanded. All changes and additions to the EP of the specialty are also discussed with the obligatory participation of employers, representatives of practical healthcare.

The University is taking measures to increase the level of motivation of teaching staff by distributing material resources based on the results of the work of each employee, as well as stimulating the individual contribution of the teacher through financial incentive payments, taking into account criteria that allow evaluating the effectiveness and quality of work. For example, bonus payments are made for publications in international peer-reviewed journals, based on the results of the faculty rating.

***Analytical part.***

Based on the results of the meeting with the leadership of the university, the experts were acquainted with the priority areas of development of Al-Farabi KazNU: transformation of the university into a research university, qualitative development of university science, the introduction of digital technologies in the educational process, the development of double-degree education programs. The main indicators of the university are the demand for graduates in the domestic and international labor markets, employment in the world's leading companies.

EEC experts testify that at present, not a single higher educational institution in Kazakhstan has educational programs in the magistracy specialized for training a medical researcher. EP -7M10104- "Medicine (clinician-scientist)" implemented at the university was prepared jointly with visiting professors from McGill University (Canada). The experts were presented with a copyright certificate for EP No. 1373 dated January 18, 2019 and a patented trademark-logo No. 74048 dated July 7, 2021 to promote the educational program to international educational markets. The uniqueness of the master's program 7M10104-Medicine (clinician-scientist) is also due to the possibility of training in the state, Russian and English languages, author's courses, a wide range of issues and research methodology in the field of medicine. Foreign teachers are attracted to read special courses.

To assess the conditions for the implementation of the educational program at the faculty, experts visited research laboratories, classroom fund, classrooms, laboratories with medical equipment. It is noted that teachers and undergraduates are provided with all the opportunities to use information and communication technologies for self-study, access to information, work in the healthcare system, as well as an international information base for teaching evidence-based medicine and preparing students for continuous medical education and professional development. Applications for equipment and necessary equipment are submitted annually. According to the results of the survey, over 88% of students are satisfied with the existing educational resources of the university.

In the course of familiarization with the primary documentation of master's theses, the experts found that all scientific research conducted at the faculty complies with international ethical standards and is approved by the relevant and competent ethics committees. Implemented Good clinical practice « Good Clinical Practice ».

Given the scientific potential of the HSPH, the educational resources of the university should explore the possibility of providing joint master's degree programs from both universities and joint leadership to support cooperation between higher education institutions.

During the meeting of experts with the teaching staff, it was found that the university management conducts material incentives for employees in the form of bonuses for publications in peer-reviewed journals, depending on the journal with a certain percentile, while fulfilling the indicators of the university's indicative plan.

***Strengths / best practice in EP 7M10104 Medicine (clinician-scientist):***

1) The quality of the research environment in the specialty is realized by attracting qualified and competent teachers and researchers. EP - 7M10104 – "Medicine (clinician-

scientist)” has a copyright certificate for the program; a trademark-logo is patented to promote the educational program to international educational markets.

2) In order to ensure the quality of the scientific work performed the internship of undergraduates in the Marburg Philipp University (Germany) in the laboratory of translational medicine, immunology and cell technologies.

3) A modern library equipped with new technologies and communication solutions.

***Recommendations for 7M10104 Medicine (clinician-scientist):***

1) The management of the EP is recommended to organize work to attract extrabudgetary sources of funding for scientific research. Deadline: from 2022.

2) The management of the EP is recommended to consider the possibility of developing joint master's programs aimed at obtaining two diplomas with universities from near and far abroad with inclusion in the development plan of the EP. Deadline: from 2022.

**Conclusions of the EEC according to the criteria:**

**According to the standard "RESEARCH ENVIRONMENT AND EDUCATIONAL RESOURCES", the educational program 7M10104 Medicine (clinician-scientist) has:**

- ✓ **strong positions - 3**
- ✓ **satisfactory positions - 25**
- ✓ **requiring improvement - 2**
- ✓ **unsatisfactory - 0**

**6.3. Standard "POLICY AND CRITERIA OF ADMISSION"**

*The medical education institution must define and implement an admissions policy, including a clearly defined regulation on the selection process for undergraduates.*

*Candidates for the master's program must have completed professional higher education programs (basic medical / pharmaceutical / chemical, higher professional (basic medical + internship) or postgraduate education (residency)*

*When selecting future undergraduates, one should evaluate the research potential of the applicant, and not just take into account his academic performance.*

*In a medical education organization, there should be a system for studying employment, demand, career support and continuous professional development of graduates.*

*The data obtained through this system should be used to further improve educational programs.*

*The medical education organization should ensure that the process of updating and restructuring the educational program of the master's program leads to the adaptation of the admission policy for undergraduates, taking into account changing expectations and circumstances, needs for human resources, changes in the postgraduate education system and the needs of the program.*

***Evidence part.***

The application for training in the magistracy is prepared on the basis of studying the needs of the university in scientific and pedagogical personnel.

Persons with a bachelor's degree are admitted to the magistracy. The organization of admission, counseling, organization of the entrance exam for applicants to the magistracy, is carried out by the selection committee. Acceptance of applications coming to the magistracy is carried out in accordance with the Model Rules.

CT is carried out in accordance with the Model Rules for Comprehensive Testing, approved by Order of the Minister of Education and Science of the Republic of Kazakhstan dated May 8, 2019 No. 190 (registered in the Register of State Registration of Regulatory Legal Acts No. 18657).

CT is carried out by the National Testing Center of the Ministry of Education and Science of the Republic of Kazakhstan at the points of CT, determined by the Ministry of Education and Science of the Republic of Kazakhstan. Persons who scored at least 75 points in the entrance exam are enrolled on a competitive basis for studying in the magistracy under the state educational order.

Acceptance of a package of documents, their registration and issuance of a receipt to the applicant on the acceptance of a package of documents in the form is regulated by the order of

the Ministry of Education and Science of the Republic of Kazakhstan dated January 28, 2015 No. 39 "On approval of the types and forms of documents on the formation of a state sample and the Rules for their issuance" (registered in the Register of State Registration normative legal acts No. 10348). After receiving the documents, the rector of the university issues an order to enroll in the number of undergraduates.

The number of undergraduates accepted is planned taking into account the area, the material and technical equipment of the rooms, the availability of faculty, the provision of educational, educational, methodological and scientific literature, the throughput of the practical bases of the university, the availability of social and living conditions for the education of undergraduates.

Table 2. Number of students in the master's program

years	2018-2019	2019-2020	2021-2022	Total
Number of applicants	28	32	25	
Number of people taking the exam	28	32	18	
Number of contestants	12	16	11	
Number of students enrolled in master's programs	12	16 (2 were expelled)	11+1 by agreement (China)	<b>38</b>

In 2020, the Ministry of Health of the Republic of Kazakhstan did not allocate places for the specialty "Medicine" due to the pandemic and an increase in grants in the specialty "Public Health", "Epidemiology". In 2021, 12 people entered. The department actively promotes Education Program abroad, as a result of which, under the World Bank project, this program was adapted for students from Afghanistan.

In 2018, 33.3% of applicants had advanced level of English among all applicants. In this connection, a group with English as the language of instruction was created. In 2019, there was 35% of undergraduate students who was fluent in English.

The Education program includes the discipline "Foreign Language", where training is provided to improve the level of the student and consolidate competencies for professional English. There are also English language courses for those who wish to attend.

Table 3. Qualitative composition of scientific supervisors

Name	Degree	Number of articles in journals included in the list of CCES MES RK for the last 5 years	Number of documents of protection (patents, certificates of intellectual property, etc.)	Number of published books, monographs, manuals	Hirsch index (citation index (with database indication))
Kapanova G.Zh.	DMS	25	8	2	1-(WOS) 2 (Scopus)
Kalmakhanov S.B.	CMS	53	10	2	1 (WOS) 2 (Scopus)
Brimzhanova M.D.	PhD	18	1	1	0 (WOS) 1 (Scopus)
Kosherbaeva L.K.	PhD	125	5	1	2- (WOS) 3(Scopus)
Baigonova K.S.	CMS	5	1	1	0- (WOS) 0-(Scopus)
Kamkhen V.B.	CMS	5	2	0	0- (WOS) 0(Scopus)
Buribaeva Zh.K.	DMS	5	2	1	0- (WOS) 0- (Scopus)
Kurmanova A.M.	DMS.	13	9	2	1- (WOS) 2- (Scopus)
Dauletbaev N.	PhD	3	2	2	16 (WOS)19(Scopus)

The amount of tuition fees is annually set by the decision of the Board of Directors of the university, while an analysis of the financial costs of training a master student is carried out, price offers from other universities are considered. The cost of training undergraduates on a contractual basis for the 2020-2021 academic year is for citizens of the Republic of Kazakhstan - 1,800,000 tenge; for foreigners - 2,804,000 tenge.

***Analytical part.***

Based on the results of the meeting with the university administration, the dean of the faculty, the head of the EP, the experts found that the dean's office of the Faculty of Medicine and Health is responsible for the policy of selection and admission of undergraduates. This structural unit is guided by internal documents that determine the procedure for admission of citizens to the magistracy of KazNU named after al-Farabi, which in turn is regulated by the Model Rules for Admission to Education in Educational Organizations Implementing Educational Programs of Higher and Postgraduate Education, approved by Order of the Minister of Education and Science of the Republic Kazakhstan dated October 31, 2018 No. 600 and registered with the Ministry of Justice of the Republic of Kazakhstan on October 31, 2018 No. 17650.

At the same time, the university management guarantees students that the EP 7M10104-Medicine (Clinician-scientist) of the scientific and pedagogical direction develops the necessary academic master's skills for each student. The expected results of the implementation of the research project, the degree of its innovativeness are specifically defined. A qualified composition of scientific supervisors is selected, the procedure for completing a dissertation is determined within a period determined by the master's program.

In exceptional cases, there are career and professional development centers that are necessary to monitor employment and track the upcoming careers of graduates, detect the presence of vacancies. 3 graduates of the master's program 7M10104-Medicine (Clinician-scientist) are employed as teachers at the departments of the Faculty of M&PH. A close relationship with practical health care has been established, which was confirmed during a meeting with employers.

During the meeting and interviews with the learning experts, it was found that, thanks to the versatility of KazNU, students can attend soft skills educational courses to develop critical thinking skills, public speaking, business communication, teamwork, digital communication, etc.

***Strengths***

- not found according to this standard.

**There are no recommendations for this standard.**

**Conclusions of the External expert commission (EEC) according to the criteria:  
According to the standard "POLICY AND CRITERIA FOR ADMISSION", the educational program 7M10104 Medicine (Clinician-scientist) has:**

**strong positions - 0**

**satisfactory positions - 6**

**requiring improvement -0**

**unsatisfactory - 0**

**6.4 Standard "MASTER'S PROGRAM"**

*Educational program model, teaching methods and structure*

*A medical education organization should define a model of an educational program that includes an integrated model based on interdisciplinary communication and a competency-based approach, using modular learning technologies, taking into account the final learning outcomes.*

*The medical education organization must determine the purpose and objectives of the master's program, which are aimed at achieving the mission of the educational organization, the mission of the educational program and the final learning outcomes.*



*The medical education organization must ensure that the content of the educational program meets the requirements of the State Educational Standards and the standard curriculum of the relevant specialty and is developed taking into account the needs of the labor market*  
*The medical education organization must ensure the implementation of the educational program with the relevant working curricula, the academic calendar, the curriculum for the disciplines, the forms of the individual curriculum for future undergraduates and the individual work plan of the undergraduate*

*The master's program must be based on the performance of original research, which requires analytical and critical thinking and must be carried out under scientific supervision. Медицинская организация образования должна гарантировать, что образовательная программа реализуется в соответствии с принципами равенства.*

*The medical education organization must ensure that the undergraduate fulfills obligations towards doctors, teachers, colleagues, patients and their relatives in accordance with the Code of Conduct / Code of Honor.*

*The master's program must ensure that undergraduates are taught the rules of ethics and the responsible conduct of scientific research.*

*The medical education organization should determine the teaching and learning methods used that are appropriate for the educational program and the achievement of students' competencies.*

*The master's program should be structured with a clear time limit equivalent to 1-2 years full-time and contain:*

- theoretical training, including the study of cycles of basic and major disciplines;*
- practical training of undergraduates - various types of practices, professional internships;*
- research work, including the implementation of a master's thesis for scientific and pedagogical magistracy;*
- experimental research work, including the implementation of a master's thesis for a specialized master's program;*
- methodological approaches and principles of education corresponding to the educational program and the achievement of students' competencies*

*The medical education organization should provide mechanisms for the implementation of pedagogical practice (in accordance with the type of master's degree) for the formation of practical skills and teaching methods in undergraduates.*

*The medical education organization should provide mechanisms for the implementation of research practice to form undergraduates' knowledge, skills, competencies in the field of the latest theoretical, methodological and technological achievements of domestic and foreign science, modern methods of scientific research, processing and interpretation of experimental data.*

*The medical education organization should provide mechanisms for the implementation of work practice for the formation of practical skills, competencies and experience of professional activity in the specialty being taught, as well as the development of best practices among undergraduates on the basis of theoretical knowledge*

*The medical education organization must ensure that future undergraduates will have the opportunity to study under the academic mobility program, have mechanisms / procedures for accepting students from other universities, recognizing loans mastered under the academic mobility program*

*In a medical education institution, an appeal mechanism should be developed to allow undergraduates to review the decision regarding their programs and the evaluation of their dissertations.*

*Evaluation of the master's program*

*A medical education organization should have a program for monitoring processes and results, including the routine collection of data on key aspects of the educational program. The purpose of monitoring is to ensure the quality of the educational process, identify areas that require intervention.*

*The medical education organization should, on the basis of approved mechanisms, regularly assess the quality of the program, including feedback from supervisors, employers and undergraduates.*

*Based on the approved mechanisms, the medical education organization should systematically collect, analyze and provide feedback to teachers and undergraduates, which includes information about the process and products of the educational program, including information about unfair practices or inappropriate behavior of teachers or undergraduates.*

*The medical education organization should ensure that the process of updating and restructuring is carried out regularly and is aimed at:*

- adaptation of the model of the educational program and methodological approaches in training in order to ensure that they are appropriate and appropriate;*
- adjustment of the elements of the program and their relationship in accordance with advances in the medical sciences, with changes in the demographic situation and the state of health / structure of the incidence of the population and socio-economic, cultural conditions.*

*Stakeholder Engagement*

*The medical education organization should, in its monitoring program and activities for the evaluation of the educational program, involve the teaching staff and undergraduates, its administration and management.*

*The medical education organization should involve other stakeholders in the evaluation process, including representatives of academic and administrative staff, representatives of the public, authorized bodies for education and health, professional organizations, and also develop mechanisms to encourage the participation of external experts in the evaluation of the educational program.*

*The medical education organization should provide access to the results of the evaluation of the educational program to all interested parties.*

*The medical education organization should ensure that the process of updating and restructuring leads to an improvement in the process of monitoring and evaluation of the program in accordance with changes in the learning outcomes and teaching and learning methods.*

### **Evidence part.**

EP 7M10104 - medicine (Clinician-scientist) is designed for 2 years of study, is implemented in the Kazakh, Russian and English languages with the award, upon completion of the training program, of the academic degree Master of Medical Sciences. The EP consists of a cycle of basic and major disciplines. Each cycle has a university component and an elective component. The labor intensity of the hours is clearly limited to 60 credits per year. The volume of basic disciplines is 41.6% (35 credits) of the total volume of disciplines of the standard curriculum, of which 57.1% (20 credits) are allocated to the disciplines of the compulsory component and 42.9% (15 credits) - to the disciplines of the component of choice. The volume of the major disciplines cycle is 58.4% of the total volume of disciplines of the standard curriculum.

The EP was developed in accordance with the State Educational Standard of the Republic of Kazakhstan, approved by the Order of the Minister of Health of the Republic of Kazakhstan

dated February 21, 2020 No. 647 "On approval of state mandatory standards and standard professional training programs for medical and pharmaceutical specialties."

The implementation of the Master's educational program is carried out in accordance with the National Qualifications Framework, professional standards, Dublin descriptors and the European Qualifications Framework, the Model Classifier of postgraduate education specialties based on the standard (basic) curricula of postgraduate education specialties and approved by the rector of the university.

The program provides training in 2 areas: «Clinician-scientist as the basis of medicine of the future" and "Specialist in modern research technologies in medicine." The program is designed for a wide range of medical professionals, so that, having mastered such disciplines as “omics technologies”, “basics of translational and personalized medicine”, “molecular and cell technologies in medicine”, doctors of various specialties can apply the knowledge gained for the diagnosis and personalized treatment of patients with various pathologies.

The educational process consists of practical (laboratory) classes, independent work of undergraduates, internships, internships in a foreign organization to master and consolidate skills in translational and systemic medicine. The principle of equality in the implementation of the EP is provided for, regardless of gender, nationality, religion, socio-economic status and physical capabilities of students.

Research practice includes the performance of scientific research work. The results of the research work of the undergraduate are published in scientific journals, in collections of scientific conferences.

Evaluation of educational achievements of students, within the framework of intermediate certification, is carried out using various forms of control and certification, determined by the Model Rules for conducting ongoing monitoring of progress, intermediate and final certification of students in higher educational institutions.

During the visit, the members of the External Expert Commission (EEC) attended the lesson “Fundamentals of Precision and Translational Medicine”.

Topics and supervisors of dissertation research undergraduates and undergraduates are considered by the Academic Council of the faculty and the university and are approved by order of the rector during the first two months of study. The graduating department determines the general list of topics for dissertation research, updating it annually. Ethical examination of research works is carried out in accordance with Article 180 of the Code of the Republic of Kazakhstan "On the health of the people and the healthcare system".

EP, master's theses are reviewed by third parties for evaluation and further improvement. For example, external reviewers suggested:

- to study part of the disciplines at clinical sites with the involvement of representatives of practical healthcare in lecturing, special courses.
- to increase the duration of internships in medical organizations of practical healthcare.

The principle of an independent objective assessment is used by involving representatives of other universities, practical health care as chairmen, members and examiners of the state attestation commission for the final attestation of graduates. For example, as the chairman of the state attestation commission, MD, deputy director of the National Scientific Center Of Phthisio-pulmonology of the Ministry of Health of the Republic of Kazakhstan Yeraliyeva L.T., who has extensive practical experience and speaks English, was involved.

According to the Academic Policy of the University, an appeal mechanism has been developed that allows for the review of a decision regarding the assessment of educational achievements of undergraduates.

Satisfaction with the quality of educational programs, disciplines, courses is assessed by surveying and questioning all consumers and stakeholders. The survey is conducted by the Center for Sociological Research of the University in an interactive mode and in an online format. The results of the survey are regularly discussed at a meeting of the administration and the Academic Council of the university, at meetings of the dean's office and departments. Based



on the analysis, appropriate decisions are made to ensure the quality of educational programs and educational activities. Undergraduates may propose changes to the curriculum under objective circumstances. For example, in connection with the start of the Covid-19 pandemic, it was decided to transfer training to an online format. However, according to the results of the survey, it turned out that not everyone has computers for each student, which was the reason for the absence of classes by some undergraduates. At the same time, it was needed to change the schedule, as well as make adjustments to the curricula.

***Analytical part.***

The Faculty of M&PH is responsible for the compliance of the educational process with the state compulsory standard of postgraduate education and the qualification requirements for licensing educational activities.

During a meeting with the head of EP 7M10104-Medicine (Clinician-scientist), studying the curriculum of the program, EEC experts noted that this program is unique in the domestic educational market for the training of research specialists in clinical practice. The EP was based on aspects of the author's course on translational medicine by a visiting professor at McGill University (Canada), who was a member of the program development team. OP 7M10104 Medicine (researcher doctor) has a copyright certificate for the program, a trademark-logo is patented to promote the educational program to international educational markets.

During the meeting of experts with teaching staff implementing the EP, students, attending practical and seminar classes, it was established that innovative teaching methods of a practice-oriented nature are used in the educational process: video lectures, guest lectures by practical healthcare specialists, case-study, problem-oriented learning, etc.

The experts were provided with individual work plans of the undergraduate, which twice every six months provide for the hearing and approval of the reports of undergraduates at meetings of the inter-departmental council. The independent work of the undergraduate is approved.

The choice of the topic of scientific work takes into account the scientific interests of the undergraduate within the framework of the directions of scientific research of the department. Original research has been done in pediatrics:

*in Nephrology*

Determination of a specific biomarker as a predictor of early IgA nephropathy;

*in Child Psychiatry*

Receptive speech disorders in the structure of specific speech disorders in preschool children in the Republic of Kazakhstan;

The role of MRI in the diagnosis of diseases leading to epilepsy;

The use of high-frequency oscillatory ventilation in combination with milrinol in the complex treatment of pulmonary hypertension in children with CHD.

*in the field of rehabilitation:*

Monitoring and rehabilitation of stoma patients in Almaty;

Optimization of early rehabilitation of patients operated on for peptic ulcer of the stomach and duodenum;

Early medical rehabilitation of patients with ischemic stroke;

*in Phthisiology:*

Application of MESH titanium mesh intervertebral graft for spinal tuberculosis;

The use of an individual and short-term treatment regimen for resistant forms of peripheral lymph node tuberculosis;

*Oncology:*

Possibility of using sodium deoxyribonucleate to reduce the risk of early postoperative complications in patients with gastric and colon cancer.

*in Endocrinology:*

The relationship of indicators of antibodies to the thyroid gland with indicators of anemia;

Features of the clinic and selection of therapy in senile patients with newly diagnosed type 2 diabetes mellitus.

In the course of familiarization with the documents, it was established that all conditions were created for students to master the elements of the EP: pedagogical practice is carried out according to the calendar plan and provides for classes at the undergraduate level. At the end of the practice, a practice diary is filled out and a report is submitted.

During the interview, undergraduates note the timely and effective communication with the teaching staff, supervisors. These statements are confirmed by the results of the survey: about 90% of students are satisfied with the availability of university management and academic counseling. Undergraduates are involved in the process of assessing the EP by providing feedback at the end of the course of study or mastering a particular discipline, based on the results of the survey.

At the same time, the work to involve representatives of professional associations of practical healthcare doctors in assessing the quality of the EP is not sufficiently developed.

***Strengths / best practice in EP 7M10104 Medicine (Clinician-scientist):***

The educational program 7M10104-Medicine (doctor-researcher) is the only one in the Kazakhstani educational market that prepares for specialization related to research in clinical practice. A visiting professor from McGill University (Canada) took part as developers of the program.

***Recommendations for 7M10104 Medicine (Clinician-scientist):***

The management of the EP is recommended to organize work to involve representatives of professional associations of practical health doctors in the assessment of the EP, including them in the Council of Employers. Deadline: from 2022-2023 academic year.

***Conclusions of the External expert commission (EEC) according to the criteria:***

***According to the standard "MASTER'S PROGRAM", the educational program 7M10104 Medicine (Physician-Research) has:***

***strong positions - 1***

***satisfactory positions - 22***

***requiring improvement - 1***

***unsatisfactory - 0***

***6.5. Standard "SCIENTIFIC SUPERVISION"***

*The medical education organization must assign each undergraduate a supervisor, and, in appropriate cases, a co-supervisor in order to cover all aspects of the program.*

*A medical education organization should have mechanisms/procedures that regulate the process of discussing and approving the candidacy of a supervisor and a research topic for a master student in accordance with the standard requirements and SCES.*

*The medical education organization must ensure that the candidates for supervisors will be selected from specialists who have a scientific degree and are actively engaged in scientific research in the field of science in the specialty of undergraduate education.*

*The medical education organization should have clearly defined duties and responsibilities of the supervisor.*

*Academic supervisors should consult regularly with their undergraduates.*

*A graduate student must study on the basis of an approved individual work plan, which is compiled under the guidance of a supervisor, which should be reflected in the approved reports heard at the meeting of the department (departments) for each half year.*

***Evidence part.***

According to the “Guidelines for writing a dissertation/project” developed at the university, to work on a master’s thesis, each undergraduate is assigned a supervisor from among the teachers of the faculty of M&PH who have the right to supervise master’s theses: the degree of doctor or candidate of science, PhD, conducting independent research in the area of the proposed work of the undergraduate. The decision to award the right to supervise master's theses is decided at a meeting of the department and approved by the Academic Council of the Faculty of Medicine and Public Health.

The decision to change the supervisor can be made by the Academic Council of the Faculty of Medicine and Public Health no later than November 1 of the second year of study. If necessary, in addition to the supervisor, the Academic Council may appoint consultants from among the leading teachers of the Faculty of Medicine and Public Health, scientists from near and far abroad.

Responsibility for organizing the work of the interdepartmental commission for the faculty lies with the Deputy Director of the Higher School of Health for Research and Innovation and International Relations.

The qualification characteristics of scientific supervisors of undergraduates of EP 7M10104 Medicine (Clinician-scientist) are presented: supervisors have a scientific degree, professional qualifications and experience, scientific publications in journals recommended by the CCES MES RK and in international peer-reviewed publications, have monographs and textbooks, participate in grant scientific research.

For example, according to the results of the 2020-2021 academic year, the department of the Higher School of Public Health took first place in the University for the Implementation of the indicative plan for publishing activity in peer-reviewed journals. In general, every year teachers of the department publish 15-20 articles in peer-reviewed journals with a rating of Q3-Q1. Head of the department Kapanova G.Zh. has 170 scientific publications, 20 of them in foreign journals; 5 copyright certificates, participates in a scientific project within the framework of grant funding of the Ministry of Education and Science of the Republic of Kazakhstan. An employee of the department Dauletbaev N. has 250 publications in foreign journals, 5 copyright certificates, participates in a scientific grant project.

***Analytical part.***

During the meetings and interviews, the experts were convinced that the supervisors of undergraduates assist in formulating the dissertation topic and developing a work plan participate in the presentation of the dissertation topic at a meeting of the interdepartmental commission consult on work issues assist in developing a theoretical and methodological research framework etc.

Scientific supervisors of undergraduates carry out systematic monitoring of the progress of work on the thesis, discuss the intermediate results of the work and help in the preparation of reports of research practice.

Provided effective feedback and communication between the supervisor and the undergraduate, systematic reporting of undergraduates to the supervisor on the work done in accordance with the approved individual training plan.

***Strengths***

***- not identified by this standard***

***There are no recommendations for this standard.***

**Conclusions of the External expert commission (EEC) according to the criteria:**

**According to the "SCIENTIFIC GUIDE" standard, the educational program 7M10104 Medicine (Clinician-scientist) has:**

**strong positions - 0**

**satisfactory positions - 6**

**requiring improvement - 0**

**unsatisfactory - 0**

### 6.6. Standard «Dissertation»

*The topic of the dissertation and the supervisor of the undergraduate must be approved after admission to the master's program.*

*The topic of the dissertation work must be evaluated and approved by a group of independent experts (examiners) by external evaluation of the written description or based on the presentation of the research work.*

*The master's program should end with the preparation and defense of a master's thesis, which is an indicator of the formation of competencies in a master's student in accordance with the educational program.*

*Research work in the scientific and pedagogical magistracy should:*

- correspond to the main problems of the specialty in which the master's thesis is defended;
- be relevant, contain scientific novelty and practical significance;
- be based on modern theoretical, methodological and technological achievements of science and practice;
- be carried out using modern methods of scientific research;
- contain research (methodological, practical) sections on the main protected provisions;
- be based on international best practices in the relevant field of knowledge.

*Experimental research work in a specialized master's program should:*

- correspond to the main problems of the specialty in which the master's thesis is defended;
- be based on modern achievements in science, technology and production and contain specific practical recommendations, independent solutions to management problems;

*- be carried out using advanced information technologies;*

*- contain experimental and research (methodological, practical) sections on the main protected provisions*

*The medical education organization should determine the term for preparing the dissertation, limited to 1-2 years.*

*The dissertation must be written by the undergraduate independently, contain a set of scientific results and provisions put forward by the author for public defense.*

*The structure of the dissertation should include a literature review related to the research topic, goals and objectives of the research work, research methodology, results, discussion, conclusion, conclusions and further prospects for the research.*

*The results of the dissertation work should be available to interested parties (undergraduates, supervisors, employees of the organization where the dissertation was carried out, researchers performing scientific work in a similar direction, and other categories of interested parties), i.e. published unless copyright or other reasons prevent it.*

*The dissertation work must be accompanied by at least one publication and/or one presentation at a scientific and practical conference.*

*The medical education organization should provide a discussion of the dissertation of the undergraduate at a meeting of the department (departments) where the dissertation was carried out.*

#### **Evidence part.**

The final results of the undergraduate training in EP 7M10104-Medicine (Clinician-scientist) meet the requirements of the State Educational Standards (Order No. 647 as revised in 2020).

According to the "Guidelines for writing a dissertation/project" developed at the university, the topic of the upcoming master's thesis is determined no later than two months after admission to the master's program with the justification and structure, implementation plan, scientific publications, internships and are reflected in the individual work plan of the undergraduate.

The decision on the choice of the topic of the dissertation work is made at a meeting of the department and approved by the Academic Council of the Faculty of M&PH. The approved topics of master's theses for the period 2018-2021 are presented.

The final stage in the preparation of a master's student is the defense of a master's thesis, which is an indicator of the graduate's maturity as a researcher who is able to creatively formulate and solve scientific problems, contribute with his own original research to expanding the boundaries in the relevant field of science, and contribute to the development of a knowledge-based society.

The graduate student submits a dissertation work, drawn up in accordance with the established requirements, at the cathedral meeting a month before the defense. Leading experts in this field hear and discuss, evaluate the quality of the work performed and recommend for defense. The master's thesis is reviewed by scientists engaged in similar research, which reflects the relevance of the chosen topic, scientific results, assesses the degree of novelty and practical significance of the work.

Reviews of master's dissertations of scientists from KazNMU named after. S.D. Asfendiyarov, Akhmet Yassawi University, KazMUNO, Institute of Neurology and Neurorehabilitation named after. S. Kaishibaeva, etc.

The procedure for defending master's theses is determined by the regulatory documents of the Ministry of Education and Science of the Republic of Kazakhstan and the "Regulations on the final certification in the magistracy and doctoral studies" of the university. Defended master's



theses are transferred for storage to the archive of the university in accordance with the established procedure. For the period 2018-2021, 26 master's theses were defended.

Most master students, as part of their dissertation work, are published in journals included in the list approved by the CCES MES RK.

Some clinical sites are ready to implement methods developed based on the results of defended dissertations that improve the quality of diagnosis and treatment. For example, according to the results of a study by undergraduate Demeubayeva D. in Children's City Clinical Hospital No. 2, it was decided to conduct a study of children for early detection of IgA nephropathy using omics technologies. The undergraduate and supervisor initiated a corresponding letter and concluded an agreement with KDL "Olimp" for such research.

***Analytical part.***

The requirements for the level of training of a master student are determined on the basis of the Dublin descriptors of the third level of higher education (master's degree) and reflect the acquired competencies, expressed in the achieved learning outcomes. The areas of professional competence for the master's program are developed taking into account the requirements of employers and the social needs of society.

The experts found that the implementation of EP 7M10104-Medicine (**Clinician-scientist**) strictly complies with the requirements for all stages of preparation and writing a dissertation, which is the basis for awarding a graduate an academic master's degree in the relevant specialty.

The areas of dissertation research are related to national priorities, state programs, programs of fundamental and applied research.

At the same time, there is insufficient funding for scientific laboratories to carry out scientific research undergraduates, funds are allocated to support scientific internships in foreign universities.

In the master's dissertations presented to the experts for review, the structure and content correspond to the requirements of the working instruction "Guidelines for writing a dissertation / project" developed at the university.

***Strengths***

***- not identified by this standard***

**Recommendations for 7M10104 Medicine (Clinician-scientist):**

The management of the EP is recommended to equip scientific laboratories and bases with modern equipment and information technologies to ensure the quality of experimental research work of undergraduates. Deadline: from 2022-2023 academic year.

**Conclusions of the External expert commission (EEC) according to the criteria:**

**According to the «Dissertation» standard, the educational program 7M10104 Medicine (Clinician-scientist) has:**

**strong positions - 0**

**satisfactory positions - 10**

**requiring improvement -1**

**unsatisfactory - 0**

### 6.7. Standard "ASSESSMENT OF DISSERTATIONS"

*The medical education organization must determine, approve and publish the principles, methods and practices used to evaluate undergraduates, including the criteria for evaluating scientific work.*

*The final assessment and approval of the dissertation work should be carried out by the State Attestation Commission (SAC) for the defense of master's theses.*

*The dissertation defense should be carried out in a medical education institution where a master student is studying.*

*The dissertation must be peer-reviewed (externally) in a medical education organization similar in profile by a person with a PhD in the profile of the thesis being defended.*

*The dissertation defense should include both the preparation of a written version of the report and the subsequent oral defense.*

*The dissertation defense must be open to the public.*

*The academic master's degree should be awarded by a medical education institution based on the decision of the SAC, which evaluates the dissertation (the "Dissertation" standard) and oral defense.*

#### ***Evidence part.***

The university has developed a working instruction "Guidelines for writing a dissertation/project". According to this document, master's theses are subject to mandatory review. Reviewers are appointed after the presentation of reports on research practice from among external scientists and are approved by the Academic Council of the faculty. If necessary, experts from other organizations are involved in the review.

The reviewer is appointed a person who has an academic degree in a given or related specialty, or an experienced specialist (with at least 5 years of work experience in the specialty) currently working in an organization of the corresponding profile. The requirements for the reviewer's review have been developed, which should include the relevance of the work, the analysis of the undergraduate's ability to use the methods of scientific research, the degree of validity of the conclusions and recommendations of the undergraduate, the analysis of the reliability of the results obtained by the master, the novelty and practical significance of the work, and the identified shortcomings of the dissertation. The review must be signed and certified by the signature of the head of the office or personnel department and the seal of the relevant organization where the reviewer works. As reviewers for master's theses were scientists of KazNMU named after S.D. Asfendiyarov, Akhmet Yassawi University, KazMUNO, Institute of Neurology and Neurorehabilitation named after S. Kaishibaeva, etc.

A written review of an officially approved reviewer is submitted to the technical secretary of the SAC no later than 3 days before the appointed date of public defense.

The procedure for the public defense of the dissertation includes a multimedia presentation of the main results of the work carried out with a duration of no more than 10 minutes, a report by the undergraduate on the content of the work, and answers to questions from the SAC members.

At a closed meeting of the SAC members, the results of the defense are summed up by open voting and a decision on the assessment is made. The decision is made by a simple majority vote of the commission members participating in the meeting. In case of an equal number of votes, the chairman's voice is decisive.

Of the students who entered the master's program and completed all the requirements for the educational process and research work, all undergraduates successfully defended their dissertations within the required time frame. There were no cases of dissertation rejection.

#### ***Analytical part.***

The university management has defined, approved and published the principles, methods and practice of assessing undergraduates to evaluate their scientific work. The requirements for the defense of the master's thesis were met: the presence of a dissertation drawn up according to the requirements, a positive review by the supervisor, at least one publication on the topic of the dissertation, the decision of the interdepartmental commission on the recommendation for defense, checking the dissertation for anti-plagiarism (at least 80% of the original text), reviews official reviewer.

The requirements for mandatory review of a master's thesis, the requirements for the qualification of a reviewer are observed.



The dissertation defense procedure is public, open to all interested parties, includes the preparation of a presentation, report and subsequent oral defense.

The final assessment and approval of the dissertation work is carried out by the SAC for the defense of master's theses.

**Strengths**

**- not identified by this standard**

**There are no recommendations for this standard.**

**Conclusions of the External expert commission (EEC) according to the criteria:  
According to the standard "ASSESSMENT OF DISSERTATION WORKS", the educational program 7M10104 Medicine (Clinician-scientist) has:**

**strong positions - 0**

**satisfactory positions - 7**

**requiring improvement -0**

**unsatisfactory - 0**

**6.8. Standard "MANAGEMENT AND ADMINISTRATION"**

*Program Management*

*The management of a medical education organization must be effective and ensure the improvement of the educational program.*

*The medical education organization must determine the structural unit responsible for the implementation of educational programs of postgraduate education and the achievement of the final learning outcomes.*

*The structural unit responsible for the implementation of educational programs of postgraduate education should have the authority to plan and implement the educational program, including the allocation of allocated resources for the planning and implementation of teaching and learning methods, assessment of undergraduates, assessment of the educational program and courses of study.*

*The medical education organization must guarantee the interaction of undergraduates with management on the design, management and evaluation of master's programs.*

*The medical education organization should encourage and facilitate the involvement of undergraduates in the process of developing educational programs for the preparation of undergraduates.*

*The structural unit responsible for the implementation of educational programs of postgraduate education must ensure the transparency of the management system and decisions that are published in bulletins, posted on the website of the university, included in the protocols for review and execution.*

*The medical education organization should, through the structural unit responsible for the implementation of educational programs of postgraduate education, plan and implement innovations in the educational program.*

*The medical education organization should include representatives from other relevant stakeholders in the advisory body responsible for the implementation of educational programs of postgraduate education, including other participants in the educational process, representatives from clinical and industrial bases, graduates of medical education organizations, healthcare / pharmacy specialists involved in the process-teaching or other teachers of the faculties of the university.*

*The medical education organization should ensure that the structural unit responsible for the implementation of educational programs of postgraduate education:*

*- takes into account the peculiarities of the conditions in which graduates will have to work and, accordingly, modify the educational program;*

*- considers the modification of the educational program based on feedback from the public and society as a whole.*

*The medical education organization should ensure that the process of renewal and restructuring leads to the improvement of the organizational structure and principles of management of the master's program to ensure effective operation and (in the long term) to meet the interests of various stakeholder groups in the face of changing circumstances and needs.*

*Academic Leadership*

*The medical education organization must clearly define the responsibility of the academic leadership in relation to the development and management of the educational program.*

*A medical education organization should periodically evaluate academic leadership regarding the achievement of its mission and learning outcomes.*

*Training budget and resource allocation*

*The medical education organization must:*

*- have a clear terms of reference and authority to provide the educational program with resources, including the target budget for education;*

*- allocate the resources necessary for the implementation of the educational program, and distribute educational resources in accordance with their needs.*

*The system of financing a medical educational organization should be based on the principles of efficiency, effectiveness, priority, transparency, responsibility, differentiation and independence of all levels of budgets.*

*Financial and administrative policies should be aimed at improving the quality of the educational program.*

*Administrative staff and management*

*A medical education organization must have an appropriate administrative and academic staff, including their number and composition in accordance with qualifications, in order to:*

*- ensure the implementation of the educational program and relevant activities;*

*- ensure proper management and allocation of resources.*

*The medical education organization should develop and implement an internal management quality assurance program, including consideration of needs for improvement, and conduct regular management review and analysis.*

*The medical education organization must ensure the implementation of the master's program in accordance with the quality management system certified by independent organizations.*

*Engagement with the public health sector*

*The medical education organization should have a constructive interaction with the health sector, with related sectors of health, society and government, including the exchange of information, cooperation and initiatives of the organization, which contributes to the provision of qualified specialists in accordance with the needs of society.*

*The medical education organization must provide an operational link between the educational program and the subsequent stages of professional training.*

*The medical education organization should be given official status of cooperation with partners in the health sector, which includes the conclusion of official agreements defining the content and forms of cooperation and / or the conclusion of a joint contract and the creation of a coordinating committee, and holding joint events.*

### **Evidence part.**

The highest forms of collegiate management of the university are the Scientific Council, the Supervisory Council, the Academic (Scientific and Methodological) Council, the Student Senate and the Council of Elders. Direct management of the university activities is carried out by the rector and supervising vice-rectors: the first vice-rector, vice-rector for scientific and innovative activities, vice-rector for academic affairs, vice-rector for the integration of science and education, vice-rector for social development, vice-rector for administrative and economic work, vice-rector for commercialization.

The main structural subdivisions involved in the implementation of the EP 7M10104 Medicine (Clinician-scientist) are the dean's office of the Faculty of M&PH, the Higher School of Public Health, specialized departments.

The tasks of the dean's office are to carry out organizational, coordinating and administrative work aimed at achieving the goals and objectives. The direct structure responsible for the implementation of the EP is the Higher School of Health. The general management of the implementation of the EP is carried out by the director of the Higher School of Public Health.

The structure of the Higher School of Public Health includes the departments of epidemiology, biostatistics and evidence-based medicine, health policy and organization, and the department of physical education and sports. The tasks of the departments are the implementation of educational, methodological, educational and research work, the constant improvement of the quality of educational services provided.

The collegial governing body that considers the issues of improving the EP is the Scientific Council of the faculty.

The dean's office of the Faculty of M&PH is responsible for the implementation of the EP within the framework of the strategic plan of the university, expanding the list of specialties of the postgraduate level of medical education, improving the legal framework for master's educational programs, the formation of the EP, the catalog of elective disciplines, the development (revision) and approval of the EP in the areas of training.

The Higher School of Public Health develops a plan and enrollment of students in the master's program, develops forms of documents for the educational process, organizes scientific internships for undergraduates, research, teaching and industrial practice, implements academic mobility issues, evaluates, controls and monitors the educational achievements of students, organization.

The director of the Higher School of Public Health, through meetings with teaching staff, students, holding joint meetings, meetings, based on the results of the survey, maintains regular feedback on the formation of the IEP of undergraduates, planning scientific internships, academic mobility, management and evaluation of master's programs.

To ensure the openness of discussion of problems on the educational process of undergraduates, the solution of other issues on the website of the university <https://www.kaznu.kz/ru/20590/page/> there is a rector's blog. Once a year, a meeting of the rector with a contingent of students on the implementation of university and postgraduate education programs is held. The university website contains contact information for the staff of the dean's office of the faculty of M&PH <https://www.kaznu.kz/ru/18610/page/>.

Undergraduates are involved in the development of the EP by participating in the discussion of the EP at the meetings of the department, expressing their opinions and wishes at the end of the course or mastering a particular discipline by questioning. The opinions and proposals of undergraduates on the organization of the educational process (class schedule, etc.), on the list of elective disciplines, the library fund and other issues are taken into account.

The teaching staff, employees, students, representatives of practical healthcare, employers are included in the advisory body - the Council of Employers. Reviews of employers are taken into account when making changes to the master's program.

Mechanisms and criteria for a systematic assessment of the effectiveness of the quality of teaching have been developed: medical advisory commission at the departments, open classes, mutual visits to classes, student surveys, etc. with subsequent discussion at the meetings of the departments.

There is a systematic approach to quality assurance and university resource management based on the requirements of the ISO 9000 series standards and the principles of the process approach.

Automation of management of the main processes of the university (educational, administrative, organizational, accounting and analytical), the introduction of new educational information technologies in the management process is implemented through the information and software complex UNIVER Univer.kaznu.kz.

The financial management policy of the EP is carried out through the relevant structural divisions of the University: The Department of Economics and Finance, the Department of Administrative Work and Financial Support. The acquisition of goods, works and services is carried out in accordance with the Law of the Republic of Kazakhstan "On Public Procurement". The tangible assets of the university are formed in accordance with public procurement plans approved by the rector on the basis of estimated appointments.

At the expense of non-budgetary funds of the university, a system of additional payments to wages for publication activity, achievements in educational and scientific activities has been introduced, funds are allocated for foreign internships for undergraduates. So, in 2019, at the expense of extrabudgetary funds, 10 undergraduates completed an internship at the laboratory of translational medicine in Germany.

To ensure the quality of the educational process and the implementation of the master's degree program 7M10104 Medicine (Clinician-scientist) has a sufficient staff of teachers with appropriate qualifications.

There is close cooperation with health authorities. Agreements were signed with clinical bases for practice and research, for recruitment of material, for the implementation of joint projects. Professional personnel are attracted from practical healthcare to guide and solve practical problems in dissertations. The partnership with the health sector is implemented through the Council of Employers, who make their proposals to improve the content of the program, taking into account market needs.

### ***Analytical part.***

KazNU named after Al-Farabi is a systematically and consistently developing university in accordance with the organizational structure, strategic plan and documented procedures.

Collegial governing bodies function at the university, interested persons are involved in the discussion of strategic directions. The powers of the structural units responsible for the planning and implementation of educational programs of postgraduate education, the introduction of teaching and learning methods, the assessment of undergraduates, the assessment of the educational program and courses of study are clearly indicated.

Based on the results of the meetings, the experts note the good interaction of undergraduates with the management of the EP on the design, management and evaluation of master's programs, the involvement of undergraduates in the process of developing educational programs.

The transparency of the management system and decisions made is ensured through the placement of information on the university website, in the protocols of decisions, through the information and software complex UNIVER.

Based on the results of the meeting with the employers, the experts were convinced of the rather effective interaction between the university and the sector of practical healthcare. Representatives of employers are included in the Council of Employers, make their proposals for improving the content of the program, taking into account the needs of the healthcare system.

During the meeting with the university management, the experts received information about the financial condition of the University, its stability over the years. Financial stability is confirmed by the growth in the volume of financial resources coming from various sources, the availability of sufficient assets, as well as their use on the principles of efficiency, effectiveness, priority, transparency and responsibility.

The financial stability of the university is determined by the fact that the budget of the university is formed from several sources: the republican budget (state order for the training of university and postgraduate education, advanced training of medical workers, the development of scientific research, transfers), the local budget, the provision of paid educational and other services.

The remuneration of teaching staff is aimed at improving the quality of educational services, material incentives are regulated taking into account the achievement of key performance indicators of teaching staff, the development of creative activity, and stimulation of their professional growth.

***Strengths***

***- not identified by this standard***

***There are no recommendations for this standard.***

**Conclusions of the External expert commission (EEC) according to the criteria:**

**According to the standard "MANAGEMENT AND ADMINISTRATION", the educational program 7M10104 Medicine (Clinician-scientist) has:**

**strong positions - 0**

**satisfactory positions - 21**

**requiring improvement -0**

**unsatisfactory – 0**

**6.9. Standard «CONTINUOUS IMPROVEMENT»**

*The medical organization of education should, as a dynamic and socially responsible institution: initiate procedures for regular review and revision of content, results/competences, assessment and learning environment, structure and functions, document and eliminate deficiencies;*

*allocate resources for continuous improvement.*

*The medical education organization should:*

*base the update process on forward-looking research and analysis and on the results of their own research, evaluation and literature on postgraduate medical education;*

*ensure that the process of renewal and restructuring leads to a revision of its policies and practices in line with previous experience, current activities and prospects.*

*Medical education organization in the process of updating / continuous improvement should pay attention to:*

*adaptation of the mission and end results of postgraduate medical education to the scientific, socio-economic and cultural development of society for the future;*

*modification of the intended outcomes of postgraduate education in the chosen field of health in accordance with the documented needs of the environment. Changes may include adjusting the structure and content of the educational program, the principles of active learning. The adjustment will ensure, along with the exclusion of obsolete ones, the assimilation of new relevant knowledge, concepts, methods and concepts based on new achievements in the basic biomedical, clinical, behavioral and social sciences, taking into account changes in the demographic situation and the structure of the population in public health issues, as well as changes in socio-economic and cultural conditions;*

*development of assessment principles, methods of conducting and the number of examinations in accordance with changes in learning outcomes and teaching and learning methods;*

*adapting the recruitment and selection policy for master's students, taking into account changing expectations and circumstances, staffing needs, changes in the postgraduate education system and the needs of the educational program;*

*adapting the recruitment policy and the formation of the academic staff in accordance with changing needs;*

*improvement of the process of monitoring and evaluation of the educational program.*

*Improving the organizational structure and management principles to ensure effective operation in the face of changing circumstances and needs, and, in the long term, to meet the interests of various stakeholder groups.*



***Evidence part.***

The leadership of Al-Farabi KazNU, on a systematic basis, is taking a number of measures to revise the internal procedures, the structure of the university to analyze the level of achievement of the mission, goals and indicators of the development of the university.

The input data for the analysis are the results of monitoring the implementation of the activities of the University Development Strategy, internal audit of the structural divisions of the university, the report of external and internal commissions, and the implementation of the plan for the development of educational programs. The results of the analysis are heard at a meeting of collegial governing bodies and serve as the basis for determining measures to update and improve the quality of processes at the university.

The mission and goals of EP 7M10104 Medicine (Clinician-scientist) are updated in accordance with the strategic directions of the university; the final results of training are constantly being adapted according to the trends in the development of medical education and practical healthcare both at the republican and international levels. This is achieved through regular analysis of the internal and external environment of the university, support for feedback from stakeholders, and involvement of international experts.

On a regular basis, educational programs are updated taking into account the development of biomedical, behavioral, social and clinical sciences, as well as the needs of the healthcare system and society. The process of constant updating of the EP is based on a constant and thorough study of models, development trends and innovations in medical education in different countries and is aimed at increasing the degree of adaptation of the university to the requirements of the modern labor market and to the needs of the employer.

Monitoring and reviewing educational offers at the university is an ongoing process necessary to quickly respond to market requirements, achieve the final learning outcomes, the process of constant updating and improvement implies readiness and increasing the degree of adaptation of the university to the requirements of the modern labor market and to the needs of the employer. When making changes to educational programs to improve the quality of training, employers' proposals are also taken into account.

***Analytical part.***

In order to constantly improve the educational resources of the accredited specialty, in accordance with the changing needs of the healthcare system, it is planned to further develop international cooperation and partnerships with foreign universities and centers; development of joint educational programs with foreign partner universities; attraction of foreign specialists of the university under the program of visiting professors.

At the same time, EEC experts note that in the presence of a multidisciplinary university, interdisciplinary relations are not sufficiently developed to develop an educational program and improve the quality of research projects.

The University and the management of the M&PH faculty improve the mechanisms for continuous improvement of the educational programs being implemented and ensure the quality of the program management process. Educational programs are regularly studied and evaluated through feedback from teaching staff and undergraduates, stakeholders, including employers, as well as on the results of the analysis of students' educational achievements.

The management structure of EP 7M10104 Medicine (Clinician-scientist) involves all stakeholders, including the healthcare sector, in continuous improvement, maintains institutional efficiency and integrity to ensure effective operation in the face of changing circumstances and the needs of the university.

***Strengths***

*- not identified by this standard*

**Recommendations for 7M10104 Medicine (Clinician-scientist):**

The management of the EP is recommended, using the capabilities of a multidisciplinary university, to develop topics for master's theses on interdisciplinary scientific projects. Deadline: from 2022-2023 of the year.

**Conclusions of the External expert commission (EEC) according to the criteria:  
According to the standard "MANAGEMENT AND ADMINISTRATION", the educational program 7M10104 Medicine (Clinician-scientist) has:**

**strong positions - 0**

**satisfactory positions - 10**

**requiring improvement - 1**

**unsatisfactory - 0**





**(VII) OVERVIEW OF STRENGTHS/BEST PRACTICE FOR EACH STANDARD**

**According to the standard "Mission and Outcomes"**

- not identified by this standard

**According to the standard "Research environment and educational resources"**

The quality of the research environment in the specialty is realized by attracting qualified and competent teachers and researchers. EP 7M10104 Medicine (Clinician-scientist) has a copyright certificate for the program, a trademark-logo is patented to promote the educational program to international educational markets.

In order to ensure the quality of the scientific work performed, undergraduates are being trained at the Philipp University of Marburg (Germany) in the laboratory of translational medicine, immunology and cell technologies.

A modern library equipped with new technologies and communication solutions.

**According to the standard "Policy and admission criteria"**

- not identified by this standard

**According to the standard "Master's Program"**

The educational program in the direction 7M10104-Medicine (Clinician-scientist) is the only one in the Kazakhstan educational market that prepares for specialization related to research in clinical practice. The program was prepared jointly with a visiting professor from McGill University (Canada).

**According to the standard "Scientific guidance"**

- not identified by this standard

**According to the standard "Dissertation"**

- not identified by this standard

**According to the standard " Assessment of Dissertation Works "**

- not identified by this standard

**According to the standard "Management and administration"**

- not identified by this standard

**According to the standard "Continuous Improvement"**

- not identified by this standard

**(VIII) OVERVIEW OF QUALITY IMPROVEMENT RECOMMENDATION FOR EACH STANDARD**

**According to the standard "*Mission and end results*"**

- not identified by this standard

**According to the standard «*Research environment and educational resources*»**

The management of the EP is recommended to organize work to attract extrabudgetary sources of funding for scientific research. Deadline: from 2022.

The management of the study program is recommended to consider the possibility of developing joint master's programs aimed at obtaining two diplomas with universities from far and near abroad with inclusion in the development plan of the study program. Deadline: since 2022.

**According to the standard "*Policy and admission criteria*"**

- not identified by this standard

**According to the standard "*Master's program*"**

The management of the EP is recommended to organize work to involve representatives of professional associations of practical health doctors in the assessment of the EP, including them in the Council of Employers. Deadline: since 2022-2023 academic year.

**According to the standard "*Scientific supervision*"**

- not identified by this standard

**According to the standard "*Dissertation*"**

The management of the EP is recommended to equip scientific laboratories and bases with modern equipment and information technologies to ensure the quality of experimental research work of undergraduates. Deadline: since 2022-2023 academic year.

**According to the standard "*Assessment of dissertations*"**

-not identified by this standard

**According to the standard "*Management and administration*"**

-not identified by this standard

**According to the standard "*Continuous Improvement*"**

The management of the EP is recommended, using the capabilities of a multidisciplinary university, to develop topics for master's theses on interdisciplinary scientific projects. Deadline: since 2022-2023 academic year.

**Appendix 1. Evaluation table "Conclusion of the external expert commission"**  
**(7M10104 Medicine (Clinician-scientist))**

№	№	CRITERIA FOR EVALUATION	Position of the educational organization			
			Strong	Satisfactory	Assumes improvement	Unsatisfactory
<b>STANDARD "MISSION AND OUTCOMES OF TRAINING"</b>						
<b>Definition of the mission of the educational program</b>						
1	1	The medical education organization <b>must</b> define its mission of the educational program and bring it to the attention of stakeholders and the healthcare sector.		+		
2	2	The medical education organization <b>must</b> ensure that the main stakeholders are involved in the development (formulation) of the mission of the educational program.		+		
3	3	The mission statement of the educational program <b>must</b> contain the objectives and educational strategy of the program to prepare a competent researcher at the level of postgraduate medical/pharmaceutical education.		+		
4	4	The medical education organization <b>must</b> ensure that the stated mission of the educational program includes the problems of public health, the needs of the medical and pharmaceutical care system, and other aspects of social responsibility.		+		
5	5	The medical education organization <b>must</b> ensure that the mission of the educational program is consistent with the mission of the organization and allow the preparation of a competent researcher at the level of postgraduate medical education.		+		
6	6	A medical education organization <b>must</b> have a strategic plan for the development of an educational program that corresponds to the stated mission of a medical education organization, including issues of improving the quality of master's programs and approved by the advisory board of a medical education organization.		+		
7	7	The medical education organization <b>must</b> systematically collect, accumulate and analyze information on the quality of the implementation of master's programs; conduct an assessment of strengths and weaknesses (SWOT-analysis), on the basis of which the administration (pro-rectorate), together with the advisory council, should determine policy and develop strategic and tactical plans		+		
<i>Mission and aims of educational program:</i>						
8	8	- <b>must</b> correspond to available resources, opportunities and requirements of the market; - ways to support them <b>must</b> be determined.		+		
9	9	The medical education organization <b>must</b> provide access to information about the mission, goals of the medical education organization for the public (availability of information in the media, on the website of the university).		+		
10	10	The mission of the educational program, as well as the		+		

		mission and goals of the medical education organization, <b>must</b> be approved by the advisory board				
<b>Institutional autonomy and academic freedom</b>						
11	11	An organization implementing master's degree programs <b>must</b> have institutional autonomy to develop and implement policies for which faculty and administration are responsible, especially with regard to: <ul style="list-style-type: none"> <li>- development of an educational program;</li> <li>- use of allocated resources necessary for the implementation of the educational program.</li> </ul>		+		
<i>A medical education organization should guarantee academic freedom to its employees and master students:</i>						
12	12	- in relation to the current educational program, in which it will be allowed to rely on different points of view in the description and analysis of issues in medicine and pharmacy;		+		
13	13	- in the possibility of using the results of new research to improve the study of specific disciplines / issues without expanding the educational program.		+		
<b>Learning Outcomes</b>						
14	14	The medical education organization <b>must</b> determine the expected learning outcomes that master students must exhibit after completing the master's program.		+		
15	15	Master's studies with the award of an academic master's degree <b>must</b> provide master students with the competencies that will allow them to become a qualified teacher and / or researcher in accordance with the principles of best research practice.		+		
16	16	Completion of a master's program <b>must</b> be of potential benefit to those pursuing a career outside of the medical organization and applying their competencies developed during the master's program, including - critical analysis, assessment and solution of complex problems, the ability to transfer new technologies and synthesis of new ideas.		+		
17	17	The medical education organization <b>should</b> ensure that a regular (at least once a year) process of updating and restructuring leads to the modification of the final learning outcomes of graduates in accordance with the responsibilities assigned to graduates after graduation from the master's program.		+		
<b>Total by standard</b>			<b>0</b>	<b>17</b>	<b>0</b>	<b>0</b>
<b>STANDARD "RESEARCH ENVIRONMENT AND EDUCATIONAL RESOURCES"</b>						
<b>RESEARCH ENVIRONMENT</b>						
18	1	The success of individual master's programs <b>must</b> be ensured by the organization of a strong and effective research environment.		+		
<i>The quality of the research environment should be assessed by analyzing:</i>						
19	2	publications of research results (number of publications, impact factor, etc.) on the profile of a master's program in a medical education institution;		+		
20	3	the level of attracting external funding for scientific research in a medical educational institution;			+	
21	4	the number of qualified and competent teachers, researchers in a group, faculty, educational institution;	+			
22	5	national and international cooperation with research groups of medical organizations, universities, research centers.		+		
23	6	Research <b>must</b> be conducted in accordance with international ethical standards and approved by the appropriate and competent ethics committees.		+		
24	7	In order to provide access to the means needed to write a dissertation, master's programs <b>might</b> include studies in other	+			



		laboratories, preferably in another country, thus ensuring internationalization				
25	8	The implementation of the master's program <b>must</b> take place in the conditions of joint planning of training and research and the general responsibility of the supervisor and undergraduate for the final results.		+		
26	9	The medical education institution <i>should</i> explore the possibility of providing joint master's degree programs from both universities and joint leadership to support cooperation between higher education institutions.			+	
27	10	The medical education organization <i>should</i> ensure that the process of updating educational resources is carried out in accordance with changing needs, such as the recruitment of master students, the number and profile of academic staff, the master's program.		+		
<i>The medical education organization should:</i>						
28	11	- provide sufficient autonomy in the distribution of resources, including decent remuneration of teachers in order to achieve the final learning outcomes defined by the relevant indicators;		+		
<i>When allocating resources, take into account:</i>						
29	12	a) scientific achievements in the field of medicine; b) public health problems and needs		+		
<b>Material and technical base</b>						
<i>A medical education organization <b>must</b> have material and technical support that meets the licensed indicators, which include the following criteria:</i>						
30	13	classrooms, laboratories and their equipment <b>must</b> be modern and adequate to the goals and objectives of the master's program;		+		
31	14	Master students <b>must</b> be provided with conditions for the implementation of independent educational and research work;		+		
32	15	renewal and improvement of the material and technical base should be carried out regularly.		+		
33	16	The medical education organization <b>must</b> have sufficient resources for the proper implementation of the master's program. The resources of the organization should provide: - admission of master students, - organization of training in the master's program, -dissertation work, - scientific guidance - advising master students, - review, review and evaluation of the dissertation, - awarding an academic master's degree, - operating costs, - expenses for participation in training courses, in international scientific conferences, - payment for tuition in the magistracy in institutions where this is practiced. Resources also include a Master's Scholarship, however fees may vary.		+		
34	17	The resource policy <b>must</b> be aimed at maintaining and ensuring the constant professional growth of teachers of the master's program.		+		
35	18	The medical education organization <b>must</b> provide a safe environment for employees, master students and those who ensure the implementation of the program, including providing the necessary information and protection from harmful substances, microorganisms, observing safety rules in the laboratory and when using equipment.		+		
36	19	A medical education organization <b>must</b> have a service and support service for future master students, including a		+		

		registrar office, research centers and laboratories, a canteen, a canteen, a medical center, sports grounds and halls.				
37	20	The medical education organization has approved procedures for improving the learning environment for master students through regular renewal, expansion and strengthening of the material and technical base, which should correspond to the development in teaching practice.		+		
<b>Information Technologies</b>						
38	21	A medical education organization <b>must</b> have information support that meets the goals and objectives of the master's program.		+		
39	22	The library <b>must</b> contain materials necessary for training - educational, technical, scientific and reference literature, various medical periodicals, etc.		+		
40	23	Master students <b>must</b> have timely and free access to library resources.		+		
41	24	The library <b>should</b> have basic technical equipment to support daily activities: fax machines, copiers, computers, printers available for public use, and a telephone with voice mail or answering machine.	+			
42	25	The library <b>must</b> have an information website. A website may include the following elements: links, interlibrary loan forms, full-text electronic journal articles, and a feedback form.		+		
43	26	The medical education organization <b>must</b> regularly monitor library resources, study and implement strategies to meet the existing and future needs of master students.		+		
44	27	Master students <b>must</b> use computer classes and terminals with access to information resources (local network, Internet).		+		
45	28	In a medical educational institution, accessibility and adequate use of information resources by master students <b>must</b> be monitored.		+		
46	29	The medical educational organization <b>must</b> constantly update, improve and expand the base of information resources with the provision of access for master students to modern electronic databases, including foreign databases (Thomson Reuters (Web of Science, Thomson Reuters), Scopus, Pubmed, Elsevier, etc.).		+		
47	30	A medical education organization <b>must</b> open and constantly update a section on its website dedicated to master's programs containing the following information: <ul style="list-style-type: none"> <li>– structure and staff of the department of magistracy, duties of the head and employees of the department;</li> <li>– admission policy, including clear rules on the selection process for master students;</li> <li>– list of master's programs;</li> <li>– structure, duration and content of master's programs;</li> <li>– criteria for the appointment of a supervisor, outlining the characteristics, duties and qualifications of the supervisor;</li> <li>– methods used to assess master students;</li> <li>– criteria for designing and writing a dissertation;</li> <li>– description of the procedure for defending a dissertation work;</li> <li>– description of the work of the State Attestation Commission for the defense of master's theses;</li> <li>– program of quality assurance and regular evaluation of the master's program;</li> <li>– information about master students, taking into account the year of study;</li> </ul>		+		

		- information about the employment of graduates of the master's program for the last 3 years, taking into account the direction of study (scientific and pedagogical, specialized).				
<b>Total by standard</b>			<b>3</b>	<b>25</b>	<b>2</b>	
<b>STANDARD "POLICY AND CRITERIA FOR ADMISSION"</b>						
48	1	The medical education institution <b>must</b> define and implement an admissions policy, including a clearly defined regulation on the selection process for master students.		+		
49	2	Candidates for the master's program <b>must</b> have completed professional higher education programs (basic medical / pharmaceutical / chemical, higher professional (basic medical + internship) or postgraduate education (residency)).		+		
50	3	When selecting future master students, one <b>should</b> assess the research potential of the applicant, and not just take into account his academic performance.		+		
51	4	In a medical education organization, there <b>should</b> be a system for studying employment, demand, career support and continuous professional development of graduates.		+		
52	5	The data obtained through this system <b>must</b> be used to further improve educational programs.		+		
53	6	The medical education organization <b>should</b> ensure that the process of updating and restructuring the educational program of the master's program leads to the adaptation of the admission policy for master students, taking into account changing expectations and circumstances, needs for human resources, changes in the postgraduate education system and the needs of the program.		+		
<b>Total by standard</b>			<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>
<b>STANDARD "MASTER'S PROGRAM"</b>						
<b>Educational program model, teaching methods and structure</b>						
54	1	A medical education organization <b>should</b> define a model of an educational program that includes an integrated model based on interdisciplinary communication and a competency-based approach, using modular learning technologies, taking into account the final learning outcomes.		+		
55	2	The medical education organization <b>must</b> determine the purpose and objectives of the master's program, which are aimed at achieving the mission of the educational organization, the mission of the educational program and the final learning outcomes.		+		
56	3	The medical education organization <b>must</b> ensure that the content of the educational program meets the requirements of the State Educational Standards and the standard curriculum of the relevant specialty and is developed taking into account the needs of the labor market		+		
57	4	The medical education organization <b>must</b> ensure the implementation of the educational program with the relevant working curricula, the academic calendar, the curriculum for the disciplines, the forms of the individual curriculum for future master students and the individual work plan of the undergraduate		+		
58	5	The master's program <b>must</b> be based on the performance of original research, which requires analytical and critical thinking and must be carried out under scientific supervision.		+		
59	6	The medical education organization <b>must</b> ensure that the educational program is implemented in accordance with the principles of equality.		+		
60	7	The medical education organization <b>must</b> ensure that the undergraduate fulfills obligations towards doctors, teachers, colleagues, patients and their relatives in accordance with the Code of Conduct / Code of Honor.		+		

61	8	The master's program <b>must</b> ensure that master students are taught the rules of ethics and the responsible conduct of scientific research.		+		
62	9	The medical education organization <b>should</b> determine the teaching and learning methods used that are appropriate for the educational program and the achievement of students' competencies.		+		
63	10	The master's program <b>should</b> be structured with a clear time limit equivalent to 1-2 years full-time and contain: - theoretical training, including the study of cycles of basic and major disciplines; - practical training of master students - various types of practices, professional internships; - research work, including the implementation of a master's thesis for scientific and pedagogical magistracy; - experimental research work, including the implementation of a master's thesis for a specialized master's program; - methodological approaches and principles of education corresponding to the educational program and the achievement of students' competencies		+		
64	11	The medical education organization <b>should</b> provide mechanisms for the implementation of pedagogical practice (in accordance with the type of master's degree) for the formation of practical skills and teaching methods in master students.		+		
65	12	The medical education organization <b>should</b> provide mechanisms for the implementation of research practice to form master students' knowledge, skills, competencies in the field of the latest theoretical, methodological and technological achievements of domestic and foreign science, modern methods of scientific research, processing and interpretation of experimental data.		+		
66	13	The medical education organization <b>should</b> provide mechanisms for the implementation of work practice for the formation of practical skills, competencies and experience of professional activity in the specialty being taught, as well as the development of best practices among master students on the basis of theoretical knowledge		+		
67	14	The medical education organization <b>must</b> ensure that future master students will have the opportunity to study under the academic mobility program, have mechanisms / procedures for accepting students from other universities, recognizing loans mastered under the academic mobility program		+		
68	15	In a medical education institution, an appeal mechanism <b>should</b> be developed to allow master students to review the decision regarding their programs and the evaluation of their dissertations.		+		
<b>Evaluation of the master's program</b>						
69	16	A medical education organization <b>should</b> have a program for monitoring processes and results, including the routine collection of data on key aspects of the educational program. The purpose of monitoring is to ensure the quality of the educational process, identify areas that require intervention.		+		
70	17	The medical education organization <b>should be</b> on the basis of approved mechanisms, regularly assess the quality of the program, including feedback from supervisors, employers and master students.			+	
71	18	Based on the approved mechanisms, the medical education organization <b>should</b> systematically collect, analyze and provide feedback to teachers and master students, which includes information about the process and products of the		+		



		educational program, including information about unfair practices or inappropriate behavior of teachers or master students.				
<i>The medical education organization <b>should</b> ensure that the process of updating and restructuring is carried out regularly and is aimed at:</i>						
72	19	- adaptation of the model of the educational program and methodological approaches in training in order to ensure that they are appropriate and appropriate;		+		
73	20	- adjustment of the elements of the program and their relationship in accordance with advances in the medical sciences, with changes in the demographic situation and the state of health / structure of the incidence of the population and socio-economic, cultural conditions.		+		
<b>Stakeholder Engagement</b>						
74	21	The medical education organization <b>must</b> , in its monitoring program and activities for the evaluation of the educational program, involve the teaching staff and master students, its administration and management.		+		
75	22	The medical education organization <b>should</b> involve other stakeholders in the evaluation process, including representatives of academic and administrative staff, representatives of the public, authorized bodies for education and health, professional organizations, and also develop mechanisms to encourage the participation of external experts in the evaluation of the educational program.	+			
76	23	The medical education organization <b>should</b> provide access to the results of the evaluation of the educational program to all interested parties.		+		
77	24	The medical education organization <b>should</b> ensure that the process of updating and restructuring leads to an improvement in the process of monitoring and evaluation of the program in accordance with changes in the learning outcomes and teaching and learning methods.		+		
<b>Total by standard</b>			<b>1</b>	<b>22</b>	<b>1</b>	<b>0</b>
<b>STANDARD "SCIENTIFIC MANAGEMENT"</b>						
78	1	The medical education organization <b>must</b> assign each undergraduate a supervisor, and, in appropriate cases, a co-supervisor in order to cover all aspects of the program.		+		
79	2	A medical education organization <b>should</b> have mechanisms/procedures that regulate the process of discussing and approving the candidacy of a supervisor and a research topic for a master student in accordance with the standard requirements and SCES.		+		
80	3	The medical education organization <b>must</b> ensure that the candidates for supervisors will be selected from specialists who have a scientific degree and are actively engaged in scientific research in the field of science in the specialty of undergraduate education.		+		
81	4	The medical education organization <b>must</b> have clearly defined duties and responsibilities of the supervisor.		+		
82	5	Supervisors <b>must</b> consult regularly with their master students.		+		
83	6	The master student <b>must</b> study on the basis of an approved individual work plan, which is compiled under the guidance of a supervisor, which should be reflected in the approved reports heard at the meeting of the department (departments) for each six months		+		
<b>Total by standard</b>			<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>
<b>STANDARD "DISERTATION"</b>						
84	1	The topic of the dissertation and the supervisor of the		+		

		undergraduate <b>must</b> be approved after admission to the master's program.				
85	2	The topic of the dissertation work <b>must</b> be evaluated and approved by a group of independent experts (examiners) by external evaluation of the written description or based on the presentation of the research paper.		+		
86	3	The master's program should end with the preparation and defense of a master's thesis, which is an indicator of the formation of competencies in a master's student in accordance with the educational program.		+		
87	4	Research work in the scientific and pedagogical magistracy must: - correspond to the main problems of the specialty in which the master's thesis is defended; - be relevant, contain scientific novelty and practical significance; - be based on modern theoretical, methodological and technological achievements of science and practice; - be carried out using modern methods of scientific research; - contain research (methodological, practical) sections on the main protected provisions; - be based on international best practices in the relevant field of knowledge.		+		
88	5	Experimental research work in a specialized master's program <b>must</b> : - correspond to the main problems of the specialty in which the master's thesis is defended; - be based on modern achievements in science, technology and production and contain specific practical recommendations, independent solutions to management problems; - be carried out using advanced information technologies; - contain experimental and research (methodological, practical) sections on the main protected provisions			+	
89	6	The medical education organization should determine the term for preparing the dissertation, limited to 1-2 years.		+		
90	7	The dissertation <b>must</b> be written by the undergraduate independently, contain a set of scientific results and provisions put forward by the author for public defense.		+		
91	8	The structure of the dissertation <b>must</b> include a literature review related to the research topic, goals and objectives of the research work, research methodology, results, discussion, conclusion, conclusions and further prospects for the research.		+		
92	9	The results of the dissertation work <b>must</b> be available to interested parties (master students, supervisors, employees of the organization where the dissertation was carried out, researchers performing scientific work in a similar direction, and other categories of interested parties), i.e. published unless copyright or other reasons prevent it.		+		
93	10	The dissertation work <b>must</b> be accompanied by at least one publication and/or one presentation at a scientific and practical conference.		+		
94	11	The medical education organization <b>must</b> provide a discussion of the dissertation of the undergraduate at a meeting of the department (departments) where the dissertation was carried out.		+		
<b>Total by standard</b>			<b>0</b>	<b>10</b>	<b>1</b>	<b>0</b>
<b>STANDARD "ASSESSMENT OF DISSERTATIONS"</b>						
95	1	The medical education organization <b>must</b> determine, approve and publish the principles, methods and practices used to evaluate master students, including the criteria for evaluating		+		

		scientific work.				
96	2	The final assessment and approval of the dissertation work <b>must</b> be carried out by the State Attestation Commission (SAC) for the defense of master's theses.		+		
97	3	The dissertation defense <b>must</b> be carried out in a medical education institution where a master student is studying.		+		
98	4	The dissertation <b>must</b> be peer-reviewed (externally) in a medical education organization similar in profile by a person with a PhD or PhD-doctor degree in the profile of the thesis being defended.		+		
99	5	The dissertation defense <b>should</b> include both the preparation of a written version of the report and the subsequent oral defense.		+		
100	6	The dissertation defense <b>must</b> be open to the public.		+		
101	7	The academic master's degree should be awarded by a medical education institution based on the decision of the SAC, which evaluates the dissertation (the "Dissertation" standard) and oral defense.		+		
<b>Total by standard</b>			<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>
<b>STANDARD "MANAGEMENT AND ADMINISTRATION"</b>						
<b>Program Management</b>						
102	1	The management of a medical education organization <b>must</b> be effective and ensure the improvement of the educational program.		+		
103	2	The medical education organization <b>must</b> determine the structural unit responsible for the implementation of educational programs of postgraduate education and the achievement of the final learning outcomes.		+		
104	3	The structural unit responsible for the implementation of educational programs of postgraduate education <b>must</b> have the authority to plan and implement the educational program, including the allocation of allocated resources for the planning and implementation of teaching and learning methods, assessment of master students, assessment of the educational program and courses of study.		+		
105	4	The medical education organization <b>must</b> guarantee the interaction of master students with management on the design, management and evaluation of master's programs.		+		
106	5	The medical education organization <b>should</b> encourage and facilitate the involvement of master students in the process of developing educational programs for the preparation of master students.		+		
107	6	The structural unit responsible for the implementation of educational programs of postgraduate education <b>must</b> ensure the transparency of the management system and decisions that are published in bulletins, posted on the website of the university, included in the protocols for review and execution.		+		
108	7	The medical education organization <b>should</b> be through the structural unit responsible for the implementation of educational programs of postgraduate education, plan and implement innovations in the educational program.		+		
109	8	The medical education organization <b>should</b> include representatives from other relevant stakeholders in the advisory body responsible for the implementation of educational programs of postgraduate education, including other participants in the educational process, representatives from clinical and industrial bases, graduates of medical education organizations, health care / pharmacy professionals involved in the learning process or other teachers of the faculties of the university.		+		
110	9	The medical education organization <b>should</b> ensure that the		+		

		structural unit responsible for the implementation of educational programs of postgraduate education: - takes into account the peculiarities of the conditions in which graduates will have to work and, accordingly, modify the educational program; - considers the modification of the educational program based on feedback from the public and society as a whole.				
111	10	The medical education organization <i>should</i> ensure that the process of renewal and restructuring leads to the improvement of the organizational structure and principles of management of the master's program to ensure effective operation and (in the long term) to meet the interests of various stakeholder groups in the face of changing circumstances and needs.		+		
<b>Academic Leadership</b>						
112	11	The medical education organization <b>must</b> clearly define the responsibility of the academic leadership in relation to the development and management of the educational program.		+		
113	12	A medical education organization <b>should</b> periodically evaluate academic leadership regarding the achievement of its mission and learning outcomes.		+		
<b>Training budget and resource allocation</b>						
114	13	The medical education organization <b>must</b> : - have a clear term of reference and authority to provide the educational program with resources, including the target budget for education; - allocate the resources necessary for the implementation of the educational program, and distribute educational resources in accordance with their needs.		+		
115	14	The system of financing a medical educational organization <b>must</b> be based on the principles of efficiency, effectiveness, priority, transparency, responsibility, differentiation and independence of all levels of budgets.		+		
116	15	Financial and administrative policies <b>must</b> be aimed at improving the quality of the educational program.		+		
<b>Administrative staff and management</b>						
117	16	A medical education organization <b>must</b> have an appropriate administrative and academic staff, including their number and composition in accordance with qualifications, in order to: - ensure the implementation of the educational program and relevant activities; - ensure proper management and allocation of resources.		+		
118	17	The medical education organization <b>should</b> develop and implement an internal management quality assurance program, including consideration of needs for improvement, and conduct regular management review and analysis.		+		
119	18	The medical education organization <b>must</b> ensure the implementation of the master's program in accordance with the quality management system certified by independent organizations.		+		
<b>Engagement with the health sector</b>						
120	19	The medical education organization <b>must</b> have a constructive interaction with the health sector, with related sectors of health, society and government, including the exchange of information, cooperation and initiatives of the organization, which contributes to the provision of qualified specialists in accordance with the needs of society.		+		
121	20	The medical education organization <b>must</b> provide an operational link between the educational program and the subsequent stages of professional training.		+		



122	21	The medical education organization <b>should</b> be given official status of cooperation with partners in the health sector, which includes the conclusion of official agreements defining the content and forms of cooperation and / or the conclusion of a joint contract and the creation of a coordinating committee, and holding joint events.		+		
<b>Total by standard</b>			<b>0</b>	<b>21</b>	<b>0</b>	<b>0</b>
<b>STANDARD «CONTINUOUS IMPROVEMENT»</b>						
<i>The medical organization of education <b>must be</b> as a dynamic and socially responsible institution:</i>						
123	1	initiate procedures for regular review and revision of content, results/competences, assessment and learning environment, structure and function, document and correct deficiencies;		+		
124	2	allocate resources for continuous improvement.		+		
<i>The medical education organization <b>should</b>:</i>						
125	3	base the updating process on forward-looking research and analysis and on the results of their own research, evaluation and literature on postgraduate medical education;			+	
126	4	ensure that the process of renewal and restructuring leads to a revision of its policies and practices in line with previous experience, current activities and prospects.		+		
<i>Medical education organization in the process of updating / continuous improvement must pay attention to:</i>						
127	5	adaptation of the mission and end results of postgraduate medical education to the scientific, socio-economic and cultural development of society for the future;		+		
128	6	modification of the intended outcomes of postgraduate education in the chosen field of health in accordance with the documented needs of the environment. Changes may include adjusting the structure and content of the educational program, the principles of active learning. The adjustment will ensure, along with the exclusion of obsolete ones, the assimilation of new relevant knowledge, concepts, methods and concepts based on new achievements in the basic biomedical, clinical, behavioral and social sciences, taking into account changes in the demographic situation and the structure of the population in public health issues, as well as changes in socio-economic and cultural conditions;		+		
129	7	development of assessment principles, methods of administration and number of examinations in accordance with changes in learning outcomes and teaching and learning methods;		+		
130	8	adapting the recruitment and selection policy for master's students, taking into account changing expectations and circumstances, staffing needs, changes in the postgraduate education system and the needs of the educational program;		+		
131	9	adapting the recruitment policy and the formation of the academic staff in accordance with changing needs;		+		
132	10	improvement of the process of monitoring and evaluation of the educational program.		+		
133	11	Improving the organizational structure and management principles to ensure effective operation in the face of changing circumstances and needs, and, in the long term, to meet the interests of various stakeholder groups.		+		
<b>Total by standard</b>			<b>0</b>	<b>10</b>	<b>1</b>	<b>0</b>
<b>TOTAL</b>			<b>4</b>	<b>126</b>	<b>3</b>	<b>0</b>