To the Accreditation Council of the
Eurasian Center for Accreditation
and Quality Assurance
in Education and Health Care
December 10, 2025

REPORT
OF THE EXTERNAL EXPERT COMMISSION ON THE RESULTS OF THE ASSESSMENT OF THE EDUCATIONAL PROGRAMME 7R01125 "NUCLEAR MEDICINE" OF THE CORPORATE FOUNDATION "UNIVERSITY MEDICAL CENTER" FOR COMPLIANCE WITH STANDARDS FOR PROGRAMME ACCREDITATION OF THE POSTGRADUATE EDUCATION (RESIDENCY) OF THE EURASIAN CENTER FOR ACCREDITATION AND QUALITY ASSURANCE IN EDUCATION AND HEALTH CARE

external expert assessment period: November 17–19, 2025

Almaty, 2025

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LIST DESIGNATIONS AND ABBREVIATIONS

Abbreviation	Designation
ECAQA	Eurasian Center for Accreditation and Quality Assurance in Education and Health Care
EHEA	European Higher Education Area
WFME	World Federation for Medical Education
MH RK	Ministry of Healthcare of the Republic of Kazakhstan
MSHE RK	Ministry of Science and Higher Education of the Republic of Kazakhstan
RLA	Regulatory and legal acts
EP	Educational programme
ESG	Standards and Guidelines for Quality Assurance in Higher Education in the European Higher Education Area
CF "UMS"	Corporate Foundation "University Medical Center"
EMC	Educational and Methodological Council
NUSM	Nazarbayev University School of Medicine
ACGME	Accreditation Council for Graduate Medical Education
GPA	Grade Point Average – the arithmetic mean of the grades received for all completed courses, taking into account the time spent on them
JCI	Joint Commission International
UPMC	University of Pittsburgh Medical Center
NCIE	National Center for Independent Examinations

1. Composition of the External Expert Commission

In accordance with ECAQA Order No.29 dated October 28, 2025 An External Expert Commission (hereinafter referred to as the EEC) has been formed to conduct an external assessment of the residency educational programme in "Nuclear Medicine" during November 17–19, 2025, in the following composition:

No.	Status on EEC	Full Name	Academic Degree/Title, Position, Place of Work/Study, Year, Specialty
1	Chairperson	Morenko Marina Alexeyevna	Doctor of Medical Sciences, Head of the Department of Childrens' Diseases No.1 at NJSC "Astana Medical University", Vice President of the Association of Allergists and Clinical Immunologists of the Republic of Kazakhstan, Member of the Union of Pediatricians of Russia
2	International Expert	Yenchev Yavor Petkov	Doctor of Medical Sciences, Professor of Neurosurgery, Head of the Department of Neurosurgery and ENT Diseases at the Medical University of Varna. Head of the Neurosurgery Clinic at the "St. Marina" University Hospital of the Medical University of Varna (Varna, Bulgaria). Vice President of the Bulgarian Society of Neurosurgeons (BSNS); President of the Bulgarian Society of Pediatric Neurosurgery (BSPNS)
3	International Expert	Akhvlediani Leila Teimurovna	Professor, Doctor of Medicine (MD, PhD), Deputy Head of Department, PhD in Biology (Immunology, Allergology), Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia
4	Academic Expert	Madyarov Valentin Manarbekovich	Doctor of Medical Sciences, Head of the Department of Surgery with a Course in Anesthesiology and Resuscitation at NEI "Kazakh-Russian Medical University"
5	**Academic Expert**	**Yessenkulova Saule Askerovna**	**Doctor of Medical Sciences, Professor of the Postgraduate Education Center at JSC "Kazakh Research Institute of Oncology and Radiology, Member of the Association of Oncologists of the Republic of Kazakhstan**
6	Academic Expert	Abeuova Bibigul Amangeldiyevna	Doctor of Medical Sciences, Professor of the Department of Family Medicine No.3 at NJSC "Astana Medical University"
7	Academic Expert	Tashenova Gulnara Talipovna	Doctor of Medical Sciences, Head of the Professor N.A. Barlybayeva Department of Childrens' Diseases at NJSC "S.D. Asfendiyarov Kazakh National Medical University", Chief Freelance Pediatrician of the Ministry of Healthcare of the Republic of Kazakhstan, Almaty, Republic of Kazakhstan
8	Academic Expert	Talkimbayeva Nailya Anuarovna	Doctor of Medical Sciences, Head of the Simulation Center at NJSC "S.D. Asfendiyarov Kazakh National Medical University"

9	Academic Expert	Izbassarova Akmaral Shaimerdenovna	Candidate of Medical Sciences, Associate Professor, Head of the Department of Physical Medicine and Rehabilitation, Sports Medicine at NJSC "S.D. Asfendiyarov Kazakh National Medical University", Neurologist of the highest category
10	Academic Expert	Kabildina Nailya Amirbekovna	Candidate of Medical Sciences, Professor, Oncosurgeon, Head of the Department of Oncology and Radiation Diagnostics at NJSC "Karaganda Medical University"
11	Academic Expert	Salimbayeva Damilya Nurgaziyevna	Candidate of Medical Sciences, Head of the Department of Strategic Development and Science at the JSC "Scientific Center for Obstetrics, Gynecology and Perinatology"
12	Academic Expert	Rustembekkyzy Zhansaya	Teacher/Researcher, PhD in the Department of Obstetrics, Gynecology and Perinatology at NJSC "Karaganda Medical University"
13	Employer Expert	Tugelbayeva Kyzylgul Alimovna	Head/Chief of the Educational Programmes Department at the Republican State enterprise on the Right of Economic Management "Scientific and Production Center for Transfusiology" of the Ministry of Healthcare of the Republic of Kazakhstan
14	Student Expert	Makhmutov Timur Nurzhanovich	First-year postgraduate doctor in "Urology and Andrology Adult, Pediatric" at the JSC "National Research Oncology Center"
15	Doctoral student Expert	Yktiyarov Ayaz Abdirakhymuly	Second-year doctoral student in "Medicine" at NJSC "Astana Medical University"

The EEC report includes a description of the results and conclusions of the external assessment of the educational programme "Nuclear Medicine" for compliance with the Standards for Programme Accreditation of Postgraduate Education (Residency) (developed based on the 2023 WFME International Standards for Quality Improvement in Postgraduate Education Programmes) and conclusions (hereinafter referred to as the Accreditation Standards), the EEC's recommendations for further improvement of the approaches and conditions for implementing the aforementioned educational programme, and recommendations on accreditation to the ECAQA Accreditation Council on accreditation.

2. General Part of the Final Report

2.1 Presentation of the Residency Educational Programme in "Nuclear Medicine"

Organization name, legal form of ownership, BIN	Corporate Foundation "University Medical Center" 151040018391
Governing body	Board of Directors
Full name of the first head	Pya Yuriy Vladimirovich
Date of establishment	The Corporate Foundation "University Medical Center" (hereinafter referred to as UMC) was established in accordance with the decision of the Board of Trustees of the Autonomous Educational Organization "Nazarbayev University" dated September 20, 2015.
Location and contact information	Republic of Kazakhstan, 010000, "Nura" District, Astana, st. Turan, 32

	Tel.: +7 (7172) 69 24 50 E-mail: umc@umc.org.kz
State license for educational activities in the residency (date, number)	Clause 1, Article 8 of the Law of the Republic of Kazakhstan "On the status of "Nazarbayev University", "Nazarbayev Intellectual Schools" and "Nazarbayev Foundation" dated January 19, 2011, No.394-IV See the Charter at https://umc.org.kz/documents/
Information on branches and subsidiaries (if any)	Nazarbayev University
Year of commencement of the accredited educational programme (ep)	2021
Information on the placement in the register of the EHEA of the Ministry of Science and Higher Education of the Republic of Kazakhstan	available
Duration of study	2
Total number of graduates since the EP commencement	no
Number of postgraduate doctors in the EP since the beginning of the current academic year	no
Full-time/part-time faculty involved in the EP implementation	Total number of teachers: 25, including 1 Doctor of Medical Sciences, 2 Candidates of Medical Sciences, 3 Master's degrees and 9 specialists with the highest qualification category. Academic degree holder rate, % - 24 Proportion of categories, % - 36
Website Instagram Facebook with active pages	Official website: www.umc.org.kz

2.2 Information about previous accreditation

The Corporate Foundation "University Medical Center" has not previously accredited its residency educational programme in "Nuclear Medicine", and there is currently no postgraduate doctor enrollment in this specialty. Therefore, an initial external assessment is being conducted as part of specialized (programme-specific) accreditation.

2.3 Brief description of the analysis results of the self-assessment report of the residency educational programme in "Nuclear Medicine" and conclusions on its completion

The self-assessment report for the residency educational programme in "Nuclear Medicine" (hereinafter referred to as the report) consists of 264 pages of the main text, 11 pages of annexes, and copies or electronic versions of 8 documents, all located at https://drive.google.com/drive/folders/1WTO6V77Ha4PkgbJDYClTodmepNYbH_7O.

The report contains the comprehensive information, is complete and comprehensive, includes responses to all eight key accreditation standards and relevant criteria, and is clearly structured in accordance with the recommendations of the Guidelines for Conducting Self-Assessment of Educational Programme provided to the educational organization by the accreditation center - ECAQA, as well as internal unity of information. A cover letter signed by the Deputy Chairperson of the Board of Directors, Doctor of Medical Sciences, Professor Khamzina Nurgul Kaliyevna,

confirming the accuracy of the quantitative information and data included in the self-assessment report, is attached to the report.

The report includes a list of 11 members of the internal self-assessment commission, indicating the responsibilities of each employee, and information about the representative of the organization responsible for conducting the self-assessment of the educational programme - Syzdykova Alma Alibekovna, Director of the Education Department, MSc, MBA.

The self-assessment of the educational programme "Nuclear Medicine" was conducted based on Order No.78-n/k dated 25 February 2025, "On Approving the Composition of the Working Group for Preparation for Specialized Accreditation of the Corporate Foundation “University Medical Center".

All standards provide reliable information on the planned training of postgraduate doctors in the specialty “Nuclear Medicine”, taking into account the start of student admission in 2026. They also provide substantiated data, examples of the implementation of educational programme’s objectives, national and international events, and methodological support, confirming compliance with accreditation standards. The description in the self-assessment report is sufficiently comprehensive and up-to-date in terms of the number of postgraduate doctors, teachers and administration, information on the selection process and planned admissions, the CF “UMS” physical facilities and clinical facilities, contractual obligations with partners (universities, associations and sites), financial information, and development and improvement plans.

The report was submitted to the ECAQA in its final form, with data adjusted according to the above recommendations. It is written in a competent manner, the wording for each standard is clear and understandable, and is described in accordance with the criteria of the standards. The tables contain references in the text and are numbered consecutively.

3. Description of the external expert assessment

The external expert assessment of the educational programme (hereinafter referred to as the EP) "Nuclear Medicine" was organized in accordance with the Guidelines for Conducting External Assessment of Educational Organizations and Educational Programmes of the ECAQA. Dates of the visit to organization: November 17-19, 2025. The detailed schedule of the 3-day visit is presented in Annex 3 to this report.

To obtain objective information, the EEC members used the following methods and their results:

- conversation with management and administrative staff - 5 people;
- interviews with postgraduate doctors - 10 people;
- website review umc@umc.org.kz ;
- interviewing 2 employees, 3 teachers and 5 supervisors of postgraduate doctors in the "Nuclear Medicine" programme;
- survey for teachers and postgraduate doctors - 17 and 16, respectively;
- observation of postgraduate doctor learning: attendance at _1_ (number) practical classes (topic: Computed Tomography, teachers: Dautov Tairkhan Bekpolatovich, Kaliyev Bauyrzhan Bakhytovich, student body - 2nd-year radiologists, small conference room, practical class format - analysis of clinical cases on the topic);
- review of resources in the context of meeting accreditation standards: 3 practice/clinical engagement sites were visited, including the Diagnostic Center, the Center for Motherhood and Childhood, and the Heart Center, where learning is conducted in 20 educational programmes with the participation of 73 teachers/part-time workers;
- review of 8 educational and methodological documents both before the visit to the organization and during the visit to the divisions (the list of documents reviewed is in **Annex 2**).

The staff of the accredited organization ensured the presence of all persons specified in the visit programme and in the list of interview and conversation sites (Table1).

Table 1 - **Information on the number and categories of participants in meetings, interviews and conversations with EEC members**

No.	Position	Quantity
1	Yu.V. Pya – Chairman of the Board of Directors	1
2	A. A. Syzdykova – Director of the Education Department	1
3	A. I. Sailybayeva – Director of the Science Department	1
4	K. T. Togyzbayeva – Director of the Women's Health Department	1
5	T. B. Dautov – Director of the Clinical and Academic Department of Radiology and Nuclear Medicine, Doctor of Medical Science	1
6	S. S. Mamirova – Second-year postgraduate doctor of the “Radiology” EP	1
7	A.B. Dosmukhamet – Second-year postgraduate doctor of the “Radiology” EP	1
8	B.S. Duisenbayeva – Head of the Diagnostic Radiology Unit of the Clinical Academic Department of Radiology and Nuclear Medicine, PhD in Medicine	1
9	S.V. Mukhametzhanova – Magnetic Resonance Imaging/Computed Tomography Specialist (MRI/CT) of Clinical Academic Department of Radiology and Nuclear Medicine, Candidate of Medical Sciences	1
10	A.S. Muftalova – Manager at Department of Education	1
11	G.E. Bulabayeva – Employer at Scientific Center of Pediatrics and Pediatric Surgery at Almaty	1
12	O.V. Vaskovskaya - Employer, Head of the Maternity Unit, City Multidisciplinary Hospital No.2; Acting Deputy Director for the Obstetric Unit, City Multidisciplinary Hospital No.3	1
13	A.S. Dzhumakhayeva - Employer, Deputy Director for Medical Affairs, City Multidisciplinary Hospital No.2	1
14	Ye.U. Umbetzhanov - Employer, Head of the Center for Anesthesiology, Resuscitation and Intensive Care, National Research Oncology Center	1
15	Ye.R. Shokayev - Employer, Head of the Admissions Unit, Multidisciplinary City Children's Hospital No.2, Astana	1

On the final day of the visit to organization, a meeting of the EEC members was held to discuss the external assessment. A final discussion was held regarding the external assessment of the educational programme, document review, conversation, interview and survey results. The EEC members began drafting the final EEC report. The external assessment results were summarized. The experts individually completed the "Quality Profile and Criteria for External Assessment of the Educational Programme in “Nuclear Medicine” for Compliance with the ECAQA Accreditation Standards". The EEC members made no comments. Recommendations for improving the educational programme were discussed, and Chairperson M.A. Morenko held a final open vote on the recommendations for the ECAQA Accreditation Council.

Comfortable conditions were created for the EEC, and access to all necessary information and material resources was provided. The commission notes the high level of corporate culture at the Corporate Foundation “University Medical Center” and the team's high level of openness in providing information to the EEC members.

In a survey of postgraduate doctors, 87.5% rated the work of the External Expert Commission on accreditation as positive. The majority of respondents (87.5%) believe that educational programmes should be accredited.

In response to the question "Select one or more answer options that characterize the most important tool of external expert assessment that allows conclusions to be drawn about the quality of educational programmes", the results were as follows:

- *62.5% of respondents (10 out of 16) considered interviews with postgraduate doctors to be the most important tool, reflecting the key importance of student opinions in assessing programme quality.*

- *56.25% (9 out of 16) noted conversation with management, emphasizing the role of heads in providing information about the structure and the programme management.*
- *50% (8 out of 16) selected conversation with teachers and interviews with supervisors of postgraduate doctors, demonstrating the importance of the views of teachers and supervisors in external review.*
- *43.75% (7 out of 16 respondents) indicated interviews with graduates, review of educational programme documentation, and a review of the resource base for postgraduate doctor training, emphasizing the importance of analyzing past results, materials and infrastructure.*
- *37.5% (6 out of 16 respondents) noted attending practical classes and seminars, demonstrating the importance of directly observing the educational process.*
- *6.25% (1 out of 16 respondents) found it difficult to answer.*

Therefore, it can be concluded that CF "UMS" postgraduate doctors considered interviews with postgraduate doctors, conversation with management, teachers and supervisors to be the most significant tools for external expert assessment. Review of documentation, graduates' surveys, resource base assessment and class attendance were of secondary importance.

According to 100% of teachers, the survey conducted by the ECAQA is useful for developing recommendations for improving key areas of the educational organization being accredited. Moreover, 52.94% of respondents (9 out of 17) believe that accreditation itself is an important mechanism, while 47.06% (8 out of 17) note that accreditation is important, but is most effective when combined with other mechanisms (certification, audits and independent assessment of student knowledge). Comments indicate a positive perception of the work of the External Expert Commission, noting the usefulness of the recommendations, the constructive nature of the verbal comments and a desire for regular inspections without a punitive approach.

At the end of the visit programme, the EEC chairperson presented recommendations based on the results of the external assessment as part of the specialized accreditation to the educational institution's management and staff.

4. Analysis of compliance with accreditation standards based on the external assessment of the residency educational programme in "Nuclear Medicine"

Standard 1: MISSION AND VALUES

1.1 Stating the mission

During the implementation of the programme's activities, namely, through conversation with the Chairperson of the Board of Directors, members of the advisory body, in the CF "UMS" this is the Educational and Methodological Council, and interviews with postgraduate doctors and teachers, compliance with the criteria of *Standard 1* was established. All participants in the educational process are aware of the educational programme's mission and participated in formulating proposals for its formulation. The mission has been communicated to potential postgraduate doctors through the website, social media and informational letters to medical organizations. The strategic plan of the CF "UMS" for the period 2024-2028 was reviewed, including such areas as "Quality and Innovation in Education and Practical Training of Healthcare Specialists" and "Research Activities" (https://umc.org.kz/wp-content/uploads/2024/07/ctrategicheskij-plan-umc-2024-2028.pdf), which confirms the fulfillment of the accreditation standard and demonstrates the goals, objectives and prospects of the organization. Interviews with postgraduate doctors revealed that before classes begin, teachers inform postgraduate doctors about the organization's mission and work plans. They also advise where to obtain necessary information about the educational programme, teachers and training facilities.

During visits to the educational organization's divisions, experts noted the organization's strengths in relation to the accredited educational programme, including:

- Residency training structured around the integration of education, clinic, science and modern principles of training healthcare specialists;

- The organization's special status and collaboration with leading medical schools worldwide;
- Demand for residency and continuing education programmes among potential students;
- A strong reputation among medical organizations and development prospects that reflect modern requirements for healthcare specialists.

The CF "UMS" has divisions directly related to the "Nuclear Medicine" educational programme, which can be considered best practice in education. Specifically, it unites four leading medical centers, including 3 innovative medical centers in Astana: The Diagnostic Center, the Center for Motherhood and Childhood, the Heart Center and the Radiology Center for the Implementation of Radiation Oncology and Nuclear Medicine at the LLP "National Research Oncology Center" (NROC).

The documentation review demonstrates that the organization's mission, the mission of the "Nuclear Medicine" educational programme and the educational process are structured in accordance with the State Compulsory Educational Standards and current regulatory legal acts (RLA) in postgraduate education and healthcare. During meetings with teachers and students, experts identified a number of issues, including the need to expand the development of teacher/supervisor pedagogical skills - feedback techniques, coaching, facilitation and assessment tools - to improve and complete the programmw and enhance the effectiveness of radiologists' training.

The educational organization conducts postgraduate doctor training at the following clinical facilities and units: the Diagnostic Center, the Center for Motherhood and Childhood, and the Heart Center, where a patient-centered approach is ensured through the integration of advanced medical technologies into clinical practice. The educational organization pays due attention to patient safety and autonomy through continuous monitoring of the quality of medical care and staff training.

The experts determined that postgraduate doctors have appropriate working conditions to support their own health, as the educational organization ensures compliance with occupational safety standards, creates a safe educational environment and provides conditions conducive to maintaining the physical and psychological welfare of students.

Basic competencies for postgraduate doctors in the accredited specialty, such as general knowledge of radiological anatomy and pathology with an understanding of normal anatomy across all modalities (X-ray, CT, MRI, ultrasound), communication with clinicians and patients, including the ability to discuss examination results with attending physicians, ethical interactions with patients, explanation of procedures, as well as specific competencies, including work organization and professional competence, help educational organizations implement innovative learning forms. This will allow postgraduate doctors to develop skills and qualities such as time management and prioritization, while also managing a large workload.

The educational organization encourages postgraduate doctors to engage in research in their chosen specialty through funding for publications, conference presentations and participation in various educational events within and outside of the CF "UMC" (Table 5 of the self-report). It also facilitates postgraduate doctors' participation in academic activities such as academic mobility between universities in Kazakhstan and abroad (the University of Ljubljana in Slovenia, University Hospital Medical Park Goztepe in Turkey, etc.).

At the same time, experts found that when postgraduate doctors were asked the question "I would recommend studying at this educational organization to my acquaintances, friends and relatives," 12.5% (2 out of 16) partially agreed, which may indicate individual comments or suggestions for improving the educational process.

1.2 Participation in mission formulation

Experts determined that all stakeholders participated in developing the goals and objectives (mission) of the "Nuclear Medicine" educational programme, as confirmed by the EMC Protocols and reflected in the CF "UMC" Strategic Plan, approved by the CF "UMC" Board of Trustees' decision dated June 11, 2024, No. 11.06.2024.

The curriculum was revised and amended based on the annual address of the President of the Republic of Kazakhstan to the people of Kazakhstan, as well as in accordance with the development

strategy of AEO “Nazarbayev University”. When updated regulatory legal acts and orders in education and healthcare are issued, the developers of the educational programme take these into account and make appropriate changes. For example, the Order of the Ministry of Healthcare of the Republic of Kazakhstan "On Approval of Professional Standards in Healthcare" dated January 25, 2024, No.46, prompted teachers to include some nuclear medicine topics in the curriculum.

In conversation with postgraduate doctors and employers, experts received a clear answer to the question "Do you participate in formulating the mission and goals of the organization and the educational programme?" Postgraduate doctors and employers answered "YES".

In a survey of 16 postgraduate doctors (on the resource https://webanketa.com/), several of the 22 questions were devoted to the quality of the educational process and the educational programme. It was found that 81.25% of postgraduate doctors would recommend studying at this educational institution to their acquaintances, friends and relatives, while only 18.75% partially agreed with this statement. 75% of respondents believe that the educational programme's heads and teachers are aware of students' learning needs. When asked "Do you think this educational institution allows you to acquire the necessary knowledge and skills in your chosen specialty?", the majority of respondents (93.75%) were confident that the educational institution provides the necessary knowledge and skills, and only 1 person (6.25%) cannot decide yet,, which may indicate a need for additional information or experience in the educational process. There were no doubts or negative responses, indicating a high level of trust in the educational programme among survey participants.

The 17 teachers surveyed (23 survey questions) also responded that the majority (70.59%) completely agreed that they were satisfied with the work and workplace organization. 23.53% partially agree, indicating some areas for improvement. 5.88% completely disagree, which may signal a serious problem for one respondent (e.g., an uncomfortable workstation or technical problems). Overall, there were virtually no negative or vague responses, indicating a high level of satisfaction with the work organization.

Experts determined that the organization has a healthy working environment, as the head is readily accessible to both postgraduate doctors and staff and responds promptly to postgraduate doctors' requests and concerns. In the survey, 82.35% of teachers were satisfied with the organizational working environment, while 17.65% were partially satisfied. According to 76.47%, teachers at the educational organization have the opportunity to develop as professionals in their field. A total of 17 people responded, with 17.65% having up to 5 years of teaching experience, 36.29% having up to 10 years and 47.06% having over 10 years of teaching experience. Overall, the data indicate a balanced composition of teachers based on experience, with a mix of experienced teachers and specialists with mid-level experience, which is beneficial for the educational process.

EEC findings by criteria. Comply with 6 standards: fully - 6, partially - 0, not compliant - 0.

Standard 2: EDUCATIONAL PROGRAMME

2.1 Educational programme and certification

Experts have established that there is a correlation between the content and the required qualifications of a postgraduate doctor upon completion of the “Nuclear Medicine” programme, which is expressed in the conformity of the knowledge, skills and competencies that a postgraduate doctor acquires in accordance with the requirements of the professional standard for a nuclear medicine physician (Annex 56 to the Order of the Ministry of Healthcare of the Republic of Kazakhstan dated January 25, 2024, No.46 https://adilet.zan.kz/rus/docs/G24RR000046#z100000. Upon completion of learning, postgraduate doctors are admitted to an independent examination at the NCIE, which allows them to obtain a nuclear medicine specialist certificate and be admitted to clinical practice at their place of employment. The educational organization has developed certification courses with a volume of 1,200 hours in nuclear medicine areas that meet the goals of training a nuclear medicine specialist.

Currently, the educational organization has initiated specialized (programme) accreditation without a postgraduate doctor contingent.

The educational programme for the residency in "Nuclear Medicine" has been included in the EHEA Register since 2024 (https://epvo.kz/#/register/education_program) .

2.2 Intended learning outcomes

The intended learning outcomes have been defined and included in the Educational Programme in "Nuclear Medicine", which is developed based on the Standard Curriculum in accordance with the State Education Standard of the Republic of Kazakhstan for the specialty "Nuclear Medicine". The educational programme was discussed by the staff of the Clinical Academic Department of Radiology and Nuclear Medicine of the Corporate Foundation "University Medical Center" and approved by the Educational and Methodological Council. Protocol No.16, dated June 30, 2025. Stakeholders are informed of the intended learning outcomes of postgraduate doctors in the specialty "Nuclear Medicine" by posting them on the official website of the CF "UMC". Competency assessment criteria are also reflected in syllabuses, which are freely available on the organization's website. The experts confirmed that postgraduate doctors' professional behavior and communication skills are developed through a combination of theoretical learning, supervised practical experience, "practical skills" training, reflection and evaluation of their interactions with patients and colleagues. These are reflected in the corresponding Educational Programme for the specialty "Nuclear Medicine" and the Code of Business Ethics. Teachers and postgraduate doctors have been informed of the Code of Business Ethics. The Code of Ethics can be accessed at https://drive.google.com/drive/folders/1zd1ZDYM-FeWq-Kz5Pzig_dJW_fe2SZK2 and on the organization's website **(ESG II Part 1.2).**

The expected learning outcomes were determined to meet the requirements of national professional standards for the specialty "Nuclear Medicine", as per Order No.46 of the Ministry of Healthcare of the Republic of Kazakhstan "On Approval of Professional Standards in Healthcare" dated January 25, 2024. The accredited educational programme has received positive external and internal reviews. Thus, the requirements of the professional community in the field of "Nuclear Medicine" are taken into account.

The educational programme defines learning outcomes for the specialty "Nuclear Medicine", which include knowledge, skills and professional behavior. Each skill can be assessed and measured, for example, through specific performance indicators: completion of a practical assignment within a specified timeframe, accuracy and quality of work, level of independence, number of errors and compliance of the result with established assessment criteria. Postgraduate doctors receive regular oral feedback after each lesson and a weekly survey. For the "Nuclear Medicine" educational programme, the educational organization created a list of postgraduate doctor privileges in 2025, based on the level of trust in the postgraduate doctor's performance in practical skills; implementation of IT platforms; expanded access to international educational resources; and development of a mentoring system.

Postgraduate doctors' participation in providing medical care to the population is a mandatory component of their learning. Postgraduate doctors undergo learning in medical facilities such as the Diagnostic Center, the Center for Motherhood and Childhood, and the Heart Center. For example, postgraduate doctors learn to perform procedures according to a predetermined call schedule, are part of the call team, and report on their work at morning conferences. Independent learning includes attending educational platforms, participating in journal clubs and discussing clinical cases. Postgraduate doctors - physicians independently conduct research work (hereinafter, RW), report on its progress, and present the results of their work upon completion of their learning. The EMC approved the "Requirements for the content, design and defense of research work in the residency programme". All results of independent work are compiled into a portfolio.

Postgraduate doctors' professional conduct is ensured through supervising. The Supervising Policy can be found at the following link: https://umc.org.kz/wp-content/uploads/2019/11/pravila_org_obrazova_Process.pdf. Each postgraduate doctor is assigned a clinical supervisor to guide their clinical training. This system ensures individualized support and a gradual transfer of responsibility, facilitating the practical integration of knowledge and skills. All

postgraduate doctors are familiar with the Code of Business Ethics, which was developed and approved at CF "UMC" by the Board of Directors' decision No.17 dated December 26, 2022. In a survey of employers, experts clarified their satisfaction with postgraduate doctors' behavior. Overall, postgraduate doctors maintain ethical behavior toward teachers, fellow students and healthcare staff. A special commission is in place to review incidents. The commission reviews violations of the Code of Business Ethics, including unprofessional behavior in clinical and educational settings. During a meeting with experts, the postgraduate doctors themselves confirmed that their teachers observe ethics in relation to them. When asked whether conflict resolution studies had been conducted for teachers in the past few years, a positive response was received.

When determining the intended learning outcomes, the Department of Education staff considered previous undergraduate and internship learning outcomes, as well as the goals and objectives of subsequent continuing professional development in the chosen specialty. The educational institution provides continuing and non-formal education (continuing professional development), including programmes in the specialty of the accredited educational programme.

Experts established a clear continuity between the intended outcomes of postgraduate doctors' previous learning (prerequisites) and residency learning, as well as subsequent continuing professional development programmes. The institution has developed 15 continuing education programmes, including for the specialty "Nuclear Medicine". Postgraduate doctors are informed about these.

82% of teachers - respondents believe that students at this educational institution have a high level of knowledge and practical skills after completing the learning programme, and 18% partially agree.

Teachers surveyed during the external assessment indicated that 82% were fully satisfied with the level of postgraduate doctors' prior training, while 12% were partially satisfied.

The qualification obtained by completing the educational programme in "Nuclear Medicine" corresponds to level 7 of the National Qualifications Framework (**ESG1.2)** and has the code 7R01125. Completion of residency training results in the issuance of a residency completion certificate, which will be required for certification in the specialty.

2.3 Educational programme organization and structure

The educational programme organization in "Nuclear Medicine" is based on the intended learning outcomes of postgraduate doctors and therefore includes general and specific skills: Patient management; Communication and Collaboration; Safety and Quality; Public Healthcare; Learning and Development Ability; and Research. The duration of the programme is 2 years. Systematic and transparent learning is guaranteed by the fact that all stages of the educational process are regulated, educational materials are accessible to students, and assessment results are monitored with regular reporting on achieved results. The intended learning outcomes are presented in documents available at the following link: https://drive.google.com/drive/folders/1H89yCt3NgcCymg6Lt-4ZtiTWyddRedz2 (page 3 of the Educational Programme Syllabus).

To implement the educational programme in the specialty "Nuclear Medicine", the organization's documents include teaching materials that define the goal, integrate practical and theoretical components, and provide independent work. Compliance with the State Compulsory Educational Standards and standard requirements, including professional standards, has been established.

The organization ensures ethical considerations in the implementation of the educational programme, as experts reviewed the Code of Business Ethics, approved by the Decision No.17 of the Board of Directors dated December 26, 2022. During interviews, postgraduate doctors indicated that they were aware of the document's contents.

An analysis of educational activities revealed that the scientific basis and all scientific advances in relevant disciplines have been taken into account, additions have been made to the teaching materials and syllabuses, and teachers use them in their classes.

The supervising system, described in the "Regulations on the Clinical Academic Department of Radiology and Nuclear Medicine", approved by the decision of the Board of Directors of the CF "UMS" dated November 29, 2021, No.24, was evaluated. A total of 21 supervisors are assigned, whose tasks include focusing on practice and consistently increasing postgraduate doctors' responsibility in real-world settings to develop independent, professional competencies.

The procedure for informing postgraduate doctors of their rights and responsibilities is reflected in the Rules for the Organization of Residency Educational Programmes at the CF "UMC", approved by Board of Directors' Decision No.9 dated June 3, 2024. Postgraduate doctors are informed of this by posting information on the official CF "UMC" website in the "Residency" section.

According to interviews and survey, teachers use the following learning methods for postgraduate doctors: oral discussions of the lesson topic (88.24%), lectures and case problems (70.59% each), interactive learning, practical clinical skills exercises, and case study development and resolution (64.71% each). Problem-based learning, simulation technologies and small group work are also used (58.82%); quizzes (35.29%) and project work (17.65%) are less popular. A list of learning methods is described in the self-report in Annex 7. These methods enable postgraduate doctors to participate in providing medical care to patients. Teachers can provide postgraduate doctors with management of approximately 3-10 specialized patients per day and 100-150 per month.

One of the documents that communicates these provisions to each student is the "Postgraduate doctor Handbook", which contains a section detailing the CF "UMC" academic policies, including honesty requirements and a prohibition on plagiarism. Academic honesty applies at such stages of postgraduate doctor training as preparing for classes, completing clinical assignments and case problems, conducting independent research, completing medical documentation, writing reports, essays and case studies, as well as during formative, midterm and summative assessments. Anti-plagiarism measures apply when postgraduate doctors engage in scientific work and when publishing articles. Postgraduate doctors are trained to promptly collect informed consent from patients for all diagnostic and therapeutic procedures. Experts noted that a corresponding document, signed by the patient, is included in the medical records.

Thus, by the end of their two-year training, postgraduate doctors will acquire the core competencies and skills of a nuclear medicine physician, enabling them to work in leading institutions in Kazakhstan (**ESG 1.2).**

Experts have not identified any violations of the principle of equality in postgraduate education and continuing professional development, as the educational institution complies with the Constitution of the Republic of Kazakhstan, the Law on the Languages of the Peoples of the Republic of Kazakhstan and other regulatory legal acts in the fields of education and healthcare. The educational institution employs 113 people, 70% of whom are women and 30% - men, representing a variety of ages and nationalities.

The educational institution has a mechanism for regularly adapting teaching and learning methods to the requirements of modern science and education, as well as the current needs of practical healthcare. This mechanism includes a systematic analysis of modern scientific advances and the needs of practical healthcare, updating curricula and methods, advanced training for teachers and evaluating the effectiveness of training with the goal of continuously improving the educational process.

This demonstrates compliance with Standard 2 regarding the adaptation of learning to the needs of postgraduate doctors.

2.4 Educational programme content

Documents containing requirements for the structure and content of educational programmes exist, including the State Educational Standard of the Republic of Kazakhstan for the specialty "Nuclear Medicine"; the Standard Curriculum for Nuclear Medicine, approved by authorized bodies;

and the Professional Standard "Nuclear Medicine". The Department of Education of the “CF UMS” is responsible for the selection and implementation of innovations in the educational process.

The syllabuses and catalog of elective disciplines reflect the needs of the healthcare system, including modern medical radiological technologies for providing highly qualified care to patients with various diseases, as well as the specifics of research and the scientific achievements of teachers. To successfully implement the educational programme in "Nuclear Medicine", the organization has resources to organize assessments of postgraduate doctors’ practical skills (the Center for Motherhood and Childhood, the Diagnostic Center, the Heart Center, and the LLP “National Research Oncology Center”). However, there are challenges in planning educational programmes, including scheduling them for primary, secondary and tertiary care. To this end, to ensure postgraduate doctors achieve the established intended learning outcomes, it is advisable to adjust the learning path based on regulatory requirements (credits).

It has been established that the theoretical component of the educational programme accounts for no more than 20% of the curriculum. The practical component comprises 80%. Practical teaching of the fundamentals of evidence-based medicine is integrated into the educational process and includes: independent evaluation of scientific publications in various fields of medicine from the perspective of research design and methodology; completion of various analytical and research projects aimed at mastering methods for searching for and evaluating clinical trial results.

Potential future roles of residency graduates, namely medical expert and manager, are developed across all disciplines through a journal club featuring case studies. Legal aspects of physician activities are discussed in each discipline. The scientific component of postgraduate doctor training is formed through clinical case studies based on the principles of evidence-based medicine.

The educational organization guarantees adjustments to the structure, content and duration of the educational programme in the event of any changes in various sciences, demographics, and in response to the needs of the healthcare system. For this purpose, a mechanism for obtaining 360° feedback from stakeholders is in place.

Teachers provide postgraduate doctors with methodological and didactic materials, as well as additional literature to prepare for classes. 75% were completely satisfied, 25% were partially satisfied, and 0% were dissatisfied.

The organization has several clinical facilities. These include three facilities accredited by Joint Commission International (CMC with 450 beds, the Heart Center with 200 beds, and the Diagnostic Center with up to 800 visits per shift), as well as more than 10 agreements with external medical organizations. *In response to the survey question "Is there sufficient time for practical training (patient management, etc.)?", 75% of postgraduate doctors fully agreed, 12.5% partially agreed, and 6.25% partially disagreed. Furthermore, 68.75% of postgraduate doctors stated that the teacher provides feedback after classes (listening to their opinions, conducting a mini-survey, and an error analysis session).* At the same time, when asked, "Are postgraduate doctor representatives involved in the development of educational programmes?", the experts received mixed responses. The majority of postgraduate doctors (62.5%) were completely satisfied with the class schedule, indicating that it was convenient and met their expectations. Another third of respondents (31.25%) reported partial satisfaction, which may indicate specific areas requiring adjustment. Only a small proportion (6.25%) expressed dissatisfaction with the schedule, and the absence of "I doubt" responses suggests that the participants had a well-formed and clear opinion on this issue. Overall, the schedule can be considered effective, but there is potential for targeted improvements.

Postgraduate doctors confirmed that evidence-based medicine is integrated into their learning. Specifically, by using clinical protocols in patient management, postgraduate doctors are familiar with evidence-based bibliographies.

A survey of postgraduate doctors revealed that the educational institution provides access to student participation in research, with 81.25% fully satisfied. A teacher (supervisor) does not offer me research work – 6.25%. Postgraduate doctors are expected to engage in research, and in their

responses to the survey, over 80% indicated they are already engaged in research, with 20% planning to begin.

2.5 Learning methods and experience

The primary learning methods in residency are simulation technologies, participation in interdisciplinary discussions, case conferences and Journal Club educational sessions. Supervising is provided in accordance with the Regulations on the Clinical Academic Department of Radiology and Nuclear Medicine (approved by Resolution No.24 of the CF "UMS" Board of Directors dated November 29, 2021). During interviews with postgraduate doctors, experts found that teachers most frequently use oral presentations, lectures, case problems, clinical exercises and case studies. A clinical supervisor is responsible for the practical learning. Feedback is provided daily, and postgraduate doctors can ask the supervisor any question and also access medical records and the patient management information system through the supervisor' account (under their control).

Virtual learning methods are used, including the use of simulation equipment. Simulation-based learning is conducted in specially equipped 62.0 m² simulation rooms located at the CMC. Postgraduate doctors of the accredited educational programme have access to the following simulation equipment: a Karl Storz laparoscopy and hysteroscopy simulator, as well as resuscitation, obstetric, neonatal and pediatric equipment. It is designed to develop practical skills not only in core but also in additional activities, allowing students to expand their range of competencies, apply theoretical knowledge in real-world settings and hone their professional skills. Simulation learning is included in the curriculum in the first year of study.

The principles of quality, academic honesty and anti-plagiarism **(ESG II Part 1.3)** are documented in the Rules for the Organization of Educational Programmes of Residency of the CF "UMS", approved by Decision No.9 of the Board of Directors dated June 3, 2024. Experts asked postgraduate doctors, "What do they understand by academic honesty?" and received the following answer: "It is a principle that excludes plagiarism, cheating and falsification of data, and also implies responsibility for the results of one's own academic activities". The experts concluded that the principles of academic honesty in residency programmes primarily relate to areas such as ethical conduct in clinical assignments, independence in academic and practical work, the correct use of information sources, honesty in assessment procedures and examinations, and a responsible approach to documenting clinical cases and maintaining medical records.

Postgraduate doctors are informed of their rights and responsibilities through a website. The Department of Education is responsible for this.

Postgraduate doctors' ethical compliance is based on the Code of Business Ethics, developed and approved at CF "UMS" by Decision No.17 of Board of Directors dated December 26, 2022.

Experts confirm that the educational organization provides postgraduate doctors with the necessary skills and abilities that can impact their personal development and be applied in their future careers **(ESG II Part 1.3).** This is confirmed by observations and surveys, as well as by attending classes, meeting with teachers and supervisors and completing a postgraduate doctor questionnaire.

Principles of equality, including gender, cultural and religious ones, are observed with respect to postgraduate doctors and teachers, as documented in the Rules for the Organization of Educational Programmes of Residency at CF "UMS", approved by Board of Directors Decision No.9 dated June 3, 2024. No instances of non-compliance with these principles were identified during a visit to the educational organization. The fundamental documents for the educational institution are the Constitution of the Republic of Kazakhstan and the Law of the Republic of Kazakhstan on Education, where Article 3, paragraph 3, establishes the principle of equal rights for all citizens to education, regardless of gender, age, social status and other factors.

Teaching and learning methods are regularly adapted to changing conditions **(ESG II Part 1.5)** and the requirements of practical healthcare. For example, the educational programme's management has included elective courses on "Artificial Intelligence in Nuclear Medicine" and "Complex Radionuclide Diagnostics and Therapy of Lymphoproliferative Diseases" in the curriculum, which

were developed based on stakeholder feedback. The selection of the clinical facility for postgraduate doctor training was also based on an analysis of postgraduate doctor training needs and the availability of clinical facilities capable of providing a wide range of clinical cases and technologies.

Of the 16 postgraduate doctors surveyed, 75% responded that teachers use active and interactive learning methods quite often in classes, while 25% said they use them rarely or sometimes.

2.6 Educational programme and learning facilities

Postgraduate doctor training for the accredited educational programme will be conducted at several clinical facilities. These are three institutions accredited by Joint Commission International (CMC - 450 beds, Heart Center - 200 beds, DC - up to 800 visits per shift), as well as more than 7 contracts with 7 external medical organizations (JSC "Scientific Center of Neurosurgery"; LLP "National Research Oncology Center"; Republican State enterprise on the Right of Economic Management "National Scientific Center of Traumatology and Orthopedics named after Academician N.D. Batpenov; State-owned utility enterprise based on the right of economic management "City Multidisciplinary Hospital No.1 of the Local Administration of Astana; State-owned utility enterprise based on the right of economic management "City Multidisciplinary Hospital No.2" of the Local Administration of Astana; State-owned utility enterprise based on the right of economic management "Multidisciplinary City Children's Hospital No.2" of the Local Administration of Astana; state-owned utility enterprise based on the right of economic management "Multidisciplinary Medical Center" of the Local Administration of Astana), which includes learning at the level of primary, secondary and tertiary levels of medical care. To confirm this standard, the EEC members visited the main clinical facilities, including the LLP "National Researcg Oncology Center", where the Center for the Implementation of Radiation Oncology and Nuclear Medicine is located.

Postgraduate doctors can work in the laboratories of the above-mentioned clinical facilities (clinical, biochemical, bacteriological, enzyme immunoassay, PCR), functional diagnostic units, radiation, radioisotope, and clinical diagnostic units. An agreement for the provision of paid educational activities for residency programmes has been signed with each clinical facility. The Department of Education is responsible for this.

The selection of clinical facilities was based on the structure of the educational programme and related disciplines. The educational organization implementing the residency programme has the authority to select/determine the clinical facility as the location for postgraduate doctor training, based on agreements with the clinical facilities. These medical organizations are accredited by Joint Commission International.

The experts ensured that postgraduate doctors have access to the resources of the medical organizations. During the survey, postgraduate doctors confirmed that they have access to educational and real-world equipment for mastering practical skills.

The following staff and stakeholders participated in the planning, development, discussion and approval of the educational programme **(ESG II Part 1.2):** T.B. Dautov, Director of the Clinical and Academic Department of Radiology and Nuclear Medicine, Doctor of Medical Sciences; B.S. Duisenbayeva, Head of the Diagnostic Radiology Unit of the Clinical and Academic Department of Radiology and Nuclear Medicine, PhD in Medicine. The residency programme was approved at the meeting of the Educational and Methodological Council, Minutes No.2 dated February 2, 2024.

Approval of the residency programme includes discussion and approval by the Educational and Methodological Council, which includes not only heads but also teachers, employers and students.

The educational process management reflected in the self-assessment report (*Standard 2*) and general management approaches were confirmed during a visit to the Department of Education and discussions with the director and staff. At the same time, verification of *Standard 2* revealed the need for more systematic consideration of the academic schedule and levels of medical care (primary, secondary, tertiary) when planning and adjusting individual postgraduate doctor learning paths.

The experts reviewed the work of divisions, including the Center for the Implementation of Radiation Oncology and Nuclear Medicine at the LLP "National Research Oncology Center". 6

meetings were held. A cross-sectional interview revealed that programme heads and teachers engage students in advisory bodies on a regular or periodic basis. This indicates the existence of mechanisms for student participation in academic governance. However, the number of "I don't know" responses points to the need to increase student awareness of the forms and opportunities for their participation in methodological and academic councils, as well as educational programme committees.

The training of postgraduate doctors in the specialty of "Nuclear Medicine" is aimed at meeting the needs of practical healthcare, as Kazakhstan has a specific shortage of nuclear medicine specialists.

During discussions with the organization's management, experts received information about the compliance of clinical facilities with the requirements for training postgraduate doctors in the specialty of "Nuclear Medicine", and teachers confirmed that postgraduate doctor training will be conducted directly in the clinical units (rooms) of radiation diagnostics and therapy. Postgraduate doctors in this specialty will be able to manage patients with diseases diagnosed and treated using radiopharmaceuticals.

2.7 Opportunities for higher degrees and research

The educational organization offers the following research opportunities: equipped laboratories and clinical facilities, access to modern diagnostic equipment, postgraduate doctor participation in departmental research projects, access to scientific databases and electronic libraries, scientific supervision by teaching staff, and the opportunity to publish research results and participate in scientific conferences. The topics of the selected research projects are approved at meetings of the Educational and Methodological Council.

The results of the research are presented in the form of scientific publications, articles and theses. Journal clubs are held monthly, where postgraduate doctors, before beginning clinical practice, become familiar with current scientific publications, analyze modern research and discuss it with teachers. Postgraduate doctors interviewed confirmed that they are provided with access to research equipment and scientific events held at the learning facilities.

EEC findings by criteria. Comply with 28 standards, 27 - fully compliant, 1 - partially compliant, 0 - not compliant.

Standard	Standard implementation	Recommendations for improvement
2.4.2	Partially implemented	To ensure postgraduate doctors achieve established learning outcomes, adjust the learning path in accordance with regulatory documents (credit ratios), the curriculum, and the level of medical care (i.e., consider primary, secondary and tertiary levels).

Standard 3: ASSESSMENT OF POSTGRADUATE DOCTORS

3.1 Assessment policy and system

Assessment methods at CF “UMC” include both direct observation of postgraduate doctors’ clinical activities and analysis of their theoretical background and research activities. Midpoint and summative assessments of knowledge are conducted through written tests, oral exams, clinical case solving and assessment of practical skills mastery using simulation equipment or at the patient's bedside. All assessment procedures are consistent with the criteria set out in the learning outcomes for each module. In interviews, postgraduate doctors described the assessment methods, such as assessing professional behavior and patient attitude through formative feedback from clinical supervisors, completing a skills log and completing a portfolio. They are satisfied with all of these methods. They also receive regular feedback from teachers. The assessment results appeal system is reflected in the document "Rules for the Organization of Residency Educational Programmes at the CF “UMC”, approved by Resolution No.9 of the CF “UMC” Board of Directors dated June 3, 2024. There have

been no appeals since the institution's operation. The assessment covers all competencies, including communication skills, and this assessment system satisfies postgraduate doctors, as confirmed by survey. For example, in response to the question *"Am I satisfied with the methods used to assess my knowledge and skills?", the following results were obtained: "Yes, completely" - 93.75%, "Partially" - 6.25%, "No" - 0%. Therefore, a score of 93.75% indicates that the assessment methods used are perceived as fair, understandable and adequate.*

Validation and reliability assessment of postgraduate doctor assessment methods (tests, tasks, cases) are carried out by Department of Education staff in conjunction with educational programme heads, with discussions at the Educational and Methodological Council.

The educational organization has a practice of engaging external examiners to assess postgraduate doctors, which is documented in the Orders and minutes of the examination committee. This ensures the independence and objectivity of assessment results. **(ESG II Part 1.3)**

For example, to verify the data in *Standard 3*, experts interviewed A. A. Syzdykova, Head of the Department of Education, and reviewed the postgraduate doctor assessment documents and methods. Feedback from teachers, supervisors and employers helps improve assessment forms and control and measurement equipment. For example, based on feedback, elements for assessing communication and ethical-legal skills were included, and formative assessment scales and clinical skills checklists were improved.

There is a document for appealing assessment results: "Rules for the Organization of Residency Educational Programmes at the CF "UMC" approved by Resolution No.9 of the CF "UMC" Board of Directors dated June 3, 2024. To date, there have been no appeals from postgraduate doctors.

During a visit to the organization and a conversation with T.B. Dautov, Doctor of Medical Sciences, Director of the Clinical and Academic Department of Radiology and Nuclear Medicine, the commission confirmed that a documentation system is in place that is transparent and accessible to all teachers and staff. This system includes documents such as annual operational plans, annual reports, division regulations, agreements with teachers and postgraduate doctors, and educational and methodological documentation (educational programmes, working curricula, syllabuses and journals), assessment tools (checklists, reports), certificates, verifications and credentials. A review of the website revealed that its pages contain documents necessary for postgraduate doctors: curricula, schedules, syllabuses, academic calendar, catalog of elective disciplines and a reference guide. Information on the website https://umc.org.kz/educational-methodical-documentation/ is regularly updated.

During a visit to organization, management was asked, "Are external examiners involved to improve the fairness, quality and transparency of the assessment process?" A positive response was received.

During interviews with 4 teachers regarding assessment methods, experts received convincing evidence that postgraduate doctor knowledge and skills assessment procedures are standardized, transparent and aligned with stated learning outcomes. Postgraduate doctors also shared their opinions on the timeliness of testing, pre-exam counseling and the clarity and fairness of the entire assessment process. For example, postgraduate doctors reported that assessment criteria are communicated to them in advance, results are discussed with teachers, and feedback is provided when necessary. 5 employers interviewed also indicated that graduate training is consistent with current developments in medical practice and science, as graduates demonstrate strong clinical skills, the ability to work with modern diagnostic equipment and apply the principles of evidence-based medicine. Employers stated that they participate in postgraduate doctor assessments themselves, as they are included in clinical assessment activities. However, the educational organization did not provide systematic feedback to them. Employers believe that residency graduates' skills, such as medical judgment, diagnostic interpretation and communication with clinical specialists, as well as knowledge of modern clinical protocols and diagnostic standards, are the ones they would most like to see strengthened.

At the same time, there are challenges in developing control and measurement equipment, including ensuring the timeliness, validity and reliability of assessment tools, as well as their alignment with clinical competencies and learning outcomes**.**

3.2 Assessment in support of learning (formative assessment)

The assessment system regularly identifies postgraduate doctors' strengths and weaknesses, as it includes formative and summative assessments based on predetermined and transparent criteria. Formative assessments are conducted weekly, typically after the completion of a seminar, using case problems or tests. Formative assessment of postgraduate doctors also includes observation of practical skills, oral discussions of case studies and self-assessment. Formative assessment is recorded in grade reports and individual portfolios, which are reviewed by experts. Teachers regularly provide feedback to postgraduate doctors following their assessments.

Postgraduate doctor feedback is collected in the form of questionnaires and discussed at EMC meetings. In interviews, postgraduate doctors confirmed that they receive feedback after completing their learning. Improvements to the formative assessment form, including criteria on professional conduct and ethics, have been made during the postgraduate doctor feedback process. The experts inspected the resources for organizing the assessment of knowledge and practical skills, namely, a 62.0 m² simulation room located at the CMC and a 22.0 m² computer lab with 14 computers with internet access and access to international scientific and educational literature databases such as Elsevier, Web of Knowledge (THOMSON REUTERS), SPRINGER (SpringerLink), Clarivate Analytics, EBSCO: Medline Complete and DynaMed Plus, Wiley Online Library, and BMJ.

The experts determined that the selection of postgraduate doctor assessment methods is primarily based on direct observation of postgraduate doctors' activities in clinical settings, as the practical component of learning is main. For example, a "privilege list" has been integrated into the educational process, regulating postgraduate doctors' access to independent appointments, interventions and practical skills development. Established assessment forms and methods ensure that postgraduate doctor has mastered all sections of the educational programme and acquired the necessary practical skills. Postgraduate doctors are provided with information from the teachers on the results of their assessments. **(ESG II Part 1.3)**

3.3 Assessment in support of decision-making (summative sssessment)

The summative (final) assessment of postgraduate doctors includes an assessment of the postgraduate doctor-physician's level of knowledge and practical skills at the end of a rotation/discipline, conducted by a teacher and clinical supervisor, either separately or jointly.

The criteria for admission to the final certification are postgraduate doctors who have completed the full residency programme at the CF "UMC" in accordance with the requirements of the Working Curriculum, Individual Curriculum and the portfolio. This is documented in the "Rules for the Organization of Educational Programmes of the Residency at the CF "UMC".

Admission to the independent examination of postgraduate doctors is contingent upon fulfillment of all educational programme requirements, including successful completion of formative and current assessments, midterm examination, midterm assessments, completion of the curriculum and confirmation of the development of the necessary competencies within the timeframes stipulated by the National Center of Independent Examination.

Postgraduate doctors - physicians who have completed their academic period in accordance with the requirements of the Individual Curriculum and Portfolio are eligible for midterm assessment. Admission to midterm assessment is granted to postgraduate doctor - physicians by the Department of Education. Midterm assessment of postgraduate doctor - physicians is conducted once a year by the Clinical Competencies Committee, which evaluates the postgraduate doctor - physician's progress in competencies according to the grade report. In the educational organization's practice, postgraduate doctors (including those in other specialties) pass an independent examination 100% of the time.

Assessment of postgraduate doctors' clinical decision-making is based on the analysis of clinical

cases, case problems and practical exams and reflects the level of medical judgment and the ability to reasonably select diagnostic and treatment strategies.

The fairness and objectivity of the summative assessment is confirmed through independent examination and peer-to-peer review of results and is documented in examination protocols and evaluation commission reports.

The reliability and validity of quantitative data from postgraduate doctor assessment results is ensured by programme heads and the Department of Education **(ESG II Part 1.3).**

3.4 Quality assurance of the assessment system

Mechanisms that guarantee the quality of all assessment methods used and the existing postgraduate doctor assessment system as a whole are supported by the following: the presence of approved and transparent assessment criteria, regular analysis of assessment results, the participation of independent experts, documentation of assessment procedures and results, and the use of feedback from postgraduate doctors and teachers to continuously improve the assessment system. The educational institution engages independent examiners in postgraduate doctor assessment. For example, in 2022, experts from the National Center of Independent Examination participated in the internal review of materials prior to the final certification. The discussion and approval procedure are outlined in the CF "UMS" Residency Programme Rules (approved by Resolution No.9 of CF "UMC" Board of Directors dated June 3, 2024).

The results of formative and summative assessments are discussed at EMC meetings, and conclusions are drawn regarding the assessment methods and content.

Postgraduate doctors' assessments include questions about patient safety. For example, the grade report includes elements assessing communication and ethical-legal skills.

The formative and summative assessment methods are reviewed annually by teachers and staff of the Education Department. The review is documented in EMC minutes. In 2024, the Education Department conducted a teacher survey, which resulted in changes to the educational process. *A 2024 employer survey showed that graduates of CF "UMS" programmes demonstrate a high level of professional and practical competencies, a readiness for independent clinical practice and the ability to apply modern radiological diagnostic methods* **(ESG II Part 1.3).**

EEC findings by criteria Comply with 15 standards, 13 - fully compliant, 2 - partially compliant, 0 - not compliant.

Standard	Standard implementation	Recommendations for improvement
3.1.2	Partially implemented	It is recommended to improve the existing assessment matrix with clear criteria, standardized observation formats and regular application, which will allow for the transformation of individual good practices into a sustainable quality control mechanism.
3.4.1	Partially implemented	It is recommended to develop existing digital technology systems in the educational process (assessment, monitoring).

Standard 4: POSTGRADUATE DOCTORS

4.1 Selection and progression policy

The educational institution has a postgraduate doctor admissions policy called the "Residency Admission Rules at the CF "UMC" approved by Resolution No.6 of the CF "UMC" Board of Directors dated April 8, 2024.

Approaches to postgraduate doctors' admissions are based on national requirements, namely, the Standard Admission Rules for Educational Institutions Implementing Higher and Postgraduate Education Programmes, approved by Order No.600 of the Minister of Education and Science of the Republic of Kazakhstan dated October 31, 2018. Transparency of the selection process and equal access to residency programmes are achieved through regulated selection criteria and documented admissions procedures, as confirmed in paragraph 3 of the "Residency Admission Rules at the CF "UMC".

The document addresses residency applicants' requirements regarding their previous undergraduate and internship achievements (e.g., a list of research projects) and describes safety requirements (e.g., rules for working with medical and laboratory equipment, compliance with health and safety regulations). **(ESG II Part 1.4)**

The educational institution has created a barrier-free learning environment, including ramps, call buttons, elevators and toilet for disabled people.

Approaches to the admission and transfer of postgraduate doctors from other educational institutions are reflected in paragraph 2.5 of the document "Rules for the Organization of Educational Programmes of the Residency at CF "UMC", approved by Resolution No.9 of the CF "UMC" Board of Directors dated June 3, 2024.

The appeal procedure for residency admission is outlined in paragraph 4 of the "Rules for Admission to the Residency at CF "UMC". To date, there have been no appeals against the accredited programme. **(ESG II Part 1.4)**

Residency admissions policy is being addressed through feedback from postgraduate doctors, and the following changes have recently been made to the residency admissions approach: selection criteria have been clarified and published, applicant information procedures have been improved, and the transparency of the competitive stages has been increased.

The admissions and selection policy, as well as the number of postgraduate doctors, is reviewed annually, under the responsibility of the Department of Education.

During the period 2024–2025, 125 postgraduate doctors were accepted into all educational programmes. In 2026, admission to the specialty "Nuclear Medicine" is planned. The total number of postgraduate doctors graduating since the start of residency admissions across all specialties was 102. The educational organization analyzed the practical healthcare sector's need for nuclear medicine specialists and determined the need to implement the educational programme "Nuclear Medicine". Sources of information on the need for nuclear medicine specialists include employer surveys, statistical data from the State Programme "Enbek", materials from authorized healthcare agencies and labor market analysis results.

Thus, experts validated the self-assessment report data according to *standard 4*. Overall, all criteria were met, although some organizational and procedural shortcomings were identified. Comments were made regarding the completeness and relevance of certain documents.

4.2 Performance improvement and exit from the programme

Processes and opportunities for improving postgraduate doctors' academic performance and professional development, as well as the conditions under which a postgraduate doctor may be expelled from the programme, are documented in the Rules for the Organization of Educational Programmes of the Residency at CF "UMC", approved by Resolution No.9 of the CF "UMC" Board of Directors dated June 3, 2024.

Academic advising for postgraduate doctors is conducted according to the established schedule and the document specified above. The practice of academic advising, personal support for postgraduate doctors and the development of non-professional skills were assessed by experts through interviews with postgraduate doctors and graduates. The following information was obtained during

interviews with postgraduate doctors and graduates: postgraduate doctors receive timely academic and personal support, note the availability of advisors, and positively evaluate the contribution of advising to their professional and personal development.

Teachers prevent unexpected incidents involving postgraduate doctors that could potentially cause harm to patients. This is accomplished through introductory and routine briefings, regular monitoring of postgraduate doctors' activities in clinical divisions, clinical case studies and discussions of potential risks related to medical procedures. According to teachers, no such incidents were observed between 2021 and 2024. At the same time, the CF "UMC" has developed and implemented a "Code of Business Ethics", which sets forth requirements for postgraduate doctors to adhere to the principles of medical ethics and deontology, ensure patient safety and perform clinical procedures only under the control of a supervisor. Each postgraduate doctor is familiar with and applies informed patient consent for examination, treatment and medical procedures in clinical work. Before classes begin, postgraduate doctors are instructed by their supervisor on compliance with the rules of conduct in a medical organization and sign a document - a log (or sheet) of occupational health and safety instructions. This was confirmed by postgraduate doctors during a meeting with experts.

Social, financial and personal support for postgraduate doctors is provided in accordance with the educational institution's local regulations and is documented in orders from the head, minutes of commission meetings and postgraduate doctors' personal files. During the reporting period, social, financial and personal support was provided to postgraduate doctors upon request, as reflected in orders and memos. This support included social benefits, financial assistance, counseling and psychological support. For example, a flexible call work hour has been established to provide social support for postgraduate doctors. Financial support for postgraduate doctors is provided through a monthly state scholarship allowance of 134,664 KZT (as of 2025), awarded for the entire duration of residency training in accordance with the current legislation of the Republic of Kazakhstan. Psychological support for postgraduate doctors is provided through preventive discussions and, if necessary, referrals to specialized specialists.

Confidential counseling by psychologists is provided to residency graduates to help them plan their careers. A career counseling system with a 100% employment rate is also in place for graduates. **(ESG II Part 1.4)**.

4.3 International medical graduates

The admission of foreign citizens (deadlines, application procedures and list publication) is regulated by the "Residency Admission Rules of the CF "UMC", approved by Resolution No.6 of Board of Directors dated April 8, 2024, which confirms the existence of equal access procedures. To be admitted, foreign postgraduate doctors must provide a diploma with an official transcript, an internship completion certificate, proof of qualification in Kazakhstan, an identity document, and, if available, proof of English proficiency (TOEFL or IELTS score of at least 5.0). The "Residency Educational Programme Organization Rules of the CF "UMC" guarantee equal opportunities for postgraduate doctors. A contract is concluded with postgraduate doctors, a copy of which is given to the postgraduate doctor, and another copy is kept by the Department of Education.

The Department of Education is responsible for identifying the challenges faced by international applicants to residency programmes. To this end, department employees were interviewed, sharing information about the difficulties international applicants face when submitting documents, language and adaptation barriers, the specifics of admission procedures and integration into the educational process, as well as measures taken to support them. There are currently no postgraduate doctors who do not speak the state language or Russian, so the experts did not find any problems in completing professional clinical training. International postgraduate doctors can provide feedback on the residency programme using electronic or paper questionnaires and written feedback. No negative feedback was received from postgraduate doctors during the review period.

4.4 Postgraduate doctor work and study

Postgraduate doctors are provided with a programme that defines goals, objectives, overall workload and work hours, their areas of responsibility and the intended learning outcomes. Postgraduate doctors are informed about their supervisors. Currently, more than 20 clinical supervisors are involved in postgraduate doctor training in the accredited programme at 3 internal and 2 external clinical facilities. Postgraduate doctors are informed about the number and timing of the current assessments and final examinations. Information about the examinations is published on the organization's website www.umc.org.kz . The experts reviewed the information on the website in the "Residency" section .

Postgraduate doctors participate in events organized by the clinical facilities, in accordance with the Comprehensive Plan for the Joint Activity of the Clinic's Educational Organization. The clinical learning programme for postgraduate doctors includes managing 5-10 patients per month, presenting at conferences and 4 calls. All of this is regulated in the document "Rules for the Organization of Educational Programmes of Residency at the CF "UMC".

Responsibility for ensuring the quality of the educational process rests with curators, teaching staff and department/division heads. The Education Department of the CF "UMC" centers is responsible for organizing the quality control system.

The procedure for issuing academic leave (including leave due to pregnancy, illness, childcare or service) is regulated and allows for the continuation of training after a forced break, taking into account previously acquired clinical experience.

4.5 Postgraduate doctor safety

The legal status of a postgraduate doctor with respect to the provision of medical care to patients is defined in the Agreement for Residency Training (the Rules for the Organization of Educational Programmes of Residency at the CF "UMC" stipulate that a postgraduate doctor - physician is not an independent provider of medical care, but rather performs practical skills under the guidance of a supervisor and within the framework of an approved privilege list). Postgraduate doctors provide medical care to patients under the control of a supervisor. While in the first year of study, postgraduate doctors can perform basic clinical procedures (collecting complaints and anamnesis, examining patients and participating in medical procedures) under the direct control of a supervisor, in the senior year, postgraduate doctors provide medical care independently within their competence and approved clinical protocols, with subsequent control and responsibility of a supervisor.

Postgraduate doctors' physical safety during training is regulated in the Postgraduate Doctor Handbook, which states that failure to comply with biological and clinical safety requirements may result in disqualification from work in units.

Postgraduate doctors' psychological safety is ensured through a supervising system, regular feedback, supervisor support and the ability to contact programme management in cases of overload, conflict or emotional burnout.

4.6 Postgraduate doctor remuneration

Postgraduate doctors receive a monthly scholarship allowance of 134,664 KZT in accordance with the current legislation of the Republic of Kazakhstan.

The remuneration policy is revised based on changes in the regulatory legal acts of the Republic of Kazakhstan and/or by decision of the educational institution's management, but not less than once every three years. Postgraduate doctors may work 0.5 of their full-time position outside of their studies in accordance with the Labor Code of the Republic of Kazakhstan and the medical institution's internal regulations.

Under special circumstances (e.g., temporary disability, maternity leave, child care, long-term illness or other documented valid reasons), an individual postgraduate doctor training program is applied. This includes adjustments to the individual curriculum, redistribution of academic and clinical workload and changes to the duration of individual modules without reducing the overall educational

programme. This is stipulated in the document "Rules for the Organization of **Educational Programmes** of Residency at the CF "UMC".

4.7 Postgraduate doctor health and welfare

Postgraduate doctors are provided with professional and personal support focused on their physical health, personal welfare and psychological health, including "professional burnout" prevention, through psychological services, individual and group counseling, and preventative and awareness-raising events. During a meeting with experts, postgraduate doctors reported that they can obtain legal assistance by contacting the educational organization's lawyers.

EEC findings by criteria. Comply with 19 standards, 19 - fully compliant, 0 - partially compliant, 0 - not compliant.

Standard 5: TEACHERS AND CLINICAL SUPERVISORS

5.1 Teachers and clinical supervisor establishment

The teaching staff for the specialty "Nuclear Medicine" consists of 25 specialists, including 1 Doctor of Medical Sciences, 2 Candidates of Medical Sciences, 3 Master's Degrees and 9 specialists with the highest qualification category.

The composition of the teachers and curators at the CF "UMC" is agreed upon by the heads of clinical departments, reviewed by the Educational and Methodological Council, and approved by order of the UMC head. Academic degree holder rate is 24%, and 9 hold the highest qualification category.

The experts reviewed the teachers' job descriptions. The responsibilities of teachers and clinical supervisors in matters of ethics and academic honesty are officially regulated by the "Code of Business Ethics of the CF "UMC" dated December 26, 2022.

Chapter 3 "Monitoring and Coordination of Postgraduate Doctor - Physician Work at CF "UMC" centers of the "Rules for the Organization of Residency Educational Programmes at the CF "UMC" outlines the responsibilities of the curator, teacher, clinical department head, unit head and clinical supervisor. The teacher-to-postgraduate doctor ratio is 1:3.

The incentive system for teachers and clinical supervisors includes the following: financial incentives (additional pay and allowances for supervising and participation in the implementation of residency educational programmes), non-financial incentives (letters of thanks, certificates of honor), consideration of teaching and supervising activities during certification and promotion, as well as opportunities for advanced training and professional development.

The principles of ethics and academic honesty for teachers are reflected in the "CF "UMC" Code of Business Ethics" dated December 26, 2022. During interviews with teachers, they confirmed their awareness of this issue.

To verify the self-assessment report data for *Standard 5*, external experts obtained teachers' opinions on the HR policy. This includes knowledge of the requirements for appointing among CF "UMC" teaching staff and/or practical healthcare professionals with more than 5 years of experience, teaching certificates, first or highest qualification categories, and relevant training in medical education. The conversation with teachers included questions on how clinical facility employees are recruited for teaching (there are 5 such teachers in total), the strategy and tactics for enrolling postgraduate doctors, and the informational support of the educational programme. The conversation also addressed challenges in human resource management and development, as most supervisors are not proficient in teaching methods.

There are technical and administrative staff to support the educational programme **(ESG II Part 1.5),** including employees of the education department, as well as technical staff supporting the operation of the educational and clinical facilities.

A meeting was held with employees of support divisions such as accounting and IT specialists.

A survey of teachers revealed that the majority (70.59%) were completely satisfied with the work and workplace organization at this educational institution, while 23.53% were partially satisfied. At

this educational institution, teachers have the opportunity to engage in research and publish their research results - 76.47% completely agree, 17.65% - partially. 64.71% completely agree, 35.29% partially satisfied with the work of the education department. Salaries are satisfactory - 35.29% completely agree, 23.53% partially satisfied.

5.2 Ethics and conduct of teachers and clinical supervisors

The HR policy defines the responsibilities and obligations of teachers in the high-quality education of postgraduate doctors. This is described in paragraph 62 of the "Rules for the Organization of Residency Educational Programmes at the CF "UMC", approved by Resolution No.9 of the CF "UMC" Board of Directors dated June 3, 2024.

The principles of teachers' ethics and academic honesty are described in the "CF "UMC" Code of Business Ethics" dated December 26, 2022, which addresses issues related to ethics in research and educational activities, including the actions of teachers and supervisors. Teachers interviewed confirmed that they are aware of the "CF "UMC" Code of Business Ethics". The official publication of these documents is available on the organization's website.

The system for monitoring and improving the performance of teachers **(ESG II Part 1.5)** and clinical supervisors is based on the approved key performance indicators (KPIs) of the clinical academic departments (CADs), which cover educational and scientific activities. These KPIs assess the degree of employee engagement in educational and research activities. The quality of educational and methodological support for the educational process is monitored by the Department of Education of the CF "UMC", with discussions at the Educational and Methodological Council.

A teachers' survey is being conducted by the Department of Education. Results of the 2023-2024 teachers' survey revealed low scores for postgraduate doctors' independence in working with patients (6.70%), access to computer programmes (7.90%), and especially access to the simulation room (6.40%). Furthermore, there was variability in ratings for teachers' time and motivation for learning (8.20%) and postgraduate doctors' interest (8.50%), indicating the need for additional work to maintain engagement on both sides.

5.3 Continuing professional development of teachers and clinical supervisory staff

During meetings with the head of the Human Resources Department and during interviews with teachers, experts obtained opinions on approaches to developing faculty pedagogical competence, motivation to work with postgraduate doctors and supervising. The activities are regulated in accordance with the Rules for the Search, Selection, Hiring and Certification of Employees at the Corporate Foundation "University Medical Center" and its Branch, No.24, dated November 29, 2021.

The experts determined that teachers and postgraduate doctors have sufficient time for teaching, supervising and learning. The teacher work schedule is set out in the teacher and supervisor work schedule, approved by order of the head of the educational organization. Working hours: 8:00 a.m.–7:00 p.m. Teachers conduct weekly seminars lasting 6 hours. Time for clinical discussions and bedside rounds is 1.5–2 hours. Calls are 4 times per month.

The experts received feedback on the teacher advanced training programme, which is conducted annually. In 2025, 2 teachers from the accredited educational programme in the specialty "Nuclear Medicine" were trained. These activities are funded by the educational organization. The expert reviewed teachers' certificates on topics such as "Development of Educational Programmes Based on a Competency-Based Approach" and "Professional Development Programme (PDP) in Scientific Research".

Teachers' salaries consist of a basic salary, incentive bonuses for teaching and research activities, additional payments for supervising, performing additional duties, and bonuses and incentives stipulated by the educational institution's local regulations.

Funding for supervising is provided monthly or upon completion of a certain amount of work specified in the document, ensuring transparency and documented financial calculations.

The experts noted that teachers actively initiate research topics for postgraduate doctors, foster interest in additional education, and encourage independent work with professional literature and medical documentation.

The personnel policy **(ESG II Part 1.5)** and approaches to engaging clinical supervisors are reviewed annually in accordance with the changing needs in postgraduate medical education. The most recent review was conducted in 2025, and the following changes and additions were made: additional incentives for postgraduate doctors' supervision were introduced, and opportunities for supervisors to participate in research and educational activities were expanded**.**

The educational institution provides opportunities for career growth and development of teacher competencies: 64.71% of surveyed teachers responded, and 29.41% partially agreed. 47.06% attended professional advanced training programmes during the current year, 36.29% - more than three years ago, 5.88% - more than 5 years ago, and 11.76% answered "I don't remember when that was".

The institution implements social support programmes for teachers: 5.88% answered "yes, such programmes exist", 5.88% - "I have already taken advantage of them", 23.53% answered "no such programmes exist" and 47.06% of respondents were unaware of them.

EEC findings by criteria. Comply with 8 standards: 7 - fully, 1 - partially, 0 – not compliant.

Standard	Standard implementation	Recommendations for improvement
5.3.3	Partially implemented	To align with current international trends in postgraduate doctors' training, it is recommended to expand the development of supervisors' pedagogical skills - feedback methods, coaching, facilitation and assessment tools - to provide comprehensiveness to the programme and enhance the effectiveness of learning.

Standard 6: EDUCATIONAL RESOURCES

6.1 Physical facilities for learning and research

Postgraduate doctor training will be conducted at several facilities: The CMC - 450 beds, the Heart Center - 200 beds, the Diagnostic Center - with up to 800 visits per shift, and the LLP "National Research Oncology Center" including for postgraduate doctors of the accredited educational programme in "Nuclear Medicine".

The CMC has 3 classrooms for 10–20 people, a 200-seat conference hall (transformable), a second hall for 50 people and a small hall for 20 people. The DC also has a 100-seat conference hall and a 20-seat hall for seminars and journal clubs. The library is located in the CMC, with an area of 324.67 m² and the reading room has a capacity of 34 seats. The library's collection as of 2024 is 1,760 units. Access is available to resources from the Nazarbayev University School of Medicine (PubMed, UpToDate, Clinical Key, etc.) and the Republican Scientific Medical Library. The library space per student is 2.4 square meters.

Access to simulation equipment is provided in the Simulation Classroom, located at the CMC and occupying 62 square meters. It is equipped with 14 simulators, including phantoms and dummies for practicing basic and specialized procedures. Practice covers skills such as basic resuscitation, venipuncture, catheterization, bandaging, intubation, ECG and others. Skill acquisition is assessed using formative scales and approved minimum procedures in the individual curriculum and student journals.

The Clinical and Academic Department (CAD) of Radiology and Nuclear Medicine consists of 8 unit: Unit of Inpatient Radiology; Unit of Inpatient Ultrasound; Unit of Interventional Radiology; Unit of Diagnostic Radiology; Uniy of Radiopharmaceutical Synthesis. Unit of Nuclear Medicine; Radiopharmaceutical Quality Control Sector; Radiation Control Sector. The EEC experts visited the LLP "National Research Oncology Center" and inspected the existing equipment with the participation of Kairgeldy Dauletovich Datbayev, Head of the Medical Physics Department. He showed the units of

the cyclotron production complex, the radioisotope diagnostics unit, the therapy unit and the radiation therapy center, which are equipped with unique PET/MRI machines from “SIEMENS” (3 TESLA), a PET/CT machine from “PHILIPS” (64-SLICE), a SPECT/CT machine from “SIEMENS” (16 slices), a BRAVOS brachytherapy machine, an EDGE system for stereotactic radiation therapy and radiosurgery, a TRUEBEAM STX radiation therapy system, an ETHOS adaptive radiation therapy system, a SOMATOM GO SIM pre-radiation CT scanner (CT simulator) (64 slices) and a PROBEAM 360 proton therapy system.

A safe learning environment in laboratories/offices of functional/instrumental diagnostics **(ESG II Part 1.6)** is ensured by familiarizing postgraduate doctors with safety and occupational health regulations before the start of the session, as well as through introductory and refresher training. Experts reviewed the Safety Regulations and the Safety Instruction Log, which are posted on the organization's information boards. Postgraduate doctors interviewed confirmed their awareness of these documents.

At CF “UMC” overseas internships for postgraduate doctors - physicians are organized on a competitive basis through the “UMC Extended Observership Programme (UMC EOP)”. The programme's terms and conditions are governed by the Rules for the Selection and Sending of Postgraduate Doctors - Physicians on Secondments, approved by Resolution No.12 of the Educational and Methodological Council dated May 16, 2025. During the reporting period, 12 postgraduate doctors - physicians were sent on overseas internships under the UMC EOP programme. The duration of these overseas internships was at least two weeks. Leading international medical centers served as internship sites, including Istituto Giannina Gaslini (Genoa, Italy); University Hospital Medical Park Goztepe and Acibadem Altunizade (Istanbul, Turkey); Filatov Children's City Clinical Hospital (Moscow, Russia); Chris O'Brien Lifehouse (Sydney, Australia); and San Raffaele Scientific Hospital (Milan, Italy).

The educational programme includes a course called "Research" in which postgraduate doctors master and apply scientific research methods in medicine. This course requires a total of two hours.

Postgraduate doctors conducting scientific and practical research are provided with access to instrumental and laboratory equipment.

The physical facilities, including the library collection, are updated every 5 years. Thus, over the past 5 years, the following has been updated: software (Platonus) was updated, access to electronic library resources and databases was expanded, and the library collection was expanded with modern educational and scientific literature on the specialty of “Nuclear Medicine”. **(ESG II Part 1.6)**

Interviews with teachers, including those responsible for the “Nuclear Medicine” educational programme, revealed both successes and challenges in educational management, depending on specific resources (postgraduate doctor access to equipment, a sufficient number of specialized patients, time for medical documentation, independent work).

6.2 Postgraduate medical education based on clinical learning

A review of resources demonstrated that they are aligned with the goals and objectives of educational activities. For example, clinical facilities were visited, including the CMC which has 450 beds, the Heart Center - 200 beds and the DC - up to 800 visits per shift. The educational organization's employees ensure collegial and ethical relationships with medical staff and clinical facility management to achieve postgraduate doctors’ intended outcomes. A sufficient number of specialized patients with various pathological conditions requiring X-ray diagnostics and image interpretation were provided, along with modern equipment and its accessibility demonstrated to students. Teachers ensure high-quality education while adhering to ethical and deontological standards.

During visits to the clinical facilities of the CMC, the Heart Center, the DC and the LLP “National Research Oncology Center” which houses the Center for the Implementation of Radiation Oncology and Nuclear Medicine, experts assessed the resources, their compliance with learning programmes, accessibility for teachers and postgraduate doctors, and the extent to which the equipment is modern and meets the needs of students and practical healthcare.

To validate the self-assessment report and obtain evidence of programme quality, interviews were conducted with 11 postgraduate doctors. Experts asked questions about satisfaction with learning, sufficient time for patient management, working with medical documentation, satisfaction with teaching methods and teachers' qualifications, social and moral support for postgraduate doctors who need it, participation in "Journal Clubs" and access to international professional literature databases. Overall, postgraduate doctors were satisfied with the learning and assessment methods and specifically entered this institution because they believed the educational institution had good resources, a strong reputation and international connections. At the same time, postgraduate doctors would like more independence in patient management and the organization of international events.

The programme includes a simulation rooms equipped with a Karl Storz laparoscopic and hysteroscopy simulator, as well as resuscitation, obstetric, neonatal and pediatric equipment. Postgraduate doctors of the educational programme in the "Nuclear Medicine" can practice practical skills in providing emergency patient care. Thus, postgraduate doctors' learning in the simulation center is an integrated part of clinical education.

Postgraduate doctors at the educational organization demonstrated their commitment, actively responded to questions from external experts and provided their opinions on the organization of learning, their skills' assessment, advisory support, opportunities to participate in research and funding. They also demonstrated a broad range of knowledge. Experts reviewed postgraduate doctors' documents (portfolios, postgraduate doctors' assessment results - checklists and postgraduate doctors' survey results).

To develop teamwork experience among postgraduate doctors, the educational organization conducts events such as the Journal Club. Interprofessional interaction is also achieved through joint clinical case reviews involving specialists from various fields, interdisciplinary consultations and team simulation exercises. Postgraduate doctors demonstrate a collaborative approach to clinical cases, discussing diagnostic and treatment plans for patients and delegating responsibilities within educational and clinical groups. Postgraduate doctors can conduct health and safety education activities for patients and staff. For example, postgraduate doctors organize safety workshops for nursing and junior medical staff.

In the survey, postgraduate doctors indicated that they have free access to patients at clinical facilities and are provided with all the necessary conditions to improve their practical skills - 100% strongly agreed.

Regular upgrades to clinical facility equipment and other educational resources are carried out in accordance with changing postgraduate doctors' training needs. The planned and current number of postgraduate doctors is taken into account to ensure a 3:1 postgraduate doctor-to-teacher ratio. The clinical supervisor profile is determined by the CAD, and the Education Department evaluates their compliance with the residency goals and objectives, their level of education and their mastery of teaching methods. Thus, during the reporting period, 22 clinical supervisors completed training at the "Professional Development Programme (PDP) in Scientific Research" seminar. Clinical supervisors were provided with the following materials for training postgraduate doctors: syllabuses, topic-specific handouts and case studies.

Expertise in the educational organization includes the following areas: analysis of postgraduate doctor competency development results, monitoring the quality of clinical training, assessing student and teacher satisfaction through research, including analysis of postgraduate doctor academic performance and practical skills, surveys and feedback collection, comparative analysis of educational methods and the implementation of innovative learning approaches.

The educational organization participates in projects such as the Programme-Targeted Financing Project of the Science Committee of the Ministry of Science and Higher Education of the Republic of Kazakhstan "Unconventional Peripheral Blood T-Cells in Pediatric Immunological and Oncohematological Diseases: Focus on Outcome, Response to Therapy and Potential Therapy Targets". As a result of the project, new diagnostic and treatment methods for oncohematological diseases have been introduced.

The Education Department employees conduct annual monitoring of the quality of educational programmes, and the results are included in analytical reports and presentations at meetings of the Educational and Methodological Council.

Sociological surveys, including questions about education quality, could become one of the mechanisms for assessing education. However, such surveys are not conducted regularly within educational institutions.

The assessment is conducted through an analysis of specialist needs and postgraduate doctor learning methods, and the results allow conclusions to be drawn about the quality and effectiveness of innovative changes being implemented in the postgraduate education system. For example, based on the analysis, course materials were adjusted and clinical training methods were revised.

Mechanisms for motivating and developing employee and teacher interest in conducting research in postgraduate education include incentive payments, support for participation in scientific and educational events, consideration of research results in certification and career advancement, and organizational support for research initiatives. This is documented in the "Regulations on Scientific and Innovative Activities", which reflects the planning, organization and implementation of scientific and innovative activities at the CF "UMC" dated February 22, 2018, by Resolution No.4 of the CF "UMC" Board of Directors.

6.3 Training postgraduate doctors at alternative clinical facilities

The academic policy for postgraduate doctor training includes the option of studying at organizations if the existing clinical facilities do not cover all the topics of the educational programme. At the same time, postgraduate doctor training in the specialty "Nuclear Medicine" will be conducted at the Clinical and Academic Department (CAD) of Radiology and Nuclear Medicine. The CAD comprises 8 units: Inpatient Radiology Unit; Inpatient Ultrasound Unit; Interventional Radiology Unit; Diagnostic Radiology Unit; Radiopharmaceutical Synthesis Unit; Nuclear Medicine Unit; Radiopharmaceutical Quality Control Sector; Radiation Control Sector.

In addition, additional training is provided at the LLP "National Research Oncology Center" where the radiology building of the Center for the Implementation of Radiation Oncology and Nuclear Medicine is located. The EEC experts visited this clinical facility and inspected the existing equipment with the participation of Kairgeldy Dauletovich Datbayev, Head of the Medical Physics Department, who showed off the units of the cyclotron production complex, the radioisotope diagnostics unit, therapy unit and the radiation therapy center, which are equipped with unique PET/MRI machines from "SIEMENS" (3 TESLA), a PET/CT machine from "PHILIPS" (64-SLICE), a SPECT/CT machine from "SIEMENS" (16-slice), a BRAVOS brachytherapy machine, an EDGE stereotactic radiation therapy and radiosurgery system, a TRUEBEAM STX radiation therapy system, an ETHOS adaptive radiation therapy system, a SOMATOM GO SIM pre-radiation computed tomography (CT simulator) (64 slices) and a PROBEAM 360 proton therapy system.

International cooperation agreements exist that provide for the joint development and implementation of projects with the participation of postgraduate doctors and aimed at educational and clinical training of particular specialties in molecular genetics (clinical diagnostics and research), personalized medicine, rare diseases and clinical research. Thus, in 2019 - 6 memorandums have been concluded, 2020 - 3 memorandums, 2021 - 2 memorandums, 2022 - 4 memorandums, 2023 - 4 with organizations, universities, associations, including with such countries as the USA, Russia, Finland, Lithuania, Slovenia, Korea, Israel, Italy, Ghana and others. For example, in 2022, memoranda of cooperation were signed with the Ospedale Pediatrico Bambino Gesù Children's Hospital (Italy) for a period of five years. That same year, a memorandum was signed with Samsung Medical Center (Korea) for a period of two years. The purpose of this memorandum is to maintain a close, collaborative treatment system between CF "UMC" and Samsung Medical Center through a mutual patient referral system, the exchange of up-to-date medical information and the promotion of the development of the international medical community by creating a system of mutual cooperation.

Teachers and postgraduate doctors of the educational institution actively participate in national and international events.

There is a document regulating the transfer and mutual recognition of learning outcomes between the educational institutions in accordance with the "Rules for the Organization of Educational Programmes of Residency at CF “UMC". **(ESG II Part 1.2)**

Over a five-year period, 43 employees were trained abroad in 2021, 26 - in 2022 and 54 - in 2023. 8 specialists were trained abroad in the first half of 2025.

6.4 Information sources, resources and use

The experts assessed postgraduate doctors’ and teachers’ access to essential web resources, including professional databases, electronic scientific journals and specialized medical platforms, as well as access to electronic media (medical news and popular science portals). Postgraduate doctors confirmed that they can use online libraries, databases, electronic journals and educational platforms, including when preparing for classes.

The experts visited the library, which provides postgraduate doctors and employees with access to domestic and international electronic databases, including Thomson Reuters (Web of Science), Springer Link, OXFORD JOURNALS Medline and Scopus. The electronic library offers full access to full-text databases from international journals such as SCIENCE DIRECT and SCOPUS (Elsevier), Web of Knowledge (THOMSON REUTERS), SPRINGER (SpringerLink), as well as OVID CENTRAL, PUBMED, MEDLINE, EMBASE, BMJ Updates, ClinicalKey (Elsevier), and the COCHRANE LIBRARY, all accessible through personal registration.

A total of 253 printed and 156 electronic publications on the accredited specialty are available.

The educational programme will use technologies such as simulation and interactive methods, clinical discussions, CbD and elements of distance learning technologies. During independent study, postgraduate doctors will use electronic educational resources, professional medical databases, clinical guidelines and scientific literature. Access to patient data and the healthcare information system is provided via Bitnix HIS (Hospital Information System). Postgraduate doctors manage 5 patients per day, including completing the necessary documentation under the supervision of a teacher.

Distance learning elements such as online lectures, webinars, virtual clinical case studies and independent work on educational platforms are used in postgraduate doctor training on topics such as the theoretical foundations of diagnostics, medical image interpretation, clinical guidelines and standards of medical care. The ethics documented in the CF “UMC” Residency Educational Programmes Regulations, approved by Resolution No.9 of the CF “UMC” Board of Directors dated June 3, 2024, are adhered to.

Thus, the educational organization provides postgraduate doctors, teachers and clinical supervisors with access to information and the use of innovative information and communication technologies. **(ESG II Part 1.8**)

Information and communication technologies are represented by the following: 65-70% Wi-Fi coverage of the organization's territory; additional information resources available in the CF “UMC” include Mentor, Coursera and Microsoft Outlook.

Access to relevant patient data and healthcare information systems is organized through the medical organization's information systems using individual accounts and in compliance with privacy and personal data protection requirements **(ESG II Part 1.6).**

The experts reviewed the following documents regulating these processes: Agreements with clinical facilities (in the amount of 7); the "Regulations on Scientific and Innovative Activities", which sets out the procedures for planning, organizing and implementing scientific and innovative activities at the CF “UMC” dated February 22, 2018, by Resolution No.4 of the CF “UMC” Board of Directors; and the Safety Instruction Log.

EEC findings by criteria. Comply with 15 standards: fully - 15, partially - 0, not compliant - 0

Standard 7: QUALITY ASSURANCE AND IMPROVEMENT IN POSTGRADUATE TRAINING

7.1 Quality assurance system

A quality assurance system has been implemented, covering postgraduate medical education in particular. The system is based on the principles of the ISO 9001:2015 standard and is supported through regular internal and external audits. The Quality Management Department of the CF "UMC" is responsible for implementing the quality policy.

The decision-making and change management process related to residency programmes is regulated by the Regulation on EMC of the CF "UMC". Decisions are made collegially with the participation of stakeholders and are documented in relevant protocols. This document was developed by the Education Department and approved by Resolution No.10 of the CF "UMC" Board of Directors dated June 21, 2024. **(ESG II Part 1.1)**

Experts evaluated the programme for monitoring the processes and results of the educational programme, which includes a review of the educational programme (review available), programme discussions at the Educational and Methodological Council meeting (Minutes No.5 dated April 27, 2023), and the collection of feedback on various elements of the residency programme through stakeholder surveys. The Department of Science and Education conducts the review of educational programmes for compliance with external regulatory legal acts.

Postgraduate doctors' surveys are conducted annually and cover topics such as satisfaction with the educational process. Results of the 2023 postgraduate doctor survey conducted by the Department of Education showed that 82.4% of respondents responded positively. First-year postgraduate doctors most frequently noted more independent work and responsibility, more in-depth skill acquisition, and participation in and management of the journal club. Second- and third-year postgraduate doctors noted a new approach to weekly lectures, as well as more opportunities for self-assessment and self-development. The Department of Education is conducting a survey of employers. No survey was conducted for the specialty of "Nuclear medicine" **(ESG II Part 1.9).**

The selection and alignment of teachers and teaching methods is also based on postgraduate doctor feedback. For example, a survey of 24 radiology postgraduate doctors in 2025 showed that 25 of 29 supervisors achieved an average score above 9.0.

Programme assessment takes into account the goals and objectives of learning, as well as intended learning outcomes (through postgraduate doctor assessment and independent examination). The implementation of the educational programme is assessed through feedback from postgraduate doctors and teachers, as well as graduate achievements.

At the end of 2023, a survey of teachers in other specialties showed high ratings for the organization and content of residency programmes, particularly in terms of patient profiles, access to current literature, the effectiveness of practical skills and journal clubs. At the same time, areas for improvement were identified related to postgraduate doctors' independence when working with patients, access to computer programs and simulation training, as well as variability in teacher motivation and postgraduate doctor engagement, indicating the need for further improvement of the educational process.

Postgraduate doctor knowledge and skills assessment methods are assessed through an analysis of the results of formative and summative assessments, practical exams and feedback from teachers and postgraduate doctors. This assessment demonstrates their alignment with the stated learning outcomes and developing professional competencies. The adequacy and quality of educational resources is assessed by the CAD of Radiology and Nuclear Medicine and demonstrates that the educational resources generally support the implementation of the educational programme and the development of postgraduate doctors' stated competencies.

During the assessment of the quality of residency educational programmes, it was found that, along with achievements (availability of clinical facilities, access to modern educational resources and positive dynamics in the development of postgraduate doctors' practical skills), there are a number of

problems and shortcomings, including uneven levels of postgraduate doctor independence, limited access to simulation resources and the need for further development of interdisciplinary collaboration.

Feedback from clinical supervisors includes discussion of postgraduate doctor training results and suggestions for improving the educational process, which is conducted by the Clinical and Academic Department (CAD) jointly with the Department of Education at EMC meetings.

Thus, stakeholders are involved in the educational programme monitoring and evaluation activities **(ESG II Part 1.9)**, including graduates and representatives of professional associations.

The results of the clinical practice assessment of postgraduate doctors and residency programme graduates are communicated through announcements at EMC meetings and by posting information on the organization's website under the "Residency" section. Therefore, stakeholders such as the educational organization's management, teachers, clinical supervisors, postgraduate doctors and their parents are informed of the monitoring results and feedback.

Interviews with 11 employers were conducted online and included questions such as: knowledge of the CF "UMC" mission, participation in developing the mission and proposals for the strategic plan, participation in advisory bodies, satisfaction with postgraduate doctors' basic knowledge and skills, participation in postgraduate doctor training through supervising, providing postgraduate doctors with the necessary resources for practical training and developing medical judgment, problems with interactions with the educational organization, and more.

Employers valued graduates' qualities such as independence, knowledge of information technology and communication skills. However, they also noted graduates' weaknesses: insufficient experience in the practical application of knowledge in non-standard clinical situations and limited interdisciplinary interaction skills at the initial stages of professional activity. The employment rate over five years was 100%.

Postgraduate doctors' and graduates' performance are an indicator of the quality of educational programmes. Due to the lack of students, a survey of postgraduate doctors was not conducted.

Teachers assessed the level of postgraduate doctors' clinical training, which demonstrated positive dynamics in the acquisition of practical skills, the performance of diagnostic and therapeutic procedures under the control of a supervisor and the ability to work with medical documentation. The experts noted the following successes in postgraduate doctors' clinical training: a high level of independent performance of standard clinical procedures and confident use of modern imaging techniques. At the same time, the experts also identified deficiencies in postgraduate doctors' clinical training, including limited experience with non-standard or complex clinical cases, the need to strengthen interdisciplinary skills and the analysis of complex medical data.

Since the entire training and monitoring process for postgraduate doctors is concentrated in the Education Department, the results of the assessment of postgraduate doctors' and graduates' clinical practice are immediately communicated to the responsible officials. Management of the "Nuclear Medicine" residency programme is entrusted to T.B. Dautov, Director of the CAD of Radiology and Nuclear Medicine. To improve the educational process, the following measures are being implemented: educational materials have been updated to reflect modern clinical protocols, interactive learning methods have been introduced and independent work with medical records and digital educational resources has been expanded. However, it has been noted that new educational technologies need to be improved among teachers and supervisors, and the results of a survey of all stakeholders should be used to improve educational programmes.

The educational organization initiates procedures for regularly reviewing and updating the organizational structure through management meetings, workshops and internal audits of divisions' effectiveness. The current organizational structure of the postgraduate education sector (residency) was approved in 2025.

The postgraduate doctor training process, programme structure and content, postgraduate doctor competencies, and knowledge and skill assessment methods are subject to annual analysis based on a review of postgraduate doctor academic performance and final certification, data from internal education quality monitoring, feedback from postgraduate doctors, teachers and employers, and

recommendations from the Educational and Methodological Council. The experts reviewed the minutes of the EMC meeting for 2021-2025. Minutes No.19 dated October 2, 2025, discussed the catalog of elective disciplines for the 2025-2026 academic year, and Minutes No.7 dated March 17, 2025, discussed the research work of first-year postgraduate doctors.

The format of the postgraduate doctor portfolio is specified in the "Instructions for the Development of Educational and Methodological Documentation and the Academic Achievement Assessment System for Postgraduate Doctors of the CF "UMC", approved by Resolution No.2 of the EMC dated February 19, 2025. The experts reviewed the postgraduate doctors' portfolios.

An assessment of educational resources and the compliance of clinical facilities with the goals and objectives of the "Nuclear Medicine" residency programme will be conducted at meetings of the Educational and Methodological Council (EMC) with the participation of programme heads, clinical supervisors and representatives of the CAD and will be documented in EMC minutes.

Deficient areas identified during the educational programme quality monitoring process are documented in EMC minutes, and a plan for their elimination will be developed.

The educational programme update process is based on prospective studies, including an analysis of current clinical guidelines, scientific publications and best practices in medical education, as well as an analysis of feedback from students, postgraduate doctors, teachers and employers **(ESG II Part 1.10).** Over the past 2 to 3 years, the following changes have been made to residency programmes: educational materials on diagnostics and medical image interpretation were updated, new simulation training methods and clinical discussions have been introduced, and independent work with medical records and information systems has been expanded. Benchmarking of postgraduate education (residency) is underway with educational organizations such as the University of Pittsburgh Medical Center (UPMC).

As a result of the 2024 benchmarking, modern simulation technologies, standardized protocols for assessing postgraduate doctor practical skills and new formats for interactive clinical case studies have been incorporated into the educational process.

Teachers participate in international and national educational events. Thus, following participation in the International Scientific and Practical Conference "European Congress of Radiology 2023" in Vienna, Austria, modern approaches to diagnostics and interpretation of medical images were studied. The use of new diagnostic protocols, as well as improved methods for interpreting images and clinical cases, was incorporated into the residency programme.

7.2 Patient safety

A quality assurance system has been implemented, which includes analysis of postgraduate doctors' errors and patient safety, and is reflected in the document "Rules for the Organization of Educational Programmes of the Residency of the CF "UMC". Analysis of postgraduate doctors' errors is the responsibility of clinical supervisors and the CAD of Radiology and Nuclear Medicine.

Patient safety risks are identified by an instructor, and this includes a mandatory introductory briefing on patient safety, safety codes, emergency procedures, as well as familiarization with the Infection Control Programme and the internal Quality Programme.

EEC findings by criteria. Comply with10 standards: 9 - fully, 1 - partially, 0 – not compliant.

Standard	Standard implementation	Recommendationa for improvement
7.1.7	Partially implemented	Develop a feedback system through regular monitoring and analysis of data reflecting the specifics of specialties and use the results of surveys of all stakeholders to improve educational programmes.

Standard 8: GOVERNANCE AND ADMINISTRATION

8.1 Governance

The experts reviewed the governance structure of postgraduate medical education, which includes the educational institution's management, collegial governing bodies (Board of Directors, EMC), the Department of Education jointly with the Clinical and Academic Department (CAD), residency educational programmes heads, and the public participation bodies - the Board of Trustees. The structure was approved in 2025. The Department of Education is responsible for supervising. Responsibility for selecting clinical training facilities and concluding contracts with them rests with those responsible for educational programmes, particularly for the “Nuclear Medicine” programme, T.B. Dautov, Doctor of Medical Sciences, Director of the Clinical and Academic Department of Radiology and Nuclear Medicine.

During the meeting with management, the following evidence was obtained: the existence of a sustainable governing system, regulated processes and resources for implementing educational programmes. The experts reviewed the strategic development plan for 2024-2028, which reflects the goals and objectives of educational activities, including integration with international standards (WFME, ACGME), the development of fellowship programmes and the implementation of trusted professional activities (EPAs). Link to the strategic plan (https://drive.google.com/drive/folders/1H89yCt3NgcCymg6Lt-4ZtiTWyddRedz2).

Residency training is conducted in accordance with regulatory requirements such as the 2022 State Compulsory Educational Standard of the Republic of Kazakhstan, the 2023 Standard Curricula for Residency, the Standard Rules for Admission to Educational Institutions Implementing Higher and Postgraduate Education Programmes and the educational institution's internal regulatory documents, such as the "Rules for the Organization of Residency Educational Programmes at the CF “UMC” and the "Rules for Admission to Residency at the CF “UMC”. Knowledge and skills are assessed based on approved assessment criteria, assessment materials and the results of formative, midpoint and summative assessments. To implement the educational programme, the educational institution has an organizational structure in which the educational sector is represented by the Department of Education and the relevant CAD. The experts reviewed postgraduate doctors’ completion documents, including graduation orders and final certification protocols. A certificate of completion of residency is issued to postgraduate doctors upon successful completion of the final certification and contains information about the assigned qualification, specialty and duration of training.

At each CF “UMC” Center, the internal quality assurance system is coordinated by the Quality Management and Patient Safety Department (QMPSD), led by the Deputy Director for Quality Management and Patient Safety. This department is responsible for planning and coordination, improving the management system, improving the quality of services and conducting internal audits.

The educational programme in “Nuclear Medicine” is supported by relevant educational and methodological documents and teachers.

Completion of postgraduate doctors’ training is documented by the issuance of a residency completion certificate conferring the qualification of "radiologist" signed by the Chairperson and Secretary of the State Certification Commission, as well as the Head of the CF “UMC”. Thus, the educational organization complies with the recommendations of national authorized bodies, including the Ministry of Science and Higher Education of the Republic of Kazakhstan and the Ministry of Healthcare of the Republic of Kazakhstan. Thus, in accordance with the classifier of residency specialties (*On approval of the nomenclature of specialties and specializations in healthcare, the nomenclature and qualification characteristics of healthcare worker positions. Order of the Minister of Healthcare of the Republic of Kazakhstan dated December 21, 2020 under No.KR DSM-305/2020*).

8.2 Shared governance

The responsibilities and obligations of management and employees for postgraduate medical education are defined and assigned to the Department of Education and are codified in the document "Regulations on the Department of Education" (approved by the Resolution No.11 of the Board of Directors of the CF “UMC” dated August 1, 2023). Transparency of governance and decision-making in the educational process is ensured by the existence of regulated governance procedures,

documentation of governance decisions, dissemination of information to postgraduate doctors and teachers through official channels and regular discussion of key issues at EMC meetings, as reflected in the document "Rules for the Organization of Residency Educational Programmes at the CF “UMC”, approved by Resolution No.9 of the CF “UMC” Board of Directors dated June 3, 2024.

The educational organization evaluates the educational process management and employees in relation to the achievement of the residency programme mission and expected intended learning outcomes through feedback with postgraduate doctors and teachers (see Section 7.2 of the report).

In response to the survey question "Do the organization's management listen to your opinions regarding issues related to the educational process, research and clinical work?", 70.59% of 17 teachers responded "systematically", 17.65% responded "sometimes", 5.88% - "quite rarely", and 5.88% did not respond.

Funding for residency programmes is provided by the educational institution's budget and through revenues from educational services, grants and other sources, ensuring sustainable budgetary support for all areas of activity. The Department of Finance and Economics is responsible for planning and distributing funds for residency programmes. For the 2024–2025 academic year, the total state procurement (grants from MH) amounted to 376,297,558.38 KZT for 212 places, including 95 new admission places (including the additional grant). The scope of duties, responsibilities and authorities are reflected in the job descriptions for the management of the CF “UMC” and are codified in Order No.04-nk "On the Distribution of Duties, Powers and Responsibilities Between Members of the Board of Directors and Other Officials of the Corporate Foundation" dated February 7, 2023. This ensures a clear definition of roles, responsibilities and accountabilities within the organization of postgraduate medical education.

The budget for the following year is approved in the third quarter of the current year. The Department of Education develops a budget for publicly funded and paid services, as well as a budget for the purchase of goods, simulation equipment and books supporting the implementation of the residency educational programme.

In accordance with the procedure for distributing and calculating salaries, CF “UMC” has implemented a cyclical process for plan-versus-actual support of educational activities: by the 2nd of the month, the unit responsible for educational activities submits information on students and hours worked; by the 6th of the month, the Finance and Economics Department calculates and sends payroll statements for classes/supervising to the Accounting and Finance Department; the statements are approved by the Chairperson of the Board of Directors, and the originals are kept in the accounting department.

Today, experts are confident that the educational institution is financially and organizationally sustainable, as it has stable funding sources, an approved development strategy, an effectively established governance system, and sufficient human and material resources to implement educational programmes.

The procedure for updating the organizational structure is carried out regularly and in 2025, such changes were made as the optimization of governance structures in the CF “UMC” and the revision of the competencies of the governance bodies, the standardization of all business processes, the phased optimization of duplicate structural divisions and the integration of outpatient and inpatient services in a single CAD according to the profile.

Residency training has been updated, including revising curricula and coursework programmes to reflect modern medical practice and scientific requirements. These updates are discussed and approved at EMC meetings and are accompanied by the development of updated teaching materials and assessment materials. The educational organization annually allocates resources for continuous improvement in the amount allocated by the organization's approved budget.

To specifically improve the educational process, sociological research is conducted, including surveys of postgraduate doctors, teachers and employers, as well as a review of literature on postgraduate medical education (WHO and WFME recommendations, as well as current publications in specialized scientific journals). As a result of this analysis, approaches to teaching in the residency

programme were revised, and methods such as interactive learning, clinical case studies, simulation learning and elements of problem-based learning were introduced.

8.3 Postgraduate doctor and staff representation

The educational organization has the following advisory and consultative body: The Educational and Methodological Council (EMC), approved by Resolution No.10 of the Board of Directors of the CF "University Medical Center" dated June 21, 2024. Its members include teachers, postgraduate doctors, representatives of clinical departments and representatives of the Nazarbayev University School of Medicine. The Council meets at least six times a year, making decisions on curricula, certifications and updates, which are formalized in minutes and orders. Postgraduate doctors and teachers actively participate in curricula discussions and the analysis of survey results.

Mechanisms for rewarding postgraduate doctors for their community service include letters of gratitude and certificates, consideration of community service activities when creating their portfolios, recommendations for participation in scientific and professional events and moral encouragement from programme leadership.

In a survey of postgraduate doctors, experts found that postgraduate doctors are informed about opportunities to participate in scientific projects, publications and community service, actively engage in these activities and note the positive motivational role of existing incentive mechanisms.

The educational institution has a postgraduate doctor development programme that includes professional and personal development activities, research activities, participation in clinical practice, development of communication and governance skills, as well as a supervising and career counseling system. Postgraduate doctors are included in advisory bodies such as the EMC.

8.4 Administration

There is a corresponding administrative structural division overseeing educational activities - the Department of Education, operating in accordance with the Regulation on the Department of Education (approved by the Resolution No.11 of the CF "UMC" Board of Directors dated August 1, 2023) (13 people). The staff includes the following: Director A.A. Syzdykova. To effectively manage the educational process, 30 employees of the Department of Education have completed advanced training on "Development of Educational Programmes Based on a Competency-Based Approach".

CF "UMC" conducts regular management reviews to improve quality based on internal audits at its centers, tracers in accordance with international JCI requirements, and maintains a continuous quality improvement process. Based on the analysis, it generates a report and submits it to the JCI accreditation body.

The CF "UMC" internal quality assurance system is coordinated by the Department of Quality Management and Patient Safety (DQMPS), which includes the head of the department, a senior expert physician, an expert physician, and 4 leading specialists. The overall administration and governance of the educational process and the educational programme of the residency in "Nuclear Medicine" are assessed through an internal control system: scheduled audits of the educational process, regular "360"-degree surveys of postgraduate doctors and teachers, reports from the Department of Education, and results demonstrating achievements such as sustainable improvement in the quality of education, effective feedback, improved academic and clinical outcomes of postgraduate doctors and improved management decisions. **(ESG II Part 1.9)**

EEC findings by criteria. Comply with 8 standards, 7 - fully compliant, 1 - partially compliant, 0 - non-compliant.

Standard	Standard implementation	Recommendations for improvement
8.4.1	Partially implemented	To improve the quality of educational activities and ensure effective and systematic methodological support for the process, it is necessary to allocate positions for

		managers and methodologists implementing residency training.

CONCLUSION: The external assessment of the educational programme revealed that 103 of the 109 accreditation standards demonstrate full compliance. 6 standards were partially implemented. No non-compliance was identified.

Considering that the initial accreditation of the educational programme in “Nuclear Medicine” is underway and the admission of postgraduate doctors is planned for 2026, in compliance with the requirements of the Law on Education of the Republic of Kazakhstan, the educational organization has initiated specialized (programme) accreditation without postgraduate doctors’ contingent. Therefore, the tasks of the external expert commission included assessing the readiness of the CF “UMC” to accept postgraduate doctors, examining existing principles and approaches to postgraduate doctor training, quality assurance mechanisms and residency educational programme management using examples from other educational programmes. However, the EEC specifically examined the organization of learning in “Nuclear Medicine”, including documentation, teaching staff, educational resources and other important issues related to compliance with accreditation standards.

The EEC concluded that, despite the achievements in postgraduate doctor training, including the expected learning outcomes for the accredited educational programme "Nuclear Medicine," there are a number of issues that the university must address within the first or second quarter of 2026.

5. Recommendations for improvement of the educational programme "Nuclear Medicine":

Standard	Recommendations for improvement
2.4.2	To ensure postgraduate doctors achieve the established learning outcomes, adjust the learning path in accordance with regulatory documents (credit ratios), the curriculum and the level of medical care provided (i.e., consider primary, secondary and tertiary levels).
3.1.2 3.4.1	• It is recommended to update the existing assessment matrix by incorporating clear criteria and uniform forms of observation, and conduct it at regular intervals. • Develop existing digital technology systems in the educational process (assessment, monitoring).
5.3.3	To align with current international trends in postgraduate doctor training, it is recommended to expand the development of supervisors’ pedagogical skills - feedback methods, coaching, facilitation and assessment tools - to enhance the programme's comprehensiveness and its effectiveness.
7.1.7	Develop a feedback system through regular monitoring and analysis of data reflecting the specifics of specialties and use the results of surveys of all stakeholders to improve educational programmes.
8.4.1	To improve the quality of educational activities and ensure effective and systematic methodological support for the process, provide for the allocation of positions for managers and methodologists implementing residency training

6. Recommendation to the ECAQA Accreditation Council

The EEC members determined that the educational programme of residency in "Nuclear Medicine" complies with the Accreditation Standards and unanimously recommended that the ECAQA Accreditation Council accredit this programme for a period of 5 years.

	Full Name
Chairperson	Marina Alexeyevna Morenko
International Expert	Yavor Petkov Yenchev
International Expert	Leila Teimurovna Akhvlediani
Academic Expert	Valentin Manarbekovich Madyarov
Academic Expert	Saule Askerovna Yessenkulova
Academic Expert	Bibigul Amangeldiyevna Abeuova
Academic Expert	Gulnara Talipovna Tashenova
Academic Expert	Nailya Anuarovna Talkimbayeva
Academic Expert	Akmaral Shaimerdenovna Izbassarova
Academic Expert	Nailya Amirbekovna Kabildina
Academic Expert	Damilya Nurgaziyevna Salimbayeva
Academic Expert	Zhansaya Rustembekkyzy
Employer Expert	Kyzylgul Alimovna Tugelbayeva
Student Expert	Timur Nurzhanovich Makhmutov
Doctoral Expert	Ayaz Abdirakhymuly Yktiyarov

6. Рекомендация Аккредитационному совету ЕЦА

Члены ВЭК пришли к единогласному мнению рекомендовать Аккредитационному совету аккредитовать образовательную программу **7R01125 «Ядерная медицина» Корпоративного фонда «University Medical Center»** на период 5 лет.

Председатель ВЭК	МОРЕНКО МАРИНА АЛЕКСЕЕВНА	
Международный эксперт	ЕНЧЕВ ЯВОР ПЕТКОВ	
Международный эксперт	АХВЛЕДИАНИ ЛЕЙЛА ТЕЙМУРОВНА	
Академический эксперт	МАДЬЯРОВ ВАЛЕНТИН МАНАРБЕКОВИЧ	
Академический эксперт	ЕСЕНКУЛОВА САУЛЕ АСКЕРОВНА	
Академический эксперт	АБЕУОВА БИБИГУЛЬ АМАНГЕЛЬДИЕВНА	
Академический эксперт	ТАШЕНОВА ГУЛЬНАРА ТАЛИПОВНА	
Академический эксперт	ТАЛКИМБАЕВА НАЙЛЯ АНУАРОВНА	
Академический эксперт	ИЗБАСАРОВА АКМАРАЛ ШАЙМЕРДЕНОВНА	
Академический эксперт	ИВАНЧЕНКО НЕЛЛЯ НИКОЛАЕВНА	
Академический эксперт	КАБИЛДИНА НАЙЛЯ АМИРБЕКОВНА	
Академический эксперт	САЛИМБАЕВА ДАМИЛЯ НУРГАЗИЕВНА	
Академический эксперт	РУСТЕМБЕККЫЗЫ ЖАНСАЯ	
Эксперт-работодатель	ТУГЕЛЬБАЕВА КЫЗЫЛГУЛЬ АЛИМОВНА	
Эксперт- докторант	ЫҚТИЯРОВ АЯЗ ӘБДІРАХЫМҰЛЫ	
Эксперт- резидент	МАХМУТОВ ТИМУР НУРЖАНОВИЧ	

Приложение 1.

Профиль качества и критерии внешней оценки образовательной программы (обобщение)

Standard	Критерии оценки	Количество стандартов	Оценка		
			Полностью соответствует	Частично соответствует	Не соответствует
1.	МИССИЯ И ЦЕННОСТИ	6	6	-	-
2.	ОБРАЗОВАТЕЛЬНАЯ ПРОГРАММА	28	27	1	-
3.	ОЦЕНКА РЕЗИДЕНТОВ	15	13	2	-
4.	РЕЗИДЕНТЫ	19	19	-	-
5.	ПРЕПОДАВАТЕЛИ И КЛИНИЧЕСКИЕ НАСТАВНИКИ	8	7	1	-
6.	ОБРАЗОВАТЕЛЬНЫЕ РЕСУРСЫ	15	15	-	-
7.	ОБЕСПЕЧЕНИЕ И УЛУЧШЕНИЯ КАЧЕСТВА ПОСЛЕДИПЛОМНОЙ ПОДГОТОВКИ	10	9	1	-
8.	УПРАВЛЕНИЕ И АДМИНИСТРИРОВАНИЕ	8	7	1	-
	Всего:	109			-
			103		

Приложение 2

Список документов, изученных членами ВЭК в рамках проведения внешней оценки образовательной программы резидентуры

№	Наименования документов/дата утверждения	Количество
1.	Образовательная программа «Ядерная медицина»	
2.	Силлабус «Ядерная медицина» 1 года обучения на русском языке	
3.	Силлабус «Ядерная медицина» 2 года обучения на русском языке	
4.	Силлабус «Ядерная медицина» 1 года обучения на казахском языке	
5.	Силлабус «Ядерная медицина» 2 года обучения на казахском языке	
6.	Суммативная оценка по итогам ротации (шаблон)	
7.	Форма оценки навыков и умений (Формативная оценка)	
8.	Приказ No 53-н/қ от 10.02.2025 г. О внесении изменений в состав Учебно-методического совета КФ «UMC»	