

To the Accreditation Council of the  
Eurasian Centre for Accreditation and  
Quality Assurance in Education and  
Health Care  
May 17, 2024

**REPORT  
OF THE EXTERNAL EXPERT COMMISSION ON THE RESULTS OF THE  
EVALUATION OF THE EDUCATIONAL PROGRAMME  
7R01110 «RADIOLOGY»  
OF THE NJSC "MEDICAL UNIVERSITY OF KARAGANDA" FOR  
COMPLIANCE WITH THE STANDARDS FOR ACCREDITATION OF  
POSTGRADUATE EDUCATION PROGRAMMES (RESIDENCE  
SPECIALTIES) OF MEDICAL EDUCATIONAL ORGANIZATIONS**

**Period of external expert evaluation: May 15-17, 2024**

**Karaganda, 2024**

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## LIST OF DESIGNATIONS AND ABBREVIATIONS

Abbreviation	Designation
ECAQA	Eurasian Centre for Accreditation and Quality Assurance in Education and Health Care
WFME	World Federation for Medical Education
MSHE RK	Ministry of Science and Higher Education of the Republic of Kazakhstan
AC	Academic Committee
AP	Academic Policy
CPS	Certification of Practical Skills
HEI	Higher Education Institution
SCES	State Compulsory Education Standard
DAA	Department of Academic Affairs
DET	Distance Educational Technologies
DI and ID	Department of Informatization and Infrastructure Development
DHRM	Department of Human Resources Management
UHEMS	Unified Higher Education Management System
FCC	Final Certification Commission
End-of-course assessment	End-of-course assessment
IEP	Individual educational plan
IWP	Individual Work Plan
CDD	Clinical Diagnostic Department
CDC	Clinical Diagnostic Center
IMIS	Integrated Medical Information System
CED	Catalog of Elective Disciplines
QACS	Quality Assurance Commission of the School of Residency and Professional Development
MSE	Municipal State-Owned Enterprise
MOH	Ministry of Health
LEA	Local executive authority
NJSC MUK	Non-Commercial Joint-Stock Company "Medical University of Karaganda"
NCIE	National Center for Independent examinations
RW	Research work
STP	Scientific and technical project
RCCH	Regional Children's Clinical Hospital
RCH	Regional Clinical Hospital
EP	Educational programme
ICU	Intensive care unit
ARA	Admission Rating Assessment
EDI	Especially dangerous infections
MC	Major competencies
Academic staff	Academic staff
LO	Learning outcome
WC	Working curriculum
SSS	Student support service
IWR	Independent work of residents
IWRT	Independent work of residents with teachers

SRC	Student research club
Mass media	Mass media
CSET	Center for simulation and educational technologies
SR and PD	School of residency and professional development
CBL	Case-based learning
ECTS	European Credit Transfer and Accumulation System
CMAC	Centralized medical advisory commission

### 1. Composition of the External Expert Commission

In accordance with the order of the ECAQA No. 15 dated 02.05.2024, the External Expert Commission (hereinafter referred to as the EEC) was formed to conduct an external evaluation of the educational programme of the residency in the specialty "Radiology" in the period from May 15 to 17, 2024, in the following composition:

No.	Status in the EEC	Full name	Academic degree/title, position, place of work/place of study, year, specialty
1	Chairperson	Zhanalina Bakhyt Sekerbekovna	Doctor of Medical Sciences, Professor of the Department of Surgical and Paediatric Dentistry of the NJSC "West Kazakhstan Medical University named after Marat Ospanov"
2	International Expert	Nasyrov Ruslan Abdullaevich	Doctor of Medical Sciences, Professor, Vice-Rector for Research, Head of the Department of Pathological Anatomy with a Course in Forensic Medicine of the St. Petersburg State Paediatric Medical University of the Ministry of Health of the Russian Federation, Member of the New York Academy of Sciences
3	International Expert	Troinich Yana Nikolaevna	Vice-Rector for Social and Educational Work of the Armenian-Russian International University "Mkhitar Gosh", translator of medical literature - Logosfera Publishing House. Member of the Student Scientific Society at the Department of Histology of the Perm State Medical University. Head of the Student Scientific Society at the Department of Histology of the Perm State Medical University.
4	Academic Expert	Zhumalina Akmaral Kanashevna	Doctor of Medical Sciences, Professor, Head of the Department of Paediatric Diseases with a Course in Neonatology, NJSC "West Kazakhstan Medical University named after Marat Ospanov "
5	Academic Expert	Madyarov Valentin Manarbekovich	Doctor of Medical Sciences, Head of the Department of Surgery with a Course in Anaesthesiology and Resuscitation, NJSC "Kazakh-Russian Medical University"
6	Academic Expert	Nugmanova Aigul Maratovna	Doctor of Medical Sciences, Head of the Department of Paediatrics with a Course in CID, NJSC "Kazakh-Russian Medical

			University"
7	Academic Expert	Apbasova Saulesh Akhatovna	Candidate of Medical Sciences, Assistant of the Department of Pathological Anatomy and Forensic Medicine named after Professor Yu.V. Pruglo, NJSC "Semey Medical University"
8	Academic Expert	Yesetova Gulstan Utegenovna	Candidate of Medical Sciences, Head of the Department of Pulmonology, NJSC "Kazakh National Medical University named after S.D. Asfendiyarov"
9	Academic Expert	Sadykova Ainur Maralovna	Candidate of Medical Sciences, Associate Professor of the Department of Infectious and Tropical Diseases, NJSC "Kazakh National Medical University named after S.D. Asfendiyarov". Member of the working groups for preparation and participation in the National Ranking of Educational Programmes of the National Chamber of Entrepreneurs "ATAMEKEN", for conducting institutional accreditation.
10	Academic Expert	Tuksanbaeva Gulfariza Usenbaevna	Candidate of Medical Sciences, Acting Professor of the Department of Neurology, Psychiatry, Rehabilitation and Neurosurgery of the South Kazakhstan Medical Academy
11	Academic Expert	Iztleuov Yerbolat Maratovich	Candidate of Medical Sciences, Head of the Department of Radiology, NJSC "West Kazakhstan Medical University named after Marat Ospanov ", member of the local ethics commission on research work, internal auditor of the quality management service
12	Academic Expert	Pak Laura Alekseevna	PhD, Director of the Department of Higher Education of NJSC "Semey Medical University", Chairman of the State Unitary Enterprise Committee for the specialty "Oncology"
13	Academic Expert	Kamhen Vitaly Bronislavovich	PhD, Associate Professor, Associate Professor of the Department of "Health Policy and Organization" of NJSC "Kazakh National University named after Al-Farabi"
14	Employer Expert	Daniyarova Bayan Lashinovna	Head of the MSE "CDC Regional Clinical Hospital" of the Health Department of the Karaganda Region
15	Student Expert	Dyusembek Nazira Askerbekkyzy	Resident of the 2nd year of study in the specialty "Adult and Pediatric Neurology" of the NJSC "Astana Medical University"
16.	ECAQA Observer	Umarova Makpal Aldibekovna	Head of the Accreditation and Monitoring Department of the NI "Eurasian Centre for Accreditation and Quality Assurance in Education and Health Care".

The EEC report includes a description of the results and the conclusion of the external evaluation

of the educational programme "Radiology" for compliance with the Standards for Accreditation for postgraduate education programmes (residency specialties) of medical educational organisations and conclusions (hereinafter referred to as the Standards for Accreditation), recommendations of the EEC for further improvement of approaches and conditions for the implementation of the above-mentioned educational programme and recommendations for accreditation for the ECAQA Accreditation Council for Accreditation.

## 2. General part of the final report

### 2.1 Presentation of the educational residency programme in specialty 7R01110 "Radiology" of the NJSC "Medical University of Karaganda"

Name of the organization, legal form of ownership, BIN	Non-profit Joint-Stock Company "Karaganda Medical University", BIN: 190140033600
Management body	Sole shareholder - Ministry of Health of the Republic of Kazakhstan, Management body - Board of Directors, executive body - Management Board
Full name of the first director	Turmukhambetova Anar Akyzbekovna, Chairman of the Management Board - Rector
Date of establishment	The University was founded in 1950. RSE on the REM "Karaganda State Medical University" was reorganized into NJSC "Medical University of Karaganda" on the basis of order No. 82 of the Ministry of Finance of the Republic of Kazakhstan dated 01/25/2019
Location and contact details	Republic of Kazakhstan, Karaganda region, Karaganda, st. Gogolya, 40, 100008
State license for educational activities in residency (date, number)	License for educational activities No. KZ32LAA00016018 dated 06.05.2019
Year of commencement of the implementation of the accredited educational programme (EP)	Start year - 2018 Total number of graduates since the beginning of the residency programmes - 226 people.
Duration of training	2 years
Number of residents in the current academic year	1st year - 27 residents 2nd year - 14 residents
Quality indicators in residency	Number of residents in the program "Radiology" expelled over a period of 5 years - 1 people, including for academic failure - 0 people.  Employment rate, % in dynamics over 5 years: 2019 – 100% 2020 – 100% 2021 – 100% 2022 – 100% 2023 – 100%
Full-time teachers/part-time workers involved in the implementation of the EP, incl. % of Sedateness	Total number of teachers - 18, including full-time - 5, part-time - 13. Sedateness, % - 60% Categorization, % - 90%..

In 2016, Karaganda State Medical University admitted residents for the specialty "Radiological Diagnostics" under License No. 14020603, issued on April 14, 2015. Since 2019, the educational

activities of Karaganda Medical University have been carried out in accordance with the license for the field of 7R091 Healthcare, KZ32LAA00016018, issued on May 6, 2019. In 2022, the specialty name was changed to "Radiology."

## **2.2 Information about previous accreditation**

In 2018, the educational programme was accredited by the Independent Agency for Accreditation and Rating (Registration No.: AB No. 1785, validity period of accreditation of the EP: 14.06.2018-13.06.2023).

As part of the specialized accreditation, recommendations were made to increase the number of hours allocated for the practical part of the educational process for the next academic year. Starting from the 2019 academic year, the distribution of the educational process hours was adjusted with a focus on clinical training for residents: 70% of the hours were allocated to residents' independent work under the guidance of a clinical mentor, 10% to independent work, and 20% to practical classes with a teacher. These changes in the academic workload were reflected in the updated educational program and the working curriculum (WC) for 2022-2024. In the working curricula for the specialty, 80% of the hours were allocated for practical work under the guidance of a clinical mentor and independent work of residents, while 20% were designated for practical classes with a teacher. To enhance practical skills in a simulation environment, no additional hours were allocated; however, residents have access to the Center for Simulation and Educational Technologies as needed to reinforce their acquired skills. They also actively participate in regularly held interdisciplinary competitions, such as the "Emergency Conditions Territory" contest. Following the recommendations on the entrance exam, the entrance exam program was revised. It now includes the results of a comprehensive profile test for the residency educational program, an independent examination, and the GPA in biomedical sciences for the entire study period (bachelor's and internship), as well as portfolio evaluation (medical work experience, scientific achievements relevant to the educational programme profile).

## **2.3 Brief description of the results of the analysis of the self-assessment report of the educational programme of residency in the specialty 7R01110 "Radiology" and conclusions on the completeness**

The self-evaluation report for the residency educational programme in the specialty "7R01110 Radiology" (hereinafter referred to as the report) consists of 110 pages of main text, 29 pages of appendices, and copies or electronic versions of more than 100 documents available via the following link: [https://drive.google.com/drive/folders/1h5yEjtvHR00g2\\_1FiRPdnpGn61JckWvj?usp=sharing](https://drive.google.com/drive/folders/1h5yEjtvHR00g2_1FiRPdnpGn61JckWvj?usp=sharing) Including a working electronic link to Google Drive or another virtual resource is mandatory.

The report is characterized by comprehensive responses to all nine core accreditation standards and criteria. It is well-structured according to the recommendations outlined in the Guidelines for Conducting the Self-Evaluation of an Educational Program, provided by the Accreditation Center - ECAQA. The information within the report is internally consistent. A cover letter signed by Rector Anar Akyzbekovna Turmukhambetova is attached to the report, confirming the accuracy of the quantitative data and information included in the self-evaluation report.

The report includes a list of 9 members of the internal self-evaluation commission, indicating each member's responsibilities.

The self-evaluation of the educational programme "7R01110 Radiology" was conducted based on Order No. 396 dated October 17, 2023, "On Approving the Composition of the Working Group for Conducting the Self-Evaluation of Educational Programs."

Each standard describes the university's actual practices in preparing residents in the specialty "7R01110 Radiology," considering the enrollment of students in the 2023-2024 academic year. The report contains well-supported data, examples of program implementation tasks, national and international activities, and methodological support that confirm compliance with accreditation standards. The description in the self-evaluation report is sufficiently detailed and up-to-date, covering information about residents, faculty, administration, student selection and admission processes,



learning outcomes, knowledge and skill assessments, the university's material and technical base, clinical facilities, contractual obligations with partners (universities, associations, and clinical bases), financial information, development plans, and program improvement initiatives.

The report was submitted to ECAQA in its finalized version, incorporating data adjustments based on the recommendations mentioned above. The document is written in clear and professional language, with precise formulations for each standard. The tables and illustrations (diagrams, photographs) are referenced within the text and have sequential numbering.

### 3. Description of the external expert evaluation

The external expert work within the framework of the evaluation of the educational programme 7R01110 "Radiology" was organized in accordance with the Guidelines for the external evaluation of educational organizations and educational programmes of the ECAQA / Dates of the visit to the organization: May 15-17, 2024. The sequence of the visit over 3 days is presented in detail in Annex 3 to this report

The following methods and their results were used by the EEC members to obtain objective information:

- interviews with management and administrative staff - 33 people;
- interviews with residents - 47 people;
- study of the website - <https://muk.qmu.kz/ru/ob-universitete/>;
- interviews - 35 teachers, employers - 17, graduates - 24;
- survey of teachers, postgraduates and residents - 53, 9 and 39, respectively;
- observation of training of residents: Topic: Radiation research methods in neurology. Full-time teacher Abildin Mukhtar Abdeshevich. Contingent of students: 1st year residents in the specialty "Radiology". Venue: clinical base - Multidisciplinary Hospital named after Professor H.J. Makazhan;
- review of resources in the context of fulfilling accreditation standards: 2 clinical practice/clinical engagement bases were visited, including Multidisciplinary Hospital No. 3 and Multidisciplinary Hospital named after Professor H.J. Makazhan, where training is conducted under the educational programme "Radiology" with the participation of 3 full-time teachers / 6 part-time workers;
- study of educational and methodological documents in the amount of 120 units both before the visit to the organisation and during the visit to the departments (the list of documents studied is in **Annex 2**).

The staff of the accredited organisation ensured the presence of all persons specified in the visit programme and in the lists of interview sites and interviews (Table 1).

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

<b>№</b>	<b>Position</b>	<b>Quantity</b>
1.	Members of the Board	3
2.	Heads of structural divisions	11
3.	School deans	2
4.	Heads of educational programmes	11
5.	Members of the Academic Committee of the Senate, the School Quality Assurance Commission for educational programmes (Master's programme, residency)	6
6.	Teachers	35
7.	Students	47
8.	Employers	17
9.	Graduates	24
	<b>Total</b>	<b>156</b>



On the last day of the visit to the organisation, a meeting of the EEC members was held on the results of the external evaluation. A final discussion of the results of the external evaluation of the educational programme, examination of documents, results of interviews, conversations, and questionnaires was held. The EEC members began drafting the final report of the EEC. Generalizations of the external evaluation results were made. The experts individually filled out the "Quality Profile and Criteria for External Evaluation of the Educational Programme "Radiology" for Compliance with the ECAQA Standards for Accreditation."

Recommendations for improving the educational programme were discussed and the chairperson, B.S. Zhanalina, held a final open vote on the recommendations for the ECAQA Accreditation Council.

Comfortable and supportive conditions were created for the work of the External Expert Commission (EEC). Free access to all necessary information and material resources was provided, which allowed the commission members to carry out their functions properly.

Comfortable conditions were created for the work of the EEC, access to all necessary information and material resources was organized. The Commission notes the high level of corporate culture of the University, the high degree of openness of the team in providing information to the members of the EEC.

*While conducting a survey of residents, 88.89% rated the work of the External Expert Commission on Accreditation as positive, 11.11% as satisfactory. The majority of respondents (100%) believe that it is necessary to accredit an educational organization or educational programmes.*

*According to 78.57% of teachers, the survey conducted by the ECAQA is useful for developing recommendations for improving key areas of activity of the accredited educational organisation.*

At the end of the visit, the Chairman of the EEC announced recommendations for the management and staff of the educational organisation based on the results of the external evaluation as part of the specialized accreditation.

#### **4. Analysis of compliance with standards for accreditation based on the results of an external evaluation of the educational programme of residency in the specialty "Radiology".**

##### **Standard 1: MISSION AND FINAL OUTCOMES**

###### **1.1 Mission statement**

The mission of the postgraduate educational program (residency) in the specialty "Radiology" is to train highly qualified radiologists capable of meeting societal needs in providing medical care to patients, applying and advancing cutting-edge innovative technologies in medicine, science, and practice throughout their careers, and promoting public health.

*The university's mission is to develop society, improve the health and quality of life of Kazakhstan's population by achieving excellence in science, education, and practice.*

Based on interviews with the department head responsible for the educational program (EP), faculty members, residents, employers, and graduates, the program's mission aligns with the criteria of **Standard 1**. All participants in the educational process are familiar with the mission, actively contributed to its formulation, and were informed through the university's website, social media, and information letters sent to healthcare organizations. The department's plans and reports from the past five years were reviewed, confirming compliance with accreditation standards and demonstrating the organization's goals, objectives, and development prospects. Interviews with residents revealed that before starting classes, instructors inform them about the program's mission, organizational work plans, and sources of relevant information about the educational program, instructors, and training bases. Residents have access to syllabi, elective course catalogs, and other necessary documents.

During visits to the Department of Oncology and Radiological Diagnostics and clinical bases, experts highlighted the organization's strengths in delivering the accredited educational program.

The university collaborates with clinical bases directly related to the educational program, including:

Multidisciplinary Hospital named after K.J. Makazhanov, Multidisciplinary Hospital No. 3 (Oncology), Regional Clinical Hospital, Polyclinics No. 3 and No. 15, Central Regional Hospital of Temirtau, Miras Clinic. These facilities provide optimal settings for acquiring practical skills at hospital and outpatient levels, as well as at regional and district levels. The clinical bases are equipped with ultrasound machines, X-ray machines, mammographs, CT and MRI scanners. Training in PET imaging is conducted using licensed software and previous PET study results from other institutions.

The results of the documentation study demonstrate that the mission of the organization and the mission of the educational program "Radiology", and the educational process are built in accordance with the State Compulsory Educational Standard and current Laws and Statutory Instruments (LSI) in postgraduate education and health care. However, during meetings with faculty and residents, experts identified several issues, including limited academic mobility and insufficient coverage of clinical research methodology topics.

Residents in the "Radiology" program undergo training at the following clinical bases and departments: Multidisciplinary Hospital named after K.J. Makazhanov, Multidisciplinary Hospital No. 3 (Oncology), Regional Clinical Hospital, Polyclinics No. 3 and No. 15, Central Regional Hospital of Temirtau, Miras Clinic. These facilities include diagnostic units in hospitals and outpatient clinics, ensuring patient-centered care through practical training on diagnostic equipment such as X-ray, CT, MRI, and ultrasound machines. The institution prioritizes patient safety and autonomy by adhering to standard operating procedures (SOPs) established in accordance with legal regulations.

The distribution of resident physicians across clinical bases is managed independently by the educational institution according to the individual work plans of resident physicians, as outlined in the [Regulations on Residency](#) of NJSK "MUK" approved by the Board on August 23, 2022, Protocol No. 18. The clinical bases for residents in the specialty "Radiology" are the "Regional Clinical Hospital", the Clinic of the Medical University of the NJSK "MUK", the Clinic of Professional Health of the NJSK "MUK", "Regional Children's Clinical Hospital", Multidisciplinary Hospital No. 3 of Karaganda, which include diagnostic departments, CT and MRI rooms, ultrasound diagnostic rooms, X-ray rooms, equipped with the appropriate modern equipment and the necessary conditions for training residents.

Experts found that residents have suitable working conditions that support their health. Before starting work, residents receive safety instructions and sign acknowledgment forms. They maintain sanitary records for clinical work. The start and end times of residents' daily activities are regulated based on the clinical base's work schedule and the residents' individual learning schedules. All clinical bases offer facilities for rest, hot meals, and study. Residents adhere to sanitary and epidemiological regulations both on university premises and at clinical bases. Medical assistance is available on campus when needed. Additionally, NJSK "MUK" provides recreational facilities in Topar and Karkaralinsk.

Such major competencies of residents in the accredited specialty as (MC 1 - Clinical skills; MC 2 - Communications; MC 3 - Professionalism; MC 4 - Normative and legal knowledge; MC 5 - Research; MC 6 - Personal and professional development), as well as specialized competencies, allows the educational institution to implement innovative teaching methods. The university encourages residents to participate in research through the Student Research Society, supports participation in international conferences, and promotes involvement in academic events such as the Journal Club and annual scientific-practical conferences.

### **1.2 Professionalism and professional autonomy**

Experts have determined that the development of professionalism within the educational program (EP) for the specialty "Radiology" includes major competencies: MC 1 – Clinical Skills; MC 2 – Communications; MC 3 – Professionalism; MC 4 – Legal and Regulatory Knowledge; MC 5 – Research; MC 6 – Personal and Professional Development

The implementation of these competencies in the educational process ensures continuous personal and professional growth, instilling skills related to adherence to medical ethics, patient safety, and effective communication, fostering cooperation with patients, their families, and healthcare professionals, including the use of information technology. This approach ensures patient-centered care involving appropriate and effective treatment and disease prevention measures. <https://www.qmu.edu.kz/ru/contents/view/1245>.

The educational organization promotes the professional autonomy of residents by providing them with opportunities in the clinical environment. Radiology residents acquire skills in managing professional relationships and the activities of individual physicians while delivering diagnostic and therapeutic care to patients in both inpatient and outpatient settings, participating in consultations, night shifts, and radiologist appointments. Residents operate in an environment that ensures the freedom of professional decision-making for physicians. In clinical practice, they follow the key provisions of the clinical protocols of the Republic of Kazakhstan and international guidelines. The real clinical environment highlights the need to consider individual characteristics of disease progression in critically ill patients. The current stage of radiology development requires expanding diagnostic and treatment boundaries toward related disciplines. In these conditions, daily clinical practice provides residents with opportunities to develop skills in responsibility and professional freedom in making clinical decisions as radiologists.

Residents' clinical work is conducted according to the Residency Regulations of NJSC "MUK" (approved by the Board's decision on August 23, 2022, Protocol No. 18) <https://cloud.mail.ru/public/QKZ7/RMAeGTB5K> and includes participation of residents in morning medical conferences; supervision (management) / admission of patients in accordance with clinical protocols for diagnosis and treatment and standards of medical care under the guidance of a clinical mentor; participation in rounds, consultations, clinical reviews, pathological conferences; participation in additional laboratory and instrumental studies; development of communication skills, conducting informational and explanatory work among the population; work in structural divisions of medical organizations; participation in preparing reports on the activities of the department of the healthcare organization; duty at least four times a month at clinical sites, including in the clinics of NJSC "MUK".

Clinical mentors, through personal example, foster professionalism among residents. This competency is developed throughout the entire training program. Various assessment methods are used, including direct observation, 360-degree feedback, and feedback from different sources. <https://cloud.mail.ru/public/dvqs/tUN6hSkvN>

The list and volume of practical skills for residents' independent and supervised learning are determined by the training curriculum, syllabi, and reflected in residents' portfolios, with annual progress discussed at the Department of Oncology and Radiological Diagnostics meetings. Resident clinical work is evaluated through formative, summative, and standardized assessment approaches.

According to the Code of the Republic of Kazakhstan «On Public Health and the Healthcare System» No. 360-VI, July 7, 2020, residency training involves providing a job placement for resident doctors, with equal responsibility shared among the residency base, higher/postgraduate education institutions, national and research centers, and research institutes. When hiring a resident doctor, a medical institution issues an employment order, applying workplace rules, safety, and labor protection requirements to the resident throughout their training period.

Experts found that the educational organization fully ensures autonomy in selecting residents for the accredited specialty following Order of the Ministry of Health of the Republic of Kazakhstan dated 15.12.2020 No. ҚР ДСМ-270/2020. <https://adilet.zan.kz/rus/docs/V2000021802> "On approval of the Rules for placing a state order, admission for education and training of medical personnel in residency" of an educational organization in accordance with subparagraph 6) of paragraph 2 of Article 43-1 of the Law of the Republic of Kazakhstan dated July 27, 2007. [https://online.zakon.kz/Document/?doc\\_id=30118747&sub\\_id=43010000&pos=2034;-54#pos=2034;-54](https://online.zakon.kz/Document/?doc_id=30118747&sub_id=43010000&pos=2034;-54#pos=2034;-54) "On Education" determine the admission procedure, form, exam program and (or) a passing score of at least 75 points for applicants, taking into account the specifics of training specialties. This

determines the autonomy of the university in such key areas as the selection and admission of residents. The rules for admission to NJSC "MUK" are regulated by the Policy for Admission of Students to NJSC "Karaganda Medical University" (Academic Policy of NJSC "MUK" approved by the decision of the Senate on August 27, 2021, protocol No. 1). In NJSC "MUK", admission of students to residency is carried out on the basis of the approved document "Policy for Admission of Students to NJSC "MUK" (approved by the decision of the Board of Directors on May 27, 2022, protocol No. 37), which is revised annually.

Development of the Educational Program and Approaches to Resident Assessment. The responsibility of the administration and faculty in developing the educational program (EP) for the specialty "Radiology" is ensured through a hierarchical process of program development, review, and approval. This process involves the Academic Committee, the Quality Assurance Committee, the Board of the School of Residency and Professional Development, the Senate of the Non-Profit Joint Stock Company "Karaganda Medical University" (MUK), and the Chair of the Board-Rector of MUK, as confirmed by meeting minutes. All educational programs of NJSC "MUK" undergo internal and external reviews in accordance with established procedures and are included in the national Register of Educational Programs. If amendments or updates to the EP are required, the "Educational Program Change Sheet" (NJSC "MUK" Form 1.4/21-05/1) is completed. Based on the developed EP and the Work Curriculum, the head of the EP and faculty develop individual course plans, syllabi for modules/disciplines, and teaching materials, with their format, structure, and development procedures determined by the university independently. <https://cloud.mail.ru/public/2Snf/LVmAiMVKi>

Responsible staff presented experts with a document outlining the qualification requirements for residency program instructors. Faculty and clinical mentor requirements are regulated by the Residency Regulations of MUK (<https://cloud.mail.ru/public/QKZ7/RMAeGTB5K>). Training in the residency program is conducted under the supervision of faculty and clinical mentors. Faculty members conducting practical classes in the residency program must hold a Doctorate or Candidate of Sciences degree, a PhD degree, or be certified physicians with at least five years of relevant professional experience in the discipline they teach (<https://cloud.mail.ru/public/qrNP/p1RoMRrVK>). Faculty and clinical mentors improve their teaching skills through pedagogical training courses. During these courses, mentors become familiar with effective teaching strategies, the ability to set specific, measurable, achievable, relevant learning goals, and new teaching and assessment methods aligned with intended learning outcomes <https://cloud.mail.ru/public/riSG/ucqHzV9bp> (<https://cloud.mail.ru/public/T2To/qtxYgoaRw>).

The clinical supervisors overseeing residents' clinical activities are:

1. Baidildina Aigerim Sailauovna
2. Burgard Tatyana Anatolyevna
3. Yelubayeva Aitolkyn Sundetullayevna
4. Zhabayeva Tatyana Alekseevna
5. Zhaksylykova Zhumagul Serikbayevna
6. Kairbekova Zeynesh Mukhitzhanovna
7. Orazbekov Ormanbek Nursultanovich
8. Toksambayeva Aizhan Syzdykovna
9. Sarsenova Bayan Kadyrkeshovna
10. Imendinova Dinara Uysimbaevna
11. Uzakbayeva Nurzaken Nurtoleukovna
12. Shemberezkaya Alexandra Yuryevna
13. Yevstafyev Yevgeniy Borisovich
14. Starnovskaya Elena Alekseevna

Resident employment is regulated through an annual graduate placement monitoring conducted by the program head, schools, and the Graduate/Young Specialist Personal Placement Commission in collaboration with the Financial Center of the Ministry of Science and Higher Education of the Republic of Kazakhstan, municipal and regional healthcare departments, and employers.



Residents studying under the state order are employed through the Electronic Labor Exchange portal <https://www.enbek.kz>, a unified digital employment platform facilitating job searches and staff recruitment. The employment rate is 100%.

To verify standard 1, a meeting was held with the organization's head — Chair of the Board and Rector Turmukhambetova Anar Akylbekovna. During the discussion, experts inquired about university autonomy concerning its mission/vision, financial resource management, and educational program development. The Rector confirmed that NJSC "MUK" has a certain level of autonomy in these areas.

The relationship between the University and students is regulated by several documents, including the "Internal Regulations for Students," the "Academic Policy," and the educational services contract signed upon residency enrollment. This contract outlines students' rights and obligations, including the right to express personal views, freedom of conscience, and access to information.

The university promotes student representation and participation in the development, management, and evaluation of educational programs, as outlined in NJSC "MUK" Academic Policy.

Residents actively contribute to the educational program's organization by discussing and approving core programs, developing Individual Development Plans, and selecting elective courses at Residency School Council and Senate meetings.

The academic freedom of residents is manifested in the relationship between the University and the student, which is regulated by the "Internal Rules for Students", "Academic Policy" and the agreement for the provision of educational services, which is concluded with each student upon enrollment in residency. The agreement covers the rights and obligations of students at the University; it is stated that the student has the right to freely express his own views and beliefs, freedom of conscience, and information.

The University has a policy of representation of students and their participation in the development, management and evaluation of the EP (Academic Policy of NJSC "MUK", section 5-13). Radiology residents have a real opportunity to participate in the organization of the curriculum of the specialty during the direct discussion and approval of the EP, at the level of development of the Individual work plan and elective disciplines at meetings of the Council of the School of Residency and Professional Development, the Senate.

Second-year radiology resident Avilova Anna Dmitrievna, recognized for her excellent academic performance and positive personal qualities, is a member of the Board of the School of Residency and Professional Development <https://cloud.mail.ru/public/ShDa/JVxAeRo9k>.

Residents are regularly invited to meetings of advisory bodies and take part in the discussion of issues in the context of this specialty. Suggestions and recommendations of students are necessarily taken into account by members of advisory bodies and are taken into account when forming the final decision of the meeting. The decisive right in approving candidates from among residents for the School Council and Senate is held by the employees of the School of Residency and Professional Development. In this case, the determining criterion is the academic performance and active life position of the student.

The relationship between the University and the student is regulated by the "Internal Rules for Students" (AP NJSC "MUK" (<https://www.qmu.edu.kz/media/qmudoc/AcademPolitika.pdf>) and the agreement for the provision of educational services, which is concluded with each student upon enrollment in residency. The agreement covers the rights and responsibilities of students at the University; it is stated that the student has the right to freely express his own views and beliefs, freedom of conscience, information.

Organizations of academic mobility of residents/academic staff are regulated by the AP NJSC "MUK". (<https://www.qmu.edu.kz/media/qmudoc/AcademPolitika.pdf>) Academic mobility is carried out in the form of studying the discipline chosen by the resident during the period specified in the Work Curriculum, the schedule of educational organizations, with the aim of improving professional competencies by studying and mastering the experience of leading Kazakhstani and foreign educational organizations, increasing the effectiveness of scientific research and increasing the

competitiveness of NJSC "MUK" graduates in the Kazakhstani and international labor markets. At the request of medical organizations and taking into account the wishes of residents, an on-site residency is organized, the procedure for organizing which is determined by the Regulation on the residency of NJSC "MUK". (<https://cloud.mail.ru/public/QKZ7/RMAeGTB5K>)

Residents may independently choose research directions, scientific-practical events (conferences, congresses, forums, journals), and publication venues for their research results. All research activities are conducted under the supervision of the program head.

Residents can share information about their activities on the university's website and social media platforms (Facebook, Instagram, etc.), enabling freedom of expression. According to the university's internal regulations, students may voice their opinions directly through the Rector's blog. Additionally, the university maintains a call center with a multi-line contact number (+77212503930) and a Telegram bot (<https://t.me/mukinsider>), offering students support and assistance. The university also operates a student support service and a youth engagement department to address residents' concerns and provide necessary guidance.

*While conducting a survey of 7 residents (on the resource <https://webanketa.com/>), out of 22 questions, a number were devoted to the quality of the educational process and educational program. It was found that 100% of residents would recommend studying in this educational organization to their acquaintances, friends, relatives. And 100% of respondents believe that the heads of the educational programme and teachers are aware of the problems of students related to training. To the question "Do you think this educational organization allows you to acquire the necessary knowledge and skills in your chosen specialty?", 100% of residents answered positively.*

*The 5 teachers surveyed (question 21 of the questionnaire) also answered that 100% are satisfied with the organization of work and the workplace in this educational organization, and 20% partially agree with this statement. The experts determined that the organization has a healthy microclimate, since the manager is quite accessible to both residents and employees, and responds promptly to requests. In the questionnaire, 100% of teachers are satisfied with the microclimate of the organization, and 8% are partially satisfied. According to 100%, in the educational organization, a teacher has the opportunity to realize himself as a professional in his specialty. For your information, a total of 5 people responded (there are 5 on staff in total), while teaching experience up to 10 years - 100%*

### **1.3 Final learning outcomes**

The final learning outcomes are defined in the document Educational Program - Radiology, developed by the Department of Oncology and Radiological Diagnostics. Contributors include Associate Professor G.A. Zholdybayeva, Assistants I.Zh. Zhumagalieva and M.A. Abildin, Deputy Director of the Multidisciplinary Hospital T.T. Zhuken, and Director of Multidisciplinary Hospital No. 3 G.S. Toksanbayev. The program was approved on July 13, 2022.

The final learning outcomes of residents are aimed at achieving professional competencies by the resident, reflected in the map of competencies/learning outcomes of the EP (<https://cloud.mail.ru/public/eHwm/oKdoKmHJ8>). The final learning outcomes determined on the basis of the Dublin descriptors are aimed at mastering clinical skills in the specialty, communication with patients and colleagues, developing professionalism, regulatory literacy, scientific research skills, personal and professional growth in professional activities.

Informing interested parties about the final results of training residents in the specialty "Radiology" is carried out by the fact that the goals and final results of training in the educational program implemented by the university are presented in the register of the Unified Higher Education Platform (hereinafter UHEP) of the MOH RK and are available to all interested parties.

Experts confirmed that residents develop professional behavior and communication skills through daily clinical work under the supervision of mentors, documented in checklists and resident portfolios.

Faculty and residents are informed about the Code of Ethics, which is available on the university's website.

In defining learning outcomes, the Academic Affairs Department considered prior undergraduate and internship learning achievements, as well as the goals and tasks of continuing professional development. The university also provides additional and informal education programs, including those specific to the accredited program's specialty.

When determining the final learning outcomes, the staff of the Academic Affairs Department took into account the previous learning outcomes in the bachelor's degree and internship, and also took into account the goals and objectives of subsequent continuous professional development in the chosen specialty. The educational organization conducts training in additional and informal education (continuous professional development), including programs in the specialty of the accredited educational program.

*The surveyed teachers answered that 80% are fully satisfied with the level of previous training of residents, and 20% are partially satisfied.*

*The experts have established a clear continuity between the final results of the previous training of residents (prerequisites) and training in residency, and subsequent programs of continuous professional development. The organization has developed several programs of additional education, including for the specialty "Radiology". Residents are informed about this.*

*100% of the respondent teachers believe that students of this educational organization have a high level of knowledge and practical skills after completing the training program.*

#### **1.4 Participation in the formulation of the mission and final outcomes**

Residents, employers, administrative staff, and teaching personnel actively participate in defining the educational program's mission and learning outcomes. Representatives of gastroenterology residents and employers are members of the collegial advisory bodies of the university - the Senate of the NJSC "MUK", the Council of the School of Residency and Professional Development, and are invited to department meetings.

When assessing residents' core competencies, a "360-degree assessment" approach is used, involving patients, nurses, and physicians. This allows for more comprehensive data collection, which is subsequently considered when defining residents' competencies and learning outcomes.

Expanding the range of stakeholders involved enables a more accurate assessment of the residency program in Radiology and contributes to continuous improvements in formulating the mission and goals.

**Conclusions of the EEC on the criteria.** Compliant with 14 standards (including 9 basic, 5 improvement standards): fully - 14, partially - 0, does not comply - 0.

**Recommendations for improvement:** none

## **Standard 2: EDUCATIONAL PROGRAMME**

### **2.1 Framework parameters of the postgraduate medical education programme**

The residency training is conducted in clinical specialties approved by the Order of the Minister of Health of the Republic of Kazakhstan dated May 25, 2021, No. RK MOH-43 "On the Approval of the List of Medical Specialties for Residency Programs."

The structure and content of the residency program in "Radiology" comply with the State Compulsory Educational Standard of the Republic of Kazakhstan of 2018 and 2022 (Order No. 647 dated July 31, 2015, with amendments as of February 21, 2020, and Order of the Minister of Health of the Republic of Kazakhstan No. RK MOH-63 dated July 4, 2022; registered with the Ministry of Justice of the Republic of Kazakhstan on July 5, 2022, No. 28716).

Residents who complete their training and successfully pass the final certification are awarded the qualification of "Radiologist" and issued a residency completion certificate.

The residency program meets international standards and corresponds to Level 7R of the National Qualifications Framework in Medical Education and the Qualifications Framework of the European Higher Education Area.



Residents are informed about the required competencies, reflected in the educational program and syllabi, which are accessible on the university's website at: <https://qmu.edu.kz/ru/contents/view/314>.

Practice-oriented training in residency focuses on gaining practical experience to achieve professionally and socially significant competencies. The educational program ensures a close integration of practice and theory, with 80% of the program hours allocated to independent work. This involves residents' direct participation in providing medical and diagnostic care in healthcare institutions. According to the Order of the Minister of Health of the Republic of Kazakhstan No. RK MOH-305/2020 dated December 21, 2020, "On the Approval of the Nomenclature of Specialties and Specializations in Healthcare, the Nomenclature, and Qualification Characteristics of Healthcare Workers' Positions," and to implement practice-oriented training ensuring residents' direct involvement in medical care and increased responsibility, all resident doctors are employed in clinics of Karaganda, including the University Clinic, under the position of "Resident Doctor."

During the study of **core disciplines** (CD) at clinical bases, each resident is assigned to a specific department and manages a certain number of patients. Residents are employed at clinical bases in Karaganda at a 0.5 FTE (Full-Time Equivalent) as resident doctors. On average, 0.5 FTE equals 190 minutes per day, during which approximately 10-15 patients are managed. There is no fixed standard for the number of examinations per day per resident doctor, as each clinic sets its own norms based on patient flow and case complexity.

To enhance skills, simulation centers are utilized. At the Center for Simulation and Educational Technologies, residents independently sign up for independent work (<https://forms.office.com>), practice practical skills on simulators, dummies, with subsequent assessment of the video recording of the practical skill by the teacher of the discipline.

The "Radiology" program is implemented in accordance with the Academic Integrity Code, outlined in the Academic Policy of the NJSC "MUK" approved by the Board on August 27, 2021, Protocol No. 1, with amendments as of July 14, 2022, Protocol No. 9.

Transparency and accessibility of assessment procedures are ensured through the publication of evaluation policies and criteria in the syllabi, as well as a list of assessment tools.

To standardize student evaluation, automated systems such as "Session" and "Platon" are used, defining assessment criteria based on learning outcomes.

The department develops assessment tools to evaluate residents' knowledge, skills, and competencies in the discipline, including standardized tests and extended clinical tasks for the written exam. The written exam is conducted on the platform [session.kgmu.kz](https://session.kgmu.kz), ensuring objectivity through coded resident submissions. Resident answers are checked for originality using the [Strikeplagiarism.com](https://www.strikeplagiarism.com) service, which generates reports indicating the percentage of similarity in educational and scientific works.

When interpreting the similarity report, the threshold values should not exceed 50% for Similarity Index 1 and 5% for Similarity Index 2. It is recommended to review the "10 longest phrases" list, examine documents containing similar fragments, particularly those exceeding Similarity Index 2, and verify the presence of footnotes and references to authors.

Throughout the entire training period, each resident independently develops an Individual Learning Plan (ILP) based on the working curriculum, reflecting the trajectory of studying core disciplines and selecting elective courses from the optional component. According to the State Compulsory Educational Standard of the Republic of Kazakhstan (SCES RK-2022), the elective component accounts for 4 credits (120 hours). Residents choose elective disciplines based on the [Catalogue of Elective Disciplines](#) (CED).

The resident mentorship system is regulated by the Residency Regulations, approved by the Decision of the Board of the NJSC MUK dated August 23, 2022, Protocol No. 18. Residency training is conducted under the supervision of the teaching staff and a clinical mentor, whose activities are governed by the "Job Description of the Clinical Mentor". Clinical mentors are appointed from among

qualified healthcare professionals working at residency bases, holding a [valid certification](#), and having at least 5 years of experience in the relevant specialty.

The residency educational program defines six core professional competencies, including personal and professional development, through which residents acquire the necessary skills and abilities that influence their personal development and professional growth. For example, by gaining research skills, residents may continue their studies in a PhD program in the future. Thus, resident Nurlanov Zholaman, after completing the residency, is currently pursuing a PhD program.

The presence of NJSC "MUK" in the League of Academic Integrity also contributes to maintaining effective communication interactions, eliminating gender and other issues in communication. In addition, NJSC "MUK" conducts international projects, student conferences, and scientific projects aimed at supporting barrier-free communication in the scientific world and at the general human level.

During a practical class on the topic "Radiological Methods in Neurology," experts obtained convincing evidence that the training is conducted according to the plan. Before the class, residents take tests, receive feedback from the instructor, and have the opportunity to improve their skills in radiological methods for diagnosing strokes.

***The qualification obtained upon completion of the educational program in the specialty "Radiology" corresponds to Level 8 of the National Qualifications Framework (ESG 1.2) and has the code 7R01110 - "Radiology."***

Faculty members use traditional and modern methods of training residents. Thanks to these methods, residents can participate in providing medical care to patients. Teachers can provide a resident with supervision of approximately 10 thematic patients per day and 150 per month.

***Thus, by the end of 2 years of training, residents will acquire the basic skills and abilities in the profession of "radiation diagnostics doctor", which will allow them to work in all medical organizations (ESG 1.2).***

The experts have not found any violations regarding the principle of equality in postgraduate education and continuous professional development, since the educational organization 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 field of education and health care.

The educational organization has a mechanism for regular adaptation of teaching and learning methods to the requirements of modern science and education, as well as to the current needs of practical health care.

This indicates compliance with standard 2 in terms of adapting training to the needs of residents. At the same time, along with the principles of quality and academic integrity, which are described in the document "Academic Policy of NJSC "MUK", "Residency Regulations of NJSC "MUK", the organization has an anti-plagiarism system "Strikeplagiarism.com".

## **2.2 Scientific method**

The educational program (EP) "Radiology" includes the development of the competence "Research" (PC5). The implementation of scientific foundations and medical research methodology in the EP is carried out based on the Law of the Republic of Kazakhstan "On Science" and the "Development Program of the Non-Profit Joint-Stock Company 'Karaganda Medical University' for 2019-2023," one of the focus areas being Leadership in Research. As part of this direction, a development, support, and promotion program for university researchers is being developed and implemented by involving students, interns, residents, and young researchers under 35 years old in research programs and projects.

During conversations with residents, experts learned that they use scientific data in their studies and understand the basics of evidence-based medicine. Teachers explained that they train residents in methods of critical evaluation of literature, articles, and scientific data, as well as in the application of scientific developments. This training format is organized as a "Journal Club," held once a month.

However, experts noted that no separate hours are allocated for scientific work, as all research activities are conducted jointly with teachers within certain disciplines. Furthermore, current residents

lack a background in conducting scientific research. Additionally, the elective course list includes only "Research Management," which is not always selected for study.

*When surveying residents, it was established that residents should be engaged in R&D in an educational organization, and in response to the survey, 80% wrote that they were already engaged in R&D, 10% were planning to start, 0% were looking for a topic for R&D, and 10% were not engaged.*

### **2.3 Structure, content and duration of the residency programme**

Documents outlining the structure and content requirements for educational programs, including the "Radiology" specialty, are available. The responsibility for selecting and implementing innovations in the educational process lies with the head of the educational program, specifically the Head of the Department of Oncology and Radiation Diagnostics, Candidate of Medical Sciences Kabildina N.A.

The contents of work programs and the elective course catalog reflect the needs of the healthcare system, including disciplines covering new trends, such as "Nuclear Medicine," relevant to modern diagnostic methods, as well as scientific research specifics and faculty achievements. To ensure the effective implementation of the educational program in "Radiology," the organization has the resources to assess residents' practical skills through the Center for Simulation and Educational Technologies (CSET).

The EP is implemented according to the State Compulsory Educational Standard (SCES) of 2020 and 2022. The residency duration in "Radiology" per the SES of the Republic of Kazakhstan is two years, totaling 4,200 academic hours (140 credits, with 1 credit equaling 30 academic hours). The EP consists of compulsory modules/disciplines and elective components. The EP includes core disciplines (134 credits/4,020 hours), elective components (4 credits/120 hours), and final certification (2 credits/60 hours). The content and volume of compulsory disciplines are strictly regulated by the SES of the Republic of Kazakhstan and the Typical Curriculum for the specialty, which are reflected in the EP and Work Curriculum (WC).

When asked, "Do residents participate in the development of educational programs?" experts received confirmation that residents of accredited specialties are involved in developing the EP and participate in advisory bodies.

Surveyed residents were fully satisfied with the class schedules (89%).

[The elective course catalog](#) is formed according to the list of elective disciplines reviewed annually at department meetings and approved at the School and Residency Council meetings. The elective component (4 credits) includes courses such as "Radiological Diagnostics in Emergency Medicine," "Early Diagnosis of Malignant Tumors," and "Doppler Study of Vessels (brachiocephalic vessels, upper and lower limb vessels)."

The number of credits for elective disciplines and their ratio to compulsory disciplines are regulated by the Typical Curriculum and SCES of the Republic of Kazakhstan. The overall structure, list of modules/disciplines, the ratio of classroom and extracurricular work, and the final certification volume are reflected in the [WC](#).

According to the SCES of the Republic of Kazakhstan, the structure of the EP "Radiology" is formed from various types of classroom and extracurricular work. The volume of classroom work is 20% of the volume of each discipline, independent clinical work under the guidance of a clinical mentor - 70%, independent work - 10%.

*Teachers provide residents with methodological and didactic materials, additional literature to prepare for classes, in which 100% are completely satisfied.*

*The organization has its own clinical base with 220 beds and corresponding outpatient visits. To the question of the questionnaire "Is there sufficient time for practical training (patient supervision, etc.)", 100% of residents answered with complete agreement. All residents claim that after the end of classes, the teacher provides feedback (listens to your opinion, conducts a mini-questionnaire, works on mistakes).*

At the same time, the experts received satisfactory answers to the question "Do representatives of residents participate in the development of educational programs?"

*The surveyed residents are completely satisfied with the schedule of classes (100%).*

## **2.4 Organization of training and the relationship between postgraduate medical education and the provision of medical care**

The management of the educational process, reflected in the self-assessment report (standard 2) and general approaches to management were confirmed during a visit to the Department of Academic Work and a conversation with the head and staff.

The experts got acquainted with the work of the departments, a total of 9 meetings were held.

Thus, the responsibility for choosing the base for clinical training and practice of a resident in the specialty "Radiology" is assigned to the head of the EP and the management of the university. The experts analyzed the information on the availability of accreditation of clinical bases.

The training of residents in the specialty "Radiology" is aimed at meeting the needs of practical health care. During a conversation with the management of the organization, the experts received data on the availability of 63 clinical bases of the University, and the teachers confirmed that the training of residents is carried out directly at the clinical base of the Department of Oncology and Radiation Diagnostics, which is located in the MH No. 3 of the city of Karaganda and provides training to residents in the specialty "Radiology".

Clinical bases of the departments that train residents in the specialty "Radiology" are multidisciplinary medical organizations that provide primary, specialized medical care to both adults and children with diseases of organs and systems at the outpatient and inpatient stages: Regional Children's Clinical Hospital, Clinic of the Medical University of the NJSC "MUK", Clinic of Professional Health of the NJSC MUK, SCE on REM Multidisciplinary Hospital No. 3 of Karaganda, LLP Polyclinic No. 15 of Karaganda.

In order to achieve the final training results, clinical bases are selected according to the profile of the specialty, an agreement is concluded with a medical organization, where subsequently residents, while studying, meet the requirements of this organization and contribute to the provision of medical care in the profile. Clinical bases that train residents-radiologists in the specialty provide an opportunity to master the tactics of managing patients with various diseases of organs and systems. Resident radiologist of the 1st and 2nd years of study are employed as "resident doctors" in clinics in Karaganda, the University Clinic of the NJSC "MUK".

When studying disciplines, 70% of the total volume of the discipline is allocated to the independent work of the resident under the guidance of a clinical mentor. Residents are involved in the treatment and diagnostic process through direct management of patients with filling out medical documentation, drawing up plans for examination and treatment, and performing night shifts. During training at clinical sites, residents have the opportunity to be present during various diagnostic and therapeutic manipulations and procedures.

When managing patients, residents expand and deepen their practical skills by working at the level of the emergency room, managing complex patients, participating in interdisciplinary consultations, performing shifts in the hospital with the definition of diagnostic and therapeutic tactics, providing emergency care to patients with various pathologies. The multidisciplinary nature of clinical sites allows improving the skills of differential diagnostic search, determining the examination plan and treatment of patients.

Of the 10 residents surveyed, 100% responded that teachers use active and interactive teaching methods in classes quite often.

**Conclusions of the EEC on the criteria.** Of 22 standards that comply (including 19 basic, 3 improvement standards): fully - 21, partially - 1, does not comply - 0.

### **Recommendations for improvement:**

1. Standard 2.2.1. Expand the catalogue of elective disciplines, taking into account the need to ensure competence in the scientific foundations and methodology of medical research for the scientific activities of residents. Deadline: 01.09.2024.



## Standard 3: ASSESSMENT OF RESIDENTS

### 3.1 Assessment methods

The policies and procedures for assessing the academic achievements of residents at NJSC "MUK" are carried out in accordance with the set goals and learning outcomes for the implementation of the EP and the assigned qualifications within the framework of the current rating system and control of the educational process, in accordance with directive, regulatory and internal documents:

- 1) Law of the Republic of Kazakhstan No. 319-III "On Education" dated July 27, 2007;
- 2) Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 31, 2018 No. 600 "Model Rules for Admission to Study in Educational Organizations Implementing Higher Education Programs";
- 3) Order of the Minister of Health of the Republic of Kazakhstan dated December 15, 2020 No. RK MOH-270/2020 "On Approval of the Rules for Placing a State Order, Admission to Study and Training of Medical Personnel in Residency";
- 4) By order of the Minister of Health of the Republic of Kazakhstan dated July 4, 2022 No RK MOH-63. "On approval of state mandatory standards for levels of education in the field of health care"
- 5) By order of the Minister of Education and Science of the Republic of Kazakhstan dated April 20, 2011 No. 152. "On approval of the Rules for organizing the educational process using credit technology of education";
- 6) By order of the Minister of Health of the Republic of Kazakhstan dated December 11, 2020 No RK MOH-249/2020 "On approval of the rules for assessing the knowledge and skills of students, assessing the professional readiness of graduates of educational programs in the field of health care and specialists in the field of health care";
- 7) ["Residency Regulations"](#) of NJSC "MUK", approved by the decision of the Board dated August 23, 2022, protocol No. 18.
- 8) ["Academic Policy of NJSC "MUK"](#).

The review of assessment tools (a database of 1,500 test questions) confirmed the presence of a comprehensive assessment policy enabling multi-faceted evaluation of residents' academic achievements. During interviews, residents described various assessment methods, including portfolio evaluations, and expressed satisfaction with the evaluation process, highlighting continuous feedback from instructors.

The appeal system for assessment results is outlined in the Academic Policy of NJSC "MUK". Students dissatisfied with final grades can file an appeal no later than the next business day after exam results are posted in the AIS "Platon". Since the university's inception, no appeals have been recorded.

For the assessment of intermediate and final controls, the Department of Oncology involves external experts from practical healthcare. In addition, the evaluation of students' academic achievements is carried out by instructors in accordance with the normal distribution of grades, using the Bell Curve, and taking into account the criteria of the League of Academic Integrity. The educational program also incorporates the principle of "knowledge survivability," ensuring that knowledge is consolidated at each stage of learning. Daily practical application of knowledge in real clinical situations promotes its sustainable acquisition by both students and residents.

Control tools are reviewed and updated by 30% annually. The instructor responsible for the discipline/module coordinator imports the examination materials into the Automated Information System "Platon" or the Automated System "Session" one week before the start of the final control.

The participation of healthcare practitioners at all stages of assessment, including department heads, attending physicians, nursing staff, and patients during the 360° assessment of residents, ensures objectivity and fairness in evaluation. For instance, during the final certification in the 2022–2023 academic year, by Order No. 316 dated December 30, 2022, "On the Approval of the Composition of the AC for the 2022–2023 Academic Year," the certification commission included representatives from practical healthcare. The chairman was approved as Mr. Toksambaev G.S., Director of the SCE on the REM "Multidisciplinary Hospital No. 3" of Karaganda.

The department submits proposals for the composition of the certification commission for review and discussion at the council of the School of Residency and Postgraduate Education, which are approved by the Senate's decision (Senate Decision dated December 29, 2022, Protocol No. 5).

According to the provisions of the rating system for academic performance assessment, residents with an admission rating of less than 50% are marked as "not admitted" in the examination register. From the 2018 to 2023 academic years, there were no instances at NJSC "MUK" where residents specializing in "Radiology" were not admitted to the final control.

For the verification of **Standard 3** data, the experts asked questions to the Head of the School of Residency and Professional Development, Candidate of Medical Sciences, Associate Professor Tashkenbayeva V.B., and reviewed documents and methodologies for resident evaluation.

During the organization visit and the interview with an employee—Associate Professor of the Department of Oncology and Radiology, Zholdybayeva G.A. — the commission confirmed the presence of a documentation system and a quality management system that is transparent and accessible to all faculty and staff. This system includes documents such as annual operational plans, annual reports, departmental regulations, contracts with faculty and residents, agreements with clinical bases, and educational and methodological documentation (work programs, curricula, syllabi, journals), assessment tools (checklists), certificates, diplomas, and other credentials. A review of the website revealed that all necessary documents for residents, including EP, syllabi, a list of ED, and comprehensive information, are available on its pages and are regularly updated.

The comprehensive evaluation of residents' academic achievements at the university is regulated by the "Rules for the Rating System of Academic Performance Assessment" (Sections 5–7 of the Academic Policy of NJSC "MUK"), compliance with which is mandatory for all students and structural units of the university involved in the educational process.

### **3.2 Relationship between assessment and learning**

During interviews with 35 faculty members regarding assessment methods, experts obtained compelling evidence that, at the university, the evaluation of residents' knowledge is viewed as a process of gathering information to form judgments about the degree and nature of a student's progress toward meeting the standards required for their future role as a physician. Residents also shared their opinions on the timely provision of tests, the organization of consultations before exams, the clarity of the entire assessment process, and its fairness. For example, residents stated that they are aware of the appeals procedure, which is outlined in the Academic Policy; however, none of the interviewed residents reported having used this procedure.

Experts examined the resources available for organizing the assessment of knowledge and practical skills, specifically the Simulation and Educational Technology Center (SETC). They were informed that residents systematically improve their practical skills at the SETC by scheduling and registering their practice sessions in advance. The results of their independent work are evaluated by group curators who monitor the progress of the sessions. There is a specific list of practical (clinical) skills that oncology residents practice at the SETC in accordance with the educational program.

In their practical clinical work, residents are daily involved in interprofessional interactions between physicians of various specialties, including physicians in therapeutic and pediatric profiles, anesthesiologists, oncologists, and functional diagnostics specialists, by participating in morning medical meetings, pathoanatomical conferences, and consultations. Case studies have been developed to enable residents to master the interdisciplinary approach to solving patient problems. Residents acquire practical skills through multidisciplinary training sessions within the framework of the Young Radiologist School and the Journal Club. Residents also participate annually in the "Territory of Emergencies" competition, organized by the SETC in collaboration with the departments. For instance, in the 2021–2022 academic year, residents formed teams across various specialties, including radiology residents, and participated in the competition on the topic "Road Traffic Accident." Second-year radiology residents took part in this event. The panel evaluating the teams' performance included teaching staff and practicing physicians. During the training, residents are only provided with role descriptions and scenarios. Communication, diagnostic, and therapeutic medical services are

independently organized by the trainees based on the provided data (<https://www.youtube.com/watch?v=1u153pTKVv4>). Second-year resident Ivacheva S.Y. and first-year resident Zhirenbayeva A.M. were awarded second-degree diplomas.

Experts determined that the methods used to assess residents rely on OSCE and Mini-CEX, as the practical component of training is foundational. Results of final control, intermediate, and final certification are reviewed and discussed at department meetings and the School of Residency and Professional Development. In light of the achieved successes, teaching methods, assessment techniques, educational programs, and assessment documents are regularly revised, taking into account feedback from stakeholders.

**Conclusions of the EEC on the criteria** correspond to 9 standards (including 6 basic, 3 improvement standards): fully - 9, partially - 0, does not correspond - 0.

**Recommendations for improvement:** none

## **Standard 4: RESIDENTS**

### **4.1 Admission policy and selection**

At NJSC “MUK”, students are admitted to residency based on the Academic Policy of NJSC “MUK”, section "Admission rules, student progress, certification", which is revised annually (<https://www.qmu.edu.kz/media/qmudoc/AcademPolitika.pdf>).

Persons who have mastered higher education programs and internships are admitted to residency. Persons entering NJSC “MUK” for educational programmes in residency are admitted based on their applications on a competitive basis based on the results of the entrance exam. During the period of entrance examinations to residency, examination and appeal commissions are created for specialties (<https://qmu.edu.kz/ru/contents/list/1610>)  
<https://www.qmu.edu.kz/media/qmudoc/PolitikaP.pdf>

The transparency of the selection procedure and equal access to residency programs at NJSC "MUK" is ensured through compliance with the following regulations: the Order of the Minister of Health of the Republic of Kazakhstan No. RK MOH-270/2020 dated December 15, 2020, "On Approval of the Rules for Placing State Orders, Admission for Training, and Preparation of Medical Personnel in Residency," and the Academic Policy of NJSC "MUK".

According to the "Student Admission Policy at NJSC "MUK"," admission to residency at NJSC "MUK" is conducted on a competitive basis, based on the results of the entrance examination. The rules for admission to residency at NJSC "MUK" are regularly reviewed: in the 2019–2020 academic year (approved by the decision of the Senate of NJSC "MUK" on October 22, 2019, Protocol No. 1), in the 2021–2022 academic year (approved by the decision of the Senate of NJSC "MUK" on May 21, 2021, Protocol No. 10), and in the 2022–2023 academic year (approved by the decision of the Board of Directors on May 27, 2022, Protocol No. 37); (<https://www.qmu.edu.kz/media/qmudoc/OPResRus.pdf>).

During the entrance examination period, examination commissions are formed by the order of the Chair of the Board–Rector, according to the groups of educational programs.

The results of the entrance examinations are announced on the same day as the examination. Admission to residency programs is granted to individuals whose entrance scores meet or exceed the established minimum threshold. Candidates achieving the highest entrance scores, not less than 75, are enrolled on a competitive basis for training under the state educational order. If any grants under the state educational order remain unallocated, a repeat competition is conducted. To participate in this competition, applicants must submit a new application to be considered for the grant under the relevant educational program.

The document outlines the approaches for admitting residents with disabilities. Special residency EP for individuals with special educational needs are not developed. The university operates on the principle that inclusivity implies inclusion, not exclusion, of students with special educational needs into general EP, creating conditions for mastering these programs. Accordingly, a



provision has been included in the university's AP, establishing the right of students to an individualized approach in organizing the educational process. This includes flexible scheduling of classes and an individual mode for final assessments upon request from students with special needs. Responsibility for addressing such issues is delegated to the schools of NJSC "MUK," in coordination with departments and the Department of Academic Resources (DAR).

The document also considers residency applicants' previous achievements in undergraduate and internship programs. In 2023, the entrance examination includes the results of the first stage of independent examination/certification exam for specialists, results of the comprehensive profile test for the residency educational program, and the GPA over the entire period of study (undergraduate and internship). In the event of identical competitive scores, preference is given to applicants with clinical experience or scientific achievements relevant to the educational program (from the last five years).

The residency entrance exam program, approved by the Acting Chair of the Board–Rector of NJSC "MUK" on May 12, 2022, incorporates a scoring system that accounts for clinical experience and scientific achievements, such as presentations (posters) at international or national scientific conferences, publications in impact-factor journals, participation in scientific developments, startups, grants, and competitions.

The educational organization has established a barrier-free learning environment, including ramps, call buttons, elevators, and accessible restrooms.

Transfers and reinstatements of residents from one university to another are carried out during vacation periods in accordance with the *Rules for the Provision of State Services in the Field of Technical, Vocational, and Secondary Education*. A resident may transfer or be reinstated if they have fully completed the first academic period of their program, following their individual study plan, regardless of the timing of dismissal for reinstatement purposes. The transfer of residents studying under an educational grant to another university is carried out while maintaining the grant. The transfer of resident doctors from other universities to the national university or another institution requires the student to cover the difference in the cost of the educational order.

The appeals process is conducted in accordance with the "Policy on Admission of Applicants to Postgraduate Educational Programs" of NJSC "MUK". To review the applications of individuals who disagree with the results of entrance examinations, an appeals commission is established, whose composition is approved by an order of the chair of the admissions committee. The results of the appeal are published on the University's website (<https://qmu.edu.kz/ru/contents/view/1296>).

The development of the residency admission and selection policy involves student representatives, specifically second-year residents. Feedback is collected from residents on this issue, and recent changes in the approaches to residency admissions include an increase in the number of admitted residents, taking into account the needs of private healthcare institutions.

The residency admission policy is reviewed periodically in accordance with the regulatory documents of the authorized body and internal decisions of NJSC "MUK," considering social and professional data. For example, in 2022, additional criteria were introduced into the residency admission rules, including work experience in healthcare and research work relevant to the educational program (EP). The residency entrance exam program, approved by the Chair of the Board–Rector on May 12, 2022, reflects these changes. In 2023, the entrance examination program introduced comprehensive testing, which includes questions on biomedical and clinical sciences relevant to the specialty.

The review of the admission and selection policy, as well as the number of residents, is conducted annually, with the Residency School bearing responsibility for these revisions.

Thus, experts validated the data under **Standard 4**. Overall, all criteria are met. The experts reviewed the documentation related to residency admissions, and all documents were found to be well-prepared.

#### **4.2 Number of residents.**

Over the past five years, the number of residents has been as follows:

- 2019–2020: 21 residents (Local Executive Bodies – 3, funded by medical organizations – 11, contractual basis – 7);
- 2020–2021: 19 residents (state-funded – 2, Local Executive Bodies – 6, contractual basis – 9, NJSC MUK – 2);
- 2021–2022: 37 residents (Local Executive Bodies – 6, contractual basis – 31);
- 2022–2023: 14 residents (Local Executive Bodies – 3, contractual basis – 11);
- 2023–2024: 27 residents (Local Executive Bodies – 8, contractual basis – 19).

In 2023, 37 residents graduated, all of whom (100%) are employed in their specialty. Among them, one graduate is pursuing studies in a PhD program. Currently, 41 residents are enrolled in the program, including 27 first-year residents and 14 second-year residents.

The residency program is open to individuals who have completed higher education and internship programs. Admission to the residency program at NJSC "MUK" is conducted based on applicants' statements and on a competitive basis determined by the results of the entrance exam.

Over the past five years, the number of residents admitted to the "Radiology" educational program has varied due to changes in the number of residents enrolled on a contractual basis, reflecting the needs of medical organizations in the region and the Republic of Kazakhstan (Table 2). Nevertheless, the past two years have seen an increase in the number of residents admitted with funding allocated through the state order. For example, in the 2019–2020 and 2020–2021 academic years, one resident was admitted under the state order, while in the 2021–2022 and 2022–2023 academic years, four residents were admitted under the state order each year.

Table 2 - Number of residents accepted to the EP "Radiology"

	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
Number of applicants	21	19	66	14	36
Number of interview invitees	21	19	66	14	36
Number of interviews completed	21	19	37	14	28

Based on the current Law of the Republic of Kazakhstan dated July 27, 2007, No. 319-III "On Education," Order of the Ministry of Health of the Republic of Kazakhstan dated December 15, 2020, No. RK MOH-270/2020 "On Approval of the Rules for Placing State Orders, Admission to Training, and Preparation of Medical Personnel in Residency," and Appendix 2 of the Order of the Ministry of Education and Science of the Republic of Kazakhstan dated October 31, 2018, No. 600 "On Approval of the Standard Rules for Admission to Educational Organizations Implementing Educational Programs of Higher and Postgraduate Education," as well as the "Student Admission Policy of NJSC MUK," admission to residency programs is carried out through the allocation of educational orders funded by the republican or local budget, as well as through tuition payments made from personal funds.

#### 4.3 Support and consulting of residents

Support and counseling in the "Radiology" residency program are provided through the direct involvement of faculty members and clinical mentors at the clinical training sites. Consultation on all matters related to the organization of the educational process, mastering mandatory disciplines, and selecting elective courses is provided by faculty members, the program director, the head of the department, and the School of Residency and Professional Development (SR&PD). Staff from the SR&PD, together with department staff, provide informational support to all students. Information regarding residency training is also available on the official university website (under the section "Education → Applicants → Entrance Exams for Postgraduate Education (Master's, Residency, Doctorate) → Residency") and on the NJSC MUK Student Portal.

Financial support for residents includes a monthly stipend for those studying under state grants, as well as the provision of dormitory accommodations for those in need, subject to availability and

queue order. The university has developed the "Regulation on Sending NJSC MUK Students on Trips," approved on April 5, 2021 (Version 2), which governs financial support for trips related to internships, conferences, forums, and cultural events held outside the university. Expenses for such trips are funded through the university's development plan and may include off-budget funds and budgetary resources, as stipulated by legislation of RK.

In the 2021–2023 academic years, two residents were trained on an NJSC MUK grant. Upon graduation, they were employed at the MUK clinic. Currently, the staff of the university's own clinic is 100% composed of graduates from the radiology residency program.

The employment rate for graduates of all residency programs was 100% in 2023.

#### **4.4 Representation of residents**

Residents have a genuine opportunity to participate in the organization of the specialty's academic program through direct discussions of the educational program, development of individual study plans, and the selection of elective disciplines. Resident representatives are included as members of the School of Residency and Professional Development (SR&PD) Council and the Senate.

Medical residents are regularly invited to attend meetings of advisory bodies and actively participate in discussions on specialty-related issues. Suggestions and recommendations made by students are taken into account by members of these advisory bodies and are considered when forming the final decisions of the meetings.

The University encourages the initiative of resident students in decision-making processes regarding the conditions and rules of training and education, based on an individualized approach to program mastery. This includes choosing clinical bases and elective disciplines, participating in academic mobility, and engaging in scientific projects and conferences.

#### **4.5 Working conditions**

In accordance with the Order of the Ministry of Health of the Republic of Kazakhstan No. RK MOH-305/2020 dated December 21, 2020, "On the Approval of the Nomenclature of Specialties and Specializations in Healthcare, Nomenclature, and Qualification Characteristics of Healthcare Worker Positions," residents are allowed to work additionally as resident physicians under the supervision of a clinical mentor in their chosen medical field, at 0.5 of a full-time position in medical organizations, or according to the specialist certificate obtained upon completing the corresponding internship.

According to existing agreements with clinical bases (Standard 6.2), "The Clinic is obligated to provide students with access to patients and all structural units of the Clinic in accordance with the needs of the educational process, except in cases where access to the medical process is restricted by current legislation and/or patient requirements."

When providing diagnostic and therapeutic measures carried out at clinical sites, residents work under the guidance of a clinical mentor. The main role of the mentor is to teach residents practical activities and achieve the competencies necessary for independent medical practice. Residents, under the guidance of mentors, provide inpatient care to patients with a gastroenterological profile, conduct outpatient and polyclinic appointments, carry out preventive measures, informational and explanatory work, participate in laboratory and instrumental studies, and are on duty at the clinical sites of NJSC "MUK" at least four times a month.

In total, the educational organization has 10 clinical bases for training residents, and each hosts various events in which residents participate. As a rule, residents perform a workload of 6 to 20 studies, depending on the research method. Residents make thematic reports, such as "radiation safety", "preparation for the ultrasound method of research", "screenings", etc. They participate in health education work, including talking with patients in medical organizations about the need to undergo annual fluorography, breast cancer screening, colonoscopy, etc.

Residents due to illness, lasting from 6 to 12 months, on the basis of the conclusion of the medical advisory commission at the hospital or outpatient clinic organization (hereinafter referred to as the CMAC) in accordance with form No. 026/u, approved by the order of the Ministry of Health of the Republic of Kazakhstan, in the event of conscription for military service on the basis of a summons for conscription for military service in the form according to the Rules for military registration of persons

liable for military service and conscripts; for childbirth and childcare until he or she reaches the age of three years on the basis of a birth certificate, have the right to apply for academic leave. To apply for academic leave, the student submits to the Digitalization Department an application addressed to the Chairman of the Board - Rector, the original and a copy of the document that is the basis for granting academic leave (conclusion of the CMAC, or a summons for conscription for military service, or a birth certificate).

Upon returning from academic leave, the student continues his/her studies under the same educational program, from the same year (and academic period) from which he/she took this leave.

**Conclusions of the EEC on the criteria.** Comply with 20 standards (including 14 basic, 6 improvement standards): fully - 20, partially - 0, does not comply - 0.

**Recommendations for improvement:** no

## **Standard 5: TEACHERS**

### **5.1 Recruitment and selection policy**

The implementation of the "Radiology" educational program is carried out by the teaching staff of the Department of Oncology and Radiology. The head of the "Radiology" educational program is Assistant Professor of the Department of Oncology and Radiology, Zholdybaeva G.A.

The general characteristics of the teaching staff involved in the implementation of the "Radiology" educational program are as follows: the proportion of full-time teachers is 88.9%, while part-time teachers make up 11.1%. The percentage of academic degree holders is 80%. The staffing provision, including teaching staff, clinical mentors, and educational support staff, is 100%.

The teachers implementing the educational program are certified specialists with the highest and first categories in the disciplines they teach, with 17 or more years of work experience. They also carry out clinical activities at the university's clinical bases and University Clinics. Information about the teachers of the core disciplines is provided in Appendix 1, Table 5B.

The clinical mentors under whose supervision the residents perform clinical activities are: Baidildina Aigerim Sailauovna, Burgard Tatyana Anatolyevna, Elubaeva Aitolkyn Sundetullayevna, Zhabaeva Tatyana Alekseevna, Zhaksylykova Zhumagul Serikbaevna, Kairbekova Zeynesh Mukhitzhanovna, Orazbekov Ormanbek Nursultanovich, Toksambayeva Aizhan Syzdykovna, Sarsenova Bayan Kadyrkeshovna, Imendinova Dinara Uysymbayevna, Uzakbayeva Nurzaken Nurtoleykyzy, Shembereckaya Alexandra Yuryevna, Evstafyev Yevgeny Borisovich, Starnovskaya Elena Alekseyevna.

The average teaching load of the teaching staff implementing the residency educational program is reviewed annually. For the 2023-2024 academic year, it amounted to 650 hours (Decision of the Senate dated March 23, 2023, Protocol No. 7).

The results of the research work of the teaching staff over the past five years are presented as 20 publications in scientific journals and oral/poster presentations at scientific and practical conferences in the Republic of Kazakhstan (the annual Central Asian Conference; 2019, 2020, 2021 - the "Man and Medicine of Kazakhstan" conference on COVID).

Overall, there is a positive trend in the quantitative and qualitative indicators of research activities, reflected in the stable number and quality of publications by the teaching staff in journals over the past three years.

*When surveying teachers, it was found that the majority (100%) are completely satisfied with the organization of work and the workplace in this educational organization. In this educational organization, teachers have the opportunity to engage in scientific work and publish the results of research, are satisfied with the work of the HR service. They are satisfied with the salary - 100% completely agree, but everyone wants it to be increased annually.*

### **5.2 Commitments and development of teachers**



In NJSC «MUK», the teaching staff of the residency educational program is provided with extensive opportunities for professional and personal development. These include internships, seminars, an internal professional development system, courses in state, English, and German languages, collaboration with foreign universities and recognized experts from near and far abroad in their specialized field through academic mobility programs, and highly developed information and communication technologies. The head of the educational program, G.A. Zholdybaeva, completed an international internship in Israel in 2021 under the "Bolashak" program.

Full-time employees of the department, including clinical mentors, systematically undergo advanced training in educational, clinical, scientific areas of activity.

To incentivize the teaching staff and researchers of NJSC «MUK» special measures are taken to improve working conditions based on the achievement of key performance indicators, which may lead to changes in position/category or salary increases. This includes unscheduled certification conducted annually in June.

Based on the annual performance rating of the department, positive dynamics have been observed: in 2019-2020, the department achieved 78% of its key indicators; in 2020-2021, 87%; and in 2021-2022, 88%. Over the past three years, the department has consistently ranked among the top clinical departments of the university in terms of performance indicators.

To promote scientific activity among the teaching staff, incentive bonuses are provided for publishing scientific works in journals with an impact factor higher than 1 and in international peer-reviewed scientific journals indexed in Web of Knowledge and Scopus.

Additional payment for teaching classes in English to the teaching staff with an IELTS certificate (5.5 points and above) or TOEFL (525 points and above) in the amount of 100% of the basic salary (including external part-time workers (master's students, doctoral students)).

Support is provided to young teachers under 30 years of age in the form of a monthly incentive payment.

The salary fund of teachers consists of a salary, additional payment for an academic degree, additional payment for achieving KPI, scientific activity, and 0.5 of the rate paid by the clinical base.

Funding for mentors is carried out in accordance with the order on hiring as a department assistant for 0.5 of the rate.

*In the educational organization, there is an opportunity for career growth and development of teacher competencies - 100%. Studied in professional development programs - 50% less than 1 year ago, 50% more than 3 years ago.*

**Conclusions of the EEC on the criteria.** Compliant with 8 standards (including 7 basic, 1 Standard of improvement): fully - 8, partially - 0, do not comply.

**Recommendations for improvement:** none.

## **Standard 6: EDUCATIONAL RESOURCES**

### **6.1 Material and technical support and equipment**

The Karaganda Medical University possesses a sufficient material and technical base, which allows for the creation of all necessary conditions for training qualified specialists and achieving the final results and competencies in the specialty of "Radiology." The total area of the main educational buildings of the university is 29,160.6 square meters, and the area of dormitories is 30,162.9 square meters. On the territory of the University Medical Clinic, occupying an area of 2,122 square meters, there are main and auxiliary departments as well as training rooms. Lecture halls and classrooms are equipped with multimedia support, internet access, and modern computers.

At the clinical sites, residents undergo initial safety training, which is documented in the Safety Instruction Log for the respective departments. Subsequently, residents receive repeat safety training every six months. The clinical mentor is responsible for conducting the training and ensuring that residents comply with safety regulations in the workplace. The responsibility for overseeing safe

working conditions and occupational safety in the workplace also lies with the heads of structural units.

The library plays a leading role in providing residents with informational resources. The total area of the library is 1,526 square meters, with a storage area of 941.6 square meters. The number of seats in the reading rooms is 443.

To support the educational process in the specialty of "Radiology," the availability of core and supplementary literature is 100%. The library collection for the specialty "Radiology" consists of 6,644 publications, including a total of 970 textbooks. Among these, 144 are in Kazakh, 739 in Russian, and 87 in English. Additionally, there are 1,975 scientific literature items in all languages of instruction, 201 periodicals, and 176 electronic publications.

Students and faculty members also have access to international databases such as the Cochrane Library, EBSCO, BMJ Best Practice, BMJ Learning, and CBS eBooks. The library ensures timely and unrestricted access to library resources for all categories of users in the electronic resource room, interactive room, and for remote users.

Access to library resources is facilitated through an electronic catalog, bibliographic databases, and full-text databases integrated into the University's information-analytical system. To expand informational resources and improve the efficiency of information and reference-bibliographic services, the library and publishing center enhances its proprietary full-text databases. These resources are accessible through the electronic catalog on the University's website and portals, provided the user is authorized (via IIN).

To increase the University's scientific activity rating and publication activity by promoting its scientific works on the internet, the "Repository of NJSC MUK was established in 2018. This repository is included in the global directory of open access repositories, Open DOAR, and the Google Scholar search engine. As of 2022, the repository contains 528 scientific publications and works.

The University provides residents with extensive access to the Center for Simulation and Educational Technologies (CSET). The center enables the simulation of various clinical scenarios that closely replicate real working conditions for physicians. It is equipped with simulation devices and demonstration equipment to master practical skills in the specialty, including providing emergency care in the internist's practice. The center features a LiveScan SONOSIM virtual ultrasound simulator with a probe that allows trainees to practice ultrasound examination skills for adults and children of different ages. There are also mannequins for practicing rectal examination skills for various rectal pathologies, nasogastric tube placement, and gastric lavage. Additionally, the SimMan patient simulator with specialized software enables trainees to develop intensive care skills for a variety of clinical situations. The OPUS MINI universal platform for practicing practical skills creates an interactive environment for performing various medical procedures, such as central venous catheterization, under ultrasound guidance.

## **6.2 Clinical bases**

NJSC "Karaganda Medical University" has 3 own clinics (University Clinic, Professional Health Clinic, Dental Clinic) and collaborates with 60 medical organizations in the city of Karaganda, the Karaganda region, and the city of Astana.

The clinical bases used for the implementation of the educational process of the residency specialty "Radiology" are medical institutions of city and regional significance: KGP "Regional Clinical Hospital" (renamed "Regional Multidisciplinary Hospital" as of 01.02.23), University Clinic of NJSC "MUK", Professional Health Clinic of NJSC "MUK", "Multidisciplinary Hospital named after Professor H.Zh. Makazhanov", "Regional Children's Clinical Hospital", Multidisciplinary Hospital No. 3 of Karaganda city, Polyclinic No. 15 of Karaganda city, "Regional Phthisiopulmonology Center", "Central Hospital of Temirtau City", LLP "Miras Clinic". All conditions for organizing the educational process have been created at the university's clinical bases. The number of classrooms provided at the clinical bases is 36, the useful area is 100%.

At the clinical bases involved in the implementation of the educational program "Radiology," there are round-the-clock multidisciplinary hospitals, including radiology departments and ultrasound

diagnostic rooms, equipped with modern equipment, and all necessary conditions have been created for resident training. Residents acquire skills in providing specialized care at the outpatient and inpatient levels through consultations in the radiology departments for adults and children at the University Clinic, the Professional Health Clinic, and the clinical bases.

The clinical supervision of the residents' work is carried out by clinical mentors, one of whom is the head of the department and a physician with more than 15 years of experience in the specialty.

Residents have the opportunity to extensively develop their skills under the guidance of clinical mentors while working in the departments during the day and during night shifts (4 mandatory night shifts per month). All their achievements are recorded and documented in their portfolios (assessment sheets), which are verified by clinical mentors and supervisors.

The clinical bases of the "Radiology" educational program have a sufficient number of patients with various diseases of organs and systems in adults and children, providing opportunities to master ultrasound diagnostics, CT, MRI, and X-rays within the specialty. Residents work within the comprehensive medical information system (CMIS).

Experts have visited two clinical practice/clinical training bases, including Multidisciplinary Hospital No. 3, which serves as a clinical base for residents specializing in Radiology. Training is conducted there with the involvement of associate professor and Ph.D. Chapagan Dinara Akhimbayrovna, as well as clinical mentors such as the head of the radiology department, physician of the highest category Toksanbayeva Aizhan Syzdykovna, and radiologist of the first category Sogrina Aleksandra Yuryevna. The clinical base of Multidisciplinary Hospital No. 3 is equipped with CT and MRI, ultrasound, and X-ray machines, fully meeting the requirements of the "Radiology" educational program.

The Multidisciplinary Hospital named after Professor H.Zh. Makazhanov serves as a clinical base that fully complies with the "Radiology" educational program. It is equipped with 4 CT machines, 5 X-ray machines, 4 digital X-ray systems, 11 portable radiological complexes and devices, as well as additional equipment and devices. A full-time instructor, a physician of the highest category, Abildin Mukhtar Abdeshevich, works at this base. Clinical mentors include:

- Starnovskaya Elena Alekseevna, CT physician of the highest category.
- Orzbekov Ormanbek Nursultanovich, X-ray physician of the first category.
- Yelubayeva Aitolkyn Sundetullayevna, ultrasound physician of the highest category.
- Baidildina Aigerim Sailauovna, ultrasound physician of the first category.

In order to validate the implementation of the self-assessment report and obtain evidence of the program's quality, an interview with residents was conducted. Experts asked questions regarding satisfaction with training, the adequacy of time for patient management, work with medical documentation, satisfaction with teaching methods and instructor qualifications, and the social and moral support available to residents in need of it. Additionally, participation in "Journal Clubs" and access to resources from international professional literature databases were discussed. Overall, residents expressed satisfaction with the training, assessment methods, and their decision to enroll in this organization, citing its good resources, reputation, and international connections. At the same time, residents expressed a desire for more independence in patient management and participation in international events.

The university provides residents with extensive opportunities to utilize the Simulation and Educational Technology Center (SETC). The center allows the simulation of various clinical situations close to real-life physician working conditions. It is equipped with simulation devices and demonstration tools for mastering practical skills in the specialty, as well as emergency care in internist practice. A virtual ultrasound simulator with a LiveScan SONOSIM sensor allows the practice of ultrasound skills for adults and children of various ages. Other tools include mannequins for practicing rectal examination skills for different rectal pathologies, nasogastric tube placement, stomach lavage, and the SimMan patient simulator with software for performing intensive care skills in various clinical situations.



Additionally, there are phantom devices for practicing peripheral and central venous catheterization skills (Nasco, LF01012U) for adults and children, as well as oro- and nasotracheal intubation of the trachea for adults, children, and infants (AirSim Standard). Mannequins are also available for training in BLS, ACLS (BT-CPEA), and PALS (mannequins for neonatal and 5-year-old pediatric cardiopulmonary resuscitation). The NENASIM (Epona Infant Simulator) provides realistic multidisciplinary group or individual simulation training for infant patient care. Additional mannequins include those for practicing lung and heart auscultation skills, electrocardiography, defibrillation, and the 3B Scientific trainer for cricothyrotomy skills.

There is also a life-sized model of an ambulance from the KARUS Group for practicing emergency medical care skills, among other tools. The universal OPUS MINI platform allows for the creation of an interactive environment to perform various medical procedures (including central venous catheterization) under ultrasound guidance.

The residents demonstrated their commitment to the organization of education, were active in answering questions from external experts, demonstrated their opinions on the organization of training, assessment of their skills, advisory support, the opportunity to participate in research, financing, demonstrated proficiency in English when answering questions from a foreign expert. The experts studied the documents of the residents (portfolio, results of the assessment of residents-checklists, results of the survey of residents).

### **6.3 Information technology**

The experts evaluated the access provided to residents and faculty members to essential web resources, including the Student Portal and an additional information platform, "Platon," which is used to access information about current and final academic performance (PubMed, Cochrane library). Residents confirmed that they have access to CBS eBooks, EBSCO, BMJ Best Practice, and BMJ Learning, which they use for class preparation.

During independent learning, residents utilize various electronic libraries, including the Medical University's "Student Consultant" Electronic Library, the "Physician Consultant" Medical Electronic Library, the "Lan" Electronic Library System, the "Epigraph" Electronic Library, the "Epigraph" Multimedia Textbook Portal, and the "Aknurpress" Digital Library. Patient data and access to the healthcare information system are provided through the use of the Integrated Medical Information System (IMIS), under the supervision of a clinical mentor. Each resident manages three patients daily, including completing the necessary documentation under the mentor's supervision.

Information dissemination is carried out via corporate email (Outlook), as well as through the MUK website, MUK Portal, MUK Student Portal, Instagram page, and Telegram messenger.

To ensure the effective use of information and communication technologies as part of the educational process in the specialty "Oncology (Adult)," platforms such as Microsoft Teams and Webex were used during practical sessions amid the pandemic. For independent work, residents utilize the Moodle platform.

### **6.4 Clinical Teams**

Resident doctors specializing in "Radiology" work closely in teams with residents and physicians from therapeutic, surgical, pediatric, obstetrics-gynecology, and other specialties.

Diagnostic patient consultations, under the guidance of clinical mentors at clinical bases, involve residents in teamwork alongside specialists from related fields ("General Surgery", "Obstetrics and Gynecology", "Anesthesiology and Resuscitation" etc.), which includes joint discussions on patient management plans taking into account the recommendations of consulting physicians. To facilitate training in interdisciplinary teams with fellow residents from other specialties ("Adult and Pediatric Pulmonology", "Adult and Pediatric Rheumatology", "Adult and Pediatric Endocrinology", "Adult and Pediatric Urology", etc.), sessions are conducted in the form of interdisciplinary consultations, joint meetings of the Journal Club, and the School of Young Radiologists.

Residents specializing in "Radiology" participate in interdisciplinary activities, including screening programs as part of mobile teams providing specialized care to rural populations.

*In the survey, residents noted that they have free access to patients at clinical bases and all necessary conditions for improving their practical skills — 80% of instructors fully agreed with this, while 20% partially agreed.*

### **6.5 Medical scientific research and achievements**

The educational program includes mandatory mastery of scientific research skills. The integration of scientific principles and methodologies of medical research into the program is carried out based on the Law of the Republic of Kazakhstan "On Science" and the "Development Program of the Non-Profit Joint-Stock Company 'Karaganda Medical University' for 2019–2023", one of the directions of which is leadership in research (6.3.1 Development Program of NJSC "MUK" for 2019–2023).

From 2019 to 2024, residents of the "Radiology" program published 20 articles in international and national journals. Residents who successfully complete their training have the opportunity to continue their education in doctoral studies. Graduates of the residency program, such as Zholaman Nurlanov (class of 2022), are continuing their studies in doctoral programs at NJSC "MUK".

Residents specializing in "Radiology" have the opportunity to conduct research during extracurricular work within the framework of independent resident research.

#### **Details of Residents' Participation in Scientific Research within the "Radiology" Educational Program**

Year	Number of residents	Articles/abstracts published in journals	Participation in international conferences/presentations	Participation in Republican conferences
2019-2020	4	4		
2020-2021	8	5	1	
2021-2022	7	4		
2022-2023	9	6	2	1
2023-2024	8	1		

Interviews with 9 instructors, including five full-time staff members, revealed that there are notable achievements in education management, largely dependent on the clinical base MB No. 3. This success is attributed to unrestricted access for residents to equipment, an adequate number of thematic patients, sufficient time for maintaining medical documentation, and opportunities for independent work.

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

The "Radiology" educational program (EP) is regularly evaluated through feedback from residents, teaching staff, and employers, as well as through the analysis of residents' academic achievements. Surveys of residents and residency graduates are used as a feedback mechanism to develop corrective measures and plans aimed at improving the program.

Sources of information include: Students' academic performance results in their respective disciplines, survey results, departmental, school, and registrar office reports, acts from external and internal audits, comprehensive State Attestation (CSA) reports. Analyzing these data sources helps identify weaknesses and determine further paths for improving the program.

The Academic Senate Committee of the university oversees the evaluation of the program's concept, while the Commission on Quality Assurance conducts internal reviews. After being approved by external reviewers, the program is officially adopted by the University's Board of Trustees.

The process of developing the educational program and monitoring its implementation involves all stakeholders, including students and employers. The university has established an effective mechanism for internal quality assessment and program expertise, ensuring compliance with the

curriculum and providing feedback for its improvement. The continuous work on refining the program's content and conducting analyses with the involvement of leading specialists in the field of pulmonology is carried out by the university's teaching staff.

The "Radiology" educational program is regularly assessed through feedback from residents, faculty, and employers, along with an analysis of residents' academic achievements. This is facilitated through surveys of residents and graduates, academic performance results, reports and audit findings. The analysis of these data helps identify weaknesses and define pathways for the program's improvement.

### **6.7 Training in other institutions**

As part of academic mobility, memorandums of cooperation in the fields of healthcare, medical education, and science have been signed with 24 medical universities in Kazakhstan and 83 universities abroad, both near and far.

NJSC "MUK" is included in the «Avicenna» Directory of Medical Schools by the World Health Organization and the World Federation for Medical Education. The university is a member of several prestigious organizations, including: Association for Medical Education in Europe (AMEE), Association for the Study of Medical Education (ASME), Organization for PhD Education in Biomedicine and Health Sciences in the European System (ORPHEUS), European University Association (EUA), University Mobility in Asia and the Pacific (UMAP), International Association for the Development of Education (IADE), Association of Higher Educational Institutions of the Republic of Kazakhstan, Association for Medical Education in Asia (AMEA).

As part of developing strategic partnerships, a memorandum of cooperation was signed with Lund University, Sweden, in 2016. More than 1,000 students and university staff have participated in international academic mobility programs.

Annually, over 300 students take part in international scientific conferences and research initiatives. Since 2012, the university has been hosting the Central Asian International Conference on Medical Education, aimed at exchanging experiences to improve medical education in Central Asian countries.

The university is actively involved in implementing national programs and research projects in healthcare and participates in international multicenter studies such as SMART, METALL, and UTIAP.

The academic policy for resident training includes opportunities for education in alternative organizations if existing clinical bases do not cover all topics in the educational program. At the same time, the training of residents in the "Radiology" specialty is conducted at clinical bases equipped with the necessary machines for radiological diagnostic methods. Scientific publications are prepared under the supervision of faculty and do not require additional training facilities. An expert noted the need to increase the number of academic mobility opportunities for radiology residents within the discipline of "Nuclear Medicine". Considering the specific level of the educational program and the university's capabilities to establish agreements both domestically and internationally, residents themselves highlighted low activity in academic mobility programs.

***Conclusions of the EEC on the criteria.*** Comply with 18 standards (including 11 basic, 7 improvement standards): fully - 17, partially - 1, do not comply - 0

#### ***Recommendations for improvement:***

1) Standard 6.7.1 - Implement academic mobility of residents in the specialty "Radiology".  
Deadline: 01.09.2025.

## **Standard 7: EDUCATIONAL PROGRAMME EVALUATION**

### **7.1 Monitoring and evaluation mechanisms**

The monitoring of the educational program includes several stages: planning, data collection, analysis/conclusions, necessary improvements, and subsequent monitoring of changes, ensuring transparency of the process and outcomes. In accordance with the university's Academic Policy, all

university structures involved in the implementation and quality management of the educational program participate in the monitoring process. Each stage and level in the educational program's quality assurance system is regulated by the relevant normative documents. At NJSC "MUK", the evaluation and monitoring of the educational program are conducted in accordance with the provisions of the Academic Policy (approved by the Senate on 27.08.2021) and the Regulation on Educational Program Management (dated 09.09.2020, order No. 14, amended on 11.01.2021, order No. 1).

The evaluation of the program considers the goals and objectives of training, and the final learning outcomes (through resident assessment and independent examinations). The implementation process of the educational program is assessed using feedback from residents and faculty, as well as the achievements of graduates. Since the 2020–2021 academic year, a Commission for Educational Program Quality Assurance has been established, whose primary function is monitoring the implementation of the educational program and evaluating the satisfaction of all stakeholders (as outlined in the Regulation on Educational Program Management). Moreover, a survey of 2-year residents in accredited specialties demonstrated the following: resident satisfaction surveys regarding the educational program are conducted twice a year.

The Strategic Development and Quality Management Department ensures quality assessment at the institutional level. To control and improve the quality of the educational program, the following are conducted: 1. Internal quality assessment procedures (internal audits); 2. External quality assessment procedures: accreditation in accordance with the documented procedure "Organization of Preparation for Institutional and Specialized Accreditation at NJSC MUK" and other external audits by authorized bodies. Based on audit results, a corrective action plan is developed, and post-monitoring control is carried out.

### **7.2 Feedback from teachers and residents**

The organization regularly collects feedback from faculty, residents, and employers. Each year in October and November, questionnaires are sent to employers. The survey questions focus on the adequacy of the knowledge and skills of university graduates. The results of employer surveys conducted in 2022 and 2023 showed that 92% of employers were satisfied with the quality of NJSC "MUK" graduates' training.

The department conducts resident surveys to analyze their satisfaction with the quality of education, identify strengths and weaknesses, and determine the causes of dissatisfaction with the learning process. The results of resident surveys are discussed at department meetings, followed by decisions to improve the organization and content of the educational program. For example, the analysis of resident survey results for the 2021–2022 academic year demonstrated high satisfaction (92%) with the quality and clinical learning environment, as well as with the organization and resources of the educational process across all disciplines of the "Radiology" specialty. The level of satisfaction with the quality of graduate training was 90%, and for the "Radiology" specialty, 100%. None of the employers rated the quality of graduate training as low.

### **7.3 Results of residents and graduates**

The School of Residency and Postgraduate Development, together with the Program Leader, conducts an annual monitoring of residency graduates' employment. The employment rate for graduates in the "Radiology" specialty was 100%. The Department of Strategic Development and Quality Management conducts annual surveys of employers to assess their satisfaction with the quality of graduate training. The SR and PR and heads of the educational institutions receive feedback from students and representatives of practical healthcare in the form of survey results and letters of thanks.

In 2023, 36 employers were surveyed, with a response rate of 89%. The level of competency achievement by graduates was rated at 4.6 out of 5, including 4.3 out of 5 for the "Radiology" specialty. 100% of employers noted that graduates possess sufficient knowledge and skills for the effective and high-quality performance of their duties. The satisfaction level with the quality of graduate training in the "Radiology" specialty was 87%, and no employer rated the quality of training as low. A certificate of appreciation for contributions to the healthcare system was awarded to second-year resident Tashkina Diana Kairatovna by the Director of the Karaganda Regional Children's



Hospital, Bidaibayeva A.N.

#### **7.4 Involvement of stakeholders**

The educational organization has established approaches for involving faculty and residents in the evaluation and monitoring of the educational program's implementation. Residents specializing in "Radiology" are included in advisory bodies such as the Senate and the Academic Committee, where they participate in discussions on all aspects of the educational process. The results of the educational program evaluation are announced at departmental meetings and Academic Committee sessions.

*Interviews with 17 employers were conducted offline and included questions such as: knowledge of the university mission, participation in the development of the mission and proposals for the strategic plan, participation in the work of advisory bodies, satisfaction with the basic knowledge and skills of residents, participation in training residents through mentoring, providing the department and residents with the necessary resources for practical training and the formation of clinical thinking, problems of interaction with departments and universities in general, 100% employment of residency graduates, etc.*

#### **7.5 Procedure for approving educational programs**

The procedure for approving educational programs is carried out in accordance with the "Regulation on Educational Program Management" of NJSC "MUK" (Process Map: "Development, Coordination, and Approval of the Educational Program"). The program undergoes coordination procedures with representatives of practical healthcare in the relevant specialty, is reviewed by the Quality Assurance Commission of the School of Residency and Professional Development, discussed at the Council of the SR and PR, and approved by the Board of NJSC "MUK". It also undergoes external review to be included in the Register of educational programs of the Unified System of Higher and Postgraduate Education.

The training of residents is conducted at clinical bases of medical organizations based on contracts (Order of the Minister of Health of the Republic of Kazakhstan No. RK MOH-304/2020 dated December 21, 2020, "On the Approval of Provisions for Clinical Bases, University Clinics, Educational Organization Clinics in the Field of Healthcare, University Hospitals, Residency Bases, Integrated Academic Medical Centers, and the Requirements for Them"). When drafting contracts between clinical bases and MUK, the characteristics of the base, the profile of departments, the bed capacity, and the presence of an accreditation certificate confirming compliance of the clinical base's activities with healthcare accreditation standards in the Republic of Kazakhstan are considered.

Monitoring of the provision of educational resources for compliance and the quality of clinical training of the educational program is carried out by the department, the DAA, SR and PD, and through internal audits.

**Conclusions of the EEC on the criteria.** Comply with 10 standards (including 7 basic, 3 improvement standards): fully - 10, partially - 0, do not comply - 0

### **Standard 8: MANAGEMENT AND ADMINISTRATION**

#### **8.1 Management**

The implementation of residency educational programs is carried out in accordance with License No. KZ32LAA00016018 dated May 6, 2019, in the field of 7R091 "Healthcare (Medicine)".

The management of the educational program is regulated by the Law of the Republic of Kazakhstan "On Education," Order No. 595 of the Minister of Education and Science of the Republic of Kazakhstan "On Approval of Standard Rules for the Activities of Educational Organizations of Corresponding Types," Order No. 600 of the Ministry of Education and Science of the Republic of Kazakhstan "On Approval of Standard Rules for Admission to Educational Organizations Implementing Educational Programs of Higher and Postgraduate Education," Order No. ҚР ДСМ–249/2020 of the Minister of Health of the Republic of Kazakhstan "On Approval of Rules for Assessing the Knowledge and Skills of Learners, Evaluating the Professional Preparedness of Graduates of Educational Programs in Healthcare and Healthcare Specialists," the State Compulsory

Education Standard (SCES), as well as internal regulatory documents, including the [Academic Policy of NJSC "MUK"](#), the Regulation on Educational Program Management, and the Regulation on Residency.

In accordance with Article 39 of the Law of the Republic of Kazakhstan "On Education" and Order No. 39 of the Minister of Education and Science of the Republic of Kazakhstan dated January 28, 2015, "On Approval of the Types of Education Documents, Forms of State Standard Education Documents, and Rules for Their Accounting and Issuance; Basic Requirements for the Content of Custom Education Documents and Rules for Their Accounting and Issuance; and the Form of the Certificate Issued to Individuals Who Did Not Complete Education in Educational Organizations," upon completion of postgraduate training programs and receiving a positive assessment of the final attestation, students are awarded a state-standard "Certificate of Residency Completion" conferring the qualification of a specialist physician.

According to the "Regulation on Educational Program Management" of NJSC "MUK", the quality of the educational program is ensured by its key stakeholders, including the Dean of the School, the Educational Program Leader, module coordinators, subject coordinators, department heads, faculty members, and students.

The evaluation of quality at the institutional level is ensured by the Department of Strategic Development and Quality Management. To monitor and improve the quality of the educational program, the following procedures are conducted:

1. Internal quality evaluation procedures (internal audit of the educational program, control activities of the Quality Assurance Committee);
2. External quality evaluation procedures: accreditation and other external inspections by authorized bodies.

The university has established and continuously improves its education quality management system, which includes an effective monitoring system for university activities developed in accordance with international standards.

Each stage and level within the quality assurance system is regulated by relevant legal and regulatory documents.

The monitoring system includes the following stages:

- Continuous analysis of the university's plans, goals, and identified success factors is conducted. These factors are reflected in the selection of criteria for the degree of goal achievement, i.e., integrated characteristics that represent specific university performance outcomes;
- Specific, directly measurable indicators have been determined for each criterion, allowing for the quantitative assessment of goal achievement;
- An analysis of the effectiveness and efficiency of processes is carried out;
- The management conducts an analysis of the achievement of goals and the quality of the management system, processes, and university plans;
- Functions for the collection and processing of information are distributed among employees.

To evaluate the effectiveness of the university's activities, a system of key performance indicators (KPIs) is in place for senior management, school deans, department heads, and other academic and administrative units of the university.

## **8.2 Academic Leadership**

The management of the educational process is carried out in accordance with the organizational structure of the Non-Profit Joint-Stock Company "MUK" (approved by the Board of Directors, Protocol No. 40 dated October 30, 2022). The governing body is the Board of Directors, while the executive body is the Management Board, which includes the Chair of the Management Board-Rector, the Vice-Rector for Academic Affairs, the Vice-Rector for Strategic Development and International Cooperation, the Vice-Rector for Scientific and Clinical Affairs, and the Managing Director.

The Academic Senate Committee conducts an analysis of the effectiveness and develops recommendations for improving the management of educational activities at the Non-Profit Joint-

Stock Company "MUK". It also provides expertise on strategic development issues related to educational activities at "MUK", offers expert support for the development of academic policy at "MUK", and provides consultation on issues concerning the evaluation of the quality of educational programs at "MUK".

General oversight of the School is carried out by a collegial representative body – the School Council (Regulations on the School Council dated August 26, 2019, Order No. 8 of the Management Board), which organizes its work under the leadership of the School Dean. The composition of the Council is approved by the Dean's order. The Council includes the Dean, Deputy Deans, teaching staff (60%), employers (20%), and students (20%). Employers are representatives of regional health departments, medical organizations, research institutions, public and professional associations, as well as representatives of the university's own clinics.

The main educational, scientific, and clinical units responsible for the training of residents are the departments. The primary goal of the departments is the management of the educational process to ensure the quality of services provided, based on a competency-oriented approach, as well as the education of students. The departments are led by a Head, who is appointed through a competitive process in accordance with labor legislation and the [Rules for Competitive Recruitment for Vacant Positions at NJSC "MUK"](#). Currently, 5 full-time staff members of the department are involved in the delivery of 10 disciplines within the educational program "Radiology".

*In response to the survey question “Do the organization’s leaders listen to your opinion regarding issues related to the educational process, research, and clinical work?”, 100% of teachers responded that they do so systematically.*

### **8.3 Budget for training and resource allocation**

The definition of the financial and economic policy of the Non-Profit Joint-Stock Company "MUK" and the university's management structure is the function of the governing body – the Board of Directors. The Management Board oversees the university's day-to-day activities and implements financial and economic policies within the framework of its [established powers](#). The management of financial matters at "MUK" is overseen by the Managing Director and structural units responsible for budget management: the Department of Economics and Finance and the Department of State Procurement.

The budget of "MUK" is formed from several sources: the republican budget (state order for the training of higher and postgraduate education personnel, advanced training of medical workers, development of scientific research, and transfers); the local budget; and the provision of paid educational and other services.

In "MUK", the determination of key spending priorities is approved by the university's highest collegial bodies – the Board of Directors and the Management Board. Additionally, the annual performance of the Development Plan based on the financial year's results is submitted for consideration at the Management Board's meetings. Accounting and financial reporting are conducted in accordance with the National Standard of Financial Reporting (Order of the Minister of Finance of the Republic of Kazakhstan No. 50 dated January 31, 2013).

The Commission for the Procurement of Educational and Methodological Literature forms a request at the end of the academic year for the purchase of necessary literature to implement the educational program in the new academic year. The Department of Infrastructure Development ensures uninterrupted internet and Wi-Fi functionality on the university campus, thereby guaranteeing residents access to electronic and library resources.

The Internal Audit Service conducts internal audits of financial and economic activities. Additionally, an external audit of the university's financial statements is conducted annually, including a statement of financial position, a statement of comprehensive income, a statement of changes in equity, a statement of cash flows for the year ended on the specified date, and notes to the financial statements, including a summary of significant accounting policies, all in compliance with International Standards on Auditing (ISA).



## **8.4 Administration and Management**

Staff recruitment is carried out based on an analysis of the educational program's needs, after which a competition is announced to fill vacant positions in accordance with the Rules for the Competitive Selection of Vacant Positions at "MUK." The requirements for academic staff (faculty) when applying for vacant positions are determined by job descriptions and the Charter of "MUK."

The university has developed and approved regulations for its structural units (schools, departments) and job descriptions for the academic staff.

The organizational management of the educational program is carried out by the Department of Academic Affairs (DAA), the Department of Human Resources Management (DHRM), school deans, and department heads. The functions of organizational management include regulating the educational process (academic calendar, the number of academic groups, volume of academic work, teaching workload), calculation of hours, schedule development, preparation and approval of the working curriculum (WC), classroom management, student enrollment management, tracking student academic achievements, and organization of the admissions campaign.

The university's staffing schedule is approved by the Board of Directors, while the university's and departments' annual academic workload is approved by the Senate based on proposals from the Department of Academic Affairs.

The total number of academic staff is determined based on the average student-to-teacher ratio: master's degree – 1:6, doctoral degree – 1:4, residency – 1:3.

The teaching staff involved in implementing the residency program is outlined in Standard 5, "Faculty".

The calculation of the academic workload for the teaching staff is performed in accordance with the Model Rules for the Activities of Higher Education Organizations and the State Educational Standard. In residency programs, the academic workload is set at 650 hours per year.

## **8.5 Requirements and regulations**

The educational institution adheres to 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 RK. In accordance with the classifier of residency specialties (approved by the Order of the Minister of Education and Science of the RK dated October 13, 2018, No. 569), the educational organization began offering training in the specialty "Radiology" at the start of the 2023-2024 academic year.

The interaction of "MUK" with the Ministry of Healthcare and the Ministry of Science and Higher Education regarding the organization of the residency educational process is implemented through the execution of the Order of the Minister of Healthcare of the RK dated July 4, 2022, No. RK MOH-63 "On the approval of state compulsory education standards for levels of education in healthcare." This is aligned with the priority directions of the following national legislative and program documents: The Code of the Republic of Kazakhstan "On the Health of the People and the Healthcare System"; Presidential Decree of the Republic of Kazakhstan dated February 15, 2018, No. 636 "On the approval of the National Development Plan of the Republic of Kazakhstan until 2025 and the recognition of certain decrees of the President of the Republic of Kazakhstan as invalid"; The address of the President of the Republic of Kazakhstan, Leader of the Nation, N.A. Nazarbayev, to the people of Kazakhstan dated December 14, 2012, "Kazakhstan-2050 Strategy: New Political Course of an Established State"; Government Resolution of the Republic of Kazakhstan dated November 24, 2022, No. 945 "On the approval of the Healthcare Development Concept of the Republic of Kazakhstan until 2026"; The address of the Head of State Kassym-Jomart Tokayev to the people of Kazakhstan dated March 16, 2022, "New Kazakhstan: Path of Renewal and Modernization"; Government Resolution of the Republic of Kazakhstan dated October 12, 2021, No. 726 "On the approval of the national project 'Quality Education: Educated Nation'"; Government Resolution of the Republic of Kazakhstan dated October 12, 2021, No. 725 "On the approval of the national project 'Quality and Accessible Healthcare for Every Citizen: Healthy Nation'"; Government Resolution of the

Republic of Kazakhstan dated October 12, 2021, No. 727 "On the approval of the national project "Technological Leap Through Digitalization, Science, and Innovation".

The academic staff of "MUK" specializing in "Radiology," in collaboration with the Republican Center for Health Development of the Ministry of Healthcare, actively participates in the development and implementation of clinical protocols for disease diagnostics and professional standards for the specialty.

The educational program is equipped with appropriate educational and methodological documents and qualified faculty.

**Conclusions of the EEC on the criteria.** Comply with 11 standards (including 8 basic, 3 improvement standards): fully - 11, partially - 0, do not comply - 0

### **Standard 9: CONTINUOUS RENEWAL**

At NJSC MUK, regular monitoring and updates of the residency training process are conducted to ensure continuous improvement in the educational process, in alignment with global educational management practices and considering the needs of practical healthcare in the RK. In 2022, during the development of the EP, the final outcomes and competencies of residents were reviewed and analyzed, taking into account modern trends in the development of radiological diagnostics.

Each year, the forms of assessment are revised, with 30% of test questions and written assignments updated to reflect new concepts in diagnostics and treatment. For example, in the 2021-2022 academic year, an intermediate assessment was introduced in the form of a portfolio defense at the end of the academic year. Monitoring of current academic performance is conducted and discussed monthly at department meetings, SR and PD sessions. The results of intermediate assessments at the end of the academic year, as well as the outcomes of independent examinations by the National Center for Expertise (NCE), are also reviewed during department meetings, SR and PD, and Senate sessions. The analysis results and recommendations from the attestation commission determine the need for improvements to the EP.

To regulate the mechanisms for evaluating and monitoring the educational process, internal normative documents are in place, including the Academic Policy of NJSC MUK, faculty job descriptions, the Residency Regulation, and the Regulation on EP Management. To further improve the EP, a Development Plan for the "Radiology" EP for 2020-2023 was developed and approved (approved by the SR and PD, protocol No. 2, dated October 15, 2020).

At the beginning of each academic year, residents, in collaboration with faculty and clinical mentors, develop an Individual Resident Plan, selecting a research topic and planning their activities for the two years of training. The IWP is approved at a department meeting.

**Conclusions of the EEC on the criteria.** Comply out of 2 standards (including 1 basic, 1 Standard of improvement): fully - 2, partially - 0, do not comply - 0.

**CONCLUSION:** during the external evaluation of the educational programme, it was found that out of 114 standards (including basic standards - 82 and improvement standards - 32), full compliance is demonstrated by 112 standards for accreditation, including 82 basic standards and 30 improvement standards. 2 improvement standards are partially fulfilled. No non-compliance with standards was found.

### **5. Recommendations for improvement of the educational programme "7R01110 – Radiology" of the NJSC "MUK":**

1. Standard 2.2.1. Expand the catalogue of elective disciplines, taking into account the need to ensure competence in the scientific foundations and methodology of medical research for the scientific activities of residents. Deadline: 01.09.2024.

2. Standard 6.7.1 - Implement academic mobility of residents in the specialty "Radiology". Deadline: 01.09.2025.

## 6. Recommendation to the ECAQA Accreditation Council

The members of the EEC came to a unanimous opinion to recommend that the ECAQA Accreditation Council to accredit the educational programme **7R01110 "Radiology" of the NJSC "Medical University of Karaganda"** for a period of 5 years.

	Full name	Signature
Chairman	Zhanalina Bakhyt Sekerbekovna	
International Expert	Nasyrov Ruslan Abdullaevich	
International Expert	Troinich Yana Nikolaevna	
Academic Expert	Zhumalina Akmaral Kanashevna	
Academic Expert	Madyarov Valentin Manarbekovich	
Academic Expert	Nugmanova Aigul Maratovna	
Academic Expert	Apbasova Saulesh Akhatovna	
Academic Expert	Yesetova Gulstan Utegenovna	
Academic Expert	Sadykova Ainur Maralovna	
Academic Expert	Tuksanbaeva Gulfariza Usenbaevna	
Academic Expert	Iztleuov Yerbolat Maratovich	
Academic Expert	Pak Laura Alekseevna	
Academic Expert	Kamhen Vitaly Bronislavovich	
Employer Expert	Daniyarova Bayan Lashinovna	
Student Expert	Dyusembek Nazira Askerbekkyzy	

Профиль качества и критерии внешней оценки образовательной программы (обобщение)

Standard	Критерии оценки	Количество стандартов	БС*/СУ	Оценка		
				Полностью соответствует	Частично соответствует	Не соответствует
1.	<b>МИССИЯ И КОНЕЧНЫЕ РЕЗУЛЬТАТЫ</b>	14	9/5	9/5		
2.	<b>ОБРАЗОВАТЕЛЬНАЯ ПРОГРАММА</b>	22	19/3	18/3	1	
3.	<b>ОЦЕНКА РЕЗИДЕНТОВ</b>	9	6/3	6/3		
4.	<b>РЕЗИДЕНТЫ</b>	20	14/6	14/6		
5.	<b>АКАДЕМИЧЕСКИЙ ШТАТ/ПРЕПОДАВАТЕЛИ</b>	8	7/1	7/1		
6.	<b>ОБРАЗОВАТЕЛЬНЫЕ РЕСУРСЫ</b>	18	11/7	11/6	1	
7.	<b>ОЦЕНКА ОБРАЗОВАТЕЛЬНОЙ ПРОГРАММЫ</b>	10	7/3	7/3		
8.	<b>УПРАВЛЕНИЕ И АДМИНИСТРИРОВАНИЕ</b>	11	8/3	8/3		
9.	<b>НЕПРЕРЫВНОЕ УЛУЧШЕНИЕ</b>	2	1/1	1/1		
		<b>114</b>	<b>82/32</b>	<b>114</b>		



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

<b>№</b>	<b>Наименования документов/дата утверждения</b>	<b>Количество</b>
1.	Стратегическая программа развития НАО «МУК»	1
2.	Академическая политика НАО «МУК»	1
3.	Кадровая политика НАО «МУК»	1
4.	Нормы времени для расчета объема учебной работы на 2023-2024 учебный год	1
5.	Политика приема обучающихся в НАО «МУК»	1
6.	Правила приема сотрудников при трудоустройстве в НАО «МУК»	1
7.	Правила рейтинговой системы оценки успеваемости обучающихся	1
8.	Правила внутреннего распорядка для обучающихся	1
9.	Политика управления рисками НАО «МУК»	1
10.	Положение о Совете Школы	1
11.	Положение о Сенате НАО «МУК»	1
12.	Положение об оплате труда НАО «МУК»	1
13.	Положение об оценке деятельности подразделений НАО «МУК»	1
14.	Положение о резидентуре НАО «МУК»	1
15.	Положение о повышении квалификации сотрудников	1
16.	ОП «Инфекционные болезни взрослые, детские»	1
17.	Выписки из протокола заседания кафедры	5
18.	Выписки из протокола заседания ШР и ПР	6
19.	Штатное расписание ППС, график работы	1
20.	Список выпускников за 2021-2022, за 2022-2023 учебный год	2
21.	Оценочный лист резидентов	3
22.	Средняя педагогическая нагрузка ППС на 2023-2024 учебный год	1
23.	Силлабусы	12
24.	Список публикации штатных ППС по специальности «Инфекционные болезни взрослые детские»	1
25.	Повышение профессиональной и педагогической квалификации штатных преподавателей по специальности: инфекционные болезни взрослые, детские»	7
26.	Повышение педагогической квалификации клинических наставников по специальности «Инфекционные болезни взрослые, детские»	5
27.	Укомплектованность научной и учебной литературы НАО «МУК»	1
28.	Список опубликованных работ резидентами по специальности: «Инфекционные болезни взрослые, детские» за период 2020 по 2023 г.г.	1
29.	Трудоустройство резидентов по специальности «Инфекционные болезни взрослые, детские»	1
30.	Сведения о финансировании и основных расходах на обучение (к Стандарту 8 «Управление и администрирование», п.8.3)	1