

To Accreditation Council  
of the Eurasian Center for Accreditation  
and Quality Assurance in Higher Education and Health Care  
07.06.2022

**REPORT**  
**OF THE EXTERNAL EXPERT COMMISSION ON THE RESULTS OF THE**  
**EVALUATION OF THE EDUCATIONAL PROGRAMME**  
**7R01113 "NEUROSURGERY (ADULT, CHILDREN 'S) "**  
**OF NJSC "SEMEY MEDICAL UNIVERSITY"**  
**FOR COMPLIANCE WITH THE ACCREDITATION STANDARDS FOR**  
**POSTGRADUATE PROGRAMMES (SPECIALTY OF RESIDENCY) IN**  
**MEDICAL EDUCATIONAL INSTITUTIONS**

**period of external expert evaluation: 23-25.05.2022**

**Semey, 2022**

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## List of symbols and abbreviations

<b>Abbreviation</b>	<b>Interpretation</b>
AMP	administrative and managerial staff
BD	Basic disciplines
BHE	basic health education
PRS	point-rating system
Blueprint	lesson topic technical specification
EKR	East Kazakhstan region
University	Higher education institution
EEC	External expert commission
SAC	State Attestation Commission
SCES	State Compulsory Educational Standard
JD	job description
DOPS	direct observe of procedural skills
ESUVO	unified system of accounting for higher education
ECAQA	Eurasian Center for Accreditation
LIS	library information system
FSA	final state attestation
FSE	final state examination
IL	letter of Instruction
STIs	Sexually transmitted infections
Irbis	library information system
IMS	integrated management system
IEPI	Individual Educational Plan
CIS	Control and measuring system
CQAES	Committee for Quality Assurance in Education and Science
KMIS	Kazakhstan Medical Information System
Committe	integrated discipline
CEP	Educational Programmes Committee
HCF	health care facility
LMS	learning management system KEYPS
MoH RoK	Ministry of Health of the Republic of Kazakhstan
LEB	Local Executive Bodies
MES RoK	Ministry of Education and Science of the Republic of Kazakhstan
MEP	Modular educational programme
MTE	material and technical equipment
mini-CEX	mini-Clinical Exam
MSF	360 Degree Rating
NJSC "SMU"	Non-profit joint-stock company "Semey Medical University"
RW	Research work
NLA	normative legal act
GED	General educational disciplines
DQCME	Department of Quality Control of Medical Education
EP	Educational programme
RO	registrar's Office
ATR	assessment of tolerance rating
OSCE	Objective Structured Clinical Exam
PD	Profiling Disciplines
TS	Teaching staff

WC	Working Curriculum
QMS	Quality Management System
SSS	Student Scientific Society
TEP	Typical educational plan
TBL	Team-based-learning
TUKMOS	Turkish National Standard of Medical Education
UH	University Hospital
SC	Scientific Council
DHC	Health Care Department
SPE	School of Postgraduate Education

ECAQA

## 1. Composition of the external expert commission

In accordance with the ECAQA Order No. 17 dated 05.05.2022, an External Expert Commission (hereinafter referred to as the EEC) was formed to conduct an external evaluation of the residency educational programme in the specialty 7R01113 "Neurosurgery (adult, children's)" of the Semey Medical University NJSC in the period of 23.05-25.05.2022, as follows:

order №	Status as part of EEC	Full name	Regalia, position, place of work/place of study, course, specialty
1	chairperson	Zhanalina Bakhyt Sekerbekovna	doctor of Medical Sciences, Professor of the Department of Surgical and Pediatric Dentistry of NJSC "West Kazakhstan Medical University named after Marat Ospanov"
2	Foreign Expert	Ripp Evgenii Germanovich	candidate of Medical Sciences, Associate Professor, Head of the Accreditation Simulation Center of the Institute of Medical Education FSBI "National Medical Research Center named after V.A. Almazov" of the Ministry of Health of the Russian Federation.
3	Kazakh Academic Expert	Turgunov Ermek Meiramovich	doctor of Medical Sciences, Professor of the Department of Surgical Diseases of NJSC "Medical University of Karaganda"
4	Employers' representative	Tuleutaeva Gulnara Esenzhanovna	Organizing physician - social hygienist of the highest category, deputy chief physician of the PSE on the REM "Polyclinic No.1", Semey, EKR HCD
5	Resident Representative	Izmaeva Amina Timurovna	Resident of the second year of study in the specialty "Ophthalmology" of NJSC "Medical University of Astana"

The observer for ECAQA is Umarova Makpal Aldibekovna, Head of Accreditation and Monitoring Department.

The work of the ECAQA was carried out in accordance with the Regulation of EEC (Order of the Director General of ECAQA No. 4 dated February 13, 2017).

The EEC report contains an assessment of the educational programme 7R01113 "Neurosurgery (adult, children's)" for compliance with the Standards of accreditation of postgraduate education programmes (residency specialties) of medical educational organizations and conclusions (hereinafter referred to as Accreditation Standards), recommendations of the EEC on further improvement of approaches and conditions for the implementation of the above-mentioned educational programme and recommendations for the ECAQA Accreditation Council.

## 2. General part of the final report

### 2.1 Introduction of NJSC "Semey Medical University" and the educational programme in the specialty 7R01113 "Neurosurgery (adult, children's)"

Organization name, legal form of ownership, BIN	Non-profit joint-stock company "Semey Medical University" 190240004938
Management body	Ministry of Health of the Republic of Kazakhstan
Full name of the chief executive officer	Dyusupov Altai Akhmetkalievich

Created in	1954 г.
Location and contact details	Republic of Kazakhstan, East Kazakhstan region, City: Semey, 071400 Street: Abay Kunanbayev, 103 Tel/fax: 8(7222)56-97-55 E-mail: smu@nao-SMU.kz Official Website: www.semeymedicaluniversity.kz
State license for educational activities in the residency (date, number)	June 20, 2019 No. KZ50LAA00016373
Information on branches, subsidiaries (if any)	Pavlodar branch Ust-Kamenogorsk branch
Year of implementation of the accredited educational programme (EP)	2022
Duration of training	4 years
Total number of graduates since the beginning of EP implementation	-
Number of residents on EP since the beginning of the current year	-
Full-time trainers/ Combiners involved in the implementation of EP, incl. % of degree	1/2, 75%

The implementation of the educational 7R01113 – "Neurosurgery adult, pediatric" in NJSC "Semey Medical University" is planned from September 2022, in this regard, the university initiated the primary accreditation to assess the readiness of the educational programme for the admission of residents. Primary accreditation is carried out in order to meet the requirements of the Ministry of Health of the Republic of Kazakhstan and the Ministry of Education and Science of the Republic of Kazakhstan. The University has prepared educational, methodological, educational and personnel resources for the reception of residents and the implementation of the educational programme. Accreditation experts assessed the educational and methodological readiness of the educational programme using a special checklist developed by ECAQA, which contains more than 100 questions on the availability of certain documents on residency. Experts took into account the fact that the university has extensive experience in the preparation of residents for other educational programmes, including established mechanisms, admission, training, assessment of residents.

The mission of the educational programme in the specialty of the residency 7R01113 "Neurosurgery (adult, children's)" is based on the Mission of the NJSC "SMU": "Training of highly qualified, competitive specialists in cardiac surgery, including pediatric, who will be able to work independently, contributing to the improvement of the health of the population of the Republic of Kazakhstan through continuous education using international standards of diagnosis and treatment."

The acquired knowledge, skills and abilities, based on the principle of a patient-centered approach, will allow graduates of the residency to work professionally, both independently and as part of a multidisciplinary team in the conditions of the cardiac surgery department of multidisciplinary clinics or scientific clinical centers.

The programme of study in the specialty 7R01113 "Neurosurgery (adult, children's)" includes the study of the main current problems of Neurosurgery, issues of differential diagnosis, diagnosis and modern methods of treatment according to clinical protocols. The educational programme also includes clinical training of the resident under the guidance of a clinical mentor (teacher) and

independent work of the resident. Based on the principle of the trinity of education, science and clinics, neurosurgeons will be able to plan, conduct scientific research with further publication of the results, and transfer their experience to the medical community.

All teachers in the specialty of the residency 7R01113 "Neurosurgery (adult, children's)" regularly improve their competencies, studying at advanced training cycles. Responsibilities and duties of employees are reflected in job descriptions.

The employees of the department have certificates of advanced training in such competencies as effective teaching in a medical university, communication skills. All teachers and clinical mentors have certificates of a specialist of the highest category. To date, the degree of the faculty of the Department of Neurology, Ophthalmology and Otolaryngology, teaching in the residency is 75%.

## **2.2. Information on previous accreditation**

This process of accreditation of the educational programme in the specialty 7R01113 "Neurosurgery (adult, children's)" is primary.

## **2.3. Conclusion on the results of the review of the report on the self-assessment of the educational programme of the residency specialty 7R01113 "Neurosurgery (adult, children's)" of SMU for compliance with the Standards of accreditation of postgraduate programmes (residency specialty) of medical organizations of education and conclusions**

The report on the self-assessment of the educational programme 7R01113 "Neurosurgery (adult, children's)" of NJSC "SMU" is presented on 90 pages, contains 24 annexes according to the relevant standards. The report on the institutional self-assessment is accompanied by a list of members of the working group on self-assessment and preparation for accreditation of the above-mentioned educational programme 7R01113 "Neurosurgery (adult, children's)", indicating the responsibility of each member of the internal commission; information on the person responsible for conducting the self-assessment for compliance with the ECAQA Standards for Accreditation of Educational Programmes.

The self-assessment of the educational programme in the specialty 7R01113 "Neurosurgery (adult, children's)" was carried out on the basis of Order No. 124 dated 21.04.2022. "On approval of the composition of the Working Group on self-assessment and preparation for primary accreditation of educational programmes of the Residency for compliance with the standards of specialized accreditation of educational programmes of the Eurasian Center for Accreditation and Quality Assurance in Higher Education and Health Care (ECAQA)".

The content of the Self-Assessment Report is structured in accordance with the ECAQA Standards for Accreditation of Postgraduate Education Programmes (Residency) in Medical Education Organizations and includes a description of strengths and areas for improvement for each standard.

The report was reviewed by E.M. Turgunov an accreditation expert, and the review noted strengths and areas for improvement, as well as recommendations for additions and changes. Thus, in the process of feedback from the representative of the educational organization, experts received answers to the questions that arose and the self-assessment report was amended accordingly and additions were made to the recommendations of the reviewers.

All standards include the real practice of Semey Medical University to prepare residents, taking into account the planned start of student admission in September 2022. The description in the self-assessment report is sufficiently complete and updated in terms of the number of residents, teachers, administration, information on selection and admission, learning outcomes, results of knowledge and skills assessment, material and technical base of the university and clinical bases, contractual obligations with partners (universities, associations, bases), financial information, plans for development and improvement.

The quality of the self-assessment report served as the basis for moving to the next stage of the accreditation procedure, the external assessment. The experts plan to validate the report data, compare

the information from the report with the information that will be obtained during the visit to the educational institution, i.e. verification of quantitative and qualitative indicators.

### 3. External expert evaluation assessment

External expert work in the framework of the evaluation of the educational programme 7R01113 "Neurosurgery (adult, children's)" was organized in accordance with the Guidelines for the External Evaluation of Educational Organizations and Educational Programmes of ECAQA (approved by the order of the Director General of the "Eurasian Center for Accreditation and Quality Assurance in Higher Education and Health Care" No.5 dated February 17, 2017) and in accordance with the programme approved by order No. 17 dated May 5, 2022 by the Director General of ECAQA Sarsenbayeva S.S. and agreed with the Chairperson of the Board - Rector of NJSC "SMU" Dyusupov A.A. Dates of the visit to the organization: May 23-25, 2022.

The external evaluation is aimed at validating the data of the self-assessment report and verifying the indicators indicating the degree of compliance with the criteria of accreditation standards.

The sequence of the visit within 3 days is presented in detail in the Visit Programme (hereinafter referred to as the Programme), which is contained in the documentation of the accreditation center and in Attachment 3 to this report. The programme is evidence of the implementation of all planned activities within the framework of an external expert evaluation.

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

- interview with management and administrative staff – 28 people in total;
- study of the [website https://semeymedicaluniversity.kz/obuchenie/obrazovatelnye-programmy/rezidentura/](https://semeymedicaluniversity.kz/obuchenie/obrazovatelnye-programmy/rezidentura/);
- interviewing 24 employees (employers), 15 teachers;
- questionnaires of teachers and residents - 124 and 26, respectively;
- overview of resources in the context of the implementation of accreditation standards: the practice/clinical engagement database was visited – the Department of Neurosurgery of the University Hospital (UH) of the National Academy of Sciences of the Russian Federation "МУСЫБГ" (Semey, Sechenov str. 1), where it is planned to conduct training of residents in the specialty 7R01113 "Neurosurgery (adult, children's)" with the participation of 2 full-time teachers;
- study of educational and methodological documents in the amount of 18 units both before the visit to the organization and during the visit to the units (the list of studied documents is in Attachment 2).

The staff of the accredited organization ensures the presence of all persons indicated in the visiting programme and according to the lists of interviews and interviews (Table 1).

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

<b>№</b>	<b>Job Title</b>	<b>Quantity</b>
1	Rector	1
2	Deputy Chief Executive Officer	3
3	Dean	1
4	Heads of Departments	10
	Head of the Library	1
5	Methodologists	1
6	Chief Researcher	1
7	Specialist of the Clinic Department	1
8	Technician Engineer of Digital and PR Technologies Department	1
9	Head of the Department	1
10	Staff of the department	1



11	Employees of departments	6
12	Psychologist	1
12	Head of the Neurosurgical Department of the University Hospital of NJSC "SMU"	1
13	Employers	12
	Total	42

Thus, when implementing the activities of the programme, namely, according to the results of the interview with the first head of the organization, the Chairperson of the Board, the Acting Deputy Chairperson of the Board for Academic and Educational Work, the Deputy Chairperson of the Board for Science and Strategic Development, the Deputy Chairperson of the Board for Organizational and Economic Work, the Head of the Department of Employment of Graduates and MF, the Dean of the School of Postgraduate Education, the Head of the Training Department, the Head of the Research Institute, the Head of the Department of Personnel Management, the employees of the units and the Head of the Department of Employment of Graduates and the Medical Foundation, the Head of the Department of the Clinic, the employees of the JESL, members of the advisory bodies: the CEP of the Residency, in interviews with residents and teachers, compliance with the criteria of Standard 1 was established. All participants in the educational process know the mission of the organization, took part in the formation of proposals for the formulation of the mission, while the mission was brought to the attention of potential residents through the website, social networks, information letters to medical organizations. The strategic plan of the organization for the period of 5 years was reviewed, including such areas as improving the quality of services provided; developing the scientific potential of the university; improving the efficiency of human resource management through the development of competencies, corporate communication; forming the image of the university; modernizing the material and technical base, which confirms the fulfillment of the accreditation standard and demonstrates the goals, objectives and prospects of the organization. From interviews with residents, it was established that before the beginning of classes, teachers inform about the mission, work plans of the organization of education, tell where to get the necessary information about the educational programme, teachers, training bases. This indicates compliance with **Standard 2** in terms of adapting training to the needs of residents.

The organization's documents contain work programmes, EMCD, which define the goal, take into account the integration of practical and theoretical components, independent work. Compliance with the SCES and standard requirements has been established. The organization ensures compliance with ethical aspects in the implementation of the educational programme, since experts have studied the code of ethics G 041.03/04.05.01-2019 dated 01.04.2019.

When visiting university departments and talking to faculty members, experts saw that the organization promotes the development of practical competencies of residents, including simulation equipment, while the organization helps residents to deepen their theoretical knowledge, develop communication skills.

The analysis of educational activities showed that the scientific basis and all the achievements of science in the relevant disciplines were taken into account, additions were made to the bibliography of the EMCD and syllabuses.

The study of control and measuring tools (600 tests of the database of test tasks, 100 KEYPS tests, 50 clinical tasks) showed that the organization has implemented a proper evaluation policy that allows a comprehensive assessment of the educational achievements of residents. During the interview, the residents spoke about the forms of assessment, for example, assessment sheets for solving situational problems, assessment sheets for performing practical skills and that they are satisfied with everything. The system of appealing the results of the assessment is reflected in the "Regulation on the conduct of the appeal" G-041.03.23-2020 dated May 29, 2020, and during the period of work of the organization of education, there were no precedents for the appeal. Thus, compliance with standard 3 has been established.

During a visit to the organization and during an interview with the head of the Department of Neurology, Ophthalmology and Otolaryngology Semenova Yu.M., the commission made sure that there is a documentation system that is transparent and accessible to all teachers and staff, and includes documents such as annual operational plans, annual reports, regulations of departments, contracts with teachers and residents, individual plans of teachers and teaching documentation (working the programme, working curricula, syllabuses, journals), evaluation tools (checklists, statements), certificates, samples of residents' portfolios. A review of the website showed that its pages contain the necessary documents for residents "Regulations on the portfolio", "Regulations on residency" of NJSC "Semey Medical University", "Academic Policy" of NJSC "Semey Medical University", "Policy of academic honesty", etc., and there is up-to-date information that is regularly updated.

The conversation with teachers and clinical mentors Ishmukhamedov R.Sh., Associate Professor of the Department of Neurology, Ophthalmology and Otolaryngology of NJSC "SMU" and Smailov N.S., Head of the Neurosurgical Department of NJSC "SMU", included such issues as the content of the educational programme, the formation of a catalog of elective disciplines, methods for assessing residents, the sufficiency of clinical bases and their material and technical equipment, the amount of hours for academic mentors, requirements for clinical mentors, research and publication activity of residents, the implementation of academic mobility of teachers and residents and allowed experts to learn about approaches to attracting employees of clinical bases for teaching (1 person in total), about the strategy and tactics of recruitment of residents, the information security of the educational programme, as well as to identify problems in the management and development of human resources, since clinical mentors do not have sufficient knowledge of teaching and evaluation methods.

Interviews with 2 teachers, including 1 full-time, showed that there are both successes and problems in the management of education, depending on the specific base (admission of residents to the equipment, a sufficient number of thematic patients, time to maintain medical records, independent work). Experts received answers about the programme of professional development of teachers, financing of this training, availability at teachers of certification on methods of teaching.

On the same day, experts studied materials on the admission of residents and the selection of teachers and established compliance with standard 4.

In order to verify the data of Standard 5, external experts received an opinion on personnel policy and approaches to the development of teachers' pedagogical competence, motivation to work with residents, and mentoring. Experts found that teachers initiate research topics for residents, stimulate the need for additional training and independent work with literature, work with medical documents, the implementation of an individual plan, the implementation of sanitary and educational work among the population, academic mobility of residents.

During visits to clinical bases, where experts conducted a survey of resources, their compliance with training programmes, accessibility for teachers and students, as far as this equipment is modern and meets the needs of students and practical health care. Experts obtained evidence of compliance with Standard 6, as well as validation of the information in the self-assessment report.

Interviews with 13 employers were conducted online and included such questions as: knowledge of the university's mission, participation in the development of the mission and proposals to the strategic plan, participation in the work of advisory bodies, satisfaction with the basic knowledge and skills of residents, participation in the training of residents through mentoring, providing the department and residents with the necessary resources for practical training and formation clinical thinking, interaction with departments and the university as a whole, 100% employment of residency graduates, etc.

The review of resources showed that they correspond to the goals and objectives of educational activities, for example, a clinical base was visited - the NJSC "SMU" in Semey with a bed capacity in the field of specialty – 57, of which 52 beds of neurosurgical profile for adults and 5 beds for children, and employees of the organization of education provide collegial and ethical relations with medical personnel, the management of the clinical base to achieve the final results of residents. A sufficient number of thematic patients, modern equipment and demonstrates accessibility to students are

provided, and employees who simultaneously perform the roles of teachers and mentors (mentors) provide high-quality training in compliance with ethics and deontology. Before starting the relevant discipline of the educational programme, the resident receives a syllabus from the teacher and knows what skills he/she must acquire and develop during the training.

Teachers of the department demonstrated on the KEYPS platform test tasks, the formation of formative and summative assessment of residents.

On the last day of the visit to the organization, a meeting of EEC members was held on the results of the external evaluation. The final discussion of the results of the external evaluation of the educational programme, the study of documents, the results of the interview, questionnaires was held. EEC members started designing the final EEC report. The results of the external evaluation are summarized. Experts individually completed the "Quality profile and criteria for external evaluation of the educational programme 7R01113 "Neurosurgery (adult, children's)" for compliance with the ECAQA Accreditation Standards". No comments were made by the EEC members. Recommendations for improving the educational programme were discussed and the Chairperson Zhanalina B.S. held a final open vote on recommendations for the ECAQA Accreditation Council for the accreditation period.

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

At the end of the programme of the visit, the chairperson of the EEC for the management and employees of the organization of education announced recommendations on the results of an external assessment within the framework of specialized accreditation.

**Conclusion:** At the stage before the visit to the university, the EEC members analyzed the self-assessment report of the EP with appendices and documents posted on google.disk, prepared a list of additional documents and questions to clarify and verify the submitted data, to which exhaustive data and answers were received during the visit.

As part of the visit and the external assessment of NJSC "SMU" for compliance with the standards of specialized accreditation, the members of the EEC studied and evaluated the main indicators of the organization's activities, analyzed the information obtained during visits to university departments and clinical base, observation of processes, interviews with management, teaching staff, residents, graduates of higher education institutions of different years and employers and study of relevant documents, evaluation of the results of questionnaires of students and teachers. The data obtained during the visit were compared with the data presented in the self-assessment report, which made it possible to verify the reliability of the information provided.

In general, the experts noted the high level of qualification of teachers, the motivation of students, the commitment of employees and students to the traditions and values of the university, a sufficient level of informatization and digitalization of processes, the availability of clinical bases for training in the residency. Academic buildings of the university, where theoretical departments, educational and clinical center, auxiliary units are based, are well equipped with modern equipment, have sufficient area. At the same time, members of the commission identified a number of points for improving the educational process.

Thus, the external evaluation and the visit of the members of the EEC allowed to verify the data of the report on the self-assessment of the educational programme 7R01113 "Neurosurgery (adult, children's)" in full and to formulate recommendations for improving the system of training medical personnel under this programme.

#### **4. Results of the survey.**

An observer from the ECAQA conducted an online survey on the resource in the period 23-25.05.2022 <https://webanketa.com/>.

##### **Resident survey results:**

Total number of respondents –124.

This university will be recommended as an organization of education – 87.9% fully agree, partially -8.87%. 83.06% of respondents fully agree and 15.32% partially agree that programme managers and teaching staff are aware of their learning problems. Fully ( 75%) and partially (18.55% ) satisfied with the conditions and equipment of the teaching rooms, classrooms of the university. According to 83.6% (fully) and 12.1% (partially) of office equipment is available for use on the basis of practice. Teachers provide residents with methodological and didactic materials, additional literature to prepare for classes - fully agree 83.6%, partially – 14.52%. Fully (86.29%) and partially (8.87% ) satisfied with the library collection and resources. 91.94% of respondents have access to e-learning resources and 6.45% believe that this is a partial access.

According to 81.45%, the organization of clinical training fully satisfies them, and 16.13% partially. Satisfied completely (88.71% ) and partially (10.48%) with the methods of teaching. There is sufficient time for practical training (patient supervision, etc.) – 94.35% fully agree, 5.65% partially. Satisfied with the methods of assessing my knowledge and skills –92.74% completely agree, partially 7.26%. According to 84.71% of teachers in the classroom use active and interactive teaching methods regularly, and according to 0.81 % - rarely.

According to 91.94% of respondents, teachers constantly provide feedback after completing classes, but according to 4.03% - sometimes and 1.61% - rarely. Fully satisfied that they study at the university 91.13. %, partially 8.06%, disappointed-0.81% of respondents. The university allows you to improve or acquire the necessary knowledge and skills in the chosen specialty confidently 94.35%, not sure 0.81%, can not give an answer 3.23%, would like to believe in this 0.81%, began to doubt this – 0.81%. Completely (94.5 per cent) and partially (93.55 per cent) satisfied with the organization of teaching at the NJSC "SMU".

According to 85.48% of respondents, accreditation is a necessary mechanism for improving educational programmes, but 8.06% believe that it is not necessary to conduct and 5.65% doubt the answer. The work of the EEC was assessed as positive – 92.74%, satisfactory -4.84%.

### **Results of the survey of teachers of resident programmes:**

The total number of teachers on the list is 26. The total number of respondents is 26, including those with up to 5 years of experience - 15.38%, up to 10 years - 7.69%, over 10 years - 76.92%. Satisfied with the organization of the educational process completely 88.46%, partially –11.54%. The university observes ethics and subordination completely agree 88.46 %, partially – 11.54%. The organization of work and workplace is fully satisfied with 73.08% of respondents, partially 23.08%. In the organization there is an opportunity for career growth and competence development to teachers- 88,46% completely agree, partially –11,54%.

In this educational institution, teachers have the opportunity to engage in scientific work and publish the results of research – fully agree 80.77%, partly 19.23%. 88,46% of respondents are completely satisfied with work of personnel service, partially –7,69%. The majority of those surveyed have undergone refresher training over the past 5 years. Only 92.31% fully agree that they can be implemented as professionals, and 7.69% - partially. Unfortunately, 7.69% did not answer the question whether the university supports the teacher in participating in international and republican events, and 30.77% did not address this to the management or relevant administrative employees of the university. The majority of respondents (96.15%) completely agree, and 3.85% partially agree that students have free access to patients on the clinical bases of the university and to the resources of the practice bases. 26.92% are unaware of the implementation of social programmes to support teachers and 3.85% of respondents are doubtful about their availability. The management and administration systematically listen to the opinion of teachers-76.92%, sometimes -0% of respondents. Various methods of teaching are used in the teaching of students, but more often work - analysis of situational problems (88.46%), work in small groups (61.54%), oral surveys and analysis of the topic (50%), also problem-oriented teaching (34.62%), solution of tests (73.08%), cases are solved (88.46%), less often written performance of tasks (7.69%). Completely according to 73.08% that this questionnaire will be useful

for the development of recommendations for improving the university and educational programmes of the residency, 19.23% partially agree with this.

The results of the survey as a whole demonstrate the satisfaction of both residents and teachers with the educational process, the resources of clinical bases, the competencies of teachers, and also testify to the existence of a centralized management of the educational programme, while at the same time determining areas for improvement - social support programmes for teachers, support for the participation of teaching staff in international and national events.

## **5. Analysis for compliance with accreditation standards based on the results of an external assessment of the specialty 7R01113 "Neurosurgery (adult, children's)"**

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

#### **Evidence of compliance:**

#### **1.1 Mission statement and deliverables**

The mission of the educational programme of the residency 7R01113 "Neurosurgery (adult, children's)" is based on the mission of the Semey Medical University - "Training of outstanding doctors, scientists and leaders in the field of health care for the provision of high-quality medical care" (<https://semeymedicaluniversity.kz/o-nas/>).

The mission of the educational programme in the specialty of the residency 7R01113 "Neurosurgery (adult, children's)" - "Training of a qualified neurosurgeon capable of performing the full scope of outpatient and inpatient medical care both independently and as part of a multidisciplinary team".

As a result of meetings and interviews with teachers, employers, residents of the educational programme, it was possible to establish that based on the principle of the trinity of education, science and clinics, taking into account the patient-centered approach, graduates will be able to work independently in the cardiac surgery departments of multidisciplinary hospitals or scientific clinical centers.

The study of the documentation showed that the content of the mission of the educational programme of the residence in the specialty 7R01113 "Neurosurgery (adult, children's)" is based on the analysis of the needs of public health and the medical care system.

Taking into account the high need for neurosurgical assistance to the population of East Kazakhstan region, as well as the shortage of personnel in the UH NJSC "SMU", clinics of East Kazakhstan region, to ensure the practical health care of professional personnel, this EP of the residency was developed. Within the framework of the existing need for qualified specialists in the field of dermatovenerology both in the East Kazakhstan region and throughout the Republic of Kazakhstan, this Mission of EP was formulated. The content of the mission and the educational programme in general were presented to external stakeholders, discussed at a meeting of the Department of Neurology, Ophthalmology and Otolaryngology (Minutes No.7 dated 14.04.2022).

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

Visiting the clinical base, attending an open class, meetings with teachers and residents allowed us to see that, following a patient-centered approach in the clinical process, while maintaining the need for assistance, each resident develops an individual level of such quality as professionalism. The formation of professionalism is formed on the basis of direct on-the-job training, where residents face clinical situations of various levels of complexity, learning from the experience of senior colleagues, and thereby building their own model of behavior.

Based on the Law on Education of the Republic of Kazakhstan, where the autonomy of higher and postgraduate education organizations is enshrined, which gives the right, on the basis of standard rules, orders, etc. The university determines independently the development of the educational programme, assessment, selection and admission of residents, selection/selection of teachers, employment conditions and allocation of resources.

The Regulations on Residency reflect the rights of residents, the implementation of which is facilitated by the department. Freedom of expression of the resident's opinions on their education is usually ensured through anonymous questionnaires, which are carried out centrally, under the supervision of the DQCME. Analysis of feedback on training satisfaction is reported at the departmental meeting.

Feedback is systemic. Thus, in the lobby of the main building, an urn is installed to collect information (proposals, complaints, recommendations) from students addressed to the rector, the chairperson of the Anti-Corruption Committee (<https://semeymedicaluniversity.kz/onas/obshhestvennyj-sovet-po-protivodejstviyu-korruptzii-v-mediczinskom-universitete-semej/>), the SSU. Each month, the contents of the urn are examined and analyzed by a commission. Based on the results of the commission's work, a plan of measures to eliminate complaints is being developed.

### **1.3 Learning outcomes**

The final results of training in the specialty of residency 7R01113 "Neurosurgery (adult, children's)" were formed on the basis of the SCES 2020 and the provisions of Tucmos on competencies in the residency of the university partner of the University of Bashkent (Turkey).

When formulating the final results of training, the Key Competencies of the SCES were taken as the basis (Appendix – 1.7 EP KC 1-6), Levels of knowledge of clinical competencies (PD, DT, E, P, etc.) and Levels of knowledge of practical skills, manipulations, procedures (1-4). Each of these items is prescribed and applied to nosologies (ICD-10) studied in the residency in priority training of a specialist.

For example, KC-1 - (DT - Able to diagnose and treat patients without the help of a team (team work), DTT - Able to diagnose and treat, working together with a team (team), E - Able to identify an emergency situation and provide emergency care, P - Able to apply preventive measures (primary, secondary, tertiary prevention).

The skills of professional behavior; proper behavior and attitude to patients and their relatives, resident colleagues, teachers, other health care workers (KC-2) are formed on an ongoing basis by conducting conversations, participating in trainings conducted by the staff of the department, a 360-degree questionnaire.

The Code of Ethics for Students, adopted by the NJSC SMU on 15.04.2019, prescribes the principles of the corporate behavior of students, the relationship of students with teachers and among themselves, the relationship of students with doctors, etc. ([https://drive.google.com/file/d/17\\_CHtm8nfJZOHu7nlPivOsU01qIqt3q/view?usp=sharing](https://drive.google.com/file/d/17_CHtm8nfJZOHu7nlPivOsU01qIqt3q/view?usp=sharing)). Employee responsible for compliance with ethical standards of conduct in the residency in the specialty 7R01113 "Neurosurgery (adult, children's)" - Botabayev E.S.

Informing the medical community about the established final results of training on the residency programme in the specialty 7R01113 "Neurosurgery (adult, children's)" is carried out by discussing the educational programme at the department, providing the EP to the heads of healthcare organizations and receiving feedback, approval of the EP by the Academic Committee.

Since the EP is focused on the expectation of the employer and the needs of the labor market, coordination of the elements of the EP, CED is carried out with employers. Employers, members of professional associations are involved in the review of EP, participation in the discussion of the results at the meetings of the commission on quality assurance of EP.

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

All interested parties (university employees, graduates of the residency, health and education authorities, healthcare organizations, employers, professional medical associations, the public) participate in the formation of the mission and final results of training, taking into account their proposals.

The mission and final results of the training of 7R01113 "Neurosurgery (adult, children's)" are formulated on the basis of the Standard for the organization in the Republic of Kazakhstan. Representatives of the main stakeholders are involved in the formulation of the mission of the EP by discussing the draft mission of the EP at the level of: students, at an enlarged meeting of the

Department of Faculty Therapy, the Academic Committee, which includes representatives of employers/representatives of practical health care, students and representatives of various clinical specialties.

At the same time, the experts of the EEC established that the accredited programme is not posted on the website of the university for review by all interested parties.

**Conclusions of the EEC on the criteria.** Compliant with 17 standards: fully – 16, partially – 1, non-compliant – 0

**Standard 1: Implemented**

**Recommendations for improvement identified during the external visit:**

1. To place the educational programme on the website to get acquainted with its mission and learning outcomes by residents, employers and other stakeholders.

**Standard 2: EDUCATIONAL PROGRAMME**

**Evidence of compliance:**

**2.1 Postgraduate programme framework**

The educational programme 7R01113 "Neurosurgery (adult, children's)" was developed in accordance with the State Standardized Educational Programme and the Standard Curriculum: Order of the Minister of Health of the Republic of Kazakhstan dated February 21, 2020 No.647 RK DSM-12/2020 (<https://adilet.zan.kz/rus/docs/V2000020071>). The order was registered with the Ministry of Justice of the Republic of Kazakhstan on February 27, 2020 No. 20071. The standard curriculum for the specialty 7R01113 "Neurosurgery (adult, children's)" provides for 4-year training in the residency, with a total of the smallest amount of hours 8460 (280 credits) and obtaining a qualification – a cardiac surgeon, which also meets the requirements of the SCES of the Ministry of Health of the Republic of Kazakhstan No. 647 dated February 21, 2020. Mandatory disciplines/modules reflected in the document, as well as the university component by choice, are formed in the educational programme in the specialty 7R01113 "Neurosurgery (adult, children's)" in 4 modules. Module 4 of the "Research in Medicine" component, consisting of the disciplines: Management of Scientific Research and Biostatistics.

The qualification obtained as a result of mastering the educational programme – "neurosurgeon" is clearly defined and corresponds to the 7th level of the National Qualification Framework and is reflected in the passport of the educational programme. Clarifications on this issue are carried out by the staff of the department when entering the residency.

Training in the educational programme 7R01113 "Neurosurgery (adult, children's)" is practice-oriented, which is consistent with the requirements of the SCES, according to which 75% is given to independent work under the guidance of a mentor and 15% to the independent work of a resident. Residents who are planned to be trained on the basis of the neurosurgical department of the UH have access to patients with a neurosurgical profile requiring both inpatient (including intensive) and outpatient treatment. They can also monitor continuity between different stages of therapy and rehabilitation of patients.

Each resident is assigned certain wards or incoming patients for whom he/she will be responsible as a resident doctor under the guidance of a clinical mentor.

The resident carries out the supervision of his patients from the moment of admission to the moment of discharge, including filling in medical documentation, performing medical and diagnostic manipulations, participation in surgery in the form of an assistant, participation in the conducted instrumental examinations, consultations with other specialists, clinical debriefings and consultations, if necessary - pathoanatomical conferences. As mentors for resident neurosurgeons, a specialist with extensive clinical experience, having the highest qualification category, allowing to transfer skills and experience in a certain field of neurosurgery to residents – Smailov Nail Sergalievich – Head of the Department of Neurosurgery of the UH NJSC "SMU".

Ethical conduct, personality integrity, honesty, altruism, service to others, adherence to the professional code, justice and respect for others, observance of equality regardless of gender, ethnic origin, religion, sexual orientation and socio-economic status are formed in the resident in the process of patient management under the guidance of a supervisor, mentor or teacher. Compliance with these principles is regulated in the Code of Ethics for Students (01.04.2019) and the Regulations on Residency.

The principles of academic integrity, equality in relation to staff and students are prescribed in the Regulation on Academic Integrity, which is available to a wide range of stakeholders and is posted on the university's website (<https://semeymedicaluniversity.kz/wp-content/uploads/2020/11/politika-akademicheskoy-chestnosti.pdf>), the Quality Assurance Strategy (<https://semeymedicaluniversity.kz/wp-content/uploads/2021/01/polozhenie-strategiya-obespecheniya-kachestva-obrazovatel'nogo-processa-nao-SMU.pdf>) and the Academic Policy, which regulate the requirements for fulfilling the principles of honesty to the educational process, especially during the examination period. (<https://semeymedicaluniversity.kz/obuchenie/politika-disciplin/>).

The procedure for informing residents about their rights and obligations is carried out by the postgraduate education circle (SPE), department employees, clinical mentors, there are also materials on the website of the university: <https://semeymedicaluniversity.kz/obuchenie/obrazovatelnye-programmy/rezidentura>

The obligations of residents to observe ethics are constantly monitored by the teacher, clinical mentor, doctors, nurses etc. Recommendations for the correction of professional and ethical behavior are given regularly, if necessary, both orally and when evaluating a resident using the 3600 questionnaire.

The EP for the residency 7R01113 "Neurosurgery (adult, children's)" is compiled in such a way that the entire list of mandatory disciplines is formed logically and in relation to the future specialty in the future. 6 key competencies (KC-1 - Patient Care, KC-2 - Communication and Collaboration, KC-3 - Safety and Quality, KC-4 - Public Health, KC-5 - Research, KC-6 - Training and Development). These competencies, in general, reflect modern trends towards the trinity of medical specialists.

To disclose the Key competence "Communication and Collaboration", the educational programme includes the concepts: "Level of proficiency in clinical competencies", "Level of proficiency in practical skills, manipulations, procedures", "List of nosologies and conditions that the resident must master", "List of practical skills, manipulations, procedures that the resident must possess". The peculiarity of this list is the availability of the level of mastery for each state/nosology (E, PD, D, DT, DTT, P), which is the result of strategic cooperation, since the approach to training in the residence of the university partner "Bashkent" University, Ankara, Turkey is based on. At the same time, the final results of training in the residency are based on the demands of practical health care and the requirements of regulatory documents of the Republic of Kazakhstan.

## **2.2 Scientific method**

Resident neurosurgeons will be able to do not only clinical work, but also to conduct active research activities under the guidance of a teacher. In the educational programme 7R01113 "Neurosurgery (adult, children's)", 8 loans were allocated to strengthen the skills of medical research methodology, which finds practical use in the ability to develop a research protocol, perform it and formalize the results in the form of an article. The disciplines "Management of scientific research" and "Biostatistics", combined in the module "Research in medicine", are only auxiliary, while the resident will use and improve the acquired skills throughout the residency programme, as well as in his further professional activities.

Knowledge of the basics of evidence-based medicine is mandatory in the process of studying in residency in the specialty 7R01113 "Neurosurgery (adult, children's)". Adherence to the principles of evidence-based medicine is also supported by clinical protocols, which are regularly updated according to the accumulated evidence base.



The EP provides for training of residents in critical assessment of literature, articles and scientific data through the writing of abstracts, presentations in accordance with the thematic plan of the discipline, essays on current problems of diagnosis and treatment of the most common diseases.

### **2.3 Content of the residency programme**

The core disciplines of the mandatory component of the 7R01113 "Neurosurgery (adult, children's)" EP are aimed at theoretical and practical training of residents in the field of clinical sciences and preventive medicine, making clinical decisions, communication skills, patient safety issues. Improvement of knowledge and skills in the field of medical ethics, public health, responsibility for one's own health, laid down at the undergraduate level, is carried out directly during practical training with the help of mentors. More complex issues of medical jurisprudence and forensic medicine, knowledge of complementary and alternative medicine develop in the course of discussing various approaches to non-standard situations in the course of discussing clinical cases, analyzing situations, studying the experience of other colleagues.

The development of clinical skills and professional attitude to work is facilitated by the participation of residents in the real activities of the doctor: supervision of patients at the inpatient level, outpatient reception, medical conferences, registration of medical documentation, work in medical information systems (KMIS, AIS), work with regulations, duty, preparation of reports, presentations, formation of a portfolio that provides a visual example of a professional attitude to work in a medical organization and interprofessional communications of specialists of various profiles and levels.

In addition, changes to the EP are made taking into account the needs of employers and practical health care, respectively, employers can make changes that affect the introduction of additional disciplines of the component of choice.

### **2.4 Programme structure, content and duration**

The educational programme consists of 280 credits (8,460 hours). The programme structure includes 3 mandatory modules and 1 module of the optional component.

Module 1. Basic Neurosurgery

2nd module. Brain Volumetric Processes and Pediatric Neurosurgery

Module 3. Highly specialized neurosurgery

1 module of the optional component - "Research in Medicine"

The principle of building a modular educational programme is based on the logic and consistency of studying disciplines. Prerequisites are strictly observed. The principle of rotation and separation of the main disciplines allows to consistently deepen the level of mastery of the most important nosological units and medical manipulations.

The ratio of classroom classes with independent work under the guidance of a mentor and independent work of a resident is 10% - 75% - 15%.

Also, as a mandatory requirement, the programme includes 4 credits of the "Interim Certification" and 2 credits of the "Final Certification".

During the study of the provided documentation and interviews with focus groups, it was found that 100% of residents study the disciplines of the component of the choice "Research in Medicine" and do not choose other disciplines in the profile of the specialty.

### **2.5 Organization of training**

At the Department of Neurology, Ophthalmology and Otolaryngology, doctors of the highest category, experts in the development of educational programmes are responsible for the organization of training. Compliance of clinical bases with accreditation requirements is carried out by specialized accreditation agencies and reflected in the relevant documents.

University has adequate representation of staff, trainees and other stakeholders in the planning of the educational programme. In the specialty 7R01113 "Neurosurgery (adult, children's)", the Academic Committee includes the Head of the Department of Neurology, Ophthalmology and Otolaryngology Semenov Yu.M.

Subject to mastering the main final results of training, the resident has the opportunity to focus on practical activities in the department /clinical base corresponding to the profile of the future specialization, working at 0.5 of the rate of the emergency room doctor.

## **2.6 Relationship between postgraduate medical education and health care**

The NJSC SMU has adopted a "Regulation on the Resident Clinical Mentor" ([https://drive.google.com/file/d/1CPS-n\\_IzLM\\_xdqM2jfgEqBPoe2r8o6J/view?usp=sharing](https://drive.google.com/file/d/1CPS-n_IzLM_xdqM2jfgEqBPoe2r8o6J/view?usp=sharing))

This provision defines the priority goals of the mentor's work as assistance in acquiring, improving the professional theoretical and practical competencies of residents, mastering the norms of medical ethics and deontology, and educating them to be demanding and interested in the results of work in the process of joint clinical activities. Up to 3 residents are assigned to each mentor, if possible, the presence of a resident of the first and second years of study is provided for the purpose of continuity and "mini-mentoring" of the senior over the junior. The principle of rotation is also observed, in which the resident's clinical mentor changes depending on the department or clinical base on which the resident is located. The objectives of mentoring are achieved by providing the resident with sufficient freedom to carry out practical activities on the one hand, demonstrating the role model, ensuring a relevant level of observation, providing appropriate assistance, providing constructive feedback on the other.

In addition to the mentor, in order to implement the training plan and the quality of the EP, residents are assigned a curator who participates in the preparation of the resident and is personally responsible for the implementation of the training plan, carries out measures for personal and psychological support of the resident during the stages of education. The curator is appointed from among the teaching staff of the course, who have the academic degree of doctor, candidate of medical sciences, as well as the highest qualification category. Curators and mentors in the course of daily work give specific recommendations for further improving professional skills, mastering the standards of medical ethics and deontology, improving the general education and cultural level. The share of employees from practical health care as mentors was selected from among experienced specialists whose activities are related to the direction of the residency programme (having at least 5 years of experience in this professional field).

According to the developed modular educational programmes, practical skills training in medical care under the guidance of supervisors takes place on various clinical bases. The share of practical training in the educational programme provides for 90%, with the direct participation of a clinical mentor.

At the same time, during the visit to the Department of Simulation Technologies, the EEC members found insufficiently active mastering of the skills of emergency care by residents in a simulation center with the availability of appropriate equipment and dummies in sufficient quantities.

***Conclusions of the EEC on the criteria.*** Compliant with 30 standards: fully - 27, partially - 3.

***Standard 2: Implemented***

***Recommendations for improvement identified during the external visit:***

1. Use simulation center resources to develop residents' skills in emergency medical care, emergency response and teamwork;
2. To provide residents with an alternative choice of elective disciplines in the educational programme.

## **Standard 3: ASSESSMENT OF STUDENTS**

### **Evidence of compliance:**

#### **3.1 Methods of evaluation**

When analyzing the documentation, the EEC experts established that the methods of evaluation of residents in the university for all specialties of the residency there is a unified policy of evaluation of residents, including in the specialty 7R01113 "Neurosurgery (adult, children's)", the evaluation

policy is reflected in the Regulation on Residence, Academic Policy of the University, the educational programme and syllabuses of disciplines. Also, the resident assessment policy is presented in electronic format on the Platonus and Keyps platforms and on the official website of the university.

The university has introduced an integrated assessment system that takes into account both formative assessment (FA) and summary assessment (SA), covering the theoretical knowledge and practical skills necessary for the future profession. Final Discipline Score (FDS) - is calculated using the following formula:  $FDS = FA * 0.3 + SA * 0.7$

Current monitoring is performed by an academic or clinical mentor. Line supervision evaluates the results of training upon completion of disciplines.

EEC experts confirmed that the criteria for passing examinations or other types of assessment, including the procedure for retaking in the residency, are reflected in the "Regulations on residency", according to which if the discipline of the SA or FDS is not mastered by less than 50%, the resident re-acquires the discipline in the summer semester on a paid basis.

A student of the residency who has completed the training programme and completed the individual curriculum is allowed to the Final Assessment. The final assessment is carried out in accordance with the final results of the training and includes two stages: 1) knowledge assessment (computer testing); 2) skills assessment.

If the results of the assessment of knowledge and skills under the programme are positive, the resident is issued with a residency certificate. Also, this data is the basis for issuing a specialist certificate. This provision is described in the educational programme in the specialty 7R01113 "Neurosurgery (adult, children's)"

According to the Regulation on the Independent Examination, teachers from other universities who have an academic degree, as well as employers – the most experienced specialists from among practitioners of health care who have the highest qualification category and who were not clinical mentors in the process of training residents, are attracted to the SA as members of the examination commission.

Appeal of the results of the assessment of residents is carried out in accordance with the Academic Policy and the Residence Regulations. If the resident disagrees with the assessment of the final assessment, the resident has the right to appeal the assessment, the rules of appeal are described in the Regulation on the conduct of the appeal.

In the specialty 7R01113 "Neurosurgery (adult, children's)" final certification has not yet been, it is planned to recruit residents in 2022.

To ensure the objectivity and transparency of the assessment process, the Department of Neurology, Ophthalmology and Otorhinolaryngology has developed checklists for conducting current, milestone and final control of the discipline (Mini-ALL, OSCE). Also, the department carries out the formation of a portfolio by each resident individually, in which all the achievements of the resident during the period of study in the residency are recorded. The portfolio serves as a basis for forming the characteristics of a resident and obtaining recommendations for further employment. Portfolio evaluation is carried out according to checklists developed by the department employees.

The compliance of control and measuring instruments with teaching methods and the specifics of the curriculum is monitored by a committee of educational programmes (CEP), which includes experienced methodologists and expert testologists.

Also, the experts of the Higher Educational Institution confirmed that there is a permanent Student Assessment Committee at the university, the main tasks of which are the examination of the examination material of the FA and SA, the analysis and approval of tests uploaded to the KEYPS platform, as well as the analysis and approval of the format and number of stations during the practical skills examination.

Residents pass testing on the KEYPS electronic platform, while at the stage of formative testing at least 20 test questions of MCQ, MSQ format are issued, at the stage of summary testing at least 30 questions of MCQ, MSQ format are issued. All tests before the start of testing undergo a review procedure, after evaluating the test results in the keyps programme, the tests are tested for validity and

reliability. The procedure of this inspection was demonstrated by the registrar's office during the visit of the ECC members to this subdivision.

The results of students' academic achievements are recorded in the electronic educational journal through the office-recorder system and the AIS Platonus programme, which automatically generates examination sheets, which is confirmed by experts when viewing 3 electronic journals.

### **3.2 Relationship between evaluation and training**

During the visit to the university, the EEC members confirmed that the methods of assessing residents are comparable with the methods of teaching and learning and cover the assessment of all the competencies of students both during practical classes and during examinations.

Differentiated assessment methods are used to assess different learning outcomes, so theoretical knowledge is mainly assessed by testing, and practical skills are assessed using assessment sheets for each section of the practical work.

During the conversation with residents in the specialty 7R01113 "Neurosurgery (adult, children's)" it was established that the achievement of the results of training stated in the EP is carried out due to a significant number of thematic patients and a large volume of surgical interventions on specialized clinical bases, as well as constant advice from a clinical mentor or teacher. Residents are provided with the necessary access to both the management of patients and participation in operations, manipulations, all types of medical documentation, participation in consultations and clinical debriefings with colleagues of related specialties, work in a multidisciplinary team.

*The conclusions of the EEC meet the criteria of 11 standards: 11 in full.*

*Standard 3: Implemented*

*Recommendations for improvement identified during the external visit: none*

## **Standard 4: STUDENTS**

### **Evidence of compliance:**

#### **4.1 Admission and Selection Policy**

During the visit, EEC experts established that the Mission of the educational programme in the specialty 7R01113 "Neurosurgery (adult, children's)" corresponds to the Mission of the "SMU".

When visiting the university, the experts of the EEC confirmed that the admission of resident neurosurgeons to the NJSC "SMU" is carried out in accordance with the "Standard Rules for Admission to Education in the Organization of Education Implementing Educational Programmes of Postgraduate Education", approved by the Order of the Ministry of Education and Science of the Republic of Kazakhstan dated October 31, 2018 No. 600 with additions and amendments made on May 24, 2021 (No. 241) and the Regulations on the Admission of Students to Higher and Postgraduate Education in the NJSC "SMU" dated September 16, 2021. The Regulations on the Admission of Students to Higher and Postgraduate Education in the NJSC "SMU" (version 06 dated September 15, 21) are posted on the website of the university and are available to all interested parties. Section 8 of the Regulation regulates the procedure for admission of students to postgraduate educational programmes.

Ensuring a balance between the available capacity and opportunities for training and recruitment of residents is achieved by monitoring the availability of EP resources in preparation for the new academic year at NJSC "SMU". Every year in March-April, on the basis of a request from the Ministry of Health of the Republic of Kazakhstan, a request is formed for a certain number of places for each specialty of the residency in accordance with the applications of the state license, analysis of concluded contracts for clinical training, qualification of teaching staff, material and technical resources.

During the conversation of the experts of the EEC with the teachers, it was established that the "Open Days" are actually held in the NJSC "SMU" in different areas and levels of training. All information about the events is actively published on the Semey Medical University page in Instagram.

Since the beginning of February 2022, meetings with employers for graduates of residency have

been organized in NJSC "SMU", which are held with the participation of representatives of city and district hospitals of East Kazakhstan and Pavlodar regions. During the meetings, the issues of personnel shortages, working conditions, measures of social support for young professionals, such as the payment of salaries in employment, are discussed. There were no graduates in the specialty 7R01113 "Neurosurgery (adult, children's)" this year.

The NJSC "SMU" has developed and implemented a standard operating procedure (SOP) "Algorithm for admission of applicants" (Order of the Ministry of Education and Science of the Republic of Kazakhstan 600 dated October 31, 2018) of all levels, which contains a procedure/methodology for the admission of students of all levels of training.

Also, experts of EEC confirmed that reception of resident - neurosurgeons is carried out on a paid basis on the results of entrance examinations by anonymous independent assessment on results of entrance examination. For admission to the residency, GPA in the internship and bachelor's degree, a summary assessment based on the results of two stages of the final state certification of the 7th year, as well as an entrance exam in a test format are taken into account.

The entrance examinations of resident neurosurgeon are held in one stage. Examination questions for each specialty of the residency are posted on the website of NJSC "SMU". Tickets are designed in 3 variants. The ticket with the set of questions is distributed randomly (randomly). The attendants randomize the tickets. When evaluating the applicant's response, the examiner uses a checklist for 5 or 10 steps. Additional points are 20 points for work experience in rural areas for a year or more (the supporting document is a work book) and the resident's portfolio (the Portfolio Regulation). Independent examiners are involved in the monitoring of examinations: a representative of the Anti-Corruption Agency of the Republic of Kazakhstan in Semey, the chairperson of the anti-corruption committee "SMU", representatives of the public.

The transparency of the procedure for the selection of resident neurosurgeon, as well as equal conditions for all applicants, is guaranteed by strict compliance by examiners with the Regulations on the independent examination of NJSC "SMU" dated April 22, 2019. In order to ensure the transparency of the examination procedure, an annual live broadcast is held on Facebook, with the possibility of viewing the video again.

During the conversation with residents, the EEC experts confirmed that applicants who actively participated in scientific circles, conferences, mastered the internship programme, have good practical skills, clinical thinking and are constantly working to develop and improve their competencies (from interviews with residents, teachers, vice-rector for academic activities) have advantages when enrolling in residency in the specialty 7R01113 "Neurosurgery (adult, children's)". The selection of potential residents for training in the programme 7R01113 "Neurosurgery (adult, children's)" is made from among graduates who have completed an internship, have a high level of understanding of biomedical sciences, achieved at the undergraduate level.

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

Experts of the EEC confirmed that the NJSC "SMU" complies with the established by the Order of the Ministry of Education and Science of the Republic of Kazakhstan dated October 31, 2018 No. 606. and paragraph 8 of Article 52 of the Law of the Republic of Kazakhstan dated July 27, 2007 "On Education", the number of residents for each specialty per teacher is 1:3. The authorized body – the Ministry of Health of the Republic of Kazakhstan – makes adjustments to the figures of admission.

One of the mechanisms for reviewing the number of residents enrolled for training is the annual Employers' Congress held at NJSC "SMU", at which representatives of the university negotiate the placement of targeted grants for residency by organizations.

Enrollment of residents in the specialty 7R01113 "Neurosurgery (adult, children's)" for the first time will be carried out for 2022-2023 academic year.

During the conversation of the experts of the EEC with the representatives of the AMP, it was confirmed that the data on the demand in the personnel of neurosurgeons are provided to the university by the Department of Health of the region and the Department of Science and Human Resources of the Ministry of Health of the Republic of Kazakhstan, published on the website of the university. The

Dean's Office of the Higher School of Education, together with the educational department responsible for the specialty 7R01113 "Neurosurgery (adult, children's)", conducts an analysis of the availability of the educational programme with teaching staff, including curators and mentors, clinical bases. At the end of the collection of applications, the data are processed and presented at a meeting of the CEP and the Academic Committee, at which the admission policy for the current year is approved. Applicants can consult on available vacancies in SPE and the Republic from the employment specialist of the SPE: the applicant can take the contact details of the medical institution, which requires doctors in the chosen specialty of the residency.

On the SMU website there is a module "To Employers", which contains information on the expected release of residents of the current year.

Also, the experts confirmed that the university annually creates and works a commission on the distribution of graduates, which includes representatives of the Ministry of Health of Kazakhstan, the DHC of East Kazakhstan region, the Council of Employers, the university. The Dean's Office of the School of Postgraduate Education, departments analyze the employment of graduates and the need for medical personnel.

Starting from 2019, data on students on the basis of a state educational order for monitoring the employment of university graduates and mandatory 3-year training of young specialists are entered into the "SMU" programme "Accounting of Young Specialists" of JSC "Financial Center". The university also annually submits a report on the results of the distribution of young specialists with personalized lists (protocols) to the observatory (working body) for monitoring and analysis.

The policy of recruitment and admission of residents from small groups of peoples, from among practitioners (doctors) from rural areas and special groups of the population (for example, persons with disabilities) complies with the norms and requirements adopted in the Republic of Kazakhstan.

The University has sufficient human resources, clinical base, resources for high-quality training of this number of residents.

Completion of the programme in accordance with the disciplines is carried out on the basis of the latest world recommendations, multicenter research data, advanced educational technologies are used. An important part of the educational process is the training of communication skills, patient safety standards to prevent unintentional incidents.

#### **4.3 Resident support and advice**

During the visit of the EEC experts, it was established that the NJSC "SMU" created and provided safe conditions for the training of residents. To protect the interests of residents, assist them in educational, scientific, and non-curricular activities, the SMU provides various services for the organization of counselling, psychological, social, and medical support for students.

During the conversation with residents, it was revealed that the university provides financial support to residents in need of material assistance. Residents in the regions of Ust-Kamenogorsk, Pavlodar, if necessary, are provided with a hostel.

At the moment, there are no resident neurosurgeons and do not need a dormitory.

The system of academic counseling of residents in NJSC "SMU" is represented by the School of Postgraduate Education, resident curators, the head of legal and passport and visa work, a psychologist. Residents have the opportunity to receive legal advice from the head of the legal support department. The resident can get psychological support from a regular teacher-psychologist.

All necessary consultations at certain stages of training of residents of neurosurgeon are organized by the teachers of the department, including those based on the results of monitoring the academic progress of residents, including unforeseen incidents. Academic and clinical mentors are particularly involved in this process.

The University finances the participation of students at all levels in scientific and practical conferences, congresses, symposia (confirmed from a conversation with the vice-rector for research, teachers, residents).

Students also have the opportunity to report problems or corruption anonymously by contacting the director of a medical school or vice-rectors' blog. On the website of the university there are blogs of the rector, vice-rectors.

To form the clinical thinking of residents, clinical reviews of patients are carried out.

In the NJSC "SMU", the teaching staff of the profile department use a variety of ways to disseminate information: the university's website, chat rooms on the WhatsApp network, participation in briefings held by management, open days, job fairs at the university, round tables with heads of medical institutions and organizations, exhibitions of achievements. All information received is brought to the attention of residents.

Residents of neurosurgeon are involved in the work of student self-government, where emerging problems are also solved.

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

EEC experts confirmed that residents participate in meetings of collegial bodies of SMU, where they are official members and express their opinions and suggestions for improvement (during the interview it was found out that the resident neonatologist of the second year of study is part of the CEP for higher postgraduate education). A feedback analysis is carried out in the form of a survey of graduates of the residency and employers, on the basis of which the process of policy development and selection of residents in the specialties of the residency is improved.

The participation of residency students in the development of the residency programme is also carried out through the choice of elective disciplines. Residents have the right to make a proposal, to include in the catalogue of new elective disciplines, in their opinion, necessary for study and contributing to the improvement of the educational programme as a whole. Proposals submitted orally or in writing from residents are necessarily taken into account and taken into account.

When visiting the experts of the Department, it was confirmed that the Department of Neurosurgery collects feedback from residents at the stage of mastering the taught discipline (at the end of studying the discipline), as well as on issues related to the conditions of study/work, problem situations.

EEC experts also confirmed that the participation of students at all levels in the quality of the educational process is regulated by the Academic Policy of the SMU dated August 31, 2021. The participation of residents in the discussion of key issues of the quality of the educational process is regulated by their inclusion in the Academic Council, the Academic Committee, the CEP in accordance with the provisions on all the mentioned collegial bodies. The composition of the Academic Committee of the SMU for 2021-2022 academic year, the composition of the CEP of Residency specialties for 2021-2022 academic year includes 3 residents in clinical specialties. The University encourages (welcomes) the participation of residents in the life of the university, in particular participation in the work of the academic committee, the CEP, which takes into account the views/proposals of residents to improve the educational process (clarified from a conversation with residents).

#### **4.5 Working conditions**

It was also confirmed that students of the residency have the opportunity to work in their free time for 0.25 (in the second year of study – 0.5) of the rate as a doctor in healthcare organizations, laboratory assistant, trainee teacher of the department. Residents with the corresponding specialist certificate have an opportunity to work part-time.

During the visit to the clinical base, the experts of the EEC established that residents have unrestricted access to patients, all types of medical equipment and to all departments of clinical bases. The department has an office for mastering theoretical knowledge by residents, there is a separate room for changing clothes, for eating, etc.

During the training, residents actively participate in consultations, medical conferences, pathoanatomical conferences, clinical debriefings, master classes, scientific and practical conferences.

In order to maintain the optimal balance of time spent by the resident on training and medical care, in the "SMU" in accordance with the SCES of the resident's residence, the training day is 9 hours,

3 hours of which are allocated for classroom classes, 3 hours for IWRT, 3 hours for IWR. In connection with the Regulations on Residency, it is regulated to plan the study load of the resident based on this time; night and day duty, as well as other types of work are included in the specified study load. The duty of residents on a clinical basis is one of the types of independent work and is aimed at mastering the tasks of training. Shift planning is reflected in the discipline syllabus.

EEC experts also confirmed that the residency provides a system for recounting academic hours in disciplines completed by students before enrolling in the residency. In addition, the resident is exempt from duty at the clinical base, provided that he/she has experience in departments of this type. In case of pregnancy, the resident is released from duty at the clinical base at night. Tuition on an individual schedule in the residency is allowed only if there are appropriate medical recommendations. Provided that the resident provides the relevant certificate by the decision of the SPE, he is provided with the opportunity to study according to an individual schedule.

***Conclusions of the EEC on the criteria.*** Compliant with 30 standards: full – 30.

***Standard 4: Implemented***

***Recommendations for improvement identified during the external visit: none***

## **Standard 5: FACULTY**

### **Evidence of compliance:**

#### **5.1 Recruitment and Selection Policy**

EEC experts confirmed that the University approved the University Development Programme at the meeting of the Board of Directors (02.12.2020, Minutes No. 8). According to the university development programme, taking into account the goals and objectives of the university, the personnel policy of the university is implemented.

The Regulation on the University Personnel Policy was approved on 10.03.2018, additions and changes were made to the Regulation on 30.09.2019, in accordance with which the policies and procedures for the recruitment and admission of teachers, managers and clinical mentors were determined. Recruitment takes into account the required experience and qualifications of the specialist, criteria of scientific, educational, pedagogical and clinical achievements are established.

During the conversation of the experts of the EEC with the representatives of the management personnel, it was established that the university developed and approved the standards for the selection of teaching staff on a competitive basis "On approval of the Rules for competitive replacement of the positions of faculty and researchers of higher educational institutions", the order of the Minister of Education and Science of the Republic of Kazakhstan dated April 23, 2015 No.230 and the order of the rector of the university No.394 dated August 2, 2018.

According to the competitive substitution of positions of the faculty, the composition of the competitive commission for the substitution and re-election of vacant positions of the faculty has been approved. All information about the upcoming competition for vacancies is posted on the website of the university and in the city newspaper. The meeting of the competition commission is held annually at the beginning of the academic year and is broadcast online on the university's page. The university takes into account the balance between teaching, scientific research of clinical departments. The developed job descriptions and regulations establish the responsibilities and duties of teachers and clinical mentors. When forming the staff of departments, the ratio of teachers and residents is taken into account, which is sufficient for effective teaching and learning.

Much attention is paid to the availability of candidates with the appropriate education, clinical experience, qualification category in the relevant specialty and discipline profile.

The staff of the Department of Neurology, Ophthalmology and Otolaryngology involved in the training of residents – 1 full-time academic mentor and 1 clinical mentor, while 1 of 2 teachers have an academic degree. The clinical mentor is an experienced professional in the field of neurosurgery.

#### **5.2 Teachers' obligations and development**



Along with educational and methodological work, all employees of the department perform a therapeutic load, in particular, the head of the department conducts 30 consultations every month, assistants supervise (treat) up to 20 patients with cardiosurgical pathology. The teaching staff, headed by the head of the department, conduct clinical conferences for doctors of the clinical base, conduct consultations and participate in consultations in other health care facilities, review the stories of deceased patients, give an expert opinion on lethal cases on the clinical base. This is reflected in the job descriptions of the head of the department and the teacher (<https://drive.google.com/drive/folders/1NpHZiizIUXNfpp4x9GtzagSzDUIkR2Ux>).

The faculty of the department actively participates in research work, performs research on an initiative basis.

The Rector's Order No. 586 of October 16, 2018 created the School of Clinical Mentors to improve the competencies of mentors, every year leading, qualified specialists in practical health care are involved as clinical mentors.

All teachers of the department have a specialist certificate and admission to clinical practice. When visiting the department's experts and during the conversation with teachers, it was confirmed that the duties between the department's employees are reflected in the department's annual work plan.

The Department of Neurology, Ophthalmology and Otolaryngology has the results of a systematic assessment of the competence of teachers, assessment of the effectiveness of teaching.

A regulation on the advanced training of teaching staff has been developed, according to which university teachers undergo advanced training in educational and methodological and clinical areas for 5 years (<https://drive.google.com/drive/folders/1NpHZiizIUXNfpp4x9GtzagSzDUIkR2Ux>). Monitoring of regular advanced training of teaching staff is carried out by heads of departments, as well as the personnel management department of the university.

In order to stimulate the teaching staff of NJSC "Semey Medical University" for high pedagogical skills, scientific results and dedication to the cause, the university introduced a KPI system and a rating of research work of the teaching staff.

The employees of the department have publications in foreign and domestic scientific publications, introduce the results of scientific research into the educational process.

In addition to the staff of the department, highly qualified specialists from leading organizations and clinics are attracted to teach residents.

The workload for all types of activities is evenly distributed among teachers, observing the principle of the trinity of education, science and practice. The volume of teaching load in the residency is 650 hours, for head teachers - 600 hours, for the head of the department – 500 hours.

EEC experts also confirmed that all employees of the university are actively involved in the implementation of new educational technologies of teaching and evaluation implemented at the university: Turkish catalog, Caselog, milestones, MCQ in accordance with the ACGME criteria.

Periodic assessment of teachers is carried out in accordance with the Regulations on the certification of university employees (May 27, 2019).

Evaluation and recognition of worthy academic activities of teachers, supervisors and mentors is carried out through awarding in accordance with the Regulations on awards adopted at the university, awarding employees (for holidays and anniversaries), KPIs and research work (R&D rating), participation in the contests "The best teacher", "The best curator". The University has developed and approved the "Regulations on holding the contest "Best Teacher" of the University dated 30.09.2019.

According to clause 3 – Criteria and form for selection of a mentor of the Regulation on a clinical mentor dated 14.10.2020, a mentor is appointed from among qualified practitioners of health care, with at least 5 years of experience in the relevant specialty. It is preferable to have a certificate confirming the completion of the cycle of the School of Clinical Mentors.

During the conversation with the clinical mentors of the experts of the EEC, it was confirmed that the mentors are trained at the school of the clinical mentor in accordance with the established procedure on the basis of an appeal from the head of the department and the applicant for mentors. The

Mentoring School programme has topics on communication skills, but there are no hours on pedagogical competencies.

According to the developed Regulations on advanced training and retraining of medical and pharmaceutical personnel of NJSC "SMU" dated 04.06.2019, teaching staff of departments undergo advanced training 1 time in 5 years in order to update and deepen theoretical knowledge, improve practical skills in clinical specialties.

EEC experts confirmed that the motivational tool for teachers and employees is the annual rating of incentives and motivation of employees, which is revised taking into account new requirements and opportunities, is in constant dynamics. The presented KPI system assumes the possibility of receiving up to 800-900 thousand tenge or more per year by one employee.

In order to constantly improve the new model of teaching specialized disciplines, teachers are constantly trained in pedagogical technologies used in the world educational environment. For example, teachers of the department together with residents underwent online training in the basics of statistics in 2021 (St. Petersburg, Institute of Biostatistics). Certificates are available.

The University provides an opportunity for teachers to improve their language competencies by inviting them to study in English and Turkish courses within the framework of Medical Foundation (<https://semeymedicaluniversity.kz/postuplenie/medical-foundation/>).

At the same time, when studying the documentation, EEC members found that the refresher training programme at the School of Clinical Mentors focuses on communicative skills, while issues of modern trends in assessing theoretical knowledge and practical skills are not given due attention. In addition, the academic mentor responsible for residency at the Department of Neurology, Ophthalmology and Otolaryngology has not undergone advanced pedagogical training courses in the past 5 years with the inclusion of innovative teaching methods.

To stimulate and support talented young specialists, a system has been developed for forming a talent pool of managerial staff - the "Hope" talent pool. The developed Regulation on the personnel reserve "Hope" dated May 24, 2021 contains the regulations for the selection of candidates, requirements for the development of competencies, the regulations for training the composition of the reserve.

Experts of EEC confirmed that teachers of the department together with residents take part in international peer-reviewed journals, participate in international conferences and publish the results of ongoing research.

**Conclusions of the EEC on the criteria.** Compliant with 7 standards: fully – 6, partially – 1, non-compliant – 0

**Standard 5: Implemented**

**Recommendations for improvement identified during the external visit:**

1. Include topics on the development of pedagogical competencies in the curriculum of the mentoring school for clinical mentors;
2. Provide for the training of academic mentors in courses to improve pedagogical competencies, including issues of innovative educational technologies, pedagogy and psychology.

## **Standard 6: EDUCATIONAL RESOURCES**

### **Evidence of compliance:**

#### **6.1 Logistics and equipment**

For the implementation of the programme "Neurosurgery (adult, children's)" there is a sufficient material and technical base, as well as clinical bases. The main clinical base is the University Hospital (UH) of NJSC "SMU". It is a modern multidisciplinary clinic with 15 in-patient departments for 500 beds, 160 children's beds and -340 adults' beds. The hospital has a consultative and diagnostic clinic: 200 visits per shift and Check-up diagnostics, there are paraclinical departments: functional diagnostics, diagnostic laboratory, X-ray endovascular laboratory, radiation diagnostics, hyperbaric

oxygenation, endoscopy, physiotherapy, sterilization department. The total area of the classrooms is 383.0 sq.m., of which the classroom fund is 46.17 sq.m.

The safety of the training environment is ensured by the security service. The safety engineer constantly conducts safety briefings, there is a "Journal of familiarization with the instructions" for working with equipment, dummies and imitations.

Library of NJSC "SMU" with a total area of 1362m<sup>2</sup>. For individual and group work, there are 6 separate rooms equipped with multimedia equipment. The library offers free access to the following databases: Cochrane.org, the database "Legendary Books" of the publishing house "Urait", Elsevier "ScienceDirect", "Scopus"; CyberLeninka, the Electronic Library of RGB dissertations, Research methods of the Alexandria Library, Web of Science, Scopus.

For residents studying in Pavlodar, there is a library of the Pavlodar branch of the University, with a total area of 70.4 square meters and 12 seats (Appendix to the self-report).

Purchase of necessary literature is carried out taking into account applications and within the framework of a centralized survey of both residents and teachers, doctoral students and master's students

## **6.2 Clinical Bases**

The main clinical base with the appropriate profile for the educational programme is the University Hospital (UH) - a multidisciplinary clinic with a neurosurgery department with 57 beds (of which 5 are for children). Profile of patients on clinical sites (adults and children) receiving specialized neurosurgical care:

1. craniocerebral trauma
2. spinal trauma
3. neurodegenerative diseases of the spine (adults)
4. vascular diseases of the brain and spinal cord (aneurysms, arteriovenous malformations, ischemic stroke, intracerebral hemorrhage)
5. traumatic and compression diseases of the peripheral nervous system
6. tumors of the brain, spinal cord and peripheral nervous system
7. parasitic and inflammatory diseases of the central nervous system
8. anomalies of the nervous system (children)

List of operating equipment of NJSC "SMU" UH:

1. Carl Zeiss Pentero 900 Surgical Neurosurgical Microscope
2. Medtronic Stealth Station Neurosurgical Navigation System
3. Genoray Oscar Classic C-Arc X-Ray Machine
4. NewHospivac Active Suction
5. Medtronic IPC Craniotome
6. Meditom Electric Coalescer

List of operating equipment of the X-ray endovascular laboratory of the NJSC "SMU" of UH:

1. Artiz Zee Floor X-ray Angiography Machine with C-Arc for Interventional Radiology
2. Electrosurgical high-frequency apparatus ЭХБЧ-80-03 Fotek
3. Logig Diagnostic Ultrasound System
4. External dual-chamber pacemaker

## **6.3 Information technology**

The training of resident neurosurgeons takes place in person, the elements of the distance learning method are used in webinars, some lectures and in participation in conferences.

Unlimited access to the Internet is provided on the territory of the university, its clinical bases and directly in the study rooms of the department, for free use of the necessary web resources and electronic media. Through the University Library, residents have permanent access to electronic databases (Cochrane.org, Elsevier, full-text Pubmed, Wiley Library, UpToDate) when searching for up-to-date data, especially when performing scientific work.

When training, working on clinical bases, residents have access to the information systems of

medical organizations: KMIS, Medelement (through the password of the head of the department or the clinical mentor), filling in medical documentation, appointment sheets, etc., under the control of their clinical mentor.

Teachers of the department contact resident neurosurgeons of all years of study through the created working chats in Whatsapp, to solve both working and personal (social) issues.

#### **6.4 Clinical Teams**

Every day, resident cardiac surgeons participate in joint rounds with the professor, consultations, consulting other specialized departments. Residents themselves also hold seminars on topical problems of clinical medicine, where the students are both students at all levels, as well as healthcare and teaching staff.

In the process of training, residents, in addition to working in specialized departments, receive patients in the admission department, where they interact with colleagues of other profiles. Together with clinical mentors, they conduct consultations with patients in other departments of hospitals, where it is necessary to agree on patient management tactics with colleagues.

#### **6.5 Medical Research and Advances**

At the Department of Neurology, Ophthalmology and Otolaryngology, research work is carried out within the framework of initiative projects. The study of clinical cases of patients, medical records, literature data, work in the library made it possible to draw up data in the form of abstracts and articles in republican and international sources.

The Department of Neurology, Ophthalmology and Otolaryngology occupies the 2nd place among 37 clinical departments.

As a result of the study of the submitted documentation, it was established that university residents necessarily study the disciplines "Management of scientific research" (4 credits) and "Biostatistics" (4 credits) in the 1st and 2nd years of residency, included in the Catalog of elective disciplines.

Thus, all resident cardiac surgeons are involved in the research work of the department within the framework of initiative projects.

According to the schedule, once a week from 16.00 to 18.00 hours in the above disciplines, residents analyze their data using various methods of statistical processing under the guidance of a teacher. Some stages of clinical studies will be carried out by residents themselves.

#### **6.6 Education expertise**

The examination of the quality of the educational programme is systematic and carried out in stages. The educational programme of the residency in the specialty 7R01113 "Neurosurgery (adult, children's)" is based on the SCES of 2020 and approaches to the training of the university partner of the University "Bashkent" (Turkey). Responsible for residency at the Department of Neurology, Ophthalmology and Otolaryngology draws up an educational programme, which, after discussion at the departmental meeting, is submitted to the Academic Committee of NJSC "SMU" for evaluation and examination. After agreement with the Deputy Chairperson of the Board of NJSC "SMU" for academic work, the programme is entered in the Register of EP of the Ministry of Education and Science of the Republic of Kazakhstan, where after an independent external examination, the programme is applied in the educational process.

The University has developed and implemented a Strategy for ensuring the quality of the educational process (<https://semeymedicaluniversity.kz/obuchenie/politika-disciplin/>), which defines an algorithm for monitoring the educational programme (EP): systematic discussion of the EP at meetings of collegial bodies (AC), updating the EP in connection with the needs of the labor market and taking into account the wishes of stakeholders, systematic receipt and analysis of feedback on the quality of the educational process from all stakeholders, planning of measures to improve.

Monitoring of the implementation of the EP of the residency programmes is carried out on the basis of the principle of collective solidarity of all interested parties: the specialized department, SPE, the Academic Committee, residents, representatives of practical health care, potential employers and the Ministry of Health of the Republic of Kazakhstan.

Feedback from residents is carried out through the SPE, DQCME to determine the degree of satisfaction with the content of the educational programme and the organization of the educational process, which are carried out in the form of questionnaires, focus groups, constant monitoring of appeals to the blog of the dean's office, Deputy Chairperson of the Board for Academic Work, Deputy Chairperson of the Board for Scientific and Clinical Work, Chairperson of the Board. In addition, the school of postgraduate education collects feedback from graduates of residency and their employers.

The Academic Committee annually organizes events to improve the educational programmes of the residency: forms working groups, on expert evaluation, working curricula, methods of training and evaluation in the residency, development and monitoring of the resident portfolio, examination of the catalog of elective disciplines, planning of measures to improve the content and the process of implementing the educational programme. Profiling departments update the content of curricula in accordance with the development of medical science and education. This process should be documented in the case of the introduction of innovative teaching methods in the educational process, for subsequent monitoring during implementation at specialized departments.

The faculty will study the results of the implementation of the updated educational programme on the basis of an analysis of the success of its graduates according to an independent examination and feedback from employers.

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

The mechanism for the implementation of the academic mobility programme for teachers and residents was developed and approved in the "Regulations on academic mobility of students, teachers and employees" (March 18, 2019) ([https://drive.google.com/file/d/1Dx2VdOXpn6ys1Krn8baRjzapPcNn\\_\\_78/view?usp=sharing](https://drive.google.com/file/d/1Dx2VdOXpn6ys1Krn8baRjzapPcNn__78/view?usp=sharing)), including the Regulation "On the organization of academic mobility within the framework of the Kazakhstan credit recount system", to facilitate the procedure for academic recognition of diplomas and qualifications, ensuring transparency of educational programmes and curricula.

The search for a university partner, the development of an academic mobility programme, organizational issues of training and accommodation is carried out by an academic mobility specialist together with the supervising department and the SPE (<https://semeymedicaluniversity.kz/onas/struktura/departament-po-strategicheskomu-razvitiyu/otdel-mezhdunarodnogo-sotrudnichestva/akademicheskaja-mobilnost/>).

Foreign partner of the department - Altai State University, Baskent University.

**Conclusions of the EEC on the criteria. Compliant with 21 standards: fully - 20, partially - 1.**

**Standard 6: Implemented**

**Recommendations for improvement identified during the external visit:**

1. It is necessary to document all stages of introducing innovative teaching methods into the educational process.

## **Standard 7: PROGRAMME EVALUATION**

### **Evidence of compliance:**

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

Having analyzed the educational programme 7R01113 "Neurosurgery (adult, children's)", the experts of the EEC found that the monitoring of educational programmes is carried out in several areas. The first is the monitoring of residents' performance. Since September 2019, Platonus and Keys programmes have been introduced for residency students. These platforms allow you to assess, monitor the performance of students, analyze the quality of training.

The Academic Committee with the subcommittee on residency and DQCME annually organizes events to improve the educational programmes of the residency: forms working groups on the examination of the MEP (Modular Educational Programme), all syllabuses of residency disciplines, teaching and evaluation methods, planning activities to improve the content and implementation of the educational programme.

Since 2019, all educational programmes are reviewed by an external expert in the process of entering the programme in the register of EP. Advisory support and recommendations for programme improvement are provided by DQCME.

The process of implementing the programme is controlled not only by the specialized department, but also by the School of Postgraduate Education, as well as by the DQCME and the deputies in charge of the board. The tools for evaluating this process are visits to departments and clinical bases by representatives of the dean's office and the AMP, collection and analysis of feedback from stakeholders, analysis of the achievements of residents and their progress.

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

Regular feedback is carried out:

- from students (oral, questionnaire, etc.) – examinations – for satisfaction with the quality of teaching, mastering practical skills;
- during the test examination - analysis of validity tests (selection of too complex and too light tests);
- with a practical mini-clinical exam - what was good, what needed to be improved;
- at the department level through analysis of the results of the session on the discipline, analysis of employers' feedback, SWOT analysis in the annual report of the department.

Assessment of the effectiveness of the EP on the basis of a systematic study of feedback from students, employers and teachers is automated and includes the following questionnaires: "TS through the eyes of students", "Satisfaction with the discipline" (undergraduate disciplines), "Satisfaction with the discipline in the master's/doctoral degree", "Satisfaction with the discipline in the internship/residency". Questionnaires are sent out automatically when forming the final statement (GFS) to each student individually. <https://semeymedicaluniversity.kz/obratnaya-svyaz/ocenite-nas/>

The results of the feedback are voiced at the meetings of the departments, the Academic Council and the CEP of the PGE, published on the university's website in the "Feedback" section, so that all interested parties have the opportunity to get acquainted with it. The School of Postgraduate Education collects feedback from residents to determine the level of satisfaction of residents with the content of the educational programme, the organization of the educational process in the form of questionnaires, focus groups, monitoring of appeals to the school's blog. Schools have a feedback box where residents can incognito leave their suggestions, wishes and complaints. An important role in the evaluation of the educational programme is played by monitoring the achievement by residents of the final learning goals. Therefore, the school collects feedback from residency graduates and their employers.

Feedback analysis is provided for discussion at meetings of departments, the Committee of educational programmes and the Academic Council, which include teachers, residents and members of the Employers' Council. During these meetings, plans are being developed to further improve the quality of graduate training.

The university has identified and used feedback mechanisms, as well as tools for training a medical specialist through continuous communication with medical practice and the health care system. As such tools, feedback from employers on the level of training of graduates, carried out in the form of a questionnaire, is used. The developed questionnaire allows to determine the level of satisfaction of the employer with the competencies of the graduate, professional, special and extra functional (mobility, sociability, teamwork skills, leadership skills, analytical abilities, etc.), to identify areas for improvement in the training of specialists. In this case, the educational trajectory of the graduate is taken into account.

## **7.3 Results of Residents and Graduates**

An important role in the evaluation of the educational programme is played by the results of the final certification of residents carried out at the testing stage by the National Center for Independent Examination, as well as the results of certification examinations conducted by the Committee for Control of Medical and Pharmaceutical Activities of the Ministry of Health and Social Development of the Republic of Kazakhstan.

In the specialty 7R01113 "Neurosurgery (adult, children's)", the final state certification of residents was not carried out, since 1 set is planned for the 2022-2023 academic year. However, the curriculum provides for the passing of the FSA after completing 4 years of study. The FSA will be conducted in 2 stages: determination of the level of theoretical training in disciplines in the form of testing; certification of practical skills with a standardized patient. The first release is expected in 2026.

#### **7.4 Stakeholder Engagement**

At NJSC SMU, due representation of stakeholders in the assessment of the processes and final results of resident training programmes is observed. For example, the CEP of postgraduate and additional education includes heads of department, professors, associate professors, teachers of departments that provide the educational process in the relevant specialty, leading specialists in practical health care, employers, and representatives of the student population. The composition of the EMC, the CEP is approved by the Rector of the University.

Representatives of practical health care, employers are obligatory members of the examination commission of the state certification of graduates. Representatives of practical health care, who have extensive experience, are part-time employees in the departments, which also makes it possible for other stakeholders to participate in the implementation of the educational programme 7R01113 "Neurosurgery (adult, children's)".

Stakeholders' access to the results of the evaluation of educational programmes is ensured by publishing relevant analytical references and feedback analysis on the website of NJSC "SMU". In addition, the discussion of the feedback results is carried out at the meetings of the Academic Council of the SPGE, the CEP of the PGE, which includes representatives of all interested parties, as well as at the meetings of the department.

#### **7.5 Procedure for Approval of Educational Programmes**

The educational programme in the specialty 7R01113 "Neurosurgery (adult, children's)", developed in accordance with the SCES and the Standard Curriculum for this specialty, was approved at a meeting of the department and subcommittee of the AC residency through the voting procedure. After all the necessary conditions are met, it is entered in the register of educational programmes.

The School of Postgraduate Education carries out scheduled rounds of clinical bases at the beginning of the academic year. Meetings are held with residents, where they can express an opinion on the equipment of the clinical base, the quality of classes, the organization of examinations, etc. Such meetings are held with the Chairperson of the Board – Rector, Deputy Chairperson of the Board for Scientific and Clinical Work, Dean and Deputy Deans of the School of Postgraduate Education, employees of the Office – Registrar, DQCME.

**Conclusions of the EEC on the criteria.** Compliant with 15 standards: fully - 14, partially - 1, non-compliant - 0

**Standard 7: Implemented**

**Recommendations for improvement identified during the external visit:**

1. Include academic mentors participating in the implementation of the educational programme 7R01113 "Neurosurgery (adult, children's)" in the Committee of educational programmes.

### **Standard 8: GOVERNANCE AND ADMINISTRATION**

#### **Evidence of compliance:**

##### **8.1 Management**

The guarantee of the implementation of the 7R01113 "Neurosurgery (adult, children's)" educational programme is its strict compliance with the requirements of regulatory rules regarding the admission of residents (selection criteria and number), the learning process, assessment of knowledge and skills, established learning outcomes, programme management, which are regulated in the Republic of Kazakhstan by regulatory legal acts of the Ministry of Health of the Republic of

Kazakhstan and the Ministry of Education and Science of the Republic of Kazakhstan. Internal documents of NJSC "SMU" are developed on the basis of republican regulations.

The process of training, assessment of knowledge and skills is regulated by the Regulations on the residency of NJSC "SMU" dated 01.02.2021, (<https://semeymedicaluniversity.kz/postuplenie/rezidentura/>), the State Mandatory Standard for Medical Specialties, Order of the Ministry of Education and Science of the Republic of Kazakhstan dated 31.10. 2018 No.600 "On approval of the Standard Rules for admission to education in educational institutions that implement educational programmes of higher and postgraduate education", as well as the Standard Rules for conducting current monitoring of academic performance, intermediate and final certification of students in higher educational institutions".

The Department of Neurology, Ophthalmology and Otolaryngology for training in the conditions of the resident clinic is attached to experienced clinical mentors with an academic degree, who are doctors of the highest category in this specialty. NJSC "SMU" constantly monitors the quality of classroom classes, the work of residents with patients, as well as monitors the independent work of the resident. The school of postgraduate education constantly monitors the readiness for the educational process, the equipment of the clinical base, visiting residents, etc.

On the official website of the University there is all the necessary information about the work of the SPE, the DQCME, the subcommittee of the AC residency, the office-registrator, the educational department, the scientific department, the clinical department and the [department](https://semeymedicaluniversity.kz/o-nas/struktura/).

All key decisions are made through the Academic Council of NJSC "SMU", which are also published on the official website of the university.

## **8.2 Academic Leadership**

General management of the residency and general control over the implementation of residency programmes in the specialty 7R01113 "Neurosurgery (adult, children's)" is carried out by the Deputy Chairperson of the Board of NJSC "SMU" for scientific and clinical work. The School of Postgraduate Education is the structural unit responsible for the implementation and effectiveness of the residency's educational programmes.

Control and monitoring of planning, organization of coordination, provision of the educational process, introduction of innovations in the educational process, educational and methodological activities of departments is carried out by the Department of Academic Work (DAW), which works under the direct supervision of the Deputy Chairperson of the Board for Academic Work.

The work on the organization and monitoring of the postgraduate level of study at the university is carried out by the School of Postgraduate Education (SPE), which coordinates the organization of the educational process: the schedule, the appointment of a curator, the choice of a clinical base, the formation of an individual work curriculum, enrollment in elective disciplines, sending to a conference, participation in competitions, solving issues of academic mobility of employment.

A great deal of organizational and methodological work is carried out by the Committee of Educational Programmes of Postgraduate Education (PGE), where the compliance of teaching methods with control methods and final learning outcomes formed in syllabuses is checked and approved. Methods of final control: OSCE and OSPE.

The regulatory role of the collegial bodies of NJSC "SMU" - the Academic Committee, the Academic Council is also important and relevant. Thus, the results of the final certification of graduates are regularly discussed at the Academic Council of NJSC "SMU". The chairpersons of the State Attestation Commissions conduct a report with an analysis of the average score, make recommendations for improving both the educational process as a whole and the final attestation procedure itself.

The main educational, educational-methodical, scientific-clinical load on the undergraduate training of students – residents is implemented by specialized departments

## **8.3 Training budget and resource allocation**



The programme in the specialty 7R01113 "Neurosurgery (adult, children's)" will be financed from the republican budget. In addition, there is a possibility of training at the expense of own funds, targeted training at the expense of medical organizations, and a grant from regional akims. Funds allocated for the training of residents are spent on the purchase of necessary equipment on a competitive basis, library resources, payment for information resources and other items of expenditure established by regulatory legal acts.

The Department of Economics and Finance clearly regulates all financial revenues for the introduction and implementation of the resident training programme. Educational resources are allocated according to needs.

The university manages the budget of the residency educational programme on the principles of transparency, accountability, objectivity and legality. The University fulfills all obligations to pay employees and scholarships of residents, to create the necessary conditions at the bases, to purchase the necessary equipment, consumables, and other resources. This supports the necessary assistance to practical health care from the academic community.

#### **8.4 Administration and Management**

The academic leader of effective management and allocation of resources for the educational programmes implemented at the university is the Deputy Chairperson of the Board for Academic Work.

At the level of specialized and general education departments – heads of departments, the activities of which are regulated by the Job Descriptions.

The overall management of the university is carried out through collegiate bodies, which include representatives of the SSG, employers, and other stakeholders, which ensures their participation in all areas of the university's activities. The collegial bodies are: the Academic Council, the Academic and Methodological Council, the Thesis Council, the Clinical Council, the Economic Council, the Committees of educational programmes, the Academic Councils of faculties, the Public Council on Anti-Corruption, the Trade Union Committee of faculty, employees and students, and the Student Self-Government.

An integrated management system has been implemented in the university for many years. Currently, this is done by the Department of Strategic Development and Quality Management System. On an ongoing basis, employees of this department conduct training for employees of the university and various audits. In addition, there is an internal audit service, the task of which is to check the quality of clinical and educational work of departments.

#### **8.5 Requirements and regulations**

The university determines and approves the educational programme 7R01113 "Neurosurgery (adult, children's)" according to the State Standard of the Ministry of Health of the Republic of Kazakhstan No.647 dated 21.02.2020. The programme is approved in close cooperation with all stakeholders. The university's governance system involves all stakeholders, including the health sector, and reflects the responsibility of academic leadership. Representatives of practical health care, employers are obligatory members of the examination commission of the state certification of graduates. Doctors with extensive work experience are part-time employees in the departments of senior courses, which also makes it possible for other stakeholders to participate in the implementation of the university curriculum. Chief physicians of clinical bases are officially included in the composition of the SC, AC, CEP.

***Conclusions of the EEC on the criteria. Compliant*** with 15 standards: fully – 15.

***Standard 8: Implemented***

***Recommendations for improvement identified during the external visit:***

## **Standard 9: CONTINUOUS RENEWAL**

### **Evidence of compliance:**

AC and CS monitor the quality of the formation of final results, the compliance of teaching methods with control methods, the compliance of training results with constantly changing labor market requirements. The educational programme 7R01113 "Neurosurgery (adult, children's)" meets professional requirements and contributes to the formation of social and professional competencies.

There is a practice of regular revision of the educational programme at the university. Thus, in 2019, the programme was drawn up on the basis of the 2019 State Standard, and since May 2019, the University has introduced the experience of the strategic partner Başkent Üniversitesi into the residency programmes.

The experts found that the university annually reviews tests, exam methods, assessment of theoretical and practical exams.

The results of continuous monitoring and periodic evaluation of educational programmes are discussed at the SC, brought to the attention of the faculty, students and all interested parties in the form of meetings, seminars, etc.

In the future, it is planned to revise the educational programme in case of new requirements from the Ministry of Health of the Republic of Kazakhstan, employers, SC, residents. The university conducts surveys of residents in order to determine the level of quality of educational services and consumer satisfaction. Based on the feedback, the structure of the educational programme 7R01113 "Neurosurgery (adult, children's)" may change.

Curriculum work plans will be reviewed and updated once a year, at the end of the school year, and approved for the next school year. All syllabuses and Teaching and Methodological Complexes of disciplines are reworked in accordance with the changes in the standard curricula and standard work programmes of specialties, which are located in INEMPS.

The Department of Neurology, Ophthalmology and Otolaryngology annually reviews and updates educational programmes. This approach ensures the adequate implementation and updating of the new educational programme on neurosurgery.

***Conclusions of the EEC on the criteria.*** Compliant with 4 standards: fully - 4.

***Standard 9: Implemented***

***Recommendations for improvement identified during the external visit: none***

### **6. Recommendations for the improvement of the educational programme 7R01113 "Neurosurgery (adult, children's)":**

1. To place the educational programme on the website to get acquainted with its mission and learning outcomes by residents, employers and other stakeholders. (1.1.1)

2. Use simulation center resources to develop residents' skills in emergency medical care, emergency response and teamwork (2.3.2);

3. To provide residents with an alternative choice of elective disciplines in the educational programme (2.4.2).

4. Include topics on the development of pedagogical competencies in the curriculum of the mentoring school for clinical mentors;

4. Provide for the training of academic mentors in courses to improve pedagogical competencies, including issues of innovative educational technologies, pedagogy and psychology.

6. It is necessary to document all stages of introducing innovative teaching methods into the educational process.

7. Include academic mentors participating in the implementation of the educational programme 7R01113 "Neurosurgery (adult, children's)" in the Committee of educational programmes.

## 7. Recommendation to the ECAQA Accreditation Council

Members of the EEC established the compliance of the educational programme 7R01113 "Neurosurgery (adult, children's)" with the accreditation standards and came to a unanimous opinion to recommend to the ECAQA Accreditation Council to accredit this programme for a period of 3 years.

### Chairperson of the External Expert Commission

Zhanalina Bakhyt Sekerbekova

Foreign expert (online)

Ripp Evgeny Germanovich

National Academic Expert

Zhumalina Akmaral Kanashevna

National Academic Expert

Turgunov Ermek Meiramovich

National Academic Expert

Dzhandaev Serik Zhakenovich

National Academic Expert

Urazova Saltanat Nurguzhaevna

National Academic Expert

Ligai Zoya Nikolaevna

National Academic Expert

Chingaeva Gulnar Nurtasovna

National Academic Expert

Bozhbanbayeva Nishangul Seitbekovna

National Academic Expert

Beisebayeva Ulzhan Tursunkulovna

National Academic Expert

Doshakanova Asel Baydavletova

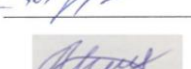

Expert - representative of employers

Tuleutaeva Gulnara Yesenzhanova

Resident representative Expert

(online)

Osmayeva Amina Timurovna

**Quality profile and criteria for external evaluation of the educational programme  
(generalization)  
7R01113 "Neurosurgery (adult, children's)" (summary)**

Standard	Evaluation Criteria	Number of standards	Estimation		
			Fully compliant	Partially compliant	Not compliant
1	MISSION AND END OUTCOMES	17	16	1	
2	EDUCATIONAL PROGRAMME	30	27	3	
3	ASSESSMENT OF STUDENTS	11	11		
4	STUDENTS	30	30		
5	FACULTY	7	5	2	
6	EDUCATIONAL RESOURCES	21	21		
7	PROGRAMME EVALUATION	15	14	1	
8	GOVERNANCE AND ADMINISTRATION	15	15		
9	CONTINUOUS RENEWAL	4	4		
	<b>Subtotal:</b>	<b>150</b>	<b>143</b>	<b>7</b>	
			<b>150</b>		

**List of documents studied by the members of the EEC as part of the external evaluation of the educational programme 7R01113 "Neurosurgery (adult, children's)"**

№	Document Title	Qty.	Date of approval
1.	Mission	1	24.02.2022
2.	Regulations on residency	1	12.05.2022
3.	Clinical Instructor Statement	1	12.05.2022
4.	Regulations on the organization of the summer / winter school of the Semey Medical University (NJSC SMU)	1	30.11.2020
5.	Regulations on student self-government of NJSC "SMU"	1	1.11.2021
6.	Regulations on Academic Mobility of Students, Teachers and Employees	1	10.09.2021
7.	Code of Conduct	1	21.11.2019
8.	Regulations on the competition for the positions of teaching staff	1	24.09.2019
9.	Regulation on personnel policy	1	30.09.2019
10.	Regulations on the personnel reserve Hope	1	24.05.2019
11.	Regulation on advanced training and retraining of medical and pharmaceutical personnel	1	June 4, 2019
12.	Regulation on staff development and development	1	8.05.2019
13.	Regulations on professional development and development of AMP employees	1	25.11.2020
14.	Library Regulations	1	May 2, 2019
15.	Regulation on the activities of SSS	1	14.05.2021
16.	Regulations on the journal "Science and Health Care"	1	8.05.2019
17.	Regulations on the Student Appraisal Committee	1	18.11.2019
18.	Regulations on the organization and holding of scientific-practical and intra-university conferences of students in NJSC "SMU"	1	April 5, 2019
19.	Regulations on scientific schools	1	13.05.2019
20.	Regulation on the rating of research activities of the NJSC "SMU"	1	15.09.2021
21.	Regulation on the formation of NJSC SMU applications	1	1.10.2021
22.	Regulation on the Interdepartmental Control of NJSC "SMU"	1	11.11.2019
23.	Regulation on coordinators of courses/specialties responsible for integrated and non-integrated disciplines	1	30.09.2020
24.	Regulations on the Assessment of Academic Progress of NJSC "SMU" Students	1	18.11.2019
25.	Regulation on the Anti-Corruption Committee	1	17.02.2020
26.	Regulations on the Academic Committee	1	18.11.2019
27.	Regulations on the dissertation council of the Semey Medical University	1	27.05.2019
28.	Regulation on the Clinical Committee of the NJSC "SMU"	1	19.11.2020
29.	Regulations on the Committee for Educational Programmes	1	11.11.2019
30.	Regulations on the Academic Council	1	23.05.2019
31.	Statement on the development and monitoring of the annual development plan for the SMU (Action plan) and the work plan and departmental work plan (Process plan)	1	25.02.2020

32.	Regulation on the procedure for the participation of external stakeholders in the implementation of the quality assurance policy in the NJSC SMU	1	26.11.2020
33.	Institutional accreditation certificate	1	10.06.2019
34.	Academic Policy	1	31.08.2021
35.	Regulation on the procedure for the transfer and restoration, expulsion of students in NJSC "SMU"	1	18.06.2021
36.	Academic Integrity Policy	1	11.11.2019
37.	Regulations on dormitories	1	May 2, 2019
38.	Anti-Corruption Standard	1	29.03.2022
39.	Code of Ethics for Students	1	April 1, 2019

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