



NCJSC “Astana Medical University”	Page 1 of 89
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

Approved by the decision of the Board of Directors of
NCJSC “Astana Medical University”
No. 17 dated May 30, 2022

**Development strategy of
NCJSC “Astana Medical University”
for 2022-2026**

**Nur-Sultan city
2022**



CONTENT

INTRODUCTION.....	8
PROGRAM PASSPORT	10
SECTION 1. MISSION, PERSPECTIVE, VALUES AND ETHICAL PRINCIPLES	12
SECTION 2. ANALYSIS OF THE CURRENT SITUATION AND RISK MANAGEMENT	12
Brief description of the University	12
Strategic direction 1 “Training of competitive and professionally competent healthcare professionals in demanded specialties and specializations”	15
Strategic direction 2 “Transformation into a research university and its development as a leading center for the translation of new knowledge and innovations into healthcare practice and policy”	18
Strategic direction 3 «Development of the University as an integrated academic medical center functioning on the basis of the trinity of education, science and practice»	22
Strategic direction 4 «Development of human resources and improvement of the University’s management and financing system».....	24
Strategic direction 5 «Development of infrastructure and material and technical base of the University»	28
SWOT ANALYSIS.....	30
SECTION 3. PRIORITY AREAS.....	35
Strategic direction 1 «Training of competitive and professionally competent healthcare professionals in demanded specialties and specializations».....	35
<i>Priority direction 1.1 «Creating an effective educational environment».....</i>	35
<i>Priority direction 1.2 «Expanding the range of educational programs, taking into account the needs of the industry and related industries».....</i>	36
<i>Priority direction 1.3 «Expanding the internationalization of educational programs».....</i>	37
<i>Priority direction 1.4 «Improving the system of support for academic and personal growth of students»</i>	38
Strategic direction 2 «Transformation into a research university and its development as a leading center for the translation of new knowledge and innovations into healthcare practice and policy»	39
<i>Priority direction 2.1 «Development of the University’s human resources potential in the field of scientific and innovative activities (SIA)»</i>	39
<i>Priority direction 2.2 «Formation of an effective infrastructure for SRA employees and students»</i>	40
<i>Priority direction 2.3 «Improving the mechanisms of SRA management at the University»</i>	40



Priority direction 2.4 «Creating an effective environment for involving students in science and supporting young scientists» 42

Priority direction 2.5 «Strengthening cooperation on SRA issues with leading foreign and domestic universities, research institutes, research centers, enterprises of the medical and pharmaceutical industries» 43

Priority direction 2.6 «Expanding the recognition of the University in the SRA at the national and international level» 44

Strategic direction 3 «Development of the University as an integrated academic medical center functioning on the basis of the trinity of education, science and practice» 45

Priority direction 3.1 «Formation of the IAMC and strengthening of cooperation with medical organizations of the city of Nursultan and the region» 45

Priority direction 3.2 «Creation and development of the University hospital, University clinics and other scientific and practical bases» 45

Priority direction 3.3 «Creation and development of a simulation center and active development of simulation technologies» 46

Strategic direction 4 «Development of human resources and improvement of the University’s management and financing system» 47

Priority direction 4.1 «Development of the University’s human resources potential» 47

Priority direction 4.2 «Improving the University’s management system» 48

Priority direction 4.3 «Improving the University’s financing mechanisms» 49

Strategic direction 5 «Development of infrastructure and material and technical base of the University» 50

Priority direction 5.1 «Creation of a new university with a modern base for educational, scientific and clinical activities, social infrastructure» 50

SECTION 4. THE ARCHITECTURE OF THE RELATIONSHIP BETWEEN STRATEGIC AND BUDGETARY PLANNING 52

Strategic direction 5 54

Development of infrastructure and material and technical base of the University 54

SECTION 5. STRATEGIC DIRECTIONS, GOALS AND TARGET INDICATORS 55

Strategic direction 1. Training of competitive and professionally competent healthcare professionals in demanded specialties and specializations 55

Strategic direction 2 «Transformation into a research university and its development as a leading center for the translation of new knowledge and innovations into healthcare practice and policy 59

Strategic direction 3 «Development of the University as an integrated academic medical center functioning on the basis of the trinity of education, science and practice» 65



NCJSC “Astana Medical University”	Page 4 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

Strategic direction 4 «Development of human resources and improvement of the University’s management and financing system»..... 67

Strategic direction 5 «Development of infrastructure and material and technical base of the University»69

SECTION 6. RESOURCES 71

Appendix 1 – Methodology for calculating the indicators of the AMU Development Strategy for 2022-2026...72



List of abbreviations

JSC	- Joint Stock Company
RO	- Rector’s Office
AW	- Academic Work
ANSN	- Asian Nuclear Safety Network
AMS	- Administrative and Managerial Staff
WHO	- World Health Organization
HEI	- Higher Education Institution
SIP	- State Investment Project
SSTE	- State Scientific And Technical Expertise
SCSE	- State Compulsory Standard Of Education
CLC	- Civil Law Contract
PPP	- Public private partnership
IEDD	- Infrastructure and Entrepreneurship Development Department
DC	- Digitalization Department
UNHS	- Unified National Health System
IAMC	- Integrated Academic Medical Center
IRBRP	- Institute of Radiobiology and Radiation Protection
CS	- Clinical Site
CID	- Commission on Investigation Of Deaths
CW	- Clinical Work
RK MoH	- Ministry of Health of the Republic of Kazakhstan
RK	- Ministry of Education and Science of the Republic of Kazakhstan
MoEdS	
IAE	- International Atomic Energy Agency
LEB	- Local Executive Bodies
AMU	- Astana Medical University
MTB	- Material and Technical Base
IARA	- Independent Accreditation and Rating Agency
RK NAS	- National Academy of Sciences of the Republic of Kazakhstan
NCJSC	- Non-Commercial Joint Stock Company
SRA	- Scientific Research Activities
SRI	- Scientific Research Institute
CIME	- Continuous Integrated Medical Education
SRD	- Scientific Research and Development
SRW	- Scientific Research Work
CPD	- Continuous Professional Development
SDSD	- Scientific Development and Strategic Development
SC	- Scientific Center
NTC	- National Testing Center
OSCE	- Objective Structured Clinical Examination
PAC	- Pathology and Anatomical Conference
PPS	- Professor-Pedagogical Staff (faculty)



- PTF - Program-Targeted Financing
- MLHP - Mid-Level Health Professionals
- CIS - Commonwealth of Independent States
- EDMS - Electronic Document Management System
- TOO - Limited Liability Partnership
- PK - Republic of kazakhstan
- UH - University Hospital
- TSS - Training and Support Staff
- WF - Wage Fund
- FEMW - Financial, economic and maintenance work
- YSC - Youth and Sports Center
- CIC - Center for International Cooperation
- CSRL - Central Scientific Research Laboratory
- CPEA - Center for Planning and Economic Analysis
- CADC - Clinical Activity Development Center
- RADC - Research Activity Development Center
- ADEE - Association for Dental Education in Europe
- AMEE - Association for Medical Education in Europe
- AMEA - Asian Medical Education Association
- AMSE - Association of Medical Schools in Europe
- ARWU - Academic Ranking of World Universities
- ASME - Association for the Study of Medical Education
- ASPHER - Association of Schools of Public Health in the European Region
- CBL - Cased-based learning
- DBA - Doctor of Business Administration
- DOAJ - Directory of Open Access Journals
- D-PBL - Problem-oriented learning method with decision-making skills based on a clinical case with a medical error using virtual patients
- EMBA - Executive Master of Business Administration
- GCP - Good Clinical Practice
- GLP - Good Laboratory Practice
- KPI - Key Performance Indicator
- IELTS - International English Language Testing System
- IFOM - International Foundations of Medicine
- ISO - International Organization for Standardization
- JCI - Joint Commission International
- MBA - Master of Business Administration
- ORPhEUS - Organization of PhD Education in Biomedicine and Health Sciences in the European System
- PBL - Problem-Based Learning
- PCT - Patent Cooperation Treaty
- PhD - Doctor of Philosophy



- PR - Public Relation
- QS - Quacquarelli Symonds
- QS WUR - QS World University Rankings
- QS EECA - QS Emerging Europe And Central Asia
- RBL - Research-based Learning
- SMM - Social Media Marketing
- TBL - Team-Based Learning
- TOEFL - Test of English as a Foreign Language



INTRODUCTION

Non-Commercial Joint Stock Company “Astana Medical University” (hereinafter – NCJSC “AMU”) is one of the largest and dynamically developing medical higher educational institutions of the Republic of Kazakhstan, has a high reputation in higher medical education with its methodology and traditions, both in providing medical services and in development of medical science and clinical (practical) activities.

NCJSC “AMU” was established on October 26, 1964, when the Council of Ministers of the Republic adopted a resolution on opening a medical institute in Tselinograd. In 1997, the Institute was reorganized into an Academy, and since January 2009 it achieved the status of a University, was reorganized into a joint-stock company and became part of the National Medical Holding. Since July 2010, it was transferred to the Department of the Ministry of Health of the Republic of Kazakhstan.

By Decree of the Government of the Republic of Kazakhstan dated October 16, 2018 No. 648, the Joint Stock Company “Astana Medical University” was reorganized into the Non-Commercial Joint Stock Company Astana Medical University with one hundred percent state participation in the authorized capital.

According to the Charter, the main subjects of activity of NCJSC “AMU” are higher education, the activities of general hospitals, specialized hospitals and other medical institutions with hospitals and general medical practice. The main purpose of the activity of NCJSC “AMU” is to promote the development of the healthcare system of the Republic of Kazakhstan by creating the necessary conditions for obtaining high-quality education aimed at the formation, development and professional development of a personality based on national and universal values, achievements of science and practice.

The adoption of new National projects in healthcare, education and science in the Republic of Kazakhstan, as well as the messages and instructions of the Head of State, protocol decisions of the Board of the Ministry of Education and Science of the Republic of Kazakhstan indicate the need to revise the format of medical universities, create conditions to improve the quality and effectiveness of academic, scientific and clinical processes and provide conditions for the training of competitive personnel ready to respond to existing and future challenges to public health.

The global trend in the development of education and science is the transformation of universities from sources of knowledge into centers of research, innovation and technological progress. The university paradigm is undergoing a rapid transformation from the “University 1.0” model (based on the concentration of intellectual activity on one site, knowledge transfer, and the development of student talents) to the “University 2.0” model (based on the generation of new knowledge through research and development (R&D), effective management of intellectual property, and commercialization of new knowledge and development), the “University 3.0” model (based on the institutionalization of creative and innovative activities through the development of entrepreneurial culture, the creation of technological startups, the formation of an effective dialogue with representatives of the business community), and, finally, to the “University 4.0” model (based on using the possibilities of



NCJSC “Astana Medical University”	Page 9 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

digitalization as the main tool for flexibly changing communication between the main participants in the educational and scientific process, the formation of a platform for new practices and cognitive technologies that can maximize the capitalization function own knowledge).

With the change in the university paradigm, employers’ expectations of university graduates are also changing. So currently, employers are already waiting for university graduates not just to have professional skills (Hard skills), but above all a wide range of supra-professional skills (Soft skills) that allow them to solve life problems and work with other people – such as critical thinking, project management, people and themselves, advising and mentoring, problem solving, decision-making, knowledge management, working in uncertainty mode, introspection and self-reflection, etc. A modern specialist who has received a university education should be able to study, work with information, quickly master new technologies, and creatively approach any task. Thus, modern universities, along with educational and research functions, should ensure the translation of new knowledge and technologies into the development of the national economy and policy formation and serve as a provider of knowledge about the future.

All this sets the task for the staff of NCJSC “AMU” to develop a new Development Strategy that meets the requirements of the time, taking into account the increasing competition in the field of medical education, the development of medical technologies and science.



PROGRAM PASSPORT

Program’s name	Development strategy of NCJSC “Astana Medical University” for 2022-2026
Grounds for the development	<ol style="list-style-type: none"> 1) The Code of the Republic of Kazakhstan dated July 7, 2020 “On the health of the people and the healthcare system”; 2) The Law of the Republic of Kazakhstan dated July 27, 2007 “On Education”; 3) The Law of the Republic of Kazakhstan dated February 18, 2011 “On Science”; 4) The National Development Plan of the Republic of Kazakhstan until 2025 (approved by Decree of the President of the Republic of Kazakhstan dated February 15, 2018 No. 636); 5) Resolution of the Government of the Republic of Kazakhstan dated October 12, 2021 No. 725 “On approval of the national project “High-quality and affordable healthcare for every citizen “Healthy Nation””; 6) Resolution of the Government of the Republic of Kazakhstan dated October 12, 2021 No. 726 “On approval of the national project “Quality education “Educated Nation””; 7) Resolution of the Government of the Republic of Kazakhstan dated October 12, 2021 No. 727 “On approval of the national project “Technological Breakthrough through Digitalization, Science and Innovation””; 8) Strategic Plan of the Ministry of Education and Science of the Republic of Kazakhstan for 2020-2024; 9) Strategic Plan of the Ministry of Health of the Republic of Kazakhstan for 2020-2024; 10) The concept of the anti-corruption policy of the Republic of Kazakhstan for 2022-2026 (approved by Decree of the President of the Republic of Kazakhstan dated February 2, 2022 No. 802); 11) Law of the Republic of Kazakhstan dated February 9, 2015 No. 285-V ZRK “On State youth Policy”; 12) Law of the Republic of Kazakhstan dated December 30, 2016 No. 42-VI ZRK “On volunteer activities”.
Developer of the program	NCJSC “Astana Medical University”
Mission, perspective and strategic directions	Mission: Training of competitive specialists capable of responding to existing and new challenges to public health, generation of new knowledge and innovations, promoting scientific and technological development of national and global health.



	<p>Perspective: A world level research university ranked in the TOP 700 in QS WUR and/or in the TOP 150 of QS EECA, continuously developing on the principles of the trinity of science, education and practice, which combines the efforts of professionals inspired by a single mission.</p> <p>Strategic directions:</p> <ol style="list-style-type: none"> 1. Training of competitive and professionally competent healthcare professionals in demanded specialties and specializations; 2. Transformation into a research university and its development as a leading center for the translation of new knowledge and innovations into healthcare practice and policy; 3. Development of the University as an integrated academic medical center functioning based on the trinity of education, science and practice; 4. Development of human resources and improvement of the management and financing system of the university; 5. Development of infrastructure and material and technical base of the university.
Terms and stages of implementation	2022-2026
Sources of financing	<ul style="list-style-type: none"> - republican budget; - extra-budgetary funds of the university, including from medical activities; - funds from scientific and technical programs, international and domestic grants; - funds from the commercialization of research activities; - funds from sponsors.



NCJSC “Astana Medical University”	Page 12 of 89
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

SECTION 1. MISSION, PERSPECTIVE, VALUES AND ETHICAL PRINCIPLES

MISSION:

Training of competitive specialists capable of responding to existing and new challenges to public health, generation of new knowledge and innovations, promoting scientific and technological development of national and global health.

PERSPECTIVE:

A world level research university ranked in the TOP 700 in QS WUR and/or in the TOP 150 of QS EECA, continuously developing on the principles of the trinity of science, education and practice, which combines the efforts of professionals inspired by a single mission.

VALUES:

- Student-centeredness;
- Competence and professionalism;
- Innovation and creativity;
- Civil and social responsibility;
- Academic integrity and academic achievement;
- Transparency and openness;
- Leadership and initiative.

ETHICAL PRINCIPLES:

- The priority of legality in professional, social and personal spheres of activity;
 - Activeness in educational, scientific, innovative and clinical activities, in evaluating and using their results;
 - Dedication to the profession and the University;
 - Loyalty to traditions and receptivity to new knowledge and best practices;
 - Continuity of principles, beliefs, views and moral standards;
 - Following the interests of the national health system, the public and the state;
 - Mutual respect and trust of the University staff;
 - Responsibility, honesty and decency of the University staff and administration.
- Zero tolerance for corruption;
- Partnership of University staff and students in achieving a common goal;
 - Conscious voluntary acceptance and fulfillment of accepted obligations by each University student and staff as a member of a team united by a common goal.

SECTION 2. ANALYSIS OF THE CURRENT SITUATION AND RISK MANAGEMENT

Brief description of the University

Today, NCJSC “AMU” is one of the largest and dynamically developing medical higher educational institutions of the Republic of Kazakhstan, has a high reputation in



NCJSC “Astana Medical University”	Page 13 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

higher medical education, its methodology and traditions, both in the providing medical services and in developing medical science and clinical (practical) activities.

The history of NCJSC “AMU” has been a path of formation and improvement for 57 years. The university was established in October 1964 as the Tselinograd State Medical Institute by the decision of the Central Committee of the Communist Party and the Council of Ministers of the Kazakh SSR.

Over the years of the University’s existence, there have been multiple changes in its organizational form, reforming the management system in accordance with the requirements of the time. The main stages of the University’s development:

1. Tselinograd State Medical Institute (1964-1993);
2. Akmola State Medical Institute (1993-1997);
3. Republican state-owned enterprise “Akmola State Medical Academy” (1997-2003);
4. Republican state-owned enterprise “Kazakh State Medical Academy” (2003-2008);
5. Joint Stock Company “Kazakh Medical Academy” with one hundred percent state participation in the authorized capital (05/13/2008-2009);
6. Joint-Stock Company “Astana Medical University” as part of JSC “National Medical Holding” (06.01.2009-01.07.2010);
7. Non-Commercial Joint-Stock Company “Astana Medical University” has been under the subordinate control of the Ministry of Health of the Republic of Kazakhstan since 01.07.2010.

Since February 22, 2019, according to the Decree of the Government of the Republic of Kazakhstan “On the establishment of the Non-Commercial Joint-stock Company “Astana Medical University” No. 648 dated October 16, 2018, the joint-stock company “Astana Medical University” was reorganized into the Non-Commercial Joint-stock Company “Astana Medical University”.

NCJSC “AMU” has a state license of the Committee for Control in Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan dated 01/31/2009, No. KZ93LAA00014823, without time limit, for the right to carry out educational activities in higher and postgraduate professional education programs, according to which it has the right to issue state-issued educational documents.

According to the results of the rating assessment of educational activities of medical universities by the Ministry of Health of the Republic of Kazakhstan at the end of the 2019-2020 academic year, NCJSC “Astana Medical University” topped the overall rating with a value corresponding to the level of 5 stars (high level of educational activity).

According to the rating of educational programs conducted by the Independent National Chamber of Entrepreneurs “Atameken”, by the end of 2021 NCJSC “AMU” took the first place in the specialty “Dentistry”, in the specialties “Public Health”, “Pharmacy”, “Nursing” – the second place, and in the specialty “General Medicine” – the third place.



NCJSC “Astana Medical University”	Page 14 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

In 2021, NCJSC “AMU” took part in the National Ranking of demand for universities in 2021, conducted by the Independent Accreditation and Rating Agency (IAAR), where it entered the general rating of the “TOP 20” universities of the Republic of Kazakhstan with 33,418 points, as a result of which it took the honorable 7th place among 85 universities of multidisciplinary, technical, humanitarian-economic, medical and pedagogical directions, as well as arts and the 3rd position among medical universities, losing to the Kazakh National Medical University named after S. Asfendiyarov and the West Kazakhstan Medical University named after M. Ospanov.

The University has signed memoranda of cooperation in healthcare with universities in the far and near abroad (CIS countries – 45 memoranda; Europe – 37; Central Asia – 11), within which academic mobility programs are implemented for both students and teaching staff. Among the partner universities of NCJSC “AMU”, there are universities that take high positions in the international QS WUR ranking, namely the University of Rome “La Sapienza”, Italy – 113th place; Seoul National University, Korea – 31st place; Medical University of Vienna, Austria – 207th place, Vilnius University, Lithuania – 423rd place, University of Ljubljana, Slovenia – 374th place; Tampere University, Finland – 418th place.



Strategic direction 1 “Training of competitive and professionally competent healthcare professionals in demanded specialties and specializations”

The current situation

The university has a comprehensive system of continuing education, which includes: bachelor’s, postgraduate (master’s, residency, doctoral) and additional education.

NCJSC “AMU” implements 58 educational programs of higher and postgraduate education, including bachelor’s degree programs – 8, master’s degree programs – 6, doctoral programs – 5, internship programs – 2, residency programs – 37, and also implements programs of additional and non-formal education in 56 specialties.

NCJSC “AMU” is one of the leaders in the field of transition to a multi-level higher education system, being the first among the medical universities of Kazakhstan to begin multi-level training of medical and scientific and pedagogical personnel:

- Bachelor’s degree – Internship – residency;
- Bachelor’s degree – Master's degree – PhD.

The main target geographical segment of NCJSC “AMU” activity for the medium term is the Northern region of Kazakhstan (Nur-Sultan, Akmola, North Kazakhstan, Kostanay regions). All individual consumers are recognized as target consumer groups for NCJSC “AMU”, but first of all graduates of secondary educational institutions and medical colleges interested in higher education.

NCJSC “AMU” trains medical personnel from 6 faculties (Faculty of Public Health and Management, Faculty of Medicine, Faculty of Dentistry, Faculty of Nursing, Faculty of Pharmacy, Faculty of Pediatrics).

More than 9,500 students study at the University’s faculties, of which 8,749 are bachelor’s students and interns, 952 residents, 114 undergraduates and 85 doctoral students (Table 1).

Table 1 – The contingent of students at the University in terms of training levels

Academic year	Bachelor’s + internship	Residency	Master’s	Doctoral	In total
2019-2020	7340	600	40	18	7998
2020-2021	7415	924	62	22	8423
2021-2022	8749	952	114	85	9502

NCJSC “AMU” implements educational programs in English, thanks to which the number of international students at the University is growing every year. So currently, 1120 international students from 20 countries are studying at NCJSC “AMU” (Mongolia, Uzbekistan, China, Russian Federation, Turkmenistan, Tajikistan, Azerbaijan, Ukraine, Georgia, Iran, Pakistan, Great Britain, India, Ireland, Afghanistan, Maldives, Zambia, Spain, Egypt, Kyrgyzstan) (Table 2).

Table 2 – The contingent of international students in the Bachelor’s program

Academic	Total students	International	The share of foreigners from the total
-----------------	-----------------------	----------------------	---



year		students	number of students
2019-2020	5811	749	12,8%
2020-2021	5825	645	11,07%
2021-2022	6913	1120	16,3%

Over the past 3 years, the indicators of external (outgoing) academic mobility of students from non-CIS countries increased from 2.5% (185 students) of the total number of students in 2019 to 3.2% (309 students) in 2021. For the implementation of academic mobility programs for students, memoranda of cooperation in healthcare, medical education and science were concluded with medical universities of Kazakhstan, universities of neighboring countries (1st Moscow State Medical University named after I.M. Sechenov, Omsk State Medical University, Tyumen State Medical University, Russia; Azerbaijan Medical University, Azerbaijan; Vilnius University, Lithuanian University of Health Sciences, Lithuania) and universities abroad (University of Rome “La Sapienza”, Italy; University of Ljubljana, University of Maribor, Slovenia; University of Lublin, Poland; Seoul National University, Korea; Lahti University of Applied Sciences, Hameenlinna University of Applied Sciences, Jyvaskyla University of Applied Sciences, University of Savonia, University of Tampere, Finland).

In the period from 2019 to 2021, the total number of students who studied under the international academic mobility program amounted to 752 people, teachers – 102. International academic mobility tends to grow, but at the same time, it is necessary to expand the geography and increase the number of students within the framework of academic mobility.

The University has trained more than 23,000 graduates during its existence. Since the beginning of the implementation of master’s and doctoral programs, about 500 masters and more than 150 PhD doctors have been graduated, the graduates of the residency are about 1400.

An independent assessment of the knowledge of internship and residency graduates has been conducted since the 2016-2017 academic year. The level of knowledge of interns and residents over the past 3 years is shown in Table 3. In 2019, an independent assessment of 650 students from seven medical universities in Kazakhstan on the International Foundations of Medicine (IFOM) was conducted. University students who scored high on the results of the International Exam on the Foundations of Medicine – IFOM were awarded certificates. One of the university students entered the top three in the world, scoring the highest score among students of medical universities of the Republic of Kazakhstan.

Table 3 - The results of an independent assessment of students' knowledge

Indicator	2018-2019 academic year	2019-2020 academic year	2020-2021 academic year
The share of internship graduates who successfully passed the independent examination the first time (passed the	99,8%	99,9%	99,9%



established score threshold)			
The share of residency graduates who successfully passed the independent examination the first time (passed the established score threshold)	98,9%	100%	99,4%

The employment of graduates is one of the key indicators of the University. 3 regions are assigned to the AMU: Nur Sultan, North Kazakhstan and Akmola regions, but since representatives from all regions of the Republic of Kazakhstan study at the university, graduates are employed in all regions of the Republic.

The average employment rate is 96.2%. Of the total number, 55-60% are relieved (due to pregnancy, having children under 3 years old, continuing their studies in residency and master’s degree).

The University is doing a lot of work to improve the professional potential of doctors and midlevel medical personnel through the implementation of programs of continuous professional development and additional education, according to the budget program 005 of the Ministry of Health of the Republic of Kazakhstan “Advanced training and retraining of personnel of public health organizations”, as well as under the contracts with medical organizations.

In 2020, 1200 trainees were planned for contractual cycles, 7843 trainees were trained, 1000 trainees were planned for budget cycles, 1079 trainees were trained. In 2021, 1,250 trainees were scheduled for contractual cycles, and 3,212 trainees were trained. In 2021, due to the new format of the implementation of the republican 005 program, the competition did not take place. In total, more than 15,000 practical healthcare professionals have been trained in three years.

Analysis of the main problems

Despite the unconditional achievements in academic activity and the positive dynamics of the contingent of students at the University, there are a number of problematic issues. First of all, there is an insufficiently effective quality management system for educational programs, an outdated ecosystem and infrastructure of the University, and their inconsistency with the needs of the University’s educational programs.

University graduates do not always meet the expectations of employers. Educational programs do not fully provide students with the necessary competencies required by the labor market. The weak interaction of the education system with the labor market is also manifested in the low interest of employers in joint training, in the organization of industrial practice with the possibility of subsequent employment.

There is a need to expand the range of educational services provided by the university.

There is an insufficient level of internationalization of the University, including in terms of such indicators as the share of international students and teaching staff, academic mobility with universities abroad, there are no practical joint programs with foreign universities, including two-degree educational programs, there is an insufficient



level of proficiency of teaching staff and students in English, a low proportion of attracted foreign specialists in as a teaching staff.

Risk Management

Name of risks	Risk management measures
<ul style="list-style-type: none"> • Insufficient level of basic training of applicants. 	<ul style="list-style-type: none"> • Reviewing the mechanisms and expanding the scope of career guidance activities. • Further implementation and development of additional selection methods at the admission stage (multiple mini-interviews, psychometric testing, etc.). • Adjustment of the component for the selection of educational programs for first-year students.
<ul style="list-style-type: none"> • A decrease in the employment of graduates and the quality of training. • Competitiveness of educational programs. • A decrease in the quality of the contingent. 	<ul style="list-style-type: none"> • Revision and improvement of the tools of the internal quality assurance system at all stages of the educational process. • International accreditation of educational programs.
<ul style="list-style-type: none"> • Insufficient attractiveness of educational programs for international students. • A decrease in the pace of integration processes and a change in the mechanisms of internationalization. 	<ul style="list-style-type: none"> • Expanding the coverage of the PR campaign in countries and regions where the University’s educational programs may potentially be in demand. • Improving the language skills of teaching staff. • Expanding the University’s participation in reputable global rankings.
<ul style="list-style-type: none"> • Insufficient number/ lack of educational grants. 	<ul style="list-style-type: none"> • Attracting grants of local authorities. • Expansion of the contingent of students on a fee-based basis, including international students.
<ul style="list-style-type: none"> • The obsolescence of technologies used in the educational process. 	<ul style="list-style-type: none"> • Formation of priorities for updating the technological base of the university with socio-economic justification.

Strategic direction 2 “Transformation into a research university and its development as a leading center for the translation of new knowledge and innovations into healthcare practice and policy”

The current situation

Scientific research activities are carried out by employees of scientific departments and the teaching staff of the University, doctoral students, undergraduates, bachelor’s students, taking into account the priority areas of medical science. In total, 98 doctors of sciences, 221 candidates of sciences, 60 PhD doctors, 52 professors, 96 associate professors, and 234 masters work at the University. The indicator of the level of full-time employees is 40.66%. 191 employees (11.9%) of NCJSC “AMU” have a non-zero Hirsch index, of which 25 people have an index more than 3.

A scientific unit has been established at the University – the Institute for Radiobiology and Radiation Protection (IRRP), which is unique among similar scientific institutions in the focus of its activities and specializes in research on the



effects of ionizing radiation on biocenoses, the human body and ways to correct and develop complexes and systems of preventive measures to prevent the negative impact of man-made factors. The main task of the Institute is to develop scientific and methodological foundations for medical radiation safety of employees of radiation-hazardous enterprises and methods for reducing the radiation risk of the population from man-made sources of ionizing radiation. Since its creation, the IRRP has implemented 14 scientific programs and projects, received 12 author's inventions and certificates, prepared 6 monographs and textbooks, 9 methodological recommendations and more than 200 scientific publications.

In 2013, the testing laboratory at the IRRP of the University was accredited for the first time by the Center for National Accreditation of the Republic of Kazakhstan for compliance with ISO/IEC 17025, in 2019, the testing laboratory at the IRRP successfully passed accreditation again.

The scientific direction and the range of scientific research of the IRRP are original and unique when compared with the tasks of the republican scientific organizations of the Ministry of Health of the Republic of Kazakhstan.

Currently, the IRRP, as a specialized scientific and methodological center, is known not only in our country, but also among the scientific circles of foreign countries, and a number of its employees are members and experts of international organizations on radiation safety (IAEA, ASNAB, etc.).

In 2021, 9 scientific projects were successfully completed at the University, including 2 research and innovation programs and projects carried out at the expense of the republican budget, 5 projects carried out at the expense of extra-budgetary funds, 2 projects carried out at their own expense (Table 4).

Table 4 – Indicators characterizing the volume of SRA at the University

Indicators	Unit of measurement	2019	2020	2021
The share of income from scientific activities in the total budget of the University	%	6	2,9	2,6
The share of expenditures on scientific activities from the total budget	%	0,25	0,24	0,22
The number of research and innovation programs and projects carried out at the expense of the republican budget	Units	3	2	2
The number of research and innovation programs and projects carried out at the expense of extra-budgetary funds	Units	4	4	5
The number of research and innovation programs and projects carried out at own expense	Units	2	2	2

The decrease in the indicator “The share of income from scientific activities in the total budget of the University” is due to the fact that the main amount of funding for research activities at the University is funds from the republican budget and with the



completion of a large program-targeted scientific and technical program in 2019, the share of income from science in subsequent years decreased significantly.

Currently, as a co-executor on the instructions of the Ministry of Health of the Republic of Kazakhstan, the University is implementing the scientific and technical program “National Program for the introduction of personalized and preventive medicine in the Republic of Kazakhstan” for 2021-2023 (The parent organization is KazNMU named after S.D. Asfendiyarov), within the framework of which an epidemiological cross-sectional study of the impact of socio-economic, psychosocial and behavioral factors on the health of the population of the Republic of Kazakhstan is carried out, including the main chronic non-communicable diseases and COVID-19, followed by the development of management solutions. The role of genetic factors in the development of epilepsy in young children in the Kazakh population is being studied.

As part of the AMU grant financing, by order of the Committee of Science of the Ministry of Education and Science of the Republic of Kazakhstan, the University is implementing a scientific project “Development of methods for leveling negative technogenic risk factors for the environment and public health of the Syrdarya uranium ore province” for 2021-2023, within which an assessment of the negative impact of technogenic factors of operating uranium mining enterprises on the environment and the health of the population living in the zone of their impact is carried out, as well as and the development of methods for leveling them.

Over the past 3 years, there has been a positive trend in the number of articles in publications indexed in international databases (Web of Science, Scopus). This Indicator increased from 53 in 2019 to 80 in 2022, and the Indicator “the ratio of the number of articles to full-time scientific and pedagogical staff” improved from 1:20 to 1:6. In total, 503 publications were registered in the Web of Science database at the end of 2021 under the University’s auspices.

Indicator “The average Hirsch index (IH) of an organization according to the Web of Science/Scopus database” improved from 0.3 to 0.36. In total, 188 employees (11.6%) from among scientific and pedagogical workers have the Hirsch index for Web of Science and Scopus, of which 23 employees have a Hirsch index of more than 3 and only 1 employee has a Hirsch index of more than 10. The university’s Hirsch index according to Web of Science is 13.

88 security documents were received in 2019, 81 – in 2020, and 71 – in 2021. Due to the epidemiological situation in the country in 2020 and 2021, the number of security documents decreased compared to 2019.

The share of students involved in research work in 2021 is 15.3%. There are 20 scientific student circles at the University. The number of presentations by students at international conferences and scientific forums (including those with online participation) is 2.9 per 100 students.

The scientific and practical journal “Astana Medical Journals” is published at the University. In addition, under the auspices of professional associations headed by



university professors, specialized publications such as “Otorhinolaryngology – surgery of head and neck” and “Valeology, health, illness, recovery” are published.

Analysis of the main problems

Despite the unconditional achievements in research activities at the University, there are a number of problematic issues indicating insufficient conditions for the implementation of the research potential of the staff and the University as a whole. These problems include the low level of academic staff and scientific staff, the low interest of young staff in doing science, the insufficient level of scientific competence of teaching staff and knowledge in the field of fundamental sciences among young teachers. The excessive dependence of the University in the development of scientific activities on state support is noted. There is a bureaucratization of many processes of support and provision of conditions for research, including in financial matters, as well as weak interaction with business within the framework of research.

Weak scientific and innovative activity of the University is manifested in low income in science, low publication activity, low Hirsch index, low volumes of patenting, low volumes of commercialization of research and development. As a result, there are low positions in the industry ranking for scientific and innovative activity and the absence of the university in the global rankings of universities based on scientific indicators (QS WUR, THE, ARWU, etc.).

Risk Management

Name of risks	Risk management measures
<ul style="list-style-type: none"> • Decrease in the amount of government funding for scientific research due to competition between universities and scientific organizations 	<ul style="list-style-type: none"> • Ensuring the quality of applications for government funding. • Search for non-governmental alternative sources of research funding, including applying for international research grants • A new marketing policy to attract financial resources and market the results of scientific research.
<ul style="list-style-type: none"> • Lack of demand and uncompetitiveness of research results 	<ul style="list-style-type: none"> • Systematic capacity building of teaching staff and scientific personnel on the organization and planning of scientific research, methodology of scientific research, preparation of scientific publications, according to the principles of scientific ethics
<ul style="list-style-type: none"> • Decrease in scientific activity of University staff 	<ul style="list-style-type: none"> • Implementation of effective measures to encourage University staff to engage in scientific activities
<ul style="list-style-type: none"> • Reduction of the resource base for research (due to wear and tear of equipment) and limitation of Opportunities to expand research due to insufficient logistical support for the scientific process 	<ul style="list-style-type: none"> • Development of the material and technical base of the scientific departments of the University; • Attracting resources from third-party organizations (universities, research institutes, research centers, medical organizations) that have the necessary equipment and instrumentation, including within the framework of joint projects.



Strategic direction 3 «Development of the University as an integrated academic medical center functioning on the basis of the trinity of education, science and practice»

The current situation

At NCJSC “AMU” clinical activities are carried out at 46 clinical chairs of the University, located at 88 clinical sites in Nur Sultan. Medical work is performed by 554 full-time teaching staff. It should be noted that 50% of the total number of teaching staff are doctors of practical healthcare, who are involved as part-time teachers and mentors for the implementation of the educational process. Over the past three years, there has been a positive trend in expanding clinical sites from 70 to 88, attracting part-time teachers from among practicing specialists of medical organizations from 42% to 50% (Table 5).

Table 5 – The potential of the University in clinical activity

Indicators	Unit of measurement	2019	2020	2021
Clinical chairs	Number	42	46	46
Clinical sites	Number	70	79	88
The share of teaching staff of clinical chairs working in the UNHS (having a contract with healthcare organizations as a clinical specialist)	%	31	30,4	39
The share of attracted teaching staff from practical healthcare	%	45	42	50

In general, there is a clear positive trend in the provision of practical assistance to the population by the University’s teaching staff, the number of trips to the regions to provide advisory and practical assistance to medical organizations / healthcare entities has increased by more than 2,000 in three years, more than 2,500 – conducted by the CSD/PAC, consultations conducted at clinical sites – from 66,667 to 116,502, conciliums – from 6,615 to 18,596, conducted operations – from 12,905 to 16,845. More than 5,000 doctors have been trained at clinical bases in three years (Table 6).

Together with the National Coordination Center for Emergency Medicine of the Ministry of Health of the Republic of Kazakhstan, 289 remote medical consultations were conducted, including clinical diagnostic and therapeutic (including surgery) assistance on site in 9 cases.

10 employees of the University are external specialists of the Ministry of Health of the Republic of Kazakhstan, they have developed 13 clinical protocols for diagnosis and treatment.



Table 6 – The main indicators of clinical activity

Indicators	2019	2020	2021
The number of trips to the regions to provide advisory and practical assistance to medical organizations / healthcare entities, etc.	319	764	1333
The number of trips to the regions for the training of medical workers	181	273	136
The number of conducted CSD, PAC	596	814	1127
The number of implemented innovative methods of diagnosis and treatment in practical healthcare by teachers of clinical chairs (acts of implementation)	106	131	140
The number of consultations conducted at clinical sites (CS)	66667	91671	116502
The number of consiliums held at CS	6615	14452	18596
The number of operations performed at CS	12905	14662	16845
The number of trainings conducted at CS	1111	2004	1554

The Faculty of the University takes an active part in the work of the Republican Headquarters to take urgent measures to reduce maternal and infant mortality. The number of examinations of maternal mortality from COVID-19 in 2021 alone in Nur Sultan – 3 cases, Akmola region – 6 cases, North Kazakhstan region – 3 cases, Almaty and Almaty regions – 19 cases, West Kazakhstan region – 3 cases, East Kazakhstan region – 9 cases.

Along with this, an analysis of 1,082 deaths in 2020 in the city of Nur Sultan was carried out free of charge.

In 1999, the AMU Medical Center LLP was established at the University, which is a subsidiary of the University. The AMU Medical Center carries out its activities according to the state license LP series No. 00033K dated 10/31/2005.

The Medical Center provides state-ordered services within the guaranteed volume of free medical care to the attached population (children, adults), compulsory social health insurance, including University students, as well as on a paid basis. AMU Medical Center LLP provides specialized, inpatient replacement, consultative, diagnostic and rehabilitation assistance to the attached population and students of NCJSC “AMU”. The total number of the attached population as of 12/31/2021 was 7,729 people. Of the 11 indicators, 9 have been achieved, 1 partially – % of the implementation of immunoprophylaxis of the child population (with the 95% plan, 94.5% has been completed), infant mortality has not been achieved (plan – 7.34, completed – 11.36).

Preparatory work is underway at the University to create a university hospital – medical and technical specifications have been prepared, a draft list of medical services and a draft schedule of the clinic have been worked out, in which all clinical chairs took an active part.



Analysis of the main problems

Despite the wide involvement in the clinical process of both teachers of clinical chairs and leading specialists from practical healthcare organizations in teaching at the University, the following problematic issues significantly limit the implementation of the principles of the trinity of education, science and practice in practice. First of all, it is the presence in the staff of clinical chairs of teaching staff who do not work in the ENHS system (who are not practicing doctors). In addition, there is an insufficient infrastructure of clinical training at the University, as indicated by insufficient access of teaching staff and students to clinical sites, the absence of their own clinics, and the weak material and technical base of a number of medical organizations where the University chairs are based. In addition, there is a weak implementation of simulation training in educational programs. The NCJSC “AMU” simulation center requires a significant upgrade of the park of simulation equipment (training appliances, simulators, dummies), including high-tech simulators. At the moment, the wear of the simulation equipment is more than 70%. Along with the purchase of simulation equipment, it is necessary to ensure the expansion of existing areas for simulation training, the development of clinical scenarios, and the training of standardized patients.

Risk Management

Name of risks	Risk management measures
<ul style="list-style-type: none"> • Lack of motivation for medical organizations to act as clinical sites for the University 	<ul style="list-style-type: none"> • Working with the Ministry of Health of the Republic of Kazakhstan on the issue of legislative consolidation of the academic correction coefficient to the rate for the treated case for clinics of educational organizations and university hospitals.
<ul style="list-style-type: none"> • Obsolescence of technologies used in clinical practice at the stage of clinical training. 	<ul style="list-style-type: none"> • Formation of priorities for updating the technological base of medical organizations and clinical chairs of the University with socio-economic justification.

Strategic direction 4 «Development of human resources and improvement of the University’s management and financing system»

The current situation

Today, the University employs more than 2005 employees who occupy 1911 full-time units, including by category: 1,491 full-time teaching staff employ 1,577 specialists (of whom 932 people are the main full-time employees of the University, and 645 people are part-time), 127 full-time AMS units employ 128 specialists, 157.75 full-time units of other personnel – 173 specialists work, 127 specialists work for 135.25 full-time units of training and support staff.

The share of teaching staff from among the main staff with academic degrees is 40.66%, of which: 98 doctors of sciences, 221 candidates of sciences, 60 PhD doctors.



In addition, the organization employs 234 masters. Academic titles of professor have 52 specialists, associate professor (associate professor) – 96 specialists.

Among the teaching staff at the University there are scientists and specialists of practical healthcare, well-known in Kazakhstan and abroad, academicians of the National Academy of Sciences of the Republic of Kazakhstan, members of the Academy of Preventive Medicine and the Academy of Natural Sciences, members of the New York Academy of Sciences, members of international academies, Honorary members of the European Society of Higher School Teachers, holders of the title Honored Professor of the International University of Public Health Care (G. Prague, Czech Republic), the Order of “Honorary Citizen of the Eurasian Union of States”, the Order of St. Luke, state awards, badges, Orders of the Ministry of Education and Science of the Republic of Kazakhstan and the Ministry of Health of the Republic of Kazakhstan.

Over the past 3 years, the average salary per one position for all categories of personnel has increased by 60.3%, and the average salary per one position for teaching and research workers has increased by 59.1%. At the same time, the share of employee motivation expenses in the total amount of the Wage Fund decreased from 27% to 20% (Table 7).

Table 7 – Indicators, characterizing the level of motivation and stimulation of University staff

Indicator	Unit of measurement	2019	2020	2021
Average salary per 1 position for all categories of staff	tenge	152 072	212 854	243 931
The average salary per 1 position of teaching and research staff	tenge	157 281	222 369	250 255
The share of employee motivation costs (all additional costs for employee motivation - bonuses, surcharges, training, financial assistance) in the total amount of Wage Fund	%	27	20	20
The share of the University employees who have completed advanced training courses, seminars and trainings at the University and third-party organizations	%	35	45	46

In the direction of ensuring compliance with the principles of the academic integrity policy, the collegiality of consideration of issues and decision-making has been adopted in the University management system.

Several levels of collegiality of decision-making have been created: the Board, the Academic Council, commissions under the Academic Council, the Committee for Ensuring the Quality of Educational Programs of the University, Committees for ensuring the quality of educational programs, the economic council, the disciplinary council, the faculty council, the housing commission, working commissions, working groups on the development of internal regulatory documents, meetings of structural



NCJSC “Astana Medical University”	Page 26 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

units, student representation, disciplinary council for the consideration of student responsibility, council of prefects.

According to the University’s Charter, one of the main bodies of the University is a collegial executive body – the Board, which is guided in its activities by the Regulations on the Board. The Regulation on the Board defines the status, procedure for the formation and functioning of the Board of NCJSC “Astana Medical University” the rights, duties and responsibilities of the members of the Board of the University, the procedure for convening and holding meetings of the Board of the University, the rules of work of the Board of the University.

The Academic Council is the collegial body of the University in the academic, scientific and clinical areas of the University’s activities. Its decisions in these areas are mandatory for employees and students of the University. The work of the members of the Senate is based on the principles of collegiality, impartiality, objectivity, legality, transparency and academic integrity.

In order to plan and coordinate educational and methodological activities, as well as control the implementation of educational programs of specialties at all levels of education, a Committee has been established to ensure the quality of educational programs of the university.

Committees have also been established to ensure the quality of educational programs in the areas of training: nursing; medicine; dentistry; public health and management; pharmacy; residency; postgraduate education.

The faculty is managed on the principles of unity of command and collegiality, participation in solving the most important issues of the faculty, teachers, staff, students and employers by the Faculty Council. The University has 5 Councils: the Council of the Faculty of Nursing; the Council of the Faculty of Medicine; the Council of the Faculty of Dentistry; the Council of the Faculty of Public Health and Management; the Council of the Faculty of Pharmacy.

The activities of collegial bodies are based on the principles of transparency, publicity, and provides an opportunity for broad public discussion and collective solutions to the issues under consideration, pressing problems of the University and its development prospects.

The information management processes at the University are carried out in accordance with the internal regulatory documents of the NCJSC “AMU”.

The assessment of students’ knowledge is recorded in electronic journals in the PLATONUS system (<https://pl.amu.kz/>).

The University has a web portal <https://amu.edu.kz/>. The general information part of the portal contains information about the University, its chairs, EP, events taking place at the University, educational, methodological, scientific information, etc., which is dynamically updated. It is intended for a wide audience: students, staff, teachers, applicants and their parents, employers, University partners, scientific and public organizations, etc. The official website of the University is available in 3 languages.



There are portals with authorized access: the automated information system “Platonus” (<https://pl.amu.kz/>), electronic library (bibl.amu.kz), the electronic catalog of the library (kb.amu.kz), a distance learning platform (dl.amu.kz), openlabyrinths (<http://olab.amu.kz:5181/>), electronic document management systems (hereinafter referred to as EDMS) “Documentolog” (<https://amu.documentolog.kz/>).

Information exchange at the University is carried out using EDMS “Documentolog” (<https://amu.documentolog.kz/>). The Documentolog EDMS provides a complete lifecycle of all electronic documentation within the framework of the University’s current processes. These are incoming and outgoing documentation, internal documents, orders and instructions.

Information protection at the University is provided in accordance with the regulatory internal documents on information security.

Analysis of the main problems

The main problems in the University staffing include an insufficiently effective personnel policy (lack of a clear trajectory of career growth, CPT, differentiated remuneration), insufficient settlement and high average age of staff with an academic degree, insufficient proportion of teaching staff who speak foreign languages, low effectiveness of measures to maintain the status of University teaching staff in the eyes of students, the public, low availability of office housing.

The main problems in the University management are related to the low efficiency of the administrative and managerial apparatus (duplicated functions/low communication between units/low response to the needs of teaching staff, students), insufficient development of digital services (high volume of paper documentation, including duplicated with electronic document management), low level of corporate culture (in matters of conflict resolution situations) and analysis of corruption risks (external and internal). In general, indicators for assessing the quality of the University activities are ineffective and do not cover all areas of the organization’s activities. There is a high volume of document flow at the University, including in paper form.

Risk Management

Name of risks	Risk management measures
<ul style="list-style-type: none"> • Insufficient quality of development of corporate governance principles, implementation of project management. 	<ul style="list-style-type: none"> • Studying the experience of corporate governance and the implementation of project management in foreign and domestic universities.
<ul style="list-style-type: none"> • The quality of the staff does not match the solution of strategic tasks (few world-class researchers, a decrease in The share of teachers with academic degrees, insufficient influx of young scientists, insufficient English language proficiency of teaching staff). 	<ul style="list-style-type: none"> • Targeted training of PhD doctors, the involvement of established personnel from Kazakhstani universities, research institutes, RECs in priority scientific areas with scientific achievements, as well as the involvement of foreign scientists and teachers. • Development and implementation of a program to attract qualified teachers, scientists (including foreign specialists).



<ul style="list-style-type: none"> • Outflow of personnel, including medical personnel due to low wages of employees. 	<ul style="list-style-type: none"> • Improvement of the remuneration system, including through the introduction of differentiated remuneration for the quantity and quality of work performed. • Improvement of motivation and incentive mechanisms, a social package provided to effectively and efficiently working employees.
<ul style="list-style-type: none"> • Lack of funds for financial support of achieving strategic goals and solving strategic tasks. • Inefficient financial management. 	<ul style="list-style-type: none"> • Attracting additional sources of financing, increasing the quality and expanding List of services provided. • Openness and transparency of financial management.
<ul style="list-style-type: none"> • Insufficient awareness in the market (potential consumers of services) about the activities of the University and the services provided. 	<ul style="list-style-type: none"> • Attracting PR and SMM specialists for the development of paid services.

Strategic direction 5 «Development of infrastructure and material and technical base of the University»

The current situation

The university has the following infrastructure: 5 academic buildings with a total area of 35,102.5 m², 2 dormitories with a total area of 13,313.5 m² for 1,477 beds.

There are 17 educational laboratories, 5 scientific laboratories, a simulation center, a library (about 500,000 textbooks in 3 languages), a museum, 2 canteens, 2 sports halls and a gym, and a printing house in the academic buildings of the University. The total area of the University’s premises is 52,186 m².

Technical support of educational and scientific processes at the University is provided through the provision of computer equipment, by equipping classrooms with multimedia outfit, technical means of support. The laboratory park currently consists of 346 units of laboratory equipment and 2,251 units of medical equipment and measuring instruments. The volume of the book and magazine fund is more than 580 thousand copies, of which 363.8 thousand copies of educational literature, which is 62% of the book fund. Of these, 139.9 thousand copies are in the state language, including 7.9 thousand electronic textbooks. The ratio of the number of educational computers to the contingent of students is 1:8.

Analysis of the main problems

The University has insufficient material and technical support for scientific, educational and clinical blocks (outdated equipment, outfit, furniture). There is insufficient provision of dormitories (including for international students).

There is insufficient provision of the educational process with the library fund and resources for managing the library fund (lack of a modern automated library information system and modern equipment for automating all librarian’s workplaces),



low access to online resources providing information support for academic, scientific and clinical processes.

Risk Management

Name of risks	Risk management measures
<ul style="list-style-type: none">• The obsolescence of infrastructure facilities and the lack of study areas and dormitories.	<ul style="list-style-type: none">• Attracting foreign and domestic investments for the construction of new infrastructure facilities.• Using the resources and infrastructure of other partner organizations on mutually beneficial terms.
<ul style="list-style-type: none">• Insufficient resource provision of the research process.	<ul style="list-style-type: none">• Planned development and strengthening of the material and technical base of scientific institutes and laboratories.



SWOT ANALYSIS

	Strengths	Weaknesses
<p>Training of competitive and professionally competent healthcare professionals in demanded specialties and specializations</p>	<ul style="list-style-type: none"> • A wide range of higher, postgraduate and additional education programs; • The demand for AMU educational services from domestic and foreign students; • The demand for graduates in the markets of Nursultan, Akmola region and other regions of Kazakhstan; • The location of the university in a large metropolis - the capital of the Republic of Kazakhstan. 	<ul style="list-style-type: none"> • An insufficiently effective quality management system for educational programs; • Outdated ecosystem and infrastructure of the University, their inconsistency with the needs of the University’s educational programs; • Low level of internationalization – <ul style="list-style-type: none"> • low proportion of international students and teaching staff; • low academic mobility with Universities abroad; • lack of joint programs, including two degree programs; • low level of proficiency of teaching staff and students in English.
<p>Transformation into a research university and its development as a leading center for the translation of new knowledge and innovations into healthcare practice and policy</p>	<ul style="list-style-type: none"> • Extensive experience in participating in grant and program-targeted financing programs; • Availability of scientific units (IRRS) and units to support the research process; • Availability of own scientific journals; • The presence of established scientific schools and a well-developed system of training scientific personnel in master’s and doctoral studies; • The presence of an accredited testing laboratory for radio spectrometry and radiochemistry. 	<ul style="list-style-type: none"> • Low positions in industry ratings; • Low level of academic staff and scientific staff; • Low interest of young personnel in doing science; • Insufficient level of scientific competence of teaching staff and knowledge in the field of fundamental sciences among young teachers; • Excessive dependence on government support; • Bureaucratization of many processes of support and provision of conditions for research, including in financial matters; • Weak interaction with business within the framework of research; • Weak scientific and innovative activity: <ul style="list-style-type: none"> ✓ Low income in science; ✓ Low publication activity; ✓ Low Hirsch index; ✓ Low patenting volumes;



		✓ Low volume commercialization of research and development.
Development of the University as an integrated academic medical center functioning on the basis of the trinity of education, science and practice	<ul style="list-style-type: none"> • Highly qualified University teaching staff in clinical departments; • The presence of a wide range of clinical bases with which the University has long-term cooperation; • Clinical departments are fully or partially located on the basis of relevant specialized medical organizations and their departments; • The presence of 10 main freelance specialists in the University staff, the active participation of teaching staff in the development of clinical protocols and standards of services. 	<ul style="list-style-type: none"> • The presence of teaching staff in clinical chairs that do not work in the ENS system; • Insufficient clinical training infrastructure: <ul style="list-style-type: none"> ✓ Insufficient access to clinical facilities; ✓ The absence of own clinics; ✓ The educational and clinical center is not equipped with the necessary equipment; ✓ Weak implementation of simulation training in educational programs; ✓ The weak material and technical base of a number of medical organizations where the chairs of the university are based.
Development of human resources and improvement of the University’s management and financing system	<ul style="list-style-type: none"> • Availability of highly qualified teaching and other staff at the University; • Availability of a unified information system for University management and online University resources (University website, library, magazine, etc.); • Effective interaction and joint activities with the Public Health Department of Nur Sultan and medical organizations; • The practice of continuous improvement of material and technical equipment. 	<ul style="list-style-type: none"> • Insufficiently effective personnel policy (<i>the lack of a clear trajectory of career growth, continuous professional development, and differentiated remuneration</i>); • Low level of education and high average age of staff with an academic degree, an insufficient proportion of teaching staff who speak foreign languages; • Low effectiveness of measures to maintain the status of University teaching staff in the eyes of students and the public; • Low efficiency of AMS (<i>duplicate functions / low communication between units / low response to the needs of teaching staff, students</i>); • Insufficient development of digital services (<i>high volume of paper documentation, including duplicated with electronic document management</i>); • Low level of corporate culture (<i>in matters of conflict resolution</i>) and analysis of corruption risks (<i>external and</i>



		<i>internal</i>); <ul style="list-style-type: none"> • Ineffective indicators for assessing the quality of University activities; • Low availability of office housing; • High volume of document flow.
Development of infrastructure and material and technical base of the University	<ul style="list-style-type: none"> • The University has its own buildings and infrastructure for the implementation of its main activities (<i>5 academic buildings, 17 educational laboratories, 5 scientific laboratories, an educational and clinical center, 2 dormitories, a library (more than 500,000 textbooks in 3 languages)</i>); • Availability of a pool of accumulated funds for capital expenditures, which can be used to upgrade existing infrastructure. 	<ul style="list-style-type: none"> • Insufficient material and technical support for scientific, educational and clinical (<i>outdated equipment, outfit, furniture</i>); • Insufficient provision of dormitories (including for international students); • Insufficient provision of the educational process with the library fund and resources for managing the library fund (lack of a modern automated library information system and modern equipment for automating all librarian’s workplaces); • Low access to online resources that provide information support for academic, scientific and clinical processes.
	Opportunities	Threats
Training of competitive and professionally competent healthcare professionals in demanded specialties and specializations	<ul style="list-style-type: none"> • The growing demand of practical healthcare for healthcare professionals; • Expansion of international cooperation and development of strategic partnership programs; • Development of digital services and virtual technologies in the field of education; • Development of distance/online learning; • The emergence of new professions and specializations and the expansion of the range of medical education programs; • Expansion of academic freedom and institutional autonomy of Universities in the Republic of Kazakhstan; 	<ul style="list-style-type: none"> • Increased competition in the educational services market from domestic and foreign universities, research institutes, research centers; • The probability of a decrease in the level of preparedness of applicants entering the University; • The decline in the prestige of medical professions; • Critical changes in the structure and level of morbidity of the population; • Lack of approved professional standards in healthcare; • Imperfection of the regulatory framework of the Republic of Kazakhstan in medical education; • The aging of personnel with academic degrees,



	<ul style="list-style-type: none"> • Improvement of the material and technical base of the University, opening of the University Hospital. 	<ul style="list-style-type: none"> including University teaching staff; • Untimely correction of tuition fees taking into account the rate of inflation (<i>when the grant does not cover all tuition costs</i>).
Transformation into a research university and its development as a leading center for the translation of new knowledge and innovations into healthcare practice and policy	<ul style="list-style-type: none"> • The growth of international cooperation and close ties with partner universities in scientific research; • A wide range of foreign funding organizations and grant programs; • Expansion of funding from domestic grant holders, including for young scientists; • Availability of a wide range of pharmacy companies willing to finance clinical trials. 	<ul style="list-style-type: none"> • Reduction of funding for scientific activities; • The likelihood of introducing restrictive measures in connection with the next wave of the pandemic; • Increased migration of highly qualified personnel from among the teaching staff of the AMU to the Republic of Kazakhstan and abroad; • The rapid development of healthcare technologies and the changing priorities of funding organizations.
Development of the University as an integrated academic medical center functioning on the basis of the trinity of education, science and practice	<ul style="list-style-type: none"> • The construction of a University hospital for AMU within the framework of PPP; • The presence in Nur Sultan of a large number of scientific organizations, clinics, educational organizations – potential participants of the IAMC; • The introduction of an academic correction factor for medical organizations that are clinical bases of universities; • The development of a network of medical organizations in the city, which can potentially become the clinical base of the University. 	<ul style="list-style-type: none"> • Disruption of the University Hospital construction project (ownership rights); • Restriction of access to clinical facilities for teaching staff and students in a difficult epidemiological situation; • Lack of motivation for medical organizations to act as clinical bases for the University (unless a correction factor is introduced); • Unwillingness of medical organizations to integrate with the University to form an IAMC due to a lack of understanding of the benefits; • Insufficient financial support for the planned transformations.
Development of human resources and improvement of the University’s management and financing system	<ul style="list-style-type: none"> • Financing of higher, postgraduate and additional education from the funds of the local executive body; • The growth of the paid services market in the healthcare system and the recovery of the economy as a whole in the period after the COVID-19 pandemic; • Receiving grants from international organizations for 	<ul style="list-style-type: none"> • Shortage of highly qualified personnel in the labor market; • Outflow of highly qualified teaching staff and employees to other educational, scientific and practical healthcare organizations; • The aging of the staff, as a result of this – a decrease in



	internships and study abroad for teachers and staff (Horizon 2020, British Council, Bolashak, Erasmus+, etc.).	the share of teaching staff with an academic degree and the share of teaching staff with the highest and first medical category; • High level of competition in the market of paid educational services.
Development of infrastructure and material and technical base of the University	<ul style="list-style-type: none"> • Development of the practice of implementing SIP and PPP projects in healthcare; • The presence of a developed infrastructure in the field of medical, educational and scientific activities in the city of Nursultan, which allows to use the resources of existing organizations (on the principles of leasing, outsourcing of individual services, contractual relationships, etc.). 	<ul style="list-style-type: none"> • Reduction of state funding for educational activities (the main income for the University at present); • The lack of timely revision of the cost of education by the state, taking into account the rate of inflation; • High inflation and/or devaluation of tenge.



SECTION 3. PRIORITY AREAS

Strategic direction 1 «Training of competitive and professionally competent healthcare professionals in demanded specialties and specializations»

Priority direction 1.1 «Creating an effective educational environment»

Within the framework of this priority area, the following set of tasks will be solved:

- Creating an effective and flexible system of management and quality control of the educational process based on the creation of a model for systematic assessment of education, the use of peer review mechanisms with the participation of independent, including international experts.
 - Automating all business processes in the educational process.
 - Increasing the role of the principles of academic integrity, academic achievements in admission, training, assessment, expulsion, graduation of students in the implementation of educational programs at all levels of education.
 - Introducing the practice of using the Anti-Plagiarism program into the educational process at all levels.
 - Forming a contingent of students based on the introduction of an intensive recruiting program to attract the most talented students from Kazakhstan and foreign countries, including through collaboration with international recruiting companies (for example, an online platform [apply.com](https://www.apply.com) etc.).
 - Taking measures to promote and develop students in the process of studying at the University, as well as through the introduction of targeted marketing program (university grants, personal grants and scholarships).
 - Creating an effective educational environment based on the actualization of educational programs with an emphasis on the needs of the industry, multilingualism, interdisciplinary integration, the introduction of principles of interprofessional training in interdisciplinary teams, as well as the formation of integrated competencies of graduates – both the most in-demand professional skills (Hard skills) and supra-professional skills (Soft skills), including critical thinking, project management, people and oneself, mentoring and advising, problem solving, decision-making, knowledge management, working in uncertainty mode, introspection and self-reflection, etc.).
 - Widespread development of innovative educational technologies (PBL, CBL, TBL, RBL, D-PBL), e-learning technologies, including virtual simulation technologies and virtual standardized patients.
 - Constant monitoring of the degree of implementation, analysis of effectiveness and improvement of teaching methods and assessment of students.
 - Ensuring compliance of the existing infrastructure, resources, teaching staff with the volume of the annually accepted contingent of students through:
 - ✓ Development of a methodology for determining the University's capacity;
 - ✓ University admission quotas;



- ✓ Modernization of infrastructure, its expansion, including through the lease of educational space, attracting qualified personnel.
 - Expanding the practice of implementing projects (including within the framework of the Erasmus+ program) aimed at increasing the potential of higher and postgraduate education, improving educational programs, strengthening the material and technical base of the educational process, expanding international relations of the University.

Priority direction 1.2 «Expanding the range of educational programs, taking into account the needs of the industry and related industries»

Within the framework of this priority area, the following set of tasks will be solved:

- Creating and developing the pediatric faculty, strengthening the pediatric component in the training programs for doctors and nurses. Launch of new training programs for pediatric specialists at the level of residency programs and certification courses.
 - Expanding the range of educational programs based on the implementation of:
 - ✓ new areas of training for the industry (bioengineering, medical technology, medical law, health economics, IT in healthcare, medical tourism, medical physics, etc.);
 - ✓ new areas of training for related industries (sports pharmacologists, sports nutritionists, biomechanics, military doctors);
 - ✓ management training programs for various levels of management of the national health system, including MBA, EMBA, DBA programs;
 - ✓ joint educational programs with leading universities, research institutes, research institutes of RK.
 - Implementing and developing programs of continuous integrated medical education, creation of conditions for the implementation of programs of continuous postgraduate medical education (residency + PhD).
 - Diversification of educational services based on the introduction of new levels of training for the industry, including training programs for healthcare professionals at the level of technical and vocational and post-secondary education with a phased expansion of the range of educational programs (nurses, secondary medical workers for sanitary and epidemiological services, medical equipment services, laboratory services, medical optics, paramedicine, etc.).
 - Launching and expanding the pool of additional educational programs (Minor) that create opportunities for students to acquire additional competencies in a non-core field of study.
 - Revision of existing and/or development of new educational programs and disciplines with a focus on competencies in scientific and innovative entrepreneurship.



- Introducing the practice of implementing distance learning master’s degree programs, a significant expansion of the practice of distance learning at the level of additional education, covering not only the educational services market of the Republic of Kazakhstan, but also countries of the near and far abroad.

Priority direction 1.3 «Expanding the internationalization of educational programs»

Within the framework of this priority area, the following set of tasks will be solved aimed at expanding the recognition of the University in the international educational space, as well as improving the quality of training for the national health system and further promoting the University in national and international rankings:

- Expanding the contingent of international students and the range of educational programs available for study in English and other languages (including through the involvement of a professional simultaneous translation service).
- Expanding the range of educational programs in which international students study, including through the launch of new educational programs in English that are in demand by the global labor market.
- Creating conditions for launching joint, including double-degree educational programs with leading foreign universities.
- Extensive development of academic mobility programs for students and teaching staff with leading foreign universities and the constant expansion of the geography of academic mobility. Active development of virtual academic mobility, taking into account the continuing challenges of the pandemic and the post-pandemic period.
- Improving the quality of consulting for academic mobility programs, including through informatization and digitalization of the service (online consultant, automation of document acceptance), creation of a database of academic mobility participants with feedback.
- Improving language competence (English) of the University teaching staff, AMP and students, as well as the involvement of leading foreign specialists as teaching staff, as well as to give lectures on relevant areas of science and production. Introducing English as the language of corporate interaction.
- Developing a strategic partnership of the University, focused on advanced foreign universities and research centers that form the potential for sustainable global development and are included in authoritative global rankings.
- Expanding the contingent of foreign students with the introduction of a new policy for the integration of foreign students (involvement in sports, cultural, university and city events, mentoring institute for foreign students with a view to their socio-cultural adaptation, etc.).



Priority direction 1.4 «Improving the system of support for academic and personal growth of students»

Within the framework of this priority area, the following set of tasks will be solved:

- Improving the mechanisms for involving students in the professional environment and social activities through:
 - ✓ developing the practice of students’ participation in volunteer movements;
 - ✓ developing and strengthening the role of student self-government, including through enhanced interaction with external organizations and with society as a whole, successful graduates in order to mentor and assist students, actively involve them in the activities of republican and University youth organizations;
 - ✓ Supporting youth initiatives, facilitating student participation in social projects and grants, holding idea contests, creating startups, etc.;
 - ✓ supporting and developing the practice of membership of students (residents, undergraduates, doctoral students) in reputable international associations;
 - ✓ developing the practice of holding summer and winter schools, discussion clubs;
 - ✓ developing the practice of conducting motivational lectures for students with the involvement of leading experts in the industry, well-known persons;
 - ✓ orienting students towards the development of “disruptive thinking” (breakthrough ideas).
- Implementing the Healthy University project aimed at forming a commitment to a healthy lifestyle for both students and University staff through the availability of healthy food, creating conditions for physical education, conducting explanatory work on the prevention of common diseases, abandoning risky behavior and bad habits, maintaining mental health, countering the ideology of extremism and terrorism, including through the expansion of cultural and leisure activities.
- Developing a system of mentoring, patronage and the allocation of nominal scholarships in order to increase The share of students covered by social support.
- Forming an active civic position and patriotic consciousness, spiritual, moral, legal and political culture.
- Creating a favorable environment for students, including:
 - ✓ providing socially vulnerable students and nonresident students with comfortable dormitories, as well as socio-psychological support aimed at adapting to various conditions, support in a difficult life situation;
 - ✓ providing students with recreation areas and dining areas, lounge areas, etc.;
 - ✓ developing opportunities for inclusive education based on the introduction of technical solutions for students with impaired hearing, impaired vision, impaired musculoskeletal system, specific organizational and pedagogical technologies.



NCJSC “Astana Medical University”	Page 39 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

Strategic direction 2 «Transformation into a research university and its development as a leading center for the translation of new knowledge and innovations into healthcare practice and policy»

Priority direction 2.1 «Development of the University’s human resources potential in the field of scientific and innovative activities (SIA)»

Within the framework of this priority area, the following set of tasks will be solved aimed at forming a dynamic and successful scientific community that generates ideas and creates new knowledge, freely navigates the scientific and technical space:

- Analysis of existing training needs and development of a plan for improving competencies in the SIA.
- Conducting seminars and trainings on a regular basis on in-demand SIA competencies (basic principles of scientific research, search for scientific information in world literature and authoritative databases, methodology for writing and design of scientific projects and publications, methods of processing research results in statistical programs SPSS, Statistica, Epi Info, etc.), including programs of the WHO Regional Training Center for Health Research, as part of internships and training in the world’s leading centers for promising employees.
- Review of employee incentive mechanisms for achievements in the SIA. Review of personnel policy in order to link the trajectory of career growth to the presence of achievements in the SIA.
- Introduction of a scientific component in the remuneration of teaching staff (with an increase in the proportion from teacher to professor), a phased and differentiated reduction in the annual academic load on teaching staff for working in SIA.
- Development and implementation of a new policy for attracting scientists, with an emphasis on attracting professors who are able to conduct research in collaboration with European universities and universities around the world.
- Development and implementation of a new policy of personnel reproduction through master’s, doctoral and postdoctoral studies, which will ensure the continuity of scientific development of the University’s human resources.
- Implementation of programs for the development, support and promotion of researchers aimed at creating clear and understandable career paths in the field of research activities.
- Gradual increase in the requirements for academic and scientific positions, as well as the scientific block – in terms of a certain level of the Hirsch index, publications in Q1-Q2 journals.



NCJSC “Astana Medical University”	Page 40 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

Priority direction 2.2 «Formation of an effective infrastructure for SRA employees and students»

Within the framework of this priority area, the following set of tasks will be solved:

- Audit of the entire material and technical base (MTB) for conducting scientific research and formation of a plan for updating the MTB, purchasing new certified scientific equipment, software, access to external databases;
 - Elaboration of mechanisms for attracting the resource base of leading medical centers and laboratories for SRA.
- Creation of a grant search and attraction service, support for writing research projects, publications, and academic translation.
 - Creation of a commercialization office, a business incubator, a science and technology park, and an endowment fund.
 - Development of the WHO Regional Training Center for Scientific Research in the field of health in the University.
 - Creation of a central research center/laboratory for collective use, scientific laboratories, a vivarium (including through outsourcing, PPP).
 - Expansion of opportunities for research institutes through integration with other universities, research institutes, and research centers (including within the framework of the IAMC).
 - Support and development of scientific schools, creation of Institutes at individual scientific schools.
 - Creation of interdisciplinary Centers of Excellence.
 - Creation of a digital SRA support platform (virtual scientific groups, virtual scientific laboratories, digital services of scientific infrastructure, digitized databases of scientific data).
 - Establishment of a national training center with a reference laboratory to support and improve radiation protection in the medical use of ionizing radiation based on the IRRS as part of a national project jointly with the International Atomic Energy Agency (IAEA).

Priority direction 2.3 «Improving the mechanisms of SRA management at the University»

Within the framework of this priority area, the following set of tasks will be solved:

- Introduction of a project approach to university management is the launch of a project to transform into a research university.
 - Creation of a Science Fund, the funds of which will be used for incentive payments for publications in rating journals indexed by Web of Science or Scopus, payment of fees for obtaining security documents of employees and students, allocation



NCJSC “Astana Medical University”	Page 41 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

of intra-university grants, payment of the prize fund for annual student conferences, payment for trips of employees and students to participate in international conferences, payment for internships in foreign centers or training with the invitation of a visiting professor from a foreign center, payment for institutional membership in leading international organizations for research and training in healthcare, as well as individual membership in international associations (teaching staff, students), the cost of supporting and promoting the AMU journal, etc.

- Creation of the scientific and technical council of the University, providing conditions for effective management of scientific and innovative activities of the University with the involvement of the scientific community in solving the tasks of organizing scientific research, evaluating the quality of work of scientific departments, using the results of scientific activities in practical healthcare, educational and scientific production process and ensuring conditions for the fullest satisfaction of scientific and socio-economic interests of scientific teams and scientific units of the University.

- Choice of priority areas for the development of science at the University, taking into account global, national and regional priorities, as well as existing potential, including on the basis of conducting foresight studies of future trends in the development of science and technology in healthcare. Creating a proper research environment around established priorities.

- Improving the innovation ecosystem and establishing the SRA as an innovation hub aimed at effective technology transfer, commercialization of its own and third-party intellectual activity results.

- Expanding the areas of fundamental and applied research, with an emphasis on supporting scientific programs and projects that provide for the formation of interdisciplinary research groups.

- Launch of clinical trials funded by Big Pharma, including at the University Hospital with the creation of a Center for Clinical and Translational Research.

- Implementation of uniform policies on research ethics, conferences, intellectual property, and the implementation of research results.

- Creation of a system for monitoring, accumulation and analysis of scientometric information using Big Data.

- Development of effective mechanisms to ensure timely and prompt communication of researchers and university units in science.

- Expanding access to reputable databases and software products (for statistical analysis, plagiarism checks, etc.).

- Creation of a repository of the results of scientific research of students (theses, master's and doctoral dissertations) and scientific works of teaching staff (monographs, articles in scientific journals, materials of scientific conferences, etc.).

- Launch of an Internet platform to promote the results of scientific research and achievements.



NCJSC “Astana Medical University”	Page 42 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

- Implementation of electronic services for scientific guidance, consulting, peer review and expertise.
- Conducting a regular assessment of the impact of the University’s research results on the development of the national health system.
- Revision of existing patents for maintenance with a view to further commercialization.
- Conclusion of licensing agreements for the commercialization of SRA results and submission of applications under the PCT procedure.

Priority direction 2.4 «Creating an effective environment for involving students in science and supporting young scientists»

Within the framework of this priority area, the following set of tasks will be solved:

- Revision of the existing work of the student scientific society and work with young scientists, intensification of student involvement in science, improvement of infrastructure and support mechanisms for young scientists (including the work of the coworking zone).
- Launch of a postdoctoral program that ensures the completion of the trajectory of scientific personnel training.
- Introduction of an effective mentoring system in science for promising students and young professionals.
- Implementation of Split PhD programs with foreign universities. Implementation of the ORPHEUS standards (Organization of the training of doctors of philosophy in the field of biomedicine and health protection in the European system) in the training programs of scientific personnel in the PhD program.
- Creation of conditions for improving the efficiency of dissertation councils.
- Implementation of an integrated approach to the selection and evaluation of the effectiveness of scientific consultants for undergraduates and doctoral students, including foreign scientific consultants.
- Strengthening control over the quality of examination of master’s and doctoral dissertations at the stages of approbation and review, strengthening the work of doctoral students with foreign scientific consultants.
- Development of science-oriented educational programs, starting from the bachelor’s level, allowing students to actively participate in conducting scientific research under the guidance of teachers.
- Creation of an effective system of involvement in science from the student’s bench (based on Research- and Project-based learning).
- Conducting summer and winter schools for students and young scientists with the involvement of leading domestic and foreign scientists.



- Conducting an intra-university competition for financing scientific projects for students and young scientists.
- Introduction of a requirement in intra-university research grants for AMU employees is the involvement of students numbering at least 30% of the research group.
- Creation of a student business incubator, creation of startups with the participation of students.
- Intensification of cooperation between students and young scientists of the University with scientifically active students and young scientists of Kazakhstani and foreign universities and scientific organizations, including through active participation in the work of the Alliance of Young Scientists of Kazakhstan, membership in national and international professional associations.

Priority direction 2.5 «Strengthening cooperation on SRA issues with leading foreign and domestic universities, research institutes, research centers, enterprises of the medical and pharmaceutical industries»

Within the framework of this priority area, the following set of tasks will be solved:

- Analysis of the experience of implementing strategic partnership programs in SRA, search and attraction of new strategic partners, including in the field of SRA.
- Development of international cooperation in science, including through joint long-term projects, conferences, summer schools, etc.
- Conducting benchmarking of leading foreign and domestic universities that occupy leading positions in world rankings in order to improve business processes, organizational structure, quality of training of scientific personnel, scientific research.
- Ensuring the university’s membership in all leading international organizations for research and training in the field of healthcare (AMEE, ASPHER, AMEA, ASME, ORPHEUS, ADEE, AMSE, etc.).
- Support and development of membership mechanisms for teaching staff and students in reputable international associations and societies.
- Increase in the number of scientific internships of University scientists in leading foreign scientific and academic centers.
- Development of international collaboration of scientific schools of the University.
- Creation of clusters/consortia with enterprises of the medical and pharmaceutical industries aimed at strengthening the interaction between science, technology and industry.
- Searching for and developing innovative, interdisciplinary and transdisciplinary research projects that combine science with technology and business.



NCJSC “Astana Medical University”	Page 44 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

- Expanding innovative and market research in advanced biomedicine by creating/integrating existing knowledge sharing alliances at the national and international levels.
- Creation of international scientific units (scientific institutes, scientific and educational centers, international laboratories, consortia and others) together with leading foreign scientific, educational organizations and business companies.

Priority direction 2.6 «Expanding the recognition of the University in the SRA at the national and international level»

Within the framework of this priority area, the following set of tasks will be solved:

- Providing conditions for the inclusion of AMU journals in List of MoEdS and international citation databases (DOAJ, etc.) through the involvement of foreign and domestic authors in joint and independent publications, reviewing journal articles by domestic and foreign experts, developing the journal’s website that meets modern world requirements, increasing the impact factor of the journal in domestic and international citation databases. Submission of an application for inclusion of AMU journals in Scopus and Web of Science.
- Providing the necessary conditions for certification of the local bioethics commission in the Central Bioethics Commission of the Ministry of Health of the Republic of Kazakhstan.
- Launch of the project on the University’s entry into the QS rating. Creation and/or updating and regular updating of the University profile on the online platforms of ranking agencies and other resources of scientific and technical information providing for the assessment of the University according to scientometric indicators.
- Implementation of systematic measures to promote the achievements of the University in the SRA at the national and international levels.
- Accreditation and certification of the scientific laboratory base of the University in accordance with national and international standards (ISO standard, GLP standard, etc.).
- Certification of medical organizations of the University (university hospital, etc.) according to GCP standards.
- Stimulating researchers who demonstrate the ability to convey to a wide audience at the national and international level the results of research conducted at the University.



Strategic direction 3 «Development of the University as an integrated academic medical center functioning on the basis of the trinity of education, science and practice»

Priority direction 3.1 «Formation of the IAMC and strengthening of cooperation with medical organizations of the city of Nursultan and the region»

Within the framework of this priority area, the following set of tasks will be solved:

- Implementation of the IAMC creation project:
 - ✓ revision of existing and conclusion of new contracts and agreements with medical organizations of the city;
 - ✓ transfer of the University to the trust management of medical organizations;
 - ✓ creation of management/coordination bodies of the IAMC.
- Step-by-step integration and strengthening of interaction with medical organizations within the framework of the IAMC – formation of effective management of academic and industrial processes based on the unity of strategic goals and objectives.
 - Digitalization of management, educational, scientific and clinical processes within the framework of the IAMC.
 - Expanding the range of joint activities of all IAMC participants in the provision of medical and educational services in order to sustainably improve the quality of medical care based on access to advanced technologies and scientific developments, creating conditions for educational programs to reflect the latest achievements in diagnosis and treatment, which can be demonstrated at clinical bases and in the University’s own medical organizations.
 - Development of wide clinical and laboratory bases within the framework of the IAMC for conducting relevant scientific research with the immediate transfer of their results to practical healthcare.

Priority direction 3.2 «Creation and development of the University hospital, University clinics and other scientific and practical bases»

Within the framework of this priority area, the following set of tasks will be solved:

- Creating conditions for the timely launch of the University Hospital (UH):
 - ✓ development of the concept of creation and development of the UH;
 - ✓ formation and development of the personnel reserve of the UH;
 - ✓ development of a package of internal regulatory documentation of the UH.
- Launch and development of the UH based on a strategic partnership with one of the top foreign clinics, including:
 - ✓ implementation of the “doctor-teacher-scientist in one person” model in the UH;
 - ✓ development of new clinical areas (sports medicine, etc.);



- ✓ conducting clinical trials funded by Big Pharma;
- ✓ conducting master classes from the world’s leading experts;
- ✓ ensuring international JCI accreditation, GCP certification.
- Formation and development of a network of medical organizations and clinical units of the University (including on the basis of the existing NCJSC “AMU” Medical Center), including the creation of:
 - ✓ dental clinic;
 - ✓ clinical diagnostic center (professorial clinic);
 - ✓ polyclinics.
- Development of personalized and translational medicine aimed at the widespread introduction of innovative methods of diagnosis, treatment and medical rehabilitation into the clinical practice of the University hospital and medical organizations of the University, the expansion of the volume of provision of high-tech medical services, the introduction of highly specialized treatment methods.
- Introduction of advanced medical technologies in the UH and clinics of the University – developments of foreign and domestic scientists, including the results of SRD by University staff.
- Development and implementation of an effective marketing strategy in medical tourism (external and internal) for UH and University clinics.

Priority direction 3.3 «Creation and development of a simulation center and active development of simulation technologies»

Within the framework of this priority area, the following set of measures will be provided:

- Launch and implementation of a project to create a simulation center with the creation of opportunities on its basis for practicing skills by students of all levels of training, healthcare professionals and medical workers of other departmental services.
- Expansion of the library of clinical scenarios and the range of technical means of simulation training with an increase in their level of realism.
- Organization and implementation of integrated training and teaching of clinical skills using various active teaching methods using mannequins and simulators, high-tech robot simulators, simulation training programs (virtual patient, virtual clinic).
- Introduction of training programs for trainers in simulation training and evaluation of the results of simulation training.
- Implementation of standardized patient training programs, formation of a standardized patient database.
- Expanding the range of educational programs that use simulation technologies.
- Development of simulation technologies in the training of specialists in non-clinical specialties – in the training of a pharmacist (educational pharmacies), in the training of biomedical specialists (virtual laboratories), etc.



- Development of cooperation and strategic partnership with leading simulation centers of domestic and foreign universities.
- Joining international associations for simulation training.
- Providing conditions for obtaining international recognition of the simulation center.

Strategic direction 4 «Development of human resources and improvement of the University’s management and financing system»

Priority direction 4.1 «Development of the University’s human resources potential»

Within the framework of this priority area, the following set of tasks will be solved:

- Implementation of strategic HR management and talent management aimed at increasing the level of the university’s human resources potential covering all categories of personnel.
- Creation of a system for training scientific and pedagogical personnel and AMP from a university graduate to the head of a structural unit.
- Improving the procedures for the search and selection of personnel for all categories of personnel with an emphasis on specific academic and scientific achievements (for teaching staff, scientific staff), the availability of a realistic plan for the development of departments (for heads of departments), etc. Involvement of strong independent experts in the selection process, who will evaluate the achievements and prospects of the candidates’ development.
- Strengthening the selection of personnel for AMP positions. Introduction of AMP certification according to clear KPI criteria that evaluate their work.
- Implementation of adaptation and training programs (if necessary) for new University employees, as well as formation of effective programs to maintain a high level of competence of employees of all categories of personnel based on the development and implementation of individual development plans in accordance with the mission and strategic directions of the University.
- Creation of an online professional development platform for teaching staff and employees using advanced advanced training technologies.
- Implementation of programs for the development of leadership qualities, digital competencies and project management skills of University staff.
- Creation, development and use of the personnel reserve for all senior positions.
- Gradual and differentiated reduction of the annual academic load on teaching staff with the allocation of time for scientific and clinical activities, CPD.
- Taking measures to maintain The share of full-time teachers with academic degrees and titles in accordance with licensing rules and qualification requirements for educational activities.



NCJSC “Astana Medical University”	Page 48 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

- Formation of a positive corporate culture at the University aimed at ensuring high motivation and involvement of employees in the implementation of strategic development directions of the University.
 - Raising the role and status of University teaching staff in the eyes of students and the public.
 - Formation of an effective employee motivation and retention system based on:
 - ✓ introduction of differentiated wages, a system of additional payments and incentives for KPI achievements;
 - ✓ provision of a social package (office housing, corporate wellness programs);
 - ✓ creating favorable working conditions and working hours (scientific organization of labor, ensuring compliance with working hours and rest time, reducing workload, convenient schedule, equipping workplaces).

Priority direction 4.2 «Improving the University’s management system»

Within the framework of this priority area, the following set of tasks will be solved:

- Reengineering and digitalization of all business processes at the University aimed at:
 - ✓ radical reduction in bureaucracy and an increase in the effectiveness of the administrative and managerial apparatus, efficiency and flexibility in making managerial decisions;
 - ✓ creation of effective tools for interaction at the vertical and horizontal levels of management;
 - ✓ removing the administrative burden and uncharacteristic functions from teaching staff;
 - ✓ improving internal communications and constructive interaction between academic and administrative staff;
 - ✓ reducing the time required to receive University services for students, employees and clients.
- Further development of the practice of outsourcing non-core business processes for the operation of infrastructure facilities, which will allow to focus on solving the primary tasks of developing the material and technical base.
- Complete revision and improvement of all internal regulatory documents regulating the use of human, financial, information and logistical resources in order to ensure effective management of the university.
- An increase in the degree of responsiveness of the University administration to the requests of teaching staff and students, including through the creation of conditions for direct participation of teaching staff, students and employees in decision-making and their implementation in the main areas of University development (based on membership in permanent collegial bodies).



NCJSC “Astana Medical University”	Page 49 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

- Development and launch of the digital management environment of the University – the analytical information platform of the University – SmartAMU based on the integration of all information systems of the University and the use of BI analytics tools.
- Complete transition to digital document management with the formation of the “Paper Free University” system.
- Development of the principles of corporate governance, academic integrity, meritocracy and zero tolerance for corruption. Implementation of project management, risk management.
- Ensuring the information openness of the University and transparency of all processes at the University.
- Analyzing the experience of implementing strategic partnership programs, searching for and attracting new strategic partners.
- Development and implementation of a PR strategy for the development of the University aimed at strengthening the recognition and visibility of the AMU “brand”, creating conditions for the effective implementation of the communication process between the University and its target audiences, promoting the achievements and capabilities of the University in teaching foreign students, joint research activities, etc.
- Continuous international benchmarking of universities from the top 100 world rankings and broadcasting to the University the best practices of foreign and domestic universities in all areas of activity, including the formation of effective cooperation on the activities of university hospitals, simulation centers, commercialization offices and business incubators, as well as the formation of effective interaction with leading national and foreign rating agencies, libraries and bodies of academic and scientific and technical information;
- Implementation of uniform policies in organizing conferences, corporate events, copyright protection of the University and employees.

Priority direction 4.3 «Improving the University’s financing mechanisms»

Within the framework of this priority area, the following set of tasks will be solved:

- Expansion of income from educational activities through:
 - ✓ expanding the range of educational programs at the level of postgraduate and additional education;
 - ✓ introducing non-medical programs for the training of healthcare professionals (health economists, medical law specialists, etc.);
 - ✓ launching joint educational programs with Kazakhstani and foreign universities.
- Expansion of additional sources of income (with an increase in the share in the total budget) through:



- ✓ clinical activity – expansion of the types of services provided in the University hospital, University clinics;
- ✓ training of foreign students – activation of a recruiting company in the countries of the near and far abroad;
- ✓ scientific research – an increase in attracting funding from grant-givers in the Republic of Kazakhstan and abroad, from national companies and private enterprises;
- ✓ commercialization of research results – by creating a commercialization office and cooperation with enterprises of the medical and pharmaceutical industries;
- ✓ contributions from patrons, graduates – by creating an endowment fund.
- Decentralization of budgeting at the University with the transition to the practice of budgeting for the development of schools/faculties and increasing the role and responsibility of holders of educational programs in financial management.
- Ensuring transparency in the allocation of budgetary and extra-budgetary funds, rational use of budget expenditures through result-oriented administration.
- Introduction of modern financial management tools and the effective use of financial resources, including the creation of effective support mechanisms aimed at increasing the investment attractiveness and profitability of assets available to the University:
 - ✓ creating a business council;
 - ✓ interaction with external and internal stakeholders;
 - ✓ project and operational fundraising;
 - ✓ outsourcing of non-core business processes;
 - ✓ ongoing marketing and foresight research;
 - ✓ identifying unproductive costs and taking measures to minimize them;
 - ✓ external and internal financial audits in accordance with international standards with the publication of the results of the audit reports on the website.
- Risk Management.

Strategic direction 5 «Development of infrastructure and material and technical base of the University»

Priority direction 5.1 «Creation of a new university with a modern base for educational, scientific and clinical activities, social infrastructure»

Within the framework of this priority area, the following set of tasks will be solved:

- Analysis of the capacity of the existing and future areas of the University with the development of timely solutions for the development of the University infrastructure (taking into account the planned and implemented new educational programs, new areas of research and innovation).
- Providing the University with modern infrastructure for educational, scientific and clinical processes, including through the use of the University’s own funds, PPP,



NCJSC “Astana Medical University”	Page 51 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

attracting grants for infrastructure development (World Bank, etc.) with priority development of such facilities as:

- ✓ academic buildings – supporting an effective educational ecosystem and conditions for accommodating an annually growing contingent of students at the University;

- ✓ simulation center – providing the development of a wide range of practical skills in all clinical disciplines, training in teamwork, professional behavior and communication skills with the patient, as well as conditions for evaluating the formation of these skills;

- ✓ educational and scientific laboratories – providing effective support for the educational and scientific process;

- ✓ library – providing access to educational literature in all compulsory and elective disciplines, having all the resources for effective management of the library fund (modern automated library information system and equipment for automation of all librarian and user workplaces, opportunities for remote access to library resources).

- Creating safe and comfortable conditions for students to study and stay, including:

- ✓ equipping classrooms with modern technical means for educational purposes;
- ✓ expansion and regular updating of the library fund, re-equipment of the library;
- ✓ creation and development of open-space, co-working sites, creative spaces, individual spaces, relax spaces;

- ✓ provision of dormitories, access to sports facilities (including through PPP, rent, etc.);

- ✓ provision of a safe ecosystem through outdoor and indoor video surveillance, video analytical access to academic buildings and dormitories.

- Creation of a scientific-research center (CSRC), scientific laboratories, a vivarium (including through outsourcing, PPP).

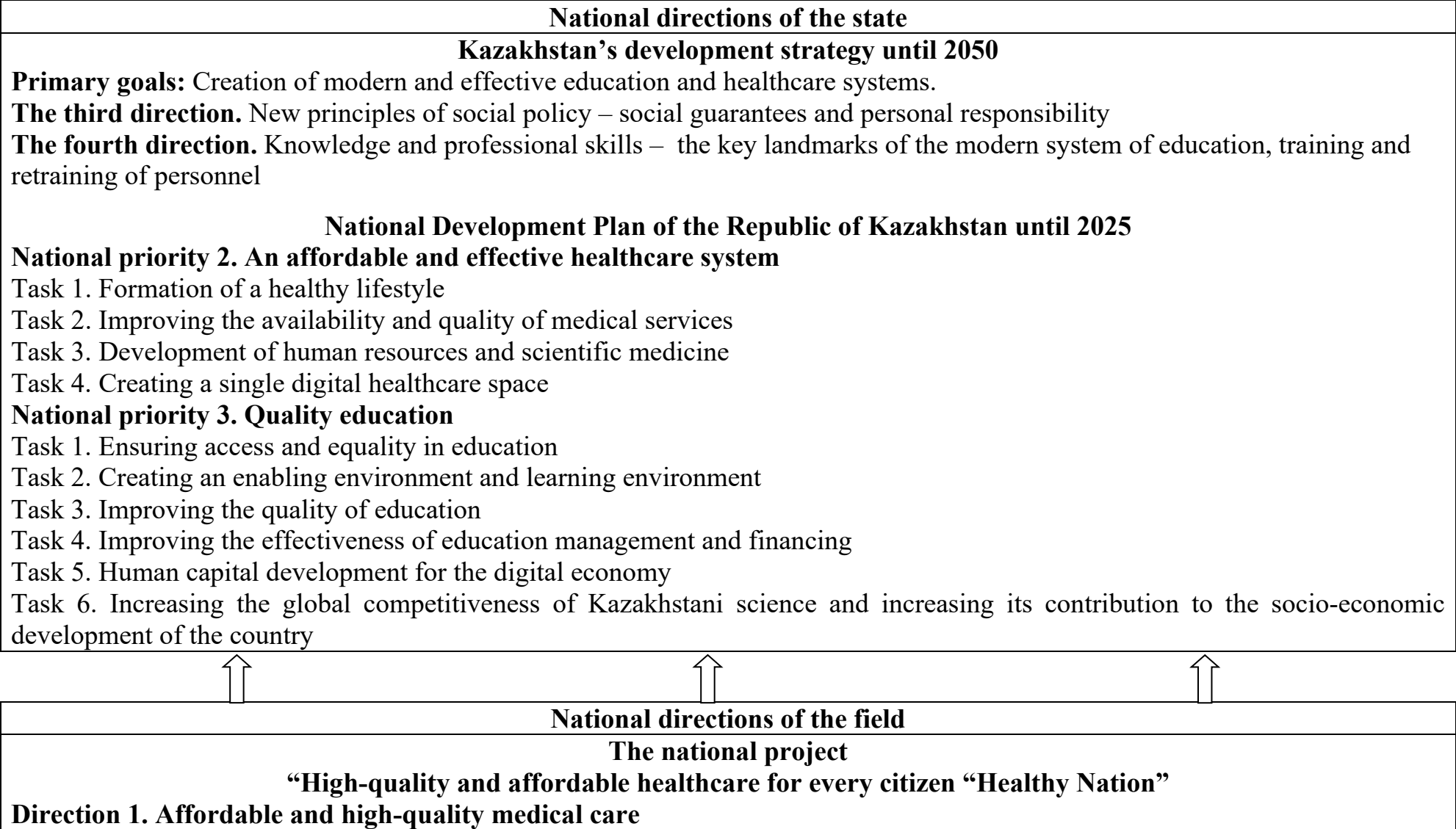
- Expanding access to modern educational and scientific laboratory complexes of the leading medical and scientific centers of the Republic of Kazakhstan.

- Monitoring the targeted use of funds for the maintenance of the existing computer fleet, purchase of new generation computers and licensed software, equipping classrooms with videoconferencing, increasing the speed of guaranteed Internet access; technical support for Internet conferencing opportunities, etc.

- Creating conditions for inclusive education, removing all barriers to meeting basic educational needs.



SECTION 4. THE ARCHITECTURE OF THE RELATIONSHIP BETWEEN STRATEGIC AND BUDGETARY PLANNING





Task 1. Ensuring broad coverage of the population with health services

Task 2. Preserving the health of pregnant women and strengthening the health of children

Task 3. Strengthening human resources

Direction 2. Formation of a modern system of epidemiological forecasting and response

Task 1. Transition to a modern model of epidemiological surveillance of infectious diseases

Task 2. Expanding public access to modern and high-precision laboratory research

Direction 3. Affordable medicines and medical products of domestic production

Task 1. Building scientific and human resources capacity for the pharmaceutical and medical industries

Task 2. Development of domestic production of medicines and medical devices

Direction 4. Increase in The share of the population leading a healthy lifestyle and the development of mass sports

Task 1. People’s choice in favor of health

Task 2. Creation of conditions for physical culture and mass sports for all categories and groups of the population, including increasing the level of provision of the population with sports facilities

Strategic Plan of the Ministry of Health of the Republic of Kazakhstan for 2020-2024

Strategic direction 1. Strengthening public health

Priority direction «Prevention of diseases and formation of a healthy lifestyle»

Priority direction «Improving the provision of medical services»

Strategic direction 2. Improving the patient-centricity of the healthcare system

Priority direction «Improving the system of financing and management in healthcare»

Priority direction: Development of human capital, modernization of education, science





NCJSC “Astana Medical University”	Page 54 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

Strategic directions of the AMU

Strategic direction 1. Training of competitive and professionally competent healthcare professionals in demanded specialties and specializations	Strategic direction 2. Transformation into a research university and its development as a leading center for the translation of new knowledge and innovations into healthcare practice and policy	Strategic direction 3. Development of the University as an integrated academic medical center functioning on the basis of the trinity of education, science and practice	Strategic direction 4. Development of human resources and improvement of the University’s management and financing system	Strategic direction 5. Development of infrastructure and material and technical base of the University
--	---	--	---	--

Budgetary programs and extra-budgetary funds

006 “Training of specialists with higher, postgraduate education and providing social support to students” 057 "Training of specialists with higher, postgraduate education and providing social support to students” 204 “Providing personnel with higher and postgraduate education”	013 “Applied scientific research in healthcare” 217 “Development of science” RK MoEdS		005 “Professional development and retraining of personnel of public health organizations”	
Income from paid services. Other income				



SECTION 5. STRATEGIC DIRECTIONS, GOALS AND TARGET INDICATORS

Strategic direction 1. Training of competitive and professionally competent healthcare professionals in demanded specialties and specializations

№	Name of the target indicator	Unit of measurement	Source of information	Responsible people	Fact of 2021	Plan (years)				
						2022	2023	2024	2025	2026
1	2	3	4	5	6	7	8	9	10	11
Priority direction 1.1. Creating an effective educational environment										
1	The share of bachelor’s graduates who successfully passed the independent examination the first time	%	Report of the Vice-Rector for Academic Work	Vice-Rector for Academic Work, Deans of Schools, Heads of Chairs	93,6	94	94,5	95	95,5	96
2	The share of internship graduates who successfully passed the independent examination the first time * ¹	%	Report of the Vice-Rector for Clinical Work	Vice-Rector for Clinical Work, Dean of the School of Medicine, Heads of Chairs	99,9	95	95,5	96	96,5	97
3	The share of residency graduates who successfully passed the independent examination the first time *	%	Report of the Vice-Rector for Clinical Work	Vice-Rector for Clinical Work, Dean of the Residency School, Heads of Chairs	99,4	95	96	97	98	99
4	The share of university graduates who studied under the state educational order, who were employed in the	%	Reports of the Vice-Rectors for	Vice-Rectors for Clinical Work,	96,2	94	95	95,5	96	96,5

¹ * - Indicators of the Roadmap for the implementation of the project “Implementation of international standards for the training of healthcare professionals” (Ministry of Health of the Republic of Kazakhstan)



	first year after graduation * ¹ , ** ²		Clinical Work, Academic Work, Scientific Work and Strategic Development	Academic Work, Scientific Work and Strategic Development, Deans of Schools							
Priority direction 1.2. Expanding the range of educational programs, taking into account the needs of the industry and related industries											
1	The number of educational programs implemented in the context of each level of education (with the presence of a contingent of students)	technical and professional	Unit s	Report of the Vice-Rector for Academic Work	Vice-Rector for Academic Work, Deans of Schools	-	-	1	3	5	7
		applied bachelor’s degree	Unit s			-	-	1	1	1	1
		academic bachelor’s degree + continuous integrated medical education	Unit s			8	8	9	10	11	12
		master’s	Unit s	Report of the Vice-Rector for Scientific Work and Strategic Development	Vice-Rector for Scientific Work and Strategic Development, Dean of the Research School	6	7	9	11	13	15
		doctoral	Unit s			3	3	4	5	6	7
		residency	ЕД	Report of the Vice-Rector for Clinical Work	Vice-Rector for Clinical Work, Dean of the Residency School	37	37	38	39	40	41
		additional education (certification courses)	Unit s			0	3	5	7	10	12
2	The number of joint educational programs developed by the University with the participation of universities and research institutes, RK SCs	Unit s	Reports of the Vice-Rectors for Academic Work, for Scientific Work and Strategic Development	Vice-Rector for Academic Work, for Scientific Work and Strategic Development, Deans of Schools	0	1	2	3	4	5	

² ** Indicator of the draft Concept for the development of education in the Republic of Kazakhstan until 2025



NCJSC “Astana Medical University”	Page 57 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

3	The number of educational programs of additional education included in the catalog of educational programs	Units	Report of Vice-Rector for Clinical Work	Vice-Rector for Clinical Work, Head of the Center for Additional Education	0	5	6	7	8	9
4	The number of students enrolled in additional and non-formal education on a contractual basis and within the framework of a state order	People	Report of the Vice-Rector for Clinical Work	Vice-Rector for Clinical Work, Head of the Center for Additional Education	2100	2100	2900	3500	4000	4500
Priority direction 1.3 «Expanding the internationalization of educational programs»										
1	The share of students studying entirely in English *	%	Report of the Vice-Rector for Academic Work, for Clinical Work, for Scientific Work and Strategic Development	Vice-Rector for Academic Work, for Clinical Work, for Scientific Work and Strategic Development, Deans of Schools	9,8	13,0	14	14	15	16
2	The share of international students in the total number of students enrolled in bachelor’s degree programs **, **	%	Report of the Vice-Rector for Academic Work	Vice-Rector for Academic Work, Deans of Schools	16,3	20	21	22	23	25
3	The share of students participating in outgoing academic mobility programs *	%	Reports of the Vice-Rectors for Academic Work, for Clinical Work, for Scientific Work and Strategic Development	Vice-Rector for Academic Work, for Clinical Work, for Scientific Work and Strategic Development, Deans of Schools, Head of the Center for International Cooperation	3,0	3,1	3,2	3,5	3,7	3,9
4	The share of invited foreign teachers in the total number of teaching staff	%	Reports of the Vice-Rectors for	Vice-Rector for Academic Work, for	1,6	1,8	2	2,2	2,4	2,6



			Academic Work, for Clinical Work, for Scientific Work and Strategic Development	Clinical Work, for Scientific Work and Strategic Development, Deans of Schools, Head of the Center for International Cooperation							
5	The share of teaching staff participating in outgoing academic mobility programs *	%	Reports of the Vice-Rectors for Academic Work, for Clinical Work, for Scientific Work and Strategic Development	Vice-Rector for Academic Work, for Clinical Work, for Scientific Work and Strategic Development, Deans of Schools, Head of the Center for International Cooperation, Heads of Chairs	3,2	3,5	3,8	4	4,3	4,5	
6	The number of joint educational programs developed with the participation of foreign universities *	with a double degree	Unit s	Reports of the Vice-Rectors for Academic Work, for Clinical Work, for Scientific Work and Strategic Development	Vice-Rector for Academic Work, For Clinical Work, for Scientific Work and Strategic Development, Deans of Schools, Head of the Center for International Cooperation	-	0	2	2	2	3
		without a double degree	Unit s	Reports of the Vice-Rectors for Academic Work, for Clinical Work, for Scientific Work and Strategic Development	Vice-Rector for Academic Work, For Clinical Work, for Scientific Work and Strategic Development, Deans of Schools, Head of the Center for International Cooperation	0	1	2	3	3	4
7	The share of teaching staff who speak English (Certificates of TOEFL – 525, IELTS – 5.5, NTC – 75, diploma of academic achievement, degrees in universities abroad) **	In total	%	Report of the Vice-Rector for Financial, Economic and Maintenance	Vice-Rector for Financial, Economic and Maintenance Work, Head of Rector’s Office, Heads of	14,48	14,8	15	15,5	16	17



NCJSC “Astana Medical University”	Page 59 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

			Work	Chairs						
	Under the age of 45	%	Report of the Vice-Rector for Financial, Economic and Maintenance Work	Vice-Rector for Financial, Economic and Maintenance Work, Head of Rector’s Office, Heads of Chairs	21,26	21,5	22	23	24	25
Priority direction 1.4 «Improving the system of support for academic and personal growth of students»										
1	The share of students participating in the volunteer movement	%	Report of the Vice-Rector for Academic Work	Vice-Rector for Academic Work, Head of the Youth and Sports Center	3,2	3,5	4	4,5	5	5,5
2	The share of students who are prize-winners of international Olympiads, winners of international conferences, contests, competitions (scientific, practical, educational areas)	%	Report of the Vice-Rector	Vice-Rector for Scientific Work and Strategic Development, AP, Head of the Research Activity Development Center, Head of the Youth and Sport Center, Heads of Chairs	0,8	0,9	1	1,2	1,4	1,7
3	The number of functioning interuniversity student discussion platforms	Units	Report of the Vice-Rector for Academic Work	Vice-Rector for Academic Work, Deans of Schools, Heads of Chairs	1	3	5	7	9	12

Strategic direction 2 «Transformation into a research university and its development as a leading center for the translation of new knowledge and innovations into healthcare practice and policy

№	Name of the target indicator	Unit of	Source of information	Responsible people	Fact of	Plan (years)				
						2022	2023	2024	2025	2026



		mea sure men t			2021						
1	2	3	4	5	6	7	8	9	10	11	
Priority direction 2.1 «Development of the University’s human resources potential in the field of scientific and innovative activities (SRA)»											
1	The average Hirsch index of production personnel based on the Web of Science or Scopus database *** ³	-	Report of the Vice-Rector for Scientific Work and Strategic Development	Vice-Rector for Scientific Work and Strategic Development, Head of the Research Activity Development Center, Heads of Chairs, Directors of institutes	0,36	0,37	0,38	0,41	0,45	0,5	
2	The ratio of the number of articles published over the past five years in international rating journals indexed by Web of Science or Scopus to the number of full-time research and teaching staff ***	-	Report of the Vice-Rector for Scientific Work and Strategic Development	Vice-Rector for Scientific Work and Strategic Development, Head of the Research Activity Development Center, Heads of Chairs, Directors of institutes	1:6	1:5	1:4	1:3	1:2	1:1	
3	The share of teaching staff and researchers with high academic achievements based on Web of Science or Scopus ***	The Hirsch index is at least 3	%	Report of the Vice-Rector for Scientific Work and Strategic Development	Vice-Rector for Scientific Work and Strategic Development, Head of the Research Activity Development Center, Heads of Chairs, Directors of	1,5	2	2,5	3,5	5	8
		articles in Q1-Q2 journals (in the reporting year)	%			2,1	2,5	3	4	6	9

³ *** - Индикаторы Дорожной карты о реализации проекта «Развитие рынка биомедицинских исследований, в том числе проведение международных и многоцентровых исследований»



institutes										
Priority direction 2.2 «Formation of an effective infrastructure for SRA employees and students»										
1	The number of scientific units (institutes, research centers) in the structure of the University	Unit s	Report of the Vice-Rector for Scientific Work and Strategic Development	Vice-Rector for Scientific Work and Strategic Development, Head of the Research Activity Development Center	1	2	3	4	5	6
2	The number of successful startups/spin-off offices	Unit s	Report of the Vice-Rector for Scientific Work and Strategic Development	Vice-Rector for Scientific Work and Strategic Development, Head of the Research Activity Development Center, Directors of institutes		1	2	3	4	5
3	The number of protection documents received (international and national patents, copyright certificates) **** ⁴	Unit s	Report of the Vice-Rector for Scientific Work and Strategic Development	Vice-Rector for Scientific Work and Strategic Development, Head of the Research Activity Development Center, Heads of Chairs, Directors of institutes	72	82	95	107	129	131
Priority direction 2.3 «Improving the mechanisms of SRA management at the University»										
1	The share of income from scientific activities in the total budget of the University ***	%	Report of the Vice-Rector for Scientific Work and Strategic Development	Vice-Rector for Scientific Work and Strategic Development, Head of the Research Activity Development	2,6	3,1	3,3	3,5	3,8	4,5

⁴ **** - Scientific and Innovation Activity Rating Indicator (Ministry of Health of the Republic of Kazakhstan)



				Center						
2	The share of expenditures on scientific activities from the total budget (including intra-university grants for teaching staff and students)	%	Report of the Vice-Rector for Scientific Work and Strategic Development	Vice-Rector for Scientific Work and Strategic Development, Head of the Research Activity Development Center	0,22	1,2	1,7	2,7	3,8	6,0
3	The number of research and innovation projects, including international ones	Units	Report of the Vice-Rector for Scientific Work and Strategic Development	Vice-Rector for Scientific Work and Strategic Development, Head of the Research Activity Development Center, Directors of institutes, Heads of Chairs	9	12	16	20	23	27
Priority direction 2.4 «Creating an effective environment for involving students in science and supporting young scientists»										
1	The share of students who are members of student scientific circles at the chair	%	Report of the Vice-Rector for Scientific Work and Strategic Development	Vice-Rector for Scientific Work and Strategic Development, Head of the Research Activity Development Center, Deans of Schools, Heads of Chairs	15,3	16	17	18	19	20
2	The number of scientific and innovative projects of students	Units	Report of the Vice-Rector for Scientific Work and Strategic Development	Vice-Rector for Scientific Work and Strategic Development, Head of the Research Activity Development Center, Deans of Schools, Heads of	1	2	4	8	10	15



				Chairs						
3	The number of publications of students in the publications Web of Knowledge, Scopus	Units	Report of the Vice-Rector for Scientific Work and Strategic Development	Vice-Rector for Scientific Work and Strategic Development, Head of the Research Activity Development Center, Deans of Schools, Heads of Chairs	17	19	21	24	27	30
4	The share of doctoral graduates in the last three years who have received a PhD degree, as well as applied for a degree from the Committee for Quality Assurance in Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan	%	Report of the Vice-Rector for Scientific Work and Strategic Development	Vice-Rector for Scientific Work and Strategic Development, Head of the Research Activity Development Center, Dean of the Research School, Heads of Chairs	38,2	20 ⁵	30	40	50	60
Priority direction 2.5 «Strengthening cooperation on SRA issues with leading foreign and domestic universities, research institutes, research centers, enterprises of the medical and pharmaceutical industries»										
1	The number of leading international organizations for research and training in healthcare, in which the University has an institutional membership	Units	Report of the Vice-Rector for Scientific Work and Strategic Development	Vice-Rector for Scientific Work and Strategic Development, Head of the Research Activity Development Center, Directors of institutes, Head of the Center for International Cooperation	1	2	4	6	8	10
2	The number of joint research and innovation projects	Unit	Report of the	Vice-Rector for	5	6	8	10	12	14

⁵ The decrease in the indicator in 2022 is due to restrictive measures in 2020-2022 and, as a result, a decrease in the defenses provided in 2020, the lack of defenses in 2021



	with foreign partners	s	Vice-Rector for Scientific Work and Strategic Development	Scientific Work and Strategic Development, Head of the Research Activity Development Center, Directors of institutes, Head of the Center for International Cooperation						
3	The share of funds received from foreign grants for the implementation of research and innovation projects in the total budget	%	Report of the Vice-Rector for Scientific Work and Strategic Development	Vice-Rector for Scientific Work and Strategic Development, Head of the Research Activity Development Center, Directors of institutes	0,64	0,8	1	1,3	1,7	2,2
Priority direction 2.6 «Expanding the recognition of the University in the SRA at the national and international level»										
1	The University’s position in the QS ranking	QS Emerging Europe & Central Asia University Rankings	position	Report of the Vice-Rector for Scientific Work and Strategic Development, Academic Work	Vice-Rector for Scientific Work and Strategic Development, Academic Work, Head of the Research Activity Development Center, Head of the Centre for Accreditation and Ranking, Deans of Schools	251-300	201-250	151-200	101-150	700+ no < 700
		QS World University Rankings	position							
2	The University’s position in the industry ranking of scientific activity among medical universities	position	Report of the Vice-Rector for Scientific Work and Strategic	Vice-Rector for Scientific Work and Strategic Development, Head of the Research	5	4	4	3	2	1



			Development	Activity Development Center, Directors of institutes						
3	The number of international databases in which the scientific and practical journal “Astana medical journal” is indexed	Units	Report of the Vice-Rector for Scientific Work and Strategic Development	Vice-Rector for Scientific Work and Strategic Development, Head of the Research Activity Development Center, Directors of institutes	-	2	4	6	8	10

Strategic direction 3 «Development of the University as an integrated academic medical center functioning on the basis of the trinity of education, science and practice»

№	Name of the target indicator	Unit of measurement	Source of information	Responsible people	Fact of 2021	Plan (years)				
						2022	2023	2024	2025	2026
1	2	3	4	5	6	7	8	9	10	11

Priority direction 3.1 «Formation of the IAMC and strengthening of cooperation with medical organizations of the city of Nursultan and the region»

1	The share of teaching staff of clinical chairs working in the UNHS (having a contract with healthcare organizations as a clinical specialist) *	%	Report of the Vice-Rector for Clinical Work	Vice-Rector for Clinical Work, Head of the Clinical Work Development Center, Heads of Chairs	39	49	52	55	58	60
2	The number of clinical studies performed at the University’s clinical sites ***	Units	Report of the Vice-Rector for Clinical Work	Vice-Rectors for Clinical Work, for Scientific Work and	1	2	5	7	10	15



				Strategic Development, Heads of the Clinical Work Development Center, Department For Research And Innovative Activity, Heads of Chairs						
3	The number of implemented new methods of diagnosis, treatment, prevention and rehabilitation at the University’s clinical sites	Unit s	Report of the Vice-Rector for Clinical Work	Vice-Rector for Clinical Work, Head of the Clinical Work Development Center, Heads of Chairs	31	33	35	37	40	42
Priority direction 3.2 «Creation and development of the University Hospital (UH), University clinics and other scientific and practical bases»										
1	The number of the University’s own medical organizations (MO) (in the structure or as a subsidiary)	%	Report of the Vice-Rector for Clinical Work	Vice-Rector for Clinical Work, Head of the Clinical Work Development Center	1	1	2	2	3	3
2	The number of competence centers operating at the medical organizations of the University	Unit s	Report of the Vice-Rector for Clinical Work	Vice-Rector for Clinical Work, Head of the Clinical Work Development Center	-	1	2	3	10	15
Priority direction 3.3 «Creation and development of a simulation center and active development of simulation technologies»										
1	The share of clinical disciplines in which the final control is carried out using the resources of the Simulation Center (OSCE)	%	Report of the Vice-Rector for Clinical Work	Vice-Rector for Clinical Work, Head of the Clinical Work Development Center	15	15	30	45	60	75
2	The number of clinical scenarios in the arsenal of the Simulation Center	Unit s	Report of the Vice-Rector for Clinical Work	Vice-Rector for Clinical Work, Head of the Clinical Work Development Center	8	25	35	45	55	65
3	The number of people trained in master classes on the	Unit	Report of the	Vice-Rector for		30	50	70	100	120



NCJSC “Astana Medical University”	Page 67 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

principles of teamwork (communicative medical skills)	s	Vice-Rector for Clinical Work	Clinical Work, Head of the Clinical Work Development Center						
---	---	-------------------------------	---	--	--	--	--	--	--

Strategic direction 4 «Development of human resources and improvement of the University’s management and financing system»

№	Name of the target indicator	Unit of measurement	Source of information	Responsible people	Fact of 2021	Plan (years)					
						2022	2023	2024	2025	2026	
1	2	3	4	5	6	7	8	9	10	11	
Priority direction 4.1 «Development of the University’s human resources potential»											
1	Increase in average wages compared to 2021	for 1 rate for all categories of staff	%	Report of the Vice-Rector for Financial, Economic and Maintenance Work	Vice-Rector for Financial, Economic and Maintenance Work, Head of the Center for Planning and Economic Analysis	100	126	128 ^{#6}	132 [#]	136 [#]	140 [#]
		for 1 rate of teaching and research staff	%			100	132	135 [#]	139 [#]	144 [#]	148 [#]
2	The share of investments in employee motivation (all additional costs for employee motivation – bonuses, surcharges, training, material assistance) in the total volume of the WF	%	Report of the Vice-Rector for Financial, Economic and Maintenance Work	Vice-Rector for Financial, Economic and Maintenance Work, Heads of Rector’s Office, Department for Financial Activities and Infrastructure Development	20	20	20,5	21	21,5	22	

⁶ # - The planned average wage for 2023-2026 will be adjusted upwards, taking into account the expansion of the volume and sources of income



3	The level of academic degree holders rate of teaching staff and scientific staff	%	Report of the Vice-Rector for Financial, Economic and Maintenance Work	Vice-Rectors for Financial, Economic and Maintenance Work, for Scientific Work and Strategic Development, for Academic work, for Clinical Work, Head of Rector’s Office, Heads of Chairs, Directors of institutes	40,7	41	42	43	44	45
Priority direction 4.2 «Improving the University’s management system»										
1	The share of students’ satisfaction with the digitalization of the educational process	%	Report of the Vice-Rector for Financial, Economic and Maintenance Work	Vice-Rectors for Financial, Economic and Maintenance Work, for Academic Work, Director of the Department for Digitalization	50	60	70	80	90	
2	The level of students’ involvement in University management processes (representation in permanent collegial bodies)	%	Report of the Vice-Rector for Financial, Economic and Maintenance Work, for Academic Work	Vice-Rector for Financial, Economic and Maintenance Work, Head of Rector’s Office, Head of the Youth and Sports Center	50	55	60	65	70	
3	The share of AMP and heads of structural units trained in management (project management, strategic management, risk assessment and management, quality management systems, etc.)	%	Report of the Vice-Rector for Financial, Economic and Maintenance Work	Vice-Rector for Financial, Economic and Maintenance Work, Head of Rector’s Office	6,8	10	11	12	13	15



Priority direction 4.3 «Improving the University’s financing mechanisms»										
1	Return on sales (ROS)	%	Report of the Vice-Rector for Financial, Economic and Maintenance Work	Vice-Rector for Financial, Economic and Maintenance Work, Head of the Center for Planning and Economic Analysis	0,45	0,60	0,65	0,71	0,77	0,83
2	Return on assets (ROA)	%	Report of the Vice-Rector for Financial, Economic and Maintenance Work	Vice-Rector for Financial, Economic and Maintenance Work, Head of the Center for Planning and Economic Analysis	0,28	0,44	0,5	0,58	0,66	0,75
3	The amount of funds allocated for intra-university grants from the total expenditure of the Company	%	Report of the Vice-Rector for Financial, Economic and Maintenance Work	Vice-Rector for Financial, Economic and Maintenance Work, Head of the Center for Planning and Economic Analysis		0,14	0,50	1,03	1,50	1,86

Strategic direction 5 «Development of infrastructure and material and technical base of the University»

№	Name of the target indicator	Unit of measurement	Source of information	Responsible people	Fact of 2021	Plan (years)				
						2022	2023	2024	2025	2026
1	2	3	4	5	6	7	8	9	10	11
Priority direction 5.1 «Creation of a new university with a modern base for educational, scientific and clinical activities, social infrastructure»										
1	Decrease in the share of non-core assets (buildings and structures) of the Company	%	Report of the Vice-Rector for Financial,	Vice-Rectors for Financial, Economic and Maintenance Work,	27,3	18,2	9	0	0	0



			Economic and Maintenance Work	for Academic Work, Director of the Infrastructure and Entrepreneurship Development Department						
2	The number of students provided with a dormitory (the number of beds)	Number	Report of the Vice-Rector for Financial, Economic and Maintenance Work	Vice-Rectors for Financial, Economic and Maintenance Work, for Academic Work, Director of the Infrastructure and Entrepreneurship Development Department	1427	1727	2027	2327	3827	4127
3	Expanding access to modern educational and scientific laboratory complexes of third-party organizations	Units	Report of the Vice-Rector for Financial, Economic and Maintenance Work	Vice-Rectors for Financial, Economic and Maintenance Work, Scientific Work and Strategic Development, Director of the Infrastructure and Entrepreneurship Development Department , Head of the Research Activity Development Center		1	2	3	4	5



SECTION 6. RESOURCES

The following financial resources (thousand tenge) will be allocated for the implementation of the development program:

Resources	Fact of 2021	Plan (years) *				
		2022	2023	2024	2025	2026
2	4	5	6	7	8	9
006 “Training of specialists with higher and postgraduate education and providing social support to students” (grant/students)	3 208 470	3 676 086	3 995 038	4 310 335	4 601 273	4 895 255
006 “Training of specialists with higher and postgraduate education and providing social support to students” (grant/military)	26 623	26 623	26 623	26 623	26 623	26 623
006 “Training of specialists with higher and postgraduate education and providing social support to students” (continued / scientific staff)	571 382	803 422	924 728	1 044 367	1 080 720	1 120 520
057 “Training of specialists with higher and postgraduate education and providing social support to students” (residents) – Akimat’s grant	346 858	372 669	195 468	50 594	-	-
057 “Training of specialists with higher and postgraduate education and providing social support to students” (bachelor’s degree) – Akimat’s grant	28 793	21 216	21 216	20 850	18 541	10 318
204 “Provision of personnel with higher and postgraduate education” – Ministry of Education and Science of the Republic of Kazakhstan	9 007	10 275	950	-	-	-
013 “Applied scientific research in healthcare”	15 690	19 377	-	-	-	-
217 “Development of Science” of the Ministry of Education and Science of the Republic of Kazakhstan	18 146	21 524	20 947	-	-	-
Paid services	3 329 818	4 294 427	4 586 835	4 951 893	5 298 456	5 622 861
Other income	195 670	165 536	156 986	157 643	158 347	159 100
In total	7 750 457	9 411 155	9 928 788	10 562 305	11 183 958	11 834 677

* The amount of financing for the development program will be specified when approving the University’s development plan (state register) for the relevant financial years in accordance with the legislation of the Republic of Kazakhstan and based on the possibilities of the University’s revenue side.



Appendix 1 – Methodology for calculating the indicators of the AMU Development Strategy for 2022-2026

№	Indicator	Unit of measurement	Indicator calculation algorithm	Inclusion criteria	Exclusion criteria	Confirming document
Strategic direction 1. Training of competitive and professionally competent healthcare professionals in demanded specialties and specializations						
Priority direction 1.1. Creating an effective educational environment						
1	The share of bachelor's graduates who successfully passed the independent examination the first time	%	$\frac{\text{[Number of bachelor's degree graduates who successfully passed the independent examination for the first time in the reporting period]}}{\text{[Total number of bachelor's degree graduates admitted to the independent examination in the reporting period]}} \times 100$	Bachelors admitted to the independent examination (including citizens of the Republic of Kazakhstan and non-citizens of the Republic of Kazakhstan studying within the framework of the local, republican budget, on a fee basis); A bachelor who has successfully passed an independent examination is an intern who has scored 60 or more points out of 100 according to the results of an independent examination	Bachelors who are not admitted to the independent examination (including on academic leave, expelled, etc.)	<ol style="list-style-type: none"> 1. Explanatory note signed by the supervising Vice-rector; 2. Summary protocol of the results of the final certification signed by the chairman of the National Center for Independent Examination and others; 3. Official order on admission to the final state certification. 4. Copies of the orders on graduation.
2	The share of internship graduates who successfully passed the independent examination the first time	%	$\frac{\text{[Number of internship graduates who successfully passed the independent examination the first time in the reporting period]}}{\text{[Total number of internship graduates admitted to the independent examination in the reporting period]}} \times 100$	Interns admitted to the independent examination (including citizens of the Republic of Kazakhstan and non-citizens of the Republic of Kazakhstan studying within the framework of the local, republican budget, on a fee basis); An intern who has successfully passed an independent examination is an intern who has scored 60 or more points out of 100 according to the results of an independent examination	Interns who are not admitted to the independent examination (including on academic leave, expelled, etc.)	<ol style="list-style-type: none"> 1. Explanatory note signed by the supervising Vice-rector; 2. Summary protocol of the results of the final certification signed by the Chairman of the National Center for Independent Examination, etc.; 3. Official order on admission to the final state certification. 4. Copies of the orders on graduation.
3	The share of residency graduates who successfully passed the independent examination the first time	%	$\frac{\text{[Number of residency graduates who successfully passed the independent examination the first time in the reporting period]}}{\text{[Total number of residency graduates admitted to the independent examination in the reporting period]}} \times 100$	Resident graduates admitted to the independent examination (including citizens of the Republic of Kazakhstan and non-citizens of the Republic of Kazakhstan studying within the framework of the local, republican budget, on a fee basis);	Residents who are not admitted to the independent examination (including on academic leave, expelled, etc.)	<ol style="list-style-type: none"> 1. Explanatory note signed by the supervising Vice-rector; 2. Summary protocol of the results of the final certification signed by the Chairman of the National Center for Independent Examination, etc.; 3. Official order on admission to the final state certification;



NCJSC “Astana Medical University”	Page 73 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

			independent examination in the reporting period]×100	A resident who has successfully passed an independent examination is a resident who has scored 60 or more points out of 100 according to the results of an independent examination		4. Copies of the orders on graduation.
4	The share of University graduates who studied under the state educational order, were employed or enrolled in the next level of education in the first year after graduation	%	[Number of graduates of bachelor’s degree, internship, residency, master’s degree, doctoral degree programs in the reporting year, employed in healthcare and medical education organizations or enrolled in the next level of study in the reporting year] / [Total number of graduates of bachelor’s degree, internship, residency, master’s degree, doctoral degree programs in the reporting year]×100	Graduates are persons admitted to the final exam for bachelor's, master's, integrated medical education, doctoral, residency programs in the reporting year, who are citizens of the Republic of Kazakhstan, who studied under the state order	Graduates who are not citizens of the Republic of Kazakhstan; Graduates who are released (decree), Pregnant women, persons who have, as well as independently raising a child (children) under the age of three; Graduates who did not study by state order	<ol style="list-style-type: none"> 1) Explanatory note signed by the supervising vice-rector; 2) Employed graduates – a personalized list of employed graduates under the state grant in the reporting year, signed by the supervising vice-rector; Certificates from the place of work/employment contracts; 3) Those who entered the next level of education – a personalized list according to the state grant, graduates of the programs who entered the next level of education in the reporting year, signed by the supervising vice-rector; Orders for enrollment to the next level of education. Certificates from the place of study; 4) Graduates who are not citizens of the Republic of Kazakhstan – a personalized list of state grants signed by the supervising vice-rector. 5) Graduates released (leave) – a personalized list of state grants signed by the supervising vice-rector; Birth certificates of the child/Medical consultative board's certificate of pregnancy. Conscription orders. 6) Graduates who did not study by state order/on a paid basis – a personalized list signed by the supervising vice-rector. 7) Minutes of the Commission of the Ministry of Health of the Republic of Kazakhstan on the personal distribution of graduates/young specialists. 8) Graduation orders indicating the form of study; 9) A report on the employment of graduates signed by the supervising vice-rector.

Priority direction 1.2. Expanding the range of educational programs, taking into account the needs of the industry and related industries



1	The number of educational programs implemented in the context of each level of education (with the presence of a contingent of students)	technical and professional	Units	[Number of implemented educational programs of technical and vocational education in the reporting year]	Educational programs of technical and vocational education implemented at the end of the reporting period	Educational programs of technical and vocational education that are not being implemented at the end of the reporting period (only being developed)	1. Explanatory note signed by the supervising vice-rector; 2. List of implemented educational programs of technical and vocational education, signed by the supervising vice-rector; 3. Approved educational program of technical and vocational education.
		applied bachelor's degree	Units	[Number of implemented educational programs of applied bachelor's degree in the reporting year]	Applied bachelor's degree educational programs implemented at the end of the reporting period	Educational programs of applied bachelor's degree that are not being implemented at the end of the reporting period (only being developed)	1. Explanatory note signed by the supervising vice-rector; 2. List of implemented educational programs of the applied bachelor's degree signed by the supervising vice-rector; 3. Approved educational program of the applied Bachelor's degree.
		Academic bachelor's degree + continuous integrated medical education (CIME)	Units	[Number of implemented academic bachelor's degree + CIME educational programs in the reporting year]	Academic bachelor's and CIME educational programs implemented at the end of the reporting period	Academic bachelor's and higher education programs that are not being implemented at the end of the reporting period (only being developed)	1. Explanatory note signed by the supervising vice-rector; 2. List of implemented academic bachelor's degree / CIME educational programs under the signature of the supervising vice-rector; 3. Approved academic bachelor's / CIME educational program.
		master's	Units	[Number of master's degree programs implemented in the reporting year]	Master's degree programs implemented at the end of the reporting period	Master's degree programs that are not being implemented at the end of the reporting period (only being developed)	1. Explanatory note signed by the supervising Vice-rector; 2. List of implemented master's degree programs signed by the supervising vice-rector; 3. Approved master's degree program.
		doctoral	Units	[Number of educational doctoral programs implemented in the reporting year]	Educational doctoral programs implemented at the end of the reporting period	Educational doctoral programs that are not being implemented at the end of the reporting period (only being developed)	1. Explanatory note signed by the supervising Vice-rector; 2. List of implemented doctoral educational programs signed by the supervising vice-rector; 3. Approved educational program of doctoral studies.
		residency	Units	[Number of implemented educational residency programs in the reporting year]	Educational residency programs implemented at the end of the reporting period	Educational residency programs that are not being implemented at the end of the reporting period (only being developed)	1. Explanatory note signed by the supervising Vice-rector; 2. List of implemented educational residency programs signed by the supervising vice-rector; 3. Approved educational residency program.



		Additional education (courses with certificates)	Units	[Number of implemented educational programs of certification courses in the reporting year]	Educational programs of certification courses implemented at the end of the reporting period	Educational programs of certification courses that are not being implemented at the end of the reporting period (only being developed)	1. Explanatory note signed by the supervising vice-rector; 2. List of implemented educational programs of certification courses signed by the supervising vice-rector; 3. Approved educational program of certification courses.
2		Number of joint educational programs developed by the University with the participation of universities and research institutes, RK RCs	Units	[Number of joint educational programs developed by the University with the participation of universities and research institutes, RK RCs in the reporting year]	Joint educational programs developed and included in the register of educational programs at the end of the reporting period with universities and research institutes, RK RCs (with or without a double diploma). Educational programs implemented within the framework of a consortium, contract, agreement with another university, research institute, RCs	Joint educational programs with universities and research institutes not included in the register of educational programs, RK RCs	1. Explanatory note signed by the supervising vice-rector; 2. List of joint educational programs developed by the University with the participation of universities and research institutes, RK RCs, signed by the supervising vice-rector; 3. The approved educational program, copies of the agreement/memorandum on the joint educational program according to the list.
3		Number of educational programs of additional education included in the catalog of educational programs	Units	[Number of educational programs of additional education included in the catalog of educational programs in the reporting year]	Educational programs of additional education included in the catalog of educational programs (with the publication of this information on an online resource)	Additional education programs not included in the catalog of educational programs (submitted and pending applications for inclusion)	1. Explanatory note signed by the supervising Vice-rector; 2. List of educational programs of additional education included in the catalog of educational programs, signed by the supervising vice-rector; 3. The approved educational program, a link to the catalog of educational programs according to the list.
4		Number of students enrolled in additional and non-formal education on a contractual basis and within the framework of a state order	People	[Number of students enrolled in additional and non-formal education on a contractual basis and within the framework of a state order in the reporting year]	Persons who have a certificate/reference of completion of training in the framework of additional and non-formal education on a contractual basis and within the framework of a state order in the reporting year	Persons who have completed training in the framework of additional and non-formal education on a contractual basis, but have not received a certificate/reference	1. Explanatory note signed by the supervising Vice-rector; 2. Certificate of the contingent of persons who have been trained in the framework of additional and non-formal education, signed by the supervising vice-rector.
Priority direction 1.3 «Expanding the internationalization of educational programs»							
1		The share of students studying entirely in English	%	[Number of students (bachelor’s students, interns, master’s students, doctoral	Students studying in English – when 100% of the subjects are taught in English	Students on academic leave Students enrolled in	1) Explanatory note signed by the supervising vice-rector; 2) List of students in English as of the end of the



			students, residents) studying in English* as of the end of the reporting calendar year] / [Total number of students (bachelor's students, interns, master's students, doctoral students, residents) at the University as of the end of the reporting calendar year] × 100		trilingual programs	reporting calendar year, signed by the supervising vice-rector; 3) Copies of orders / official instructions indicating the language of training according to the list; 4) A certificate on the total number of students at the levels of training of specialists signed by the supervising vice-rector.
2	The share of international students in the total number of students enrolled in bachelor's degree programs	%	[Number of international students enrolled in bachelor's degree programs in the reporting calendar year] / [Total number of students enrolled in bachelor's degree programs in the reporting calendar year] × 100	International students – students enrolled in bachelor's degree programs, continuing medical education, who are not citizens of Kazakhstan. The total number of students – students enrolled in bachelor's degree programs, all forms of education (grant/state order and paid tuition), including citizens of the Republic of Kazakhstan and non-citizens of the Republic of Kazakhstan	Students on academic leave; students enrolled in master's, doctoral, residency programs; students enrolled in internship programs (before the introduction of continuing medical education programs)	1. Explanatory note signed by the supervising vice-rector; 2. The contingent of international students enrolled in bachelor's degree programs in the reporting calendar year, signed by the supervising vice-rector; 3. A list of international students enrolled in bachelor's degree programs in the reporting calendar year, indicating the specialty signed by the supervising vice-rector; 4. Copies of orders on enrollment, transfer from course to course, graduation, and expulsion of foreign students enrolled in bachelor's degree programs, according to the list.
3	The share of students participating in outgoing academic mobility programs	%	[Number of students (bachelor's students, interns, master's students, doctoral students, residents) traveling to academic mobility programs to other universities in the academic year] / [Number of students (students, interns, undergraduates, doctoral students, residents) as of the end of the academic year] × 100	Students of a medical university who have left under the academic mobility program to study at another university during the academic period for a period of at least 1 week, including remotely	Conducting educational events (master classes or seminars) is not considered as academic mobility outside the framework of the educational program implemented at the university	1. Explanatory note signed by the supervising vice-rector; 2. List of students (bachelor's students, interns, master's students, doctoral students, residents) who study under academic mobility programs at other universities in the academic year, according to the results of which the rating is summed up, signed by the supervising vice-rector; 3. Copies of orders according to the list; 4. A certificate on the total number of students according to the levels of training of specialists signed by the supervising vice-rector (as of the end of the academic year, according to the results of which the rating is summed up).
4	The share of invited foreign teachers in the total number	%	[Number of invited foreign teachers working at the	Invited foreign teachers – teachers invited to the university from abroad,	When calculating, foreign teachers, visiting	1. Explanatory note signed by the supervising vice-rector;



	of teaching staff		University and visiting professors in the reporting calendar year] / [The number of full-time faculty of the University in the reporting calendar year] × 100	working at the University as full-time teaching staff or under a civil law contract, during the academic period (semester) or the full course/cycle of the discipline, including remotely	professors and teachers invited to short-term educational events (seminars, trainings for teaching staff or reading individual lectures for students not in the scope of the full course / cycle of the discipline) are not taken into account	2. List of invited foreign teachers signed by the supervising Vice-rector; 3. Copies of civil law contracts/orders by invitation according to the list; 4. A certificate from the HR department on the number of full-time staff in the reporting calendar year.	
5	The share of teaching staff participating in outgoing academic mobility programs	%	[[Number of teaching staff traveling to academic mobility programs at other universities or participating in academic mobility programs online in the academic year] / [Total number of teaching staff as of the end of the academic year]=100	Participation of full-time University staff in the academic mobility program (as a teacher teaching one of the disciplines in the training program) in other educational institutions for at least 1 week, including remotely	Conducting educational events (master classes or seminars) is not considered as academic mobility outside the framework of one of the educational programs implemented at the University	1. Explanatory note signed by the supervising vice-rector; 2. A list of faculty members traveling to academic mobility programs at other universities or participating in academic mobility programs online in the academic year, signed by the supervising vice-rector; 3. Copies of orders according to the list; 4. A certificate from the HR department on the number of full-time teaching staff at the end of the academic year.	
6	Number joint educational programs developed with the participation of foreign universities	with a double degree	Units	[Number of joint educational programs developed by the University at the end of the reporting period with a foreign university with the issuance of a double diploma]	Joint educational programs developed and included in the register of educational programs at the end of the reporting period, which provide for the issuance of a double diploma (diploma of a university of the Republic of Kazakhstan and a foreign university)	Joint educational programs not included in the register of educational programs at the end of the reporting period (only being developed) Joint educational programs developed at the end of the reporting period without issuing a double diploma	1. Explanatory note signed by the supervising vice-rector; 2. List of joint educational programs with a foreign university with the issuance of a double diploma, signed by the supervising vice-rector; 3. The approved educational program, copies of the agreement/memorandum on the joint educational program according to the list.
		without a double degree	Units	[Number of joint educational programs developed by the University at the end of the reporting period with a foreign university without issuing a double diploma]	Joint educational programs developed and included in the register of educational programs at the end of the reporting period without issuing a double diploma – within the framework of which	Joint educational programs not included in the register of educational programs at the end of the reporting period (only being	1. Explanatory note signed by the supervising vice-rector; 2. List of joint educational programs with a foreign university without issuing a double diploma, signed by the supervising vice-rector; 3. The approved educational program, copies of the



					training is carried out with the direct participation of a foreign university	developed) Joint educational programs developed at the end of the reporting period with the issuance of a double diploma	agreement/memorandum on the joint educational program according to the list.
7	The share of teaching staff who speak English <i>(Certificates of TOEFL – 525, IELTS – 5.5, NTC – 75, diploma of academic achievement, degrees in universities abroad)</i>	In total	%	[The number of teaching staff of a medical school (research and scientific-pedagogical staff of a research institutes, RCs) with a TOEFL certificate is not less than 525, IELTS is not less than 5.5, the National Testing Center is not less than 75 points, or a diploma of obtaining an academic degree from a university abroad] / [Total number of full-time teaching staff of a medical school (full-time scientific-research and scientific and pedagogical staff of the Research Institutes, RCs) in the reporting calendar year] × 100	All individuals from among the full-time teaching staff working in the organization at 0.25 positions or more, as well as teaching staff with whom civil law contracts have been concluded for a period of more than 6 months. Persons (from among these categories) who have a valid TOEFL, IELTS or National Testing Center: certificate of English proficiency at a level not lower than TOEFL – 525, IELTS – 5.5, National Testing Center 60; persons from among the teaching staff who previously received a TOEFL and IELTS certificate with a grade level not lower than 525 and 5.5 accordingly, but currently the certificate has expired, provided that they teach in English; persons from among the teaching staff who have a diploma of obtaining an academic degree from a university abroad, persons with a diploma of higher education in the specialty “foreign language”	When calculating scientific and pedagogical personnel, the AMP, clinical staff, maintenance and support staff are not taken into account. When counting people who speak English, certificates/references of completion of training courses are not taken into account.	1. Explanatory note signed by the supervising vice-rector; 2. List of teaching staff who speak English, signed by the supervising vice-rector; 3. Copies of IELTS, TOEFL certificates according to the list; 4. Copies of diplomas on obtaining an academic degree in universities abroad according to the list; 5. The examination sheet of the NTC on English signed by the director of the NTC, according to the list; 6. A certificate from the HR department on the number of full-time staff in the reporting calendar year.
		Under the age of 45	%	[Number of teaching staff of the medical school (research and scientific-pedagogical staff of the Research Institutes, RCs) up to 45 years old, who have a TOEFL	The same inclusion criteria as for "In total", but only for persons under the age of 45 (including 45 years)	The same exclusion criteria as for "In total" + Persons aged 46 and more	1. Explanatory note signed by the supervising Vice-rector; 2. List of teaching staff who speak English, signed by the supervising vice-rector; 3. Copies of IELTS, TOEFL certificates according to the list;



			certificate – not less than 525, IELTS – not less than 5.5, the National Testing Center – not less than 75 points, or a diploma of obtaining an academic degree from a university abroad] / [Total number of full-time teaching staff of the medical school (full-time research and teaching staff of the Research Institutes, RCs) under the age of 45 in the reporting calendar year] × 100			4. Copies of diplomas on obtaining an academic degree in universities abroad according to the list; 5. The examination sheet of the NTC in English signed by the director of the NTC, according to the list; 6. A certificate from the HR department on the number of full-time staff in the reporting calendar year.
Priority direction 1.4 «Improving the system of support for academic and personal growth of students»						
1	The share of students participating in the volunteer movement	%	[Number of students participating in the volunteer movement in the reporting calendar year] / [Total number of students (bachelor’s students, interns, master’s students, doctoral students, residents) at the University as of the end of the reporting calendar year] × 100	Students participating in the volunteer movement	Students on academic leave.	1) Explanatory note signed by the supervising vice-rector; 2) List of students participating in the volunteer movement, signed by the supervising vice-rector; 3) Copies of orders / certificates / references according to the list; 4) A certificate on the total number of students at the levels of training of specialists signed by the supervising vice-rector.
2	The share of students who are prize-winners of international Olympiads, winners of international conferences, contests, competitions (scientific, practical, educational areas)	%	[Number of students who are prize-winners of international Olympiads, winners of international conferences, contests, competitions, contests (scientific, practical, educational) in the reporting calendar year] / [Total number of students (bachelor’s students, interns, master’s students, doctoral students, residents) at the University as of the end of the reporting calendar year] × 100	Students who are winners of the 1st, 2nd, 3rd places of international Olympiads, winners of international conferences, contests, competitions (scientific, practical, educational directions)	Students who have received certificates of participation in international Olympiads, international conferences, contests, competitions (scientific, practical, educational areas)	1) Explanatory note signed by the supervising vice-rector; 2) List of students who are winners of 1st, 2nd, 3rd places of international Olympiads, winners of international conferences, contests, competitions, signed by the supervising vice-rector; 3) Copies of diplomas according to the list; 4) A certificate on the total number of students at the levels of training of specialists signed by the supervising vice-rector.



NCJSC “Astana Medical University”	Page 80 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

3	The number of functioning interuniversity student discussion platforms	Units	[The number of functioning interuniversity student discussion platforms in the reporting year]	Constantly (or on a regular basis) operating discussion platforms, clubs, online platforms with the involvement of students from several universities	One-time events. Student discussion platforms with the participation of only AMU students	1) Explanatory note signed by the supervising vice-rector; 2) List of functioning interuniversity student discussion platforms, signed by the supervising vice-rector
Strategic direction 2 «Transformation into a research university and its development as a leading center for the translation of new knowledge and innovations into healthcare practice and policy						
Priority direction 2.1 «Development of the University’s human resources potential in the field of scientific and innovative activities (SRA)»						
1	The average Hirsch index of production personnel based on the Web of Science or Scopus database *** ⁷	-	[Sum of the Hirsch indices for the Web of Science or Scopus databases of research and teaching staff in the reporting calendar year] / [Total number of research and teaching staff in the reporting calendar year]	All categories of research and teaching staff If a scientist has a Hirsch index for both databases (both Web of Science and Scopus), then only one value of the Hirsch index is taken into account for the database in which it has the maximum value	AMP, maintenance and support staff (laboratory assistants, etc.) Clinical staff	1. Explanatory note signed by the supervising Vice-rector; 2. A list of teaching staff with the Hirsch index for Web of Science or Scopus databases in the reporting calendar year, signed by the supervising vice-rector and the head of the HR department; 3. Screenshots of the Hirsch indexes on the Web of Science or Scopus databases in the reporting calendar year, according to the list; 4. A certificate from the HR department on the number of full-time staff in the reporting calendar year.
2	The ratio of the number of articles published over the past five years in international rating journals indexed by Web of Science or Scopus to the number of full-time research and teaching staff ***	-	1: [[Number of full-time research and teaching staff of the University as of the end of the reporting period] / [Number of articles in journals indexed in the Scopus and Web of Science databases over the past 5 years, in which the authors are research and teaching staff affiliated with the University]]	Scientific and pedagogical staff – all full-time specialists with higher education, holding positions in scientific departments and teaching staff positions, working in the organization for 0.25 position or more, as well as teaching and scientific staff with whom civil law contracts have been concluded for a period of more than 6 months. Articles – original scientific or review articles published over the past 5 years, including the reporting year in journals indexed in the Scopus and Web of Science databases. Only articles published by researchers and teachers are taken	When calculating the number of scientific and teaching staff, maintenance and support staff (laboratory assistants, etc.) are not taken into account. When calculating articles, publications in the format of a short message, letter, thesis, correspondence, as well as articles in journals not indexed in Scopus and Web of Science are not taken into account. Articles published by	1. Explanatory note signed by the supervising Vice-rector; 2. List of publications (articles) in journals indexed in the Scopus and Web of Science databases over the past 5 years signed by the supervising vice-rector; 3. Screenshots of publications (articles) in journals indexed in the Scopus and Web of Science databases over the past 5 years according to the list. 4. A certificate from the HR department about the full-time research and teaching staff at the end of the reporting period.

⁷ *** - Indicators of the Roadmap for the implementation of the project “Development of the biomedical research market, including the conduct of international and multicenter research”



				into account. The article must indicate the affiliation of the employee with the AMU	employees from among the AMP and clinical staff are not taken into account (except in cases when they combine scientific or teaching positions at 0.25 positions and above)		
3	The share of teaching staff and researchers with high academic achievements based on Web of Science or Scopus ***	The Hirsch index is at least 3	%	[Number of teaching staff and researchers with The Hirsch index is at least 3] / [Total number of full-time teaching staff and researchers at the end of the reporting calendar year] × 100	Full-time teaching staff and researchers with The Hirsch index is at least 3 on the Web of Science or Scopus database	Teaching staff and researchers who do not have a Hirsch index of at least 3 according to the Web of Science or Scopus database. Teaching staff and researchers who are not full-time employees of the AMU	1. Explanatory note signed by the supervising Vice-rector; 2. List of teaching staff and researchers with The Hirsch index is at least 3, signed by the supervising vice-rector; 3. Screenshots of personal pages (profiles) indicating the value of the Hirsch index
		articles in Q1-Q2 journals (in the reporting year)	%	[Number of teaching staff and researchers with articles in Q1-Q2 journals (in the reporting year)] / [Total number of full-time teaching staff and researchers at the end of the reporting calendar year] × 100	Full-time teaching staff and researchers with articles in Q1-Q2 journals (in the reporting year), which indicate affiliation with the AMU	Full-time teaching staff and researchers with articles in Q1-Q2 journals (in the reporting year), which do not indicate affiliation with the AMU. Teaching staff and researchers who are not full-time employees of the AMU	1. Explanatory note signed by the supervising Vice-rector; 2. List of teaching staff and researchers with articles in Q1-Q2 journals (in the reporting year), signed by the supervising vice-rector; 3. Copies of articles in Q1-Q2 journals 4. Screenshot of the pages of official resources containing information about the quartile of the magazine
Priority direction 2.2 «Formation of an effective infrastructure for SRA employees and students»							
1	The number of scientific units (institutes, research centers) in the structure of the University	Units		[Number of scientific units (institutes, research centers) in the structure of the University at the end of the reporting year]	University units with the status of an institute or research center	Units of the University that do not have the status of an institute or scientific center	1. Explanatory note signed by the supervising Vice-rector; 2. List of scientific units (institutes, research centers) in the structure of the University, signed by the supervising vice-rector; 3. Copies of the University structure
2	The number of successful startups/spin-off offices	Units		[Number of successful startups/spin-off offices, functioning at the University	Startups / spin-off offices established at the University or with the participation of the University,	Startups / spin-off offices established at the University or with the	1. Explanatory note signed by the supervising Vice-rector; 2. List of startups / spin-off offices, signed by the



NCJSC “Astana Medical University”	Page 82 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

			in the reporting year]	functioning at the end of the reporting year	participation of the University, non-functioning at the end of the reporting year	supervising vice-rector; 3. Copies of supporting documents – orders
3	Number полученных охраняемых документов	Units	[Number of international and national patents and copyright certificates received in the reporting year]	International and national patents in which the patent holder is the AMU Author’s certificates obtained by AMU staff members	International and national patents in which the patent holder is not the AMU Author’s certificates obtained by non-staff employees of the AMU	1. Explanatory note signed by the supervising Vice-rector; 2. List of received international and national patents, copyright certificates signed by the supervising vice-rector; 3. Copies of received international and national patents, copyright certificates
Priority direction 2.3 «Improving the mechanisms of SRA management at the University»						
1	The share of income from scientific activities in the total budget of the University	%	[Amount of income from scientific activities in the reporting calendar year] / [Total budget of the University in the reporting calendar year (revenue part)] × 100	As the amount of income, the amount of funds that goes into the revenue part of the Development Plan is taken into account: for all sources and forms of financing activities related to scientific activity (basic, programme for developing higher education, grant financing, research financing from other external sources); from the commercialization of research results; from the implementation of master’s and doctoral degree programs	Intra-university grants for scientific research, expenses for scientific events from the organization’s own funds (trips and purchase of equipment, publications, etc.)	1. Explanatory note signed by the supervising Vice-rector; 2. A certificate on the total budget and the amount of income from scientific activities of the University in the reporting calendar year, signed by the supervising vice-rector. 3. Copies of contracts
2	The share of expenditures on scientific activities from the total budget (including intra-university grants for teaching staff and students)	%	[Amount of expenditure on scientific activities in the reporting calendar year] / [Total budget of the University in the reporting calendar year (expenditure part)] × 100	Amount of funds that goes into the expenditure part of the Development Plan for all sources and forms of financing activities related to scientific activities (Incentive payments for publications, payment of fees for obtaining security documents, intra-university grants, prize fund for annual student conferences, payment for trips to participate in international conferences, payment for internships in foreign centers or training with the	Amount of funds that goes into the revenue part of the Development Plan: for all sources and forms of financing activities related to scientific activity	1. Explanatory note signed by the supervising Vice-rector; 2. A certificate on the total budget and the amount of expenses from the scientific activities of the University in the reporting calendar year, signed by the supervising vice-rector.



NCJSC “Astana Medical University”	Page 83 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

				invitation of a visiting professor, payment for institutional and individual membership in international associations, costs for the support and promotion of the AMU journal)		
3	The number of research and innovation projects, including international ones	Units	[The number of research and innovation projects, including international ones, in the reporting year]	Research and innovation projects implemented at the end of the reporting year or completed in the reporting year, including international ones	Research and innovation programs and projects not implemented in the reporting year	1. Explanatory note signed by the supervising Vice-rector; 2. List of ongoing research and innovation projects; 3. Copies of contracts, implemented research and innovation projects.
Priority direction 2.4 «Creating an effective environment for involving students in science and supporting young scientists»						
1	The share of students who are members of student scientific circles at the chair	%	[Number of students who are members of student scientific circles at the chair in the reporting calendar year] / [Total number of students (bachelor’s students, interns, master’s students, doctoral students, residents) at the University as of the end of the reporting calendar year] × 100	Students who are members of student scientific circles at the chair	Students on academic leave	1) Explanatory note signed by the supervising vice-rector; 2) List of students who are members of student scientific circles at the chairs, signed by the supervising vice-rector; 3) A certificate on the total number of students at the levels of training of specialists signed by the supervising vice-rector.
2	The number of scientific and innovative projects of students	Units	[Number of implemented scientific and innovative projects of students in the reporting year]	Scientific and innovative projects of students implemented at the end of the reporting year or completed in the reporting year	Scientific and innovative projects of students in which students do not participate	1. Explanatory note signed by the supervising Vice-rector; 2. List of implemented scientific and innovative projects of students; 3. Copies of agreements/memoranda/orders regarding scientific and innovative projects of students
3	The number of publications of students in the publications Web of Knowledge, Scopus	Units	[Number of publications of students in the publications Web of Knowledge, Scopus]	Original scientific or review articles, short publications published in journals indexed in the Scopus and Web of Science databases. The publication must indicate the student’s affiliation with the AMU	Publications in journals not indexed in Scopus and Web of Science	1. Explanatory note signed by the supervising Vice-rector; 2. List of publications in journals indexed in the Scopus and Web of Science databases signed by the supervising vice-rector; 3. Screenshots/copies of publications in journals indexed in the Scopus and Web of Science databases according to the list.
4	The share of doctoral	%	[Number of doctoral	Doctoral graduates in the last four	Graduates of doctoral	1) Explanatory note signed by the supervising vice-



graduates in the last four years who have received a PhD degree, as well as applied for a degree at the Committee for Control in Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan		graduates in the last four years who have received a PhD degree, as well as applied for a degree at the Committee for Control in Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan] / [Total number of doctoral graduates in the last four years]×100	years (including the reporting year) who have passed the defense, but were late to apply for a degree in the Committee for Control in Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan as of the end of the reporting year	studies in the last four years (including the reporting year) who have passed the defense, but were late to apply for a degree in the Committee for Control in Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan as of the end of the reporting year	rector; 2) List of doctoral graduates over the past four years who have received a PhD degree, as well as submitted documents for a degree to the Committee for Control in Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan, signed by the supervising vice-rector; 3) Copies of the orders on graduation of doctoral students over the past four years; 4) Copies of the minutes of the dissertation council, a cover letter on sending documents for obtaining a degree to the Control in Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan according to the list; 5) Copies of PhD diplomas according to the list; 4) A certificate on the total number of doctoral graduates over the past four years signed by the supervising vice-rector.
---	--	--	--	---	--

Priority direction 2.5 «Strengthening cooperation on SRA issues with leading foreign and domestic universities, research institutes, research centers, enterprises of the medical and pharmaceutical industries»

1	The number of leading international organizations for research and training in healthcare, in which the University has an institutional membership	Ед	[Number of leading international organizations for research and training in healthcare, in which the University has an institutional membership]	International organizations for research and training in healthcare	International organizations whose main field of activity is not related to research and training in healthcare	1) Explanatory note signed by the supervising vice-rector; 2) List of leading international organizations for research and training in healthcare, in which the University has an institutional membership, signed by the supervising vice-rector; 3) Copies of certificates / references / screenshots from the pages of official websites of international organizations confirming membership
2	The number of joint research and innovation projects with foreign partners	Units	[Number of implemented joint research and innovation projects with foreign partners in the reporting year]	Joint research and innovation projects with foreign partners implemented at the end of the reporting year or completed in the reporting year	Research and innovation projects that do not involve joint research with foreign partners	1. Explanatory note signed by the supervising Vice-rector; 2. List of ongoing research and innovation projects; 3. Copies of agreements/memoranda of ongoing research and innovation projects.
3	The share of funds received from foreign grants for the implementation of research	%	[Amount of funds received from foreign grants for the implementation of research	As the amount of income, the amount of funds that goes into the revenue part of the Development	Amount of funds from foreign grants for the implementation of	1. Explanatory note signed by the supervising Vice-rector; 2. A certificate on the total budget and the amount



	and innovation projects in the total budget		and innovation projects in the reporting calendar year] / [Total budget of the University in the reporting calendar year (revenue)] × 100	Plan from foreign grants for the implementation of research and innovation projects is taken into account	research and innovation projects received by the University not in the reporting calendar year	of income from scientific activities of the University in the reporting calendar year, signed by the supervising vice-rector. 3. Copies of agreements/memoranda and other documents confirming the receipt of funds from foreign grants for the implementation of research and innovation projects
Priority direction 2.6 «Expanding the recognition of the University in the SRA at the national and international level»						
1	The University's position in the QS Emerging Europe & Central Asia University Rankings	position	[The University's position in the QS ranking Emerging Europe & Central Asia University Rankings as of the reporting year]	The results of the ranking assessment for the reporting calendar year	Assessment results for other years	1. Explanatory note signed by the supervising Vice-rector; 2. Certificates / screenshots from the official page of the ranking agency
	The University's position in the QS World University Rankings	position	[The University's position in the QS ranking World University Rankings as of the reporting year]	The results of the ranking assessment for the reporting calendar year	Assessment results for other years	1. Explanatory note signed by the supervising Vice-rector; 2. Certificates / screenshots from the official page of the ranking agency
2	The University's position in the industry ranking of scientific activity among medical universities	position	[The University's position in the industry ranking of scientific activity among medical universities as of the reporting year]	The results of the ranking assessment for the reporting calendar year	Assessment results for other years	1. Explanatory note signed by the supervising Vice-rector; 2. Screenshots from the official page of the organization conducting the ranking assessment / official letters, presentations with the results of the ranking assessment
3	The number of international databases in which the scientific and practical journal “Astana medical journal” is indexed	Units	[Number of international databases in which the scientific and practical journal “Astana medical journal” is indexed as of the reporting year]	International databases containing information about publications published in the journal “Astana medical journal”	International databases that do not include information about publications published in the journal “Astana medical journal”	1. Explanatory note signed by the supervising Vice-rector; 2. List of international databases in which the scientific and practical journal “Astana medical journal” is indexed, signed by the supervising vice-rector; 3. Screenshots from official websites of international databases
Strategic direction 3 «Development of the University as an integrated academic medical center functioning on the basis of the trinity of education, science and practice»						
Priority direction 3.1 «Formation of the IAMC and strengthening of cooperation with medical organizations of the city of Nursultan and the region»						
1	The share of teaching staff of clinical chairs working in the UNHS (having a contract with healthcare organizations as a clinical specialist)	%	[Number of teaching staff of clinical chairs working in the UNHS (having a contract with healthcare organizations as a clinical specialist)] / [General number of teaching	Persons from among the teaching staff of clinical chairs who have a contract with healthcare organizations as a clinical specialist (holding a medical position)	Persons from among the teaching staff of clinical chairs who do not have a contract with healthcare organizations as a clinical specialist (who	1. Explanatory note signed by the supervising vice-rector; 2. List of teaching staff of clinical chairs working in the UNHS (having a contract with healthcare organizations as a clinical specialist), signed by the supervising vice-rector;



			staff of clinical chairs]×100		do not hold a medical position)	3. Employment contracts/certificates from the place of work according to the list; 4. A certificate from the HR department about the staff of clinical departments.
2	Number клинических исследований, выполняемых на клинических базах университета	Units	[The number of clinical studies performed at the University’s clinical sites in the reporting year]	Clinical trials of medicines and medical devices, medical technologies (interventional and non-interventional), the conduct of which is approved in accordance with current legislation, implemented or completed in the reporting year, at the clinical bases of the University, in which employees participated as researchers	Scientific programs are programs of targeted financing and grants (since they are conducted on the basis of the conclusion of the State Scientific and Technical Expertise, and not approval in the format of a clinical trial. If one or more clinical trials are provided for within the framework of a targeted funding program or grant, a separate approval must be obtained for each of them.	1. Explanatory note signed by the supervising Vice-rector; 2. List of clinical studies performed at the University’s clinical sites, signed by the supervising vice-rector; 3. Copies of contracts/memoranda for conducting clinical trials
3	The number of implemented new methods of diagnosis, treatment, prevention and rehabilitation at the University’s clinical sites	Units	[Number of implemented new methods of diagnosis, treatment, prevention and rehabilitation at the University’s clinical sites in the reporting year]	New methods of diagnosis, treatment, prevention and rehabilitation implemented at the clinical bases of the University with a confirmed fact of implementation (the presence of an act of implementation)	Acts of introduction to new methods that are not related to the methods of diagnosis, treatment, prevention and rehabilitation	1. Explanatory note signed by the supervising Vice-rector; 2. A list of implemented new methods of diagnosis, treatment, prevention and rehabilitation, signed by the supervising vice-rector; 3. Copies of the implementation acts
Priority direction 3.2 «Creation and development of the University Hospital (UH), University clinics and other scientific and practical bases»						
1	The number of the University’s own medical organizations (MO) (in the structure or as a subsidiary)	%	[Number of the University’s own medical organizations (MO) (in the structure or as a subsidiary) as of the end of the reporting year]	Medical organizations of the University (in the structure or as a subsidiary)	Medical organizations used as clinical sites on the basis of a contract	1. Explanatory note signed by the supervising vice-rector; 2. List of medical organizations (MO) of the University (in the structure or as a subsidiary), signed by the supervising vice-rector; 3. Copies of the University structure
2	The number of competence centers operating at the medical organizations of the	Units	[Number of competence centers operating at the medical organizations of the	Competence centers operating in the medical organizations of the University	Competence centers operating in the medical organizations used as	1. Explanatory note signed by the supervising vice-rector; 2. List of competence centers, signed by the



	University		University as of the end of the reporting year]		clinical sites on the basis of a contract	supervising vice-rector; 3. Copies of orders on the establishment of competence centers	
Priority direction 3.3 «Creation and development of a simulation center and active development of simulation technologies»							
1	The share of clinical disciplines in which the final control is carried out using the resources of the Simulation Center (OSCE)	%	[Number of clinical disciplines for which the final control is carried out using the resources of the Simulation center (OSCE) in the reporting calendar year] / [Total number of clinical disciplines in the reporting calendar year] × 100	Clinical disciplines in which the final control is carried out using the resources of the Simulation center (OSCE)	Clinical disciplines in which the final control is not carried out using the resources of the Simulation center (OSCE)	1. Explanatory note signed by the supervising vice-rector; 2. List of clinical disciplines for which the final control is carried out using the resources of the Simulation center, signed by the supervising vice-rector. 3. Copies of working training programs	
2	The number of clinical scenarios in the arsenal of the Simulation Center	Units	[Number of clinical scenarios in the arsenal of the Simulation Center used in practice in the reporting year]	Clinical scenarios in the arsenal of the Simulation center, which were used in practice in the reporting year	Clinical scenarios in the arsenal of the Simulation center that were not used in practice in the reporting year	1. Explanatory note signed by the supervising Vice-rector; 2. List of clinical scenarios in the arsenal of the Simulation center, signed by the supervising vice-rector. 3. Copies of the document that approved the clinical scenarios	
3	The number of people trained in master classes on the principles of teamwork (communicative medical skills)	Units	[Number of people trained in master classes on the principles of teamwork (communicative medical skills) in the reporting year]	Full-time University staff trained in master classes on the principles of teamwork (communicative medical skills)	Persons trained in master classes on the principles of teamwork, who are not full-time employees of the University	1. Explanatory note signed by the supervising vice-rector; 2. List of those trained in master classes on the principles of teamwork (communicative medical skills), signed by the supervising vice-rector. 3. Copies of training orders	
Strategic direction 4 «Development of human resources and improvement of the University’s management and financing system»							
Priority direction 4.1 «Development of the University’s human resources potential»							
1	Increase in average wages compared to 2021	for 1 rate for all categories of staff	%	[Average salary for 1 position for all categories of staff in the reporting calendar year] / [Average salary for 1 position for all categories of staff in 2021] × 100	Average salary per 1 position for all categories of staff	Amount of remuneration to specialists involved in civil law contracts	1. Explanatory note signed by the supervising vice-rector; 2. Certificate of average salary for 1 position for all categories of staff signed by the supervising vice-rector
		for 1 rate of teaching and research staff	%	[Average salary for 1 position of teaching and research staff in the reporting calendar year] / [Average salary for 1 position of teaching and	Average salary for 1 rate of teaching and research staff	Amount of remuneration to specialists involved in civil law contracts	1. Explanatory note signed by the supervising Vice-rector; 2. Certificate of average salary for 1 position of teaching and research staff signed by the supervising vice-rector



				research staff in 2021]×100			
2	The share of investments in employee motivation (all additional costs for employee motivation – bonuses, surcharges, training, material assistance) in the total volume of the WF	%	[Volume of investments in employee motivation in the reporting calendar year] / [Total amount of the wage fund in the reporting calendar year]×100	Investments in employee motivation (all additional costs for employee motivation – bonuses, surcharges, training, financial assistance)	Investments in other items of expenditure that are not related to employee motivation		1. Explanatory note signed by the supervising vice-rector; 2. Amount of investment in employee motivation in the reporting calendar year – copies of orders; 3. Total amount of the wage fund in the reporting calendar year – certificate signed by the supervising vice-rector.
3	The level of academic degree holders rate of teaching staff and scientific staff	%	[Number of teaching staff with an academic degree / PhD or doctor degree by profile at the end of the reporting year] / [Total number of full-time teaching staff and scientific staff at the end of the reporting calendar year] × 100	Persons with an academic degree (Candidate of Sciences, Doctor of Sciences, Doctor of Philosophy (PhD), Doctor of profile), academic degree of Doctor of Philosophy (PhD), doctor of profile, degree of Doctor of Philosophy (PhD), doctor of profile	Lack of a diploma issued by the authorized body of the Republic of Kazakhstan in the field of certification of highly qualified scientific personnel or by a university with a special status		1. Explanatory note signed by the supervising vice-rector; 2. List of teaching staff and research staff with an academic degree / PhD degree or doctor's degree in the profile, signed by the supervising vice-rector; 3. Copies of diplomas for obtaining an academic degree, academic degree / PhD degree or a doctor's degree in the profile; 4. A certificate from the HR department on the number of full-time teaching staff and scientific staff in the reporting calendar year.
Priority direction 4.2 «Improving the University’s management system»							
1	The share of students’ satisfaction with the digitalization of the educational process	%	[Number of students (bachelor’s students, interns, master’s students, doctoral students, residents) who indicated satisfaction with the digitalization of the educational process] / [Total number of students (bachelor’s students, interns, master’s students, doctoral students, residents) who participated in the survey] × 100	Students who took part in a survey to assess student satisfaction with the digitalization of the educational process according to the approved methodology	Students who did not take part in the survey		1. Explanatory note signed by the supervising vice-rector; 2. Copy of the report on the assessment of student satisfaction with the digitalization of the educational process according to the approved methodology
2	The level of students’ involvement in University management processes (representation in permanent collegial bodies)	%	[Number of collegial bodies of the University, in which there is a representation of University students] / [Total number of collegial bodies at	Collegial bodies operating at the University at the end of the reporting year	Collegial bodies that are not functioning at the University at the end of the reporting year		1. Explanatory note signed by the supervising Vice-rector; 2. List of collegial bodies of the University, in which there is a representation of students, signed by the supervising vice-rector;



			the university] × 100			3. Copies of orders on the composition of collegial bodies
3	The share of AMP and heads of structural units trained in management (project management, strategic management, risk assessment and management, quality management systems, etc.)	%	[Number of AMP and heads of structural units trained in management (project management, strategic management, risk assessment and management, quality management systems, etc.) in the reporting year] / [Total number of AMP at the end of the reporting year] × 100	Full-time employees from among the AMP and heads of structural units, trained in management (project management, strategic management, risk assessment and management, quality management systems	Freelance university staff (part-time) trained in management	1. Explanatory note signed by the supervising vice-rector; 2. List of AMP and heads of structural units trained in management (project management, strategic management, risk assessment and management, quality management systems, etc.), signed by the supervising vice-rector; 3. Copies of certificates/ references of completion of training; 4. A certificate from the HR department on the number of AMP and heads of structural units in the reporting calendar year.

Priority direction 4.3 «Improving the University’s financing mechanisms»

1	Return on sales (ROS)	%	[Net profit] / [Revenue] * 100%	Net profit is revenue minus all expenses in general: administrative costs, cost of goods, salary, advertising, taxes, depreciation, interest on loans	Amount of funds related to expenses: administrative costs, cost of goods, salary, advertising, taxes, depreciation, interest on loans	1. Explanatory note signed by the supervising vice-rector; 2. Certificate of profit and revenue of the University in the reporting calendar year, signed by the supervising vice-rector.
2	Return on assets (ROA)	%	[Net profit] / [Total income amount]*100	Net profit is revenue minus all expenses in general: administrative costs, cost of goods, salary, advertising, taxes, depreciation, interest on loans	Amount of funds related to expenses: administrative costs, cost of goods, salary, advertising, taxes, depreciation, interest on loans	1. Explanatory note signed by the supervising Vice-rector; 2. Certificate of profit and revenue of the University in the reporting calendar year, signed by the supervising vice-rector.
3	The amount of funds allocated for intra-university grants from the total expenditure of the Company	%	[Amount of funds allocated for intra-university grants in the reporting calendar year] / [Total budget of the University in the reporting calendar year (expenditure part)] × 100	Amount of funds that goes into the expenditure part of the Development Plan for intra-university grants for students and employees	Amount of funds of the expenditure part of the University budget for other items of expenditure	1. Explanatory note signed by the supervising vice-rector; 2. Certificate on the total amount of funds allocated for intra-university grants, signed by the supervising vice-rector; 3. Copies of orders on the allocation of intra-university grants (based on the results of the competition).

Strategic direction 5 «Development of infrastructure and material and technical base of the University»

Priority direction 5.1 «Creation of a new university with a modern base for educational, scientific and clinical activities, social infrastructure»



NCJSC “Astana Medical University”	Page 90 of 90
Development strategy of NCJSC “Astana Medical University” for 2022-2026	

1	Decrease in the share of non-core assets (buildings and structures) of the Company	%	[Number of non-core buildings] / [Total number of buildings] *100%	Buildings on the balance sheet of the University	Buildings that are not on the balance sheet of the University	1. Explanatory note signed by the supervising vice-rector; 2. Certificate on the number of core and non-core assets (buildings and structures), signed by the supervising vice-rector.
2	The number of students provided with a dormitory (the number of beds)	Number	[Total number of beds]	Beds provided for University students	Beds provided for University staff	1. Explanatory note signed by the supervising vice-rector; 2. Certificate on the number of students provided with a dormitory, signed by the supervising vice-rector.
3	Expanding access to modern educational and scientific laboratory complexes of third-party organizations	Units	[Number of modern educational and scientific laboratory complexes of third-party organizations to which access is available in the reporting year]	Educational and scientific laboratory complexes of third-party organizations	Educational and scientific laboratory complexes of the University	1. Explanatory note signed by the supervising vice-rector; 2. Certificate of modern educational and scientific laboratory complexes of third-party organizations to which access is available, signed by the supervising vice-rector. 3. Copies of contracts and agreements.