



ОҢТҮСТІК-ҚАЗАҚСТАН <b>MEDISINA</b> <b>AKADEMIASY</b> «Оңтүстік Қазақстан медицина академиясы» АҚ	 <b>SKMA</b> -1979-	SOUTH KAZAKHSTAN <b>MEDICAL</b> <b>ACADEMY</b> АО «Южно-Казахстанская медицинская академия»
Scientific committee on «Medicine»		59-27a-2026
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**Approved**  
**Vice-Rector for Scientific**  
**and Strategic Development, c.m.s**  
**N.E. Aukenov**  
 “24” 2026 у.



**PROGRAM**  
**Of the entrance examination for the specialized Master’s degree program in the**  
**educational program 7M10101 "Medicine"**

**Shymkent, 2026**

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The entrance examination program has been developed based about the Minister of Health of the Republic of Kazakhstan dated July 4, 2022, No. KR DSM-63 "On approval of State compulsory education standards by levels of education in the field of healthcare" and the Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 31, 2018, No. 600 "On approval of Model rules for admission to education in educational organizations implementing educational programs of higher and postgraduate education.

The program of the entrance exam was discussed at a meeting of the Scientific Committee on «Medicine»

«08» 04 2026., protocol № 8

Chairman of the Scientific committee  
on «Medicine»



N.A. Zharkinbekova


Secretary of the Scientific committee  
on «Medicine»



K. Muratuly

Approved by the Scientific Council of JSC «SKMA»

Protocol № 4 from «24» april 2026.

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## Introduction

The goal of the entrance examination for the specialized Master's program under the educational track 7M10101 "Medicine" is to prepare competitive, competent scientific and pedagogical personnel possessing professional and scientific competencies, as well as the skills to implement practical and scientific activities to meet the needs of the science, education, and healthcare systems.

In the context of improving the healthcare system based on modern scientific achievements, it has become necessary to master knowledge and skills in managing the activities of medical organizations; clinical mentoring is being introduced and developed. A highly qualified physician is tasked not only with mastering professional qualities but also with conducting activity analysis, monitoring, control, and transferring knowledge to young specialists and students; the integration of practice, science, and education is becoming increasingly relevant.

**1. Purpose of the Entrance Examination:** An objective assessment of the level of theoretical preparation and practical readiness of the applicant to master the Master's program, as well as the identification of their potential for conducting independent scientific research and professional activity in the field of preventive medicine.

### **2. Objectives of the Entrance Examination:**

Assessment of foundational training in medical science: evaluation of knowledge in clinical epidemiology, biostatistics, and the methodology of medical research.

Assessment of skills in formulating research problems and hypotheses: evaluation of the applicant's ability to develop relevant research questions and substantiate their clinical and scientific significance.

Assessment of methodological competence: evaluation of the ability to select and justify appropriate research designs, including observational studies, randomized controlled trials, and both analytical and descriptive approaches.

Assessment of analytical and interpretative skills: evaluation of the ability to analyze and interpret research findings using statistical measures and to assess the validity and reliability of the data.


Assessment of critical thinking and scientific literacy: evaluation of the ability to critically appraise scientific publications, identify methodological limitations, and determine the level of evidence.

Assessment of readiness for research activity and adherence to research ethics: evaluation of preparedness for independent research, including compliance with principles of scientific integrity, ethical standards, and academic honesty.

### **3. Entrance Examination Questions: Educational Program**

#### **7M10105 "Medical and preventive care"**

1. Substantiate the importance of the scientific method in modern medicine.
2. What are the main stages of conducting a scientific study in medicine?
3. What is the difference between a scientific hypothesis and a research question?


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4. How is a clinically relevant research problem formulated?
5. Explain the role of study design in ensuring the validity of scientific results.
6. Compare the main types of clinical studies (randomized controlled trials, cohort, case-control, cross-sectional).
7. Why are randomized controlled trials considered the “gold standard”?
8. In what situations are experimental studies impossible or unethical?
9. How does the choice of study design affect the interpretation of results?
10. What are observational studies and what is their role in medicine?
11. What is the role of statistics in medical research and clinical practice?
12. What is the difference between statistical significance and clinical significance?
13. What is bias and how does it affect research outcomes?
14. How are confidence intervals and p-values interpreted?
15. Why is proper sampling important in medical research?
16. What are the main types of sampling used in research?
17. How are validity and reliability ensured in scientific research?
18. What is confounding and how is it addressed in study design?
19. What factors can distort the results of a scientific study?
20. What is the difference between a systematic review and a traditional literature review?
21. What is the role of meta-analysis in modern medicine?
22. What quality criteria are considered when including studies in a systematic review?
23. What are the risks of misinterpreting meta-analysis results?
24. What is the role of ethical principles in medical research?
25. What are scientific integrity and academic honesty?
26. What motivates you to pursue a master’s degree?
27. What research areas or problems in medicine interest you most?
28. What methods and tools do you plan to use in your research?
29. How do you plan to evaluate the results of your research?
30. How do you see the application of research results in practical healthcare?

#### 4. Recommended Literature List

##### Main references:

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2. Kholmatova K.K., Grzhibovskiy A.M. Application of case-control studies in medicine. – 2016. – No. 8. – pp. 53–60.
3. Grzhibovskiy A.M. Cross-sectional studies in healthcare and medicine.
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5. Unguryanu T.N. et al. Brief guidelines for preparing systematic reviews for publication.

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7. Order of the Minister of Health of the Republic of Kazakhstan dated April 2, 2018 No. 142 “On approval of the rules for conducting biomedical experiments, preclinical (non-clinical) and clinical studies, as well as requirements for preclinical and clinical bases”.

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9. Gonashvili A.S. Scientometric databases and working with them: methodological guide. 2020. – 57 p.

**Additional references:**

1. Kumar R. Research Methodology: A Step-by-Step Guide for Beginners. – 3rd ed. – 2011. – 366 p.

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