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## ANALYSIS OF THE CURRENT STATE AND PROSPECTS OF NURSING IN PRIMARY HEALTH CARE IN THE REPUBLIC OF KAZAKHSTAN

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*Introduction.* Primary health care underpins equitable access and continuity of services, forming the cornerstone of sustainable health systems. Nursing is central to Primary Health Care delivery, encompassing preventive services, patient care, and chronic disease management. Despite reforms in Kazakhstan, significant challenges persist, including workforce shortages, uneven distribution of personnel, insufficient educational standards, and limited career advancement opportunities.

*Aim.* To analyze the current state of nursing in Kazakhstan's Primary Health Care system, identify systemic barriers, and outline development prospects in line with international benchmarks.

*Materials and methods.* A narrative review was conducted of official reports from the Ministry of Health, national regulatory documents, and peer-reviewed publications (2010 – 2025). Comparative analysis with global advanced nursing practice models was performed.

*Results and discussion.* Kazakhstan employs about 121,000 nurses, including 65,000 in Primary Health Care, but faces a shortage of nearly 3,800 mid-level staff. In rural areas, one nurse may serve up to 2,500 patients, leading to burnout. From 2020 – 2023, nurses' salaries rose by 20%, 45 SOPs were introduced, and graduate nursing programs expanded. Yet advanced practice remains limited: in Almaty, only 0.4% of nurses provide independent consultations. In 2024, over 1,100 professionals (including 82 nurses) were trained for new PHC facilities, and 2,850 staff completed updated training. In 2025, the Ministry of Health declared the Year of Primary Health Care, mandating continuous training and digital integration. Positive shifts include simulation centers, distance learning, and digital tools that enhance education and broaden nurses' roles.

*Conclusion.* Strengthening nursing in Kazakhstan's Primary Health Care requires a comprehensive strategy: raising salaries, updating curricula to international standards, expanding nurses' scope of practice, and integrating digital health solutions. Government support and international collaboration are critical to stabilizing the workforce and improving Primary Health Care quality and accessibility.

*Key words:* Primary Health Care; Health Personnel Shortage; Burnout, Professional; Health Care Reform; Advanced Practice Nursing

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### INTRODUCTION

Primary health care (PHC) is universally recognized as the foundation of sustainable health systems, ensuring timely, equitable, and cost-effective access to medical services. It contributes significantly to disease prevention, continuity of care, and

improved population health outcomes [12]. Nursing forms the backbone of PHC delivery, performing essential roles in patient care, health promotion, chronic disease management, and palliative support. Globally, the nursing profession has been undergoing rapid transformation in response to demographic changes,

epidemiological transitions, and the rising demand for universal health coverage [14, 22, 23]. According to the WHO's State of the World's Nursing Report 2020, nurses represent nearly 59% of the global health workforce, yet the shortage of 5.9 million nurses remains a critical barrier to achieving the Sustainable Development Goals [23].

Kazakhstan, like many middle-income countries, has prioritized PHC within its national health strategy and launched reforms to strengthen the nursing workforce. Despite these efforts, several structural challenges persist. Workforce shortages remain acute: as of 2023, Kazakhstan employed approximately 121,000 nurses, including 65,000 in PHC, while the deficit of mid-level medical personnel exceeded 3,800 specialists [2, 3, 4]. The urban-rural divide is especially problematic, with one PHC nurse responsible for an average of 650 patients in urban polyclinics compared to up to 2,500 patients in rural regions [1, 5]. This inequitable distribution contributes to excessive workload, high turnover, professional burnout, and reduced quality of care.

Educational limitations further constrain nursing capacity. Although bachelor's, master's, and PhD programs in nursing have been introduced, curricula remain inconsistently aligned with international standards and often lack competencies in advanced practice, leadership, and evidence-based care. The functional scope of nurses is still narrow, with limited autonomy in clinical decision-making. For example, in Almaty, only 0.4% of nurses conduct independent consultations, indicating the slow uptake of advanced practice nursing (APN) [1, 5, 6].

Nevertheless, progress is evident. Over the past decade, Kazakhstan has expanded continuing education programs, introduced more than 45 standard operating procedures regulating new nursing functions, and increasingly integrated simulation centers, digital health platforms, and telemedicine into training and practice [3, 4, 16]. Furthermore, government strategies such as the National Healthcare Development Program 2021 – 2025 identify the strengthening of PHC and the elevation of nursing status as national priorities [16]. These developments create opportunities to expand nurses' professional roles, harmonize educational programs with global benchmarks, and ensure long-term workforce stability.

**The aim** was to critically evaluate the current state of nursing within Kazakhstan's Primary Health Care system, identify key systemic barriers, and propose strategic directions for modernization aligned with international best practices.

### MATERIALS AND METHODS

**Study design.** This review was conducted as a structured narrative review aimed at synthesizing evidence on the current state and future prospects of nursing within Kazakhstan's PHC system. The methodology combined elements of a narrative and

scoping approach with comparative analysis of international best practices.

**Data sources and search strategy.** The literature search was carried out between January and September 2025 across major international databases, including PubMed, Scopus, and Web of Science. Additional sources comprised official websites of the Ministry of Health of the Republic of Kazakhstan, national regulatory documents, statistical yearbooks, and publications from leading medical universities. Search terms and Boolean combinations were applied in both English and Russian, including: nursing in Kazakhstan, primary health care, nursing workforce, nursing education, advanced practice nursing, health care reform, and innovative approaches in nursing.

**Eligibility criteria.** Inclusion criteria were: 1) publications from 2010 to 2025; 2) peer-reviewed articles or official government/organizational reports; 3) direct relevance to nursing practice, workforce, or education within PHC; and 4) availability in English, Russian, or Kazakh. Exclusion criteria were: 1) studies not directly addressing nursing in PHC; 2) opinion pieces without empirical or policy basis; and 3) duplicate publications.

**Selection and data extraction.** Titles and abstracts were screened for eligibility, followed by full-text assessment. Relevant data were systematically extracted and categorized into thematic domains: staffing and workforce distribution, education and professional development, scope of practice, policy reforms, and integration of innovative technologies.

**Data analysis.** The evidence was synthesized descriptively and compared with international benchmarks (e.g., WHO, OECD, and ICN reports) to highlight contextual gaps and potential strategies for Kazakhstan. Special attention was given to identifying barriers to workforce development, implications for policy, and opportunities for implementing advanced practice nursing (APN).

## RESULTS

### Staffing and Workforce Distribution

The staffing of nurses in Kazakhstan's PHC system is critically important for ensuring high-quality services. Nurses are central to disease prevention, patient care, and the management of chronic conditions [1, 5]. However, despite ongoing reforms, workforce shortages remain a persistent challenge, particularly in rural areas.

As of January 2024, Kazakhstan's health system employed 271,929 healthcare professionals, including 121,082 nurses, of whom 65,204 worked at the PHC level. At the same time, the physician shortage amounted to 4,864 specialists, with 77% of this demand concentrated in urban PHC facilities and 23% in rural areas [3, 4, 16]. The shortage of mid-level personnel reached 4,820. The most acute staffing

**Table 1** – Dynamics of the number of Healthcare workers in Kazakhstan’s Healthcare System (2019 – 2023)

Year	Total number of Healthcare workers	Number of physicians	Number of mid-level medical personnel
2019	179 837	51 298	128 539
2020	185 757	54 095	131 662
2021	188 800	54 371	134 429
2022	191 302	55 504	135 798
2023	190 644	54 987	135 657

gaps were observed in Astana c., Almaty c., Shymkent c., and in rural areas of Akmola, Turkestan, and West Kazakhstan regions.

Table 1 shows workforce dynamics from 2019 to 2023. The total number of healthcare workers increased from 179,837 in 2019 to 191,302 in 2022, but then declined slightly to 190,644 in 2023. This reversal reflected reductions in both physicians (from 55,504 to 54,987) and mid-level personnel (from 135,798 to 135,657).

According to the Ministry of Health, approximately 75,000 mid-level personnel are employed in PHC organizations, with 47% in rural areas. Despite this, shortages remain significant: in 2022, the deficit of nurses in PHC reached 3,791 [3, 4]. The imbalance is aggravated by inequitable distribution: while urban polyclinics average 1 nurse per 650 patients, in rural areas the figure rises to 1:2,500. Staff turnover rates reach 40% in some small-town facilities [1, 5].

In 2023, Kazakhstan’s medical universities graduated ~7,000 physicians and >23,000 mid-level personnel, while 16,500 specialists undertook additional training, including 108 abroad [2]. Yet workforce shortages persist, especially in PHC. To address retention, salaries were increased from 2020 – 2023 (by 30% for physicians, 20% for nurses). PHC expenditures grew 1.5-fold, reaching 34.3% of the total healthcare budget, with projections to increase to 60% by 2025 [16].

In summary, despite moderate growth in the total healthcare workforce between 2019 and 2022, the decline observed in 2023 and the persistent shortages in PHC highlight systemic vulnerabilities. Unequal distribution between urban and rural regions, high turnover rates, and continued deficits of mid-level personnel remain critical barriers. These trends demonstrate that without sustained policy interventions, workforce imbalances will continue to undermine equitable access to PHC services in Kazakhstan.

### Education and Professional Training

Kazakhstan’s nursing education is delivered by 37 higher medical colleges and a network of universities offering Bachelor’s, Master’s, and PhD degrees [1, 17]. Despite this progress, quality concerns persist. In 2023, only 42% of medical college graduates

successfully passed the certification exams required for PHC employment, reflecting gaps in curriculum design, limited clinical exposure, and insufficient emphasis on evidence-based practice [1, 2].

Table 2 provides a comparative overview of nursing education across selected countries. While Kazakhstan has adopted a three-tier university system in line with international practice [13, 22], the duration of study, licensing, and certification requirements remain less stringent. For example, in the United States and the United Kingdom, licensing requires national examinations (NCLEX-RN or NMC registration) and regular revalidation every 2–4 years, ensuring continuous quality control [12, 18]. In contrast, Kazakhstan mandates certification only once every five years, and re-certification procedures are less rigorous [1, 17].

Recent reforms have introduced 45 standard operating procedures regulating new nursing functions, as well as adaptation of the Clinical Care Classification system [16]. These measures aim to standardize practice and align professional competencies with global benchmarks. In 2024, 1,100 healthcare professionals, including 82 nurses, were trained for newly established PHC facilities, and in Q1 2024, 2,851 specialists (771 physicians and 2,050 nurses) completed updated professional development programs [3, 4]. These initiatives indicate growing national attention to continuous professional education, though full harmonization with international standards remains an ongoing task.

In summary, Kazakhstan has made tangible progress in expanding nursing education and introducing postgraduate training opportunities, yet certification outcomes and limited curriculum modernization remain significant barriers. Stronger alignment with international standards (particularly in clinical practice hours, continuous education, and licensing procedures) is essential to improve the competence and autonomy of the nursing workforce [1, 17, 22].

### Scope of Practice and Advanced Practice Nursing

The development of APN is one of the most strategic yet underdeveloped reforms in Kazakhstan’s PHC system. International evidence confirms that APNs play a pivotal role in strengthening primary care,

**Table 2** – Comparative overview of nursing education in different countries

Country	Education levels	Duration of study (years)	Licensing & certification requirements
Kazakhstan	Vocational college education, Bachelor's degree, Master's degree, Doctorate (PhD)	College: 2-3 years, Bachelor's: 4 years, Master's: 2 years, Doctorate: 3 years	Mandatory certification every 5 years, Registration with the Ministry of Health
USA	Associate Degree in Nursing (ADN), Bachelor of Science in Nursing (BSN), Master of Science in Nursing (MSN), Doctor of Nursing Practice (DNP)	ADN: 2-3 years, BSN: 4 years, MSN: 1.5-2 years, DNP: 3-4 years	Passing NCLEX-RN exam, State-specific licensing, License renewal every 2-4 years
United Kingdom	Bachelor of Science (BSc) in Nursing, Master of Science (MSc) in Nursing, Doctorate (PhD) in Nursing	BSc: 3 years, MSc: 1-2 years, PhD: 3-4 years	Registration with Nursing and Midwifery Council (NMC), Practice confirmation every 3 years
Germany	Vocational training (Ausbildung), Bachelor's degree, Master's degree	Ausbildung: 3 years, Bachelor's: 3-4 years, Master's: 1-2 years	State license upon completion of education, No mandatory re-certification
France	State Diploma in Nursing (Diplôme d'État d'Infirmier), Bachelor's degree, Master's degree	DEI: 3 years, Bachelor's: 3 years, Master's: 2 years	Registration with the National Nursing Council, No mandatory re-certification
Finland	Bachelor's degree in Nursing (Registered Nurse), Master's degree, Doctorate (PhD)	Bachelor's: 3.5 years, Master's: 2 years, Doctorate: 4 years	Registration with the National Agency Valvira, Continuous education requirements

particularly where physician shortages are acute. In countries such as the United States, Canada, the United Kingdom, and Finland, APNs are formally authorized to independently diagnose and manage common conditions, prescribe medications, and provide long-term follow-up for patients with chronic diseases [12, 18, 21]. Their integration into PHC teams has been associated with reduced hospital admissions, improved patient satisfaction, and more cost-effective healthcare delivery [10, 11, 24].

In Kazakhstan, APN implementation remains at an early stage. By the end of 2023, only 14 of 37 state polyclinics in Almaty (37.8%) had introduced independent consultations by APNs, accounting for just 0.4% of the city's nursing workforce [1, 2]. This extremely limited uptake underscores several systemic barriers: the absence of a robust legal framework defining APN responsibilities, lack of structured postgraduate pathways, insufficient inclusion of advanced clinical competencies in curricula, and limited awareness among healthcare managers and the wider professional community [6, 7].

Nevertheless, recent initiatives indicate progress. In 2024, the share of nurses working with expanded competencies increased by 18% compared to 2022. Five new professional development programs were launched at leading universities, training over 1,200 specialists in new PHC functions [17]. Simultaneously, 15 clinical nursing guidelines were introduced to support task-shifting and expand

nurses' professional roles [16]. These guidelines represent a milestone in the institutionalization of APN within Kazakhstan's PHC system

Looking ahead, scaling up APN requires a comprehensive and multi-level strategy. Priority steps include aligning national legislation with international standards [22], updating educational programs to integrate advanced pharmacology, diagnostics, and leadership skills [17, 22], and establishing formal licensing and certification procedures for APNs [1, 17]. Equally important is raising awareness among physicians, policymakers, and the public to ensure acceptance of APN roles and to foster effective integration within multidisciplinary teams [6, 7].

In summary, APN development in Kazakhstan remains at an early stage, with promising initiatives but limited reach. Drawing on international experience, systematic legislative, educational, and organizational reforms are necessary to fully unlock the potential of APNs in expanding access, reducing physician workload, and enhancing the overall quality of PHC.

**Contemporary Challenges and Policy Directions**

Despite reforms, challenges persist. Surveys indicate that 68% of nurses are dissatisfied with discrepancies between workload and compensation, and 59% report low motivation [25]. By early 2024, Kazakhstan's workforce totaled ~272,000 healthcare professionals, including >81,000 physicians and ~191,000 mid-level personnel. In the same year,

universities produced 10,500 graduates, ~50% more than previous years [2, 17]. However, systemic barriers remain: narrow functional responsibilities, weak career pathways, and limited integration of APN into PHC. Compared to countries such as the United States, the United Kingdom, and Finland, where nurses independently manage chronic conditions, Kazakhstan's nursing scope is still restricted.

Policy innovations are underway. In 2024 – 2025, >94,000 state educational grants were allocated (78,200 bachelor's, 13,100 master's, 2,900 doctoral) [16]. Doctoral programs in nursing are now active in Astana Medical University, KazNMU, and Karaganda Medical University, supported by the AccelEd project. For practicing nurses, one-year master's programs are offered by AMU, KazNMU, Semey Medical University, KazNU, and the Higher School of Public Health [17]. Innovative educational practices include simulation centers, distance learning, and telemedicine, improving access for rural nurses. Mentorship programs support young professionals, reducing turnover [17]. In 2023, 2,650 nurses were trained under the DNCHR program, while 29,000 mid-level personnel received training funded by local authorities [16]. In 2025, the Ministry of Health of the Republic of Kazakhstan declared the Year of Primary Health Care, introducing mandatory continuing education and integration of digital technologies and electronic medical systems into practice [16]. These initiatives aim to improve workforce sustainability, enhance nursing competencies, and strengthen PHC delivery nationwide.

In summary, while Kazakhstan has expanded training capacity, increased state funding, and launched innovative programs, persistent barriers such as workforce shortages, limited functional autonomy, and uneven distribution of resources continue to constrain progress. Addressing these challenges will require not only financial investment but also systemic reforms aimed at strengthening professional roles, aligning education with international standards, and ensuring equitable access to nursing services across all regions [1, 16, 22].

### DISCUSSION

The results of this review demonstrate that Kazakhstan has made important progress in strengthening nursing within its PHC system, yet systemic barriers continue to constrain its potential. Workforce shortages remain the most pressing challenge, particularly in rural regions where nurse-patient ratios may exceed 1:2,500, compared with 1:650 in urban settings. Such imbalances mirror global findings that insufficient nurse staffing is associated with poorer patient outcomes, higher hospitalization rates, and increased professional burnout [1, 5, 12]. Despite gradual increases in salaries and investments in PHC, high turnover and uneven distribution of

personnel persist, indicating that financial incentives alone are insufficient to stabilize the workforce [16].

Educational reforms, including the establishment of bachelor's, master's, and doctoral programs, the adaptation of the Clinical Care Classification system, and the introduction of 45 standard operating procedures, mark a significant step toward modernization [16]. Nevertheless, the fact that only 42% of medical college graduates passed PHC certification exams in 2023 highlights the persistence of substantial gaps in practical training and quality assurance [17]. International comparisons show that countries with stringent licensing and revalidation systems maintain consistently higher workforce competence [12, 18]. Kazakhstan's five-year certification cycle, although improving, still lags behind these benchmarks and limits the pace of professional development [1, 17].

The introduction of APN represents one of the most promising reforms, with the potential to mitigate physician shortages and expand access to care. However, as of 2023, only 0.4% of nurses in Almaty were engaged in independent consultations, underscoring the limited scale of implementation [1, 2]. This stands in contrast to other countries where APNs play a central role in chronic disease management, primary diagnosis, and prescribing [12, 18, 21]. Barriers to APN development in Kazakhstan include insufficient legislative support, lack of structured postgraduate pathways, and limited professional awareness [6, 7]. Without addressing these factors, APN risks remaining a marginal rather than transformative innovation.

Policy initiatives such as the expansion of state educational grants, the launch of doctoral programs in nursing science, and the integration of digital technologies in both practice and training reflect genuine commitment to reform [16, 17]. The declaration of 2025 as the Year of Primary Health Care demonstrates political will to prioritize this sector [16]. However, international experience indicates that fragmented measures cannot yield sustained improvements without comprehensive and coordinated strategies that integrate workforce redistribution, educational modernization, and legal empowerment of nurses [22, 25].

This review is limited by its reliance on published and official data available up to September 2025. Consolidated statistics for 2024 – 2025 were not yet released at the time of writing, which restricted quantitative analysis of the most recent workforce dynamics.

### CONCLUSION

The analysis of nursing in Kazakhstan's PHC system shows that, despite visible achievements, systemic barriers continue to limit progress. Persistent workforce shortages, particularly in

rural areas, high turnover, and uneven distribution undermine equitable access to primary care. At the same time, the expansion of education at all levels, the introduction of innovative teaching methods such as simulation and telemedicine, and the gradual implementation of Standard Operating Procedures and clinical guidelines reflect tangible advances in the professionalization of nursing.

Further development of the system requires a comprehensive strategy that simultaneously addresses workforce retention and redistribution, modernization of nursing curricula, and reinforcement of certification standards in line with international benchmarks. Equally important are legislative and organizational reforms aimed at institutionalizing advanced practice nursing and expanding the functional autonomy of nurses within multidisciplinary PHC teams. The integration of digital health tools and lifelong professional development will ensure that nurses remain adaptable to the evolving needs of the healthcare system.

By combining sustained investment, policy reforms, and international collaboration, Kazakhstan has the potential to transform its nursing workforce into a driving force for stronger, more equitable, and higher-quality PHC.

### Authors contributions:

M. E. Alaidarova, G. A. Zhaksylykova, U. Sh. Saltabaeva – conceptualization and design of the study.

M. E. Alaidarova, G. B. Uakkazy, S. K. Tuleuova, Zh. Zh. Raiymkul – methodology.

M. E. Alaidarova, G. B. Uakkazy, F. D. Kassymova, A. D. Kazangapova – literature review and formal analysis.

M. E. Alaidarova, G. A. Zhaksylykova, U. Sh. Saltabaeva – writing (original draft).

M. E. Alaidarova, M. B. Basharlanova, B. B. Ilyassov – writing, review and editing.

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The authors declare no conflicts of interest.

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### TRANSLITERATION

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#### АНАЛИЗ ТЕКУЩЕГО СОСТОЯНИЯ И ПЕРСПЕКТИВЫ СЕСТРИНСКОГО ДЕЛА В СФЕРЕ ПЕРВИЧНОЙ МЕДИКО-САНИТАРНОЙ ПОМОЩИ РЕСПУБЛИКИ КАЗАХСТАН

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*Введение.* Первичная медико-санитарная помощь является базовым звеном системы здравоохранения, обеспечивающим доступность и непрерывность медицинских услуг. Сестринское дело играет ключевую роль в профилактике, уходе и сопровождении хронических заболеваний. Несмотря на реформы в здравоохранении, в Республике Казахстан сохраняются значительные проблемы: кадровый дефицит, дисбаланс распределения специалистов, недостаточная подготовка и ограниченные карьерные возможности.

*Цель.* Анализ современного состояния сестринского дела в системе первичной медико-санитарной помощи Республики Казахстан, выявление ключевых барьеров и обозначение перспективных направлений развития.

*Материалы и методы.* Выполнен обзор нормативных документов, статистических данных Министерства здравоохранения Республики Казахстан, а также публикаций в рецензируемых журналах (2010 – 2025 гг.). Проведено сопоставление с международным опытом внедрения расширенной сестринской практики.

*Результаты и обсуждение.* В Казахстане работает около 121 000 медсестер, из них 65 000 – в системе первичной медико-санитарной помощи, при этом сохраняется дефицит 3 800 специалистов среднего звена. В сельских районах 1 медсестра обслуживает до 2 500 пациентов, что ведет к профессиональному выгоранию. С 2020 по 2023 г. заработная плата увеличилась на 20%, внедрено 45 стандартных операционных процедур и расширены магистратура и PhD-программы. Однако доля практики расширенной сестринской роли остается низкой: в Алматы лишь 0,4% медсестер консультируют самостоятельно. В 2024 – 2025 гг. реализованы новые программы обучения, внедряются цифровые технологии и симуляционные центры, что постепенно повышает качество подготовки и расширяет профессиональные функции медсестер.

*Выводы.* Дальнейшее развитие сестринского дела требует комплексного подхода: повышения зарплат, обновления образовательных программ по международным стандартам, расширения полномочий медсестер и внедрения цифровых решений. Поддержка государства и интеграция лучших мировых практик позволят укрепить кадровый потенциал и повысить качество медицинской помощи на уровне первичной медико-санитарной помощи.

*Ключевые слова:* первичная медико-санитарная помощь; дефицит медицинских кадров; профессиональное выгорание; реформа здравоохранения; медсестра расширенной практики

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### ҚАЗАҚСТАНДАҒЫ АЛҒАШҚЫ МЕДИЦИНАЛЫҚ-САНИТАРЛЫҚ КӨМЕК ЖҮЙЕСІНДЕГІ МЕЙІРГЕР ІСІНІҢ ҚАЗІРГІ ЖАҒДАЙЫ МЕН ДАМУ ПЕРСПЕКТИВАЛАРЫ

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*Кіріспе.* Медициналық-санитарлық алғашқы көмек – денсаулық сақтау жүйесінің іргетасы, оның қолжетімділігі мен сабақтастығын қамтамасыз етеді. Мейіргер ісі – профилактика, күтім және созылмалы ауруларды бақылауды жүзеге асыратын негізгі құрамдас бөлік. Қазақстанда жүргізіліп

жатқан реформаларға қарамастан, кадрлық тапшылық, мамандардың теңгерімсіз орналасуы, білім беру сапасының жеткіліксіздігі және кәсіби дамудың шектеулілігі секілді мәселелер сақталуда.

*Мақсаты.* Қазақстандағы медициналық-санитарлық алғашқы көмек жүйесінде мейіргер ісінің қазіргі жағдайын талдау, негізгі кедергілерді анықтау және даму перспективаларын айқындау.

*Материалдар және әдістер.* Қазақстан Республикасы Денсаулық сақтау министрлігінің ресми статистикалық есептері, ұлттық нормативтік құжаттар және рецензияланған журналдардағы жарияланымдарға (2010 – 2025 жж.) шолу жасалды. Халықаралық тәжірибемен салыстырмалы талдау жүргізілді.

*Нәтижелер және талқылау.* Қазақстанда шамамен 121 мың мейіргер жұмыс істейді, оның 65 мыңы бастапқы медициналық-санитарлық көмек деңгейі ұйымдарында, алайда 3 800 орта буын маманы жетіспейді. Ауылдық жерлерде бір мейіргер 2 500-ге дейін пациентке қызмет көрсетіп, кәсіби күйзеліске ұшырайды. 2020–2023 жылдары жалақы 20%-ға өсті, 45 стандартты операциялық процедура енгізілді, магистратура мен PhD бағдарламалары кеңейтілді. Дегенмен кеңейтілген практика шектеулі: Алматыда тек 0,4% мейіргер ғана дербес кеңес береді. 2024 – 2025 жылдары жаңа оқыту бағдарламалары енгізіліп, цифрлық технологиялар мен симуляциялық орталықтар дамып келеді. Бұл үрдістер мейіргерлердің кәсіби рөлін кеңейтіп, дайындық сапасын жақсартуда.

*Қорытынды.* Мейіргер ісін дамыту кешенді тәсілдерді қажет етеді: еңбекақыны арттыру, білім беру бағдарламаларын халықаралық стандарттарға сәйкес жаңарту, мейіргерлердің өкілеттіктерін кеңейту және цифрлық шешімдерді енгізу. Мемлекеттік қолдау мен озық тәжірибелерді интеграциялау кадрлық әлеуетті нығайтып, бастапқы медициналық-санитарлық көмек сапасын арттырады.

*Кілт сөздер:* медициналық-санитариялық алғашқы көмек; медицина кадрларының тапшылығы; кәсіби күй; денсаулық сақтау жүйесін реформалау; кеңейтілген практика мейіргері