Strategic directions for nursing and midwifery in central Asia (2025–2030)

World Health Organization

European Region

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Abstract

Strategic directions for nursing and midwifery in central Asia (2025–2030) envisions building more resilient health systems by strengthening nursing and midwifery workforces through a strategic and systematic approach. This framework aligns with the four key areas outlined in the Global strategic directions for nursing and midwifery: education, service delivery, leadership and jobs. The initiative presents an opportunity for central Asian countries (CACs) to collaborate and coordinate efforts to enhance nursing and midwifery across the region. It also highlights potential collaboration with the WHO Regional Office for Europe and outlines strategic priorities for engagement with international donors and partners. These directions were developed in collaboration with the ministries of health of CACs and are grounded in an approach to accelerate progress across various sectors.

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Foreword by the WHO Regional Director for Europe

Nurses and midwives are the force that keeps health systems moving. Global crises, demographic shifts, and growing pressures have made one thing unmistakably clear: nurses and midwives are indispensable. They deliver care, build trust, and sustain essential services under the toughest conditions. Yet these same pressures have exposed deep and long-standing weaknesses: chronic underinvestment, education and regulatory gaps, and limited opportunities for professional growth and leadership. Our *Health and care workforce in Europe: time to act* report calls the current shortage a "ticking time bomb" for the WHO European Region. If we are to build resilient, equitable and people-centered health systems, we must invest in nursing now.

This is why I strongly welcome and endorse the development of new Strategic Directions for Nursing and Midwifery for Central Asian countries. Designed for policymakers, regulators, educators, professional associations, and leaders across the health sector, these directions offer a practical framework to guide collective action. They show how countries can strengthen their nursing and midwifery workforce and why doing so is essential for sustainable health systems and inclusive development.

Firmly anchored in the Global Strategic Directions for Nursing and Midwifery, the Central Asian directions adapt global principles to the realities and ambitions of the subregion. They build on the Central Asia Roadmap for Health and Well-being (2022–2025), a country-owned and partner-supported platform that elevates health as a political priority and reinforces regional solidarity. The Roadmap recognizes nurses and midwives as essential drivers of resilience, access, and high-quality care. This commitment is being carried forward in the next subregional Roadmap, which is currently under development.

The opportunity is substantial. Central Asia produces nearly one in five nursing graduates in the WHO European Region, Nurses and midwives comprise the majority of health workers in Central Asian Countries, accounting for 74% of practising health professionals (70% nurses, 4% midwives). This is above the average of 62% in the wider WHO European region where, the majority of nurses (86%) and midwives (98%) are women. This underscores the urgency of coordinated investment and reform across education, regulation, retention, career pathways, and leadership.

Central Asia benefits from a deeply committed nursing and midwifery workforce, a strong ethos of public The future of primary health care and indeed of health systems depends on four key pillars: Precision, Pathways, Professionals, and Participation. Nurses and midwives are central to each of these. They are the professionals who carry care forward, the trusted partners who ensure participation, and the leaders who can shape new pathways for integrated, people-centered services.

The WHO Regional Office for Europe stands ready to support countries in translating these strategic directions into measurable progress. Together, we can ensure that nursing and midwifery are fully empowered as a cornerstone of health systems fit for the future.

Hans Henri P. Kluge

Regional Director
WHO Regional Office for Europe

Foreword from Government Chief Nursing Officers

The Republic of Kazakhstan actively supports the Strategic directions in Central Asia for 2025-2030 aimed at strengthening nursing and midwifery.

The country is implementing measures to develop competency-based education, expand academic programs to the bachelor's, master's and PhD levels in the specialty "Nursing".

Kazakhstan is introducing a system of accreditation and continuous professional development with regular certification of medical personnel, contributing to improving the quality and sustainability of the healthcare system.

Particular attention is paid to the development of managerial competencies and leadership in nursing: new organizational structures are created, functional responsibilities and performance standards are prescribed, and changes are made to the regulatory framework. These measures contribute to increasing professional autonomy, strengthening the status of nursing staff and achieving WHO's goals of ensuring the stability and effectiveness of the national health system.

Supporting the principles of WHO, Kazakhstan seeks to strengthen professional leadership, update the regulatory framework and integrate international standards in the training of nurses and midwives.

I wish all of us the implementation of the tasks set and the development of international cooperation to further strengthen nursing and midwifery.

Ainagul Serikbayevna Nauruzbayeva

Chief Nursing Specialist
Ministry of Health, Kazakhstan,
Master of Medical Sciences in Nursing

Nursing and midwifery are not merely professions - they are the foundation of a resilient healthcare system and the public's trust in it.

Today, our task is not only to train qualified professionals but also to create conditions that enable every nurse and midwife to fully realize their potential from disease prevention to quality care management.

Within the framework of the 2025–2030 strategy, we place special emphasis on the development of education, leadership, scientific capacity, and the expansion of nursing and midwifery practice, particularly at the level of primary health care. This will enhance the accessibility and quality of services, strengthen the health of families and communities, and provide new momentum for professional motivation and career growth.

Investment in the development of nurses and midwives is an investment in the health of the future. Without such investment, it is impossible to build a fair, sustainable, and humane healthcare system.

Kyrgyzstan actively participates in the regional agenda, joining efforts with Central Asian countries and the World Health Organization to ensure that every nurse and midwife becomes a leader of change, a source of professional pride, and a reliable pillar of national health.

Our path is one of respect for knowledge, service to people, and strengthening the role of nursing as a key factor in the sustainable development of healthcare.

Gulnaz Kachkynovna Azhymambetova

Chief Specialist, Department of Maternal and Child Health
Ministry of Health, Kyrgyzstan

Nursing and midwifery are the heart of the healthcare system. Today, as we stand on the threshold of new transformations, it is important for every nurse to feel like a leader of change. In the Republic of Tajikistan, we strive to strengthen professional training, expand the role of nursing personnel in providing high-quality primary care, and develop leadership skills. Through the joint efforts of the countries of Central Asia, we are creating a future where the voice of nurses will be an integral part of health policy and the sustainable development of society.

High-quality and effective nursing practice is the foundation of sustainable healthcare policy. In the Republic of Tajikistan, we strive to strengthen the professional potential of nurses, expand their leadership role, and engage in decision-making that impacts the quality of care and public health. It is important that the voice of nurses is heard confidently at all levels of the healthcare system. I am confident that the joint efforts of the countries of Central Asia will enable us to jointly advance nursing as a powerful driving force for public health development and the achievement of the Sustainable Development Goals. Being a nurse means more than just caring for people; it means strengthening the health of the nation. Today, as nursing in Central Asia enters a new phase of development, we, nurses of Tajikistan, are ready to lead change, inspire, educate, and act in the name of care and human dignity.

Nursing and midwifery are key pillars of the healthcare system, reflecting its humanity, sustainability, and effectiveness. In the Republic of Tajikistan, nurses are playing an increasingly significant role in improving public health, disease prevention, and providing high-quality primary healthcare. We are confident that developing nursing potential, expanding professional competencies, implementing modern educational standards, and developing leadership skills will form the foundation for further progress in the sector. Cooperation between Central Asian countries offers unique opportunities for sharing experiences, mutual support, and developing common approaches to the training and development of nursing and midwifery professionals. I am convinced that by joining forces, we can create an environment where every nurse feels recognized, professionally confident, and empowered to improve public health. The Republic of Tajikistan is currently striving to promote higher nursing education, as we believe the healthcare system is ready for this step. And, of course, our shared path is toward a strong, modern, and humane nursing profession capable of meeting the challenges of the future.

Zuhro Khol Abdurahmonzoda

**Director of the State Institution "Republican Educational and Clinical Center for Nursing"
Ministry of Health and Social Protection, Tajikistan,
and Chief Nurse of the Ministry of Health
and Social Protection, Tajikistan**
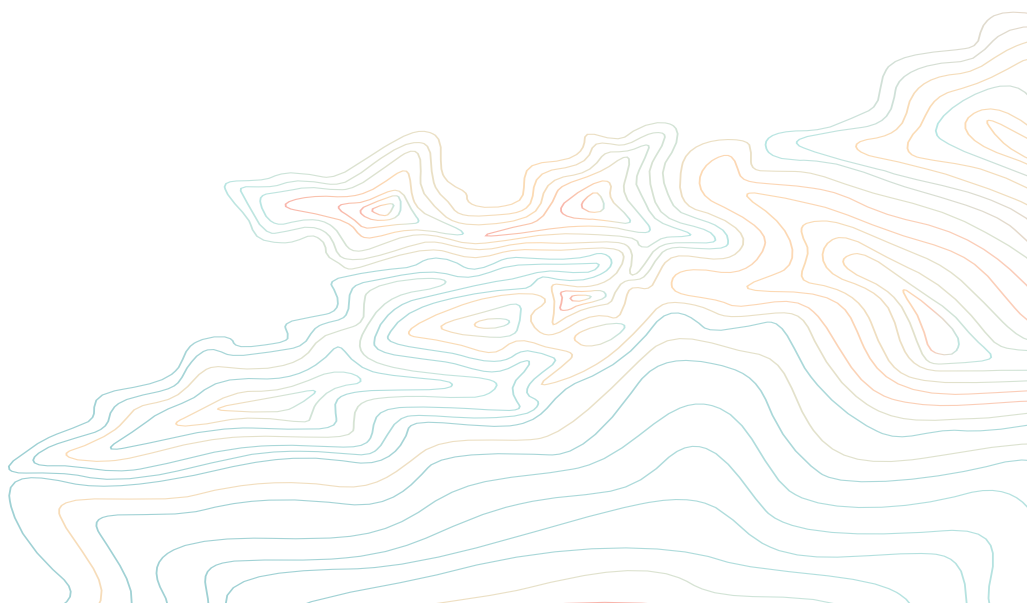
Turkmenistan is pleased to express its strong support for the Central Asian Region's Strategic directions for Nursing and Midwifery. We see this framework as essential for strengthening health systems and advancing the role of nurses and midwives in achieving universal health coverage.

Nurses and midwives are at the heart of our health services, and we welcome the emphasis on fit for purpose education, ensuring that training reflects modern competencies and prepares professionals to meet the evolving needs of our population.

We also recognize the importance of decent work and quality employment. Supporting nurses and midwives in their professional growth is vital to retention and resilience. Equally, we are committed to empowering them to take on leadership roles in shaping our health services and system.

Finally, Turkmenistan values regional collaboration. We stand ready to work with our neighbors in Central Asia to share experiences and strengthen collective progress.

In conclusion, Turkmenistan fully endorses the Central Asian Region's Strategic directions for Nursing and Midwifery and looks forward to contributing actively to its implementation.

Ministry of Health and Medical Industry of Turkmenistan

Nursing and midwifery are a profession that require heartfelt dedication and attention to detail. It is not only about performing tasks, but also about ensuring the comfort and dignity of patients and their families. Key qualities of a nurse include kindness, empathy, compassion, and the ability to remain calm in stressful situations. Midwives are specialists who greet new life and accompany mothers and newborns with care and professionalism during life's most important moments.

Rikhsi Salikhodjaeva

**Government Chief Nursing and Midwifery Officer,
Ministry of Health, Uzbekistan**

Acknowledgements

Abbreviations

CAC	central Asian country
CMiO	chief midwifery officer
CNO	chief nursing officer
COVID-19	coronavirus disease
CPD	continuing professional development
ECTS	European Credit Transfer and Accumulation System
EHEA	European Higher Education Area
GCNMO	government chief nursing and midwifery officer
GNLI	global nursing leadership institute
HLMA	health labour market analysis
HRH	human resources for health
ICN	International Council of Nurses
NANDA-I	NANDA International, Inc.
NIC	nursing interventions classification
NMA	national medical association
NNA	national nursing association
NOC	nursing outcomes classification
OECD	Organisation for Economic Co-operation and Development
PHC	primary health care
PhD	Doctor pf Philosophy
WISN	workload indicator of staffing needs
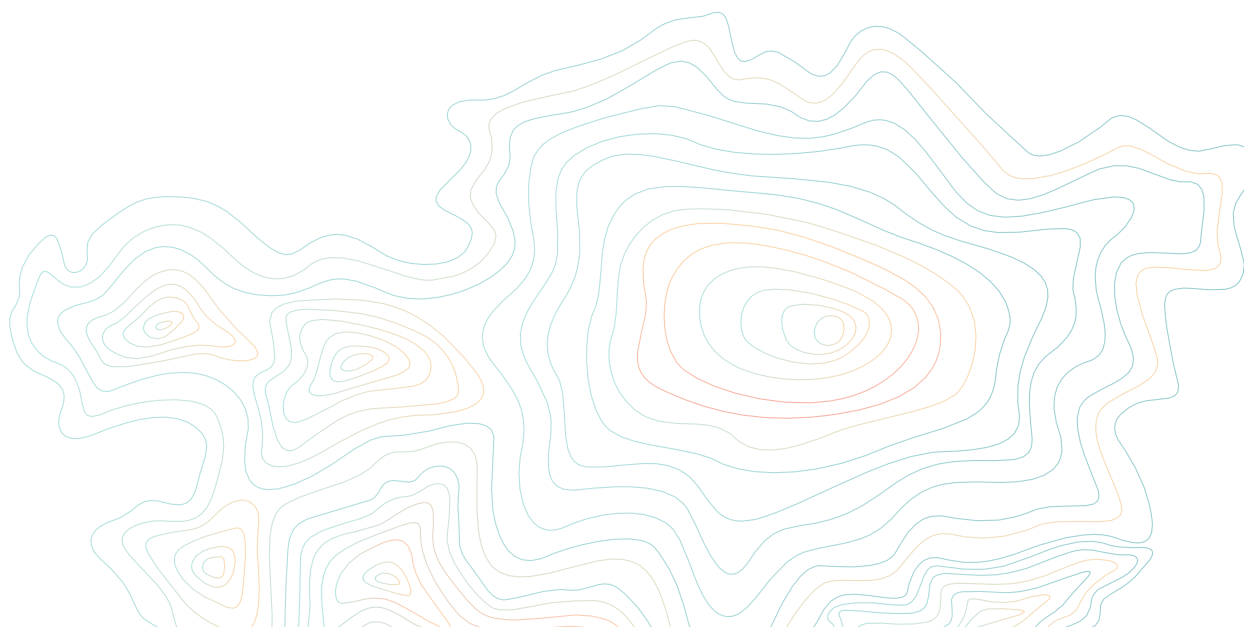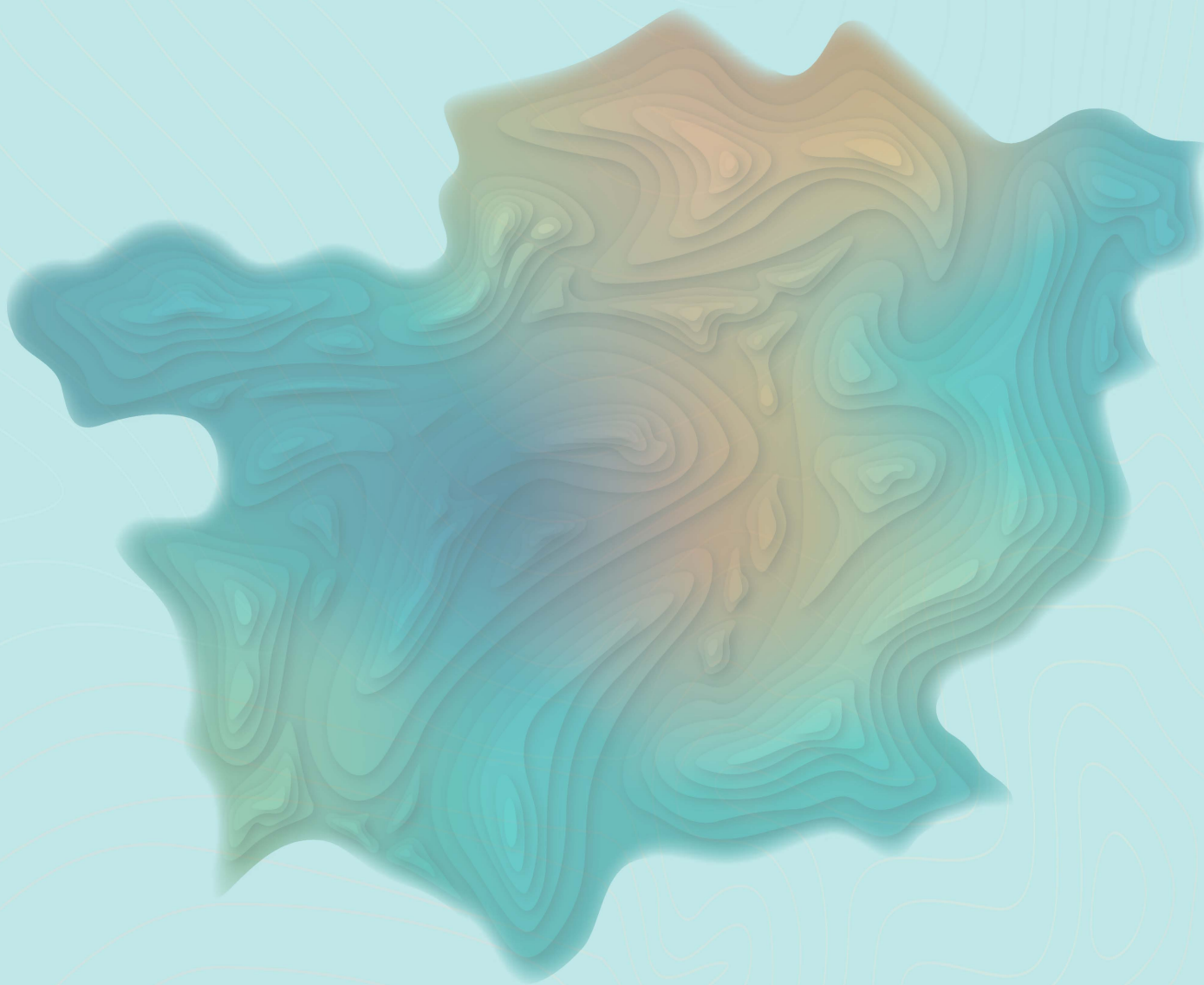
Background

The current high burden of both communicable and noncommunicable diseases, with concomitant crises including the effects of climate change, the coronavirus disease (COVID-19) pandemic, and conflict and political instability in the WHO European Region, continue to expose existing vulnerabilities in health systems and widened gaps in population health and well-being in the central Asian countries (CACs) of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan *(1)*.

In response to the complex and diverse health needs of the population, nurses and midwives, who comprise 70% of the practising health professionals in CACs *(2)*, are receiving increased policy attention. This is often in the context of workforce shortages and gaps in service delivery, including the need to address emergency preparedness, response and resilience, which may ultimately have an impact on the retention and recruitment of nurses and midwives.

Momentum in the region

The World Health Assembly resolution 74.15 on strengthening nursing and midwifery *(3)*, and the recently adopted resolution EUR/RC73/R1 "Framework for action on the health and care workforce in the WHO European Region 2023–2030" *(4)*, recognize the fundamental role of nurses in the health system, in line with the broad set of reforms introduced. This makes taking action towards protecting, supporting and investing in nurses and midwives across Europe and central Asia even more relevant.

What are the strategic directions for nursing and midwifery in central Asia?

Strategic directions for nursing and midwifery in central Asia (2025–2030) envisions a region in which health systems are more resilient through strengthened nursing and midwifery workforces. The initiative takes a strategic and systematic approach that addresses in a cohesive way the four areas outlined in both the *Global strategic directions for nursing and midwifery (5)* and *Building better together: the European roadmap for implementing the Global Strategic Directions for Nursing and Midwifery (6)*: education, service delivery, leadership and jobs (regulation and working conditions) in nursing and midwifery.

The proposed strategic directions for nursing and midwifery in central Asia offer an opportunity to strategize efforts across and between countries to collaborate towards strengthening nursing and midwifery in each of the CACs. This document also outlines areas of collaboration with the WHO Regional Office for Europe and lists a series of strategic directions that can be pursued with international donors and partners.

The strategic directions are based on a strengths-based approach to accelerate gains in the different areas. They were developed during 2 years of subregional policy dialogues held in Kyrgyzstan, Tajikistan and Uzbekistan led and guided by the government chief nursing and midwifery officers (GCNMOs) of all five CACs. Discussions were held in consultation with other relevant national and international stakeholders.

The proposed directions were informed by an in-depth analysis of trends, capacity and gaps in the nursing and midwifery workforces in CACs. This included: a desk review of existing literature and data from National Health Workforce Accounts; the WHO European Region, Eurostat and Organisation for Economic Co-operation and Development (OECD) Joint Questionnaire on Non-monetary Health Care Statistics; national health workforce account indicators *(7)*; and reports on the state of the world's nursing and midwifery *(8, 9)*.

What is the current state of nursing and midwifery in CACs?

Education

Of the 351 734nursing graduates in 48 countries in the WHO European Region in 2023, CACs produced 15.4% (n = 54 003). Additionally, of the 21 019midwifery graduates in 45 countries in the WHO European Region, 9.8% (n = 2070) were midwifery graduates in the CACs.

Of the nursing programmes in CACs, Kyrgyzstan and Uzbekistan have a single-pathway entry level after grade 11 (16–17 years of age). Kazakhstan and Tajikistan have a two-folded entry pathway after grade 9 (14–15 years of age) and after grade 11 (16–17 years of age). Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan have direct-entry midwifery education programmes after grade 11 (16–17 years of age). Tajikistan also offers a post-nursing education entry into midwifery. Turkmenistan offers an integrated nursing–midwifery programme *(10)*.

A bachelor's degree in nursing is currently offered in Kazakhstan, Kyrgyzstan and Uzbekistan. A bachelor's degree in midwifery is offered in Kyrgyzstan and Uzbekistan. These countries have created professional and academic bachelor's programmes, an approach also followed by several other eastern European countries in the WHO European Region *(11)*. Kazakhstan and Uzbekistan offer master's and doctorate (PhD) degrees in nursing. Kyrgyzstan is currently developing a master's degree in nursing. Nursing and midwifery competency-based education programmes are offered in Kazakhstan and Uzbekistan.

Fig. 1 shows the regulation and accreditation mechanisms for nursing and midwifery workforce education. Regulation and accreditation in CACs is approved by the respective country's Ministries of Education and Health. Countries reported accreditation mechanisms in place for educational institutions; however, only two of the five countries have a master list of accredited institutions. Standards for the duration and content of nursing and midwifery education exist in four of the five CACs. Standards for faculty qualifications are present in four countries. Finally, continuing professional development (CPD) systems exist in four countries, contingent on the certification of nurses and midwives every 3 or 5 years, according to country standards. Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan provide nursing and midwifery leadership development and management training.

Challenges identified in CACs are:

- content of the nursing and midwifery curriculum in some countries continues to include general subjects (i.e. humanities and science subjects);

- limited proportion of clinical practice in relation to theoretical hours, with limited opportunities to apply theoretical knowledge to clinical and real-life situations, and where opportunities are available they are not aligned strategically or designed to promote reflective practice and learning in priority health areas;

- limited access to pedagogic materials and approaches that are based on nursing and midwifery fundamentals and science;

- faculty in CACs are predominantly medical doctors, with few nurses and midwives; this

is partially attributed to the current level of nursing education which means nurses and midwives are ineligible as faculty;

- lack of nursing and midwifery research aligned to country health priorities;

- accreditation of educational institutions as well as internal and external quality assurance is to be strengthened; and

- lack of mentorship training and systems for educators *(10, 12–16)*.

Several countries in central Asia have launched important educational reforms to improve both professional and vocational education and training *(12, 17)*. Common features of the reforms are bringing the education system more in line with the population's needs and optimizing the utilization of available resources. The approach to education reform in Kazakhstan, Kyrgyzstan and Uzbekistan is to align educational programmes with the Bologna Process *(18)* established in the European Higher Education Area. Improvements in the educational environments of nurses in Tajikistan have also been documented *(19)*.

Kazakhstan officially joined the Bologna Declaration in March 2010. The main characteristics of a country operating under the Bologna Declaration for nursing and midwifery are: a) minimum entry qualifications involve completing 10 years of general education (15 to 16 years old); b) introducing a three-cycle higher education system consisting of bachelor's, master's and doctoral studies; and c) implementation of a system of quality assurance to strengthen the quality and relevance of learning and teaching *(18)*. In addition, the training of nurses responsible for general care shall comprise at least 3 years of study or 4600 hours of theoretical and clinical training, the duration of the theoretical training representing at least one third and the duration of the clinical training at least half of the minimum duration of the training, as specified in the pivotal general principles of European Union Directive 2005/36/EC *(20)*. The implementation of national educational standards should ensure the harmonization and quality assurance to meet international standards and ultimately provide quality care to meet population needs *(21, 22)*.

Fig. 1. Regulation and accreditation mechanisms for nursing and midwifery education in CACs
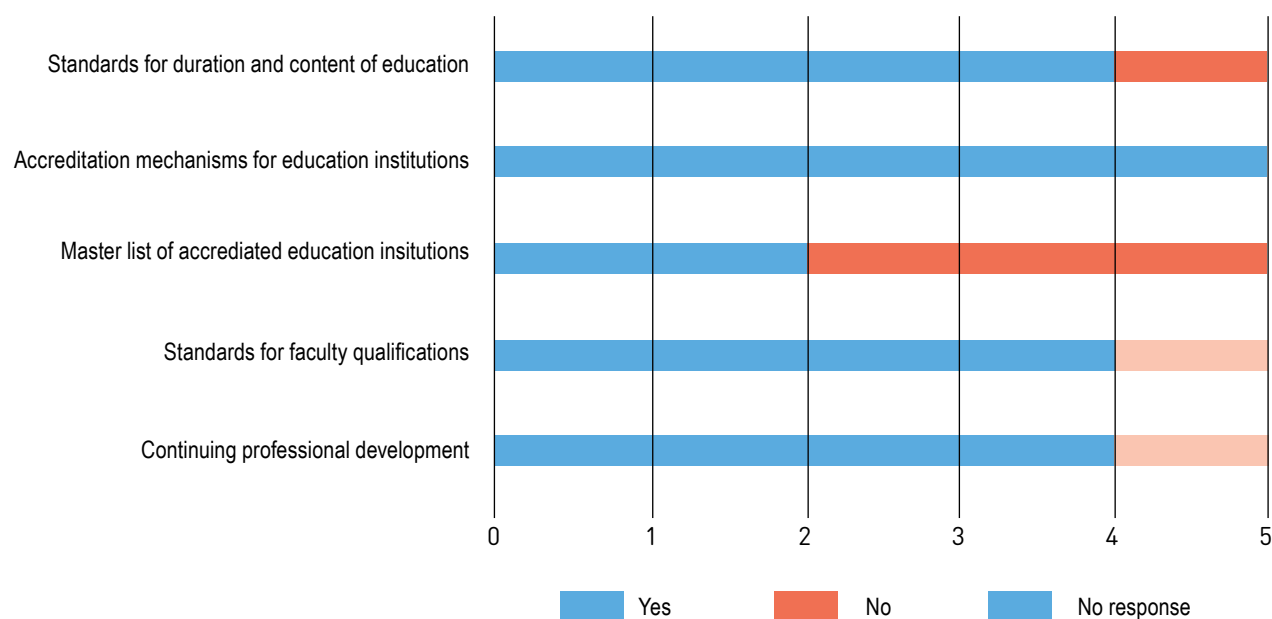
Source: National Health Workforce Accounts and WHO European Region, Eurostat and OECD Joint Questionnaire on Non-monetary Health Care Statistics *(7)*.

Service delivery

Overall, in all the CACs the absolute number of practising nurses increased from 488 219 in 2010 to 584 823in 2023. The opposite was observed for the absolute number of active midwives, which decreased from 41 579 in 2010 to 35 349 in 2023. Only, two countries slightly increased the absolute number of active midwives: Tajikistan and Turkmenistan (7).

When the absolute number of active nurses and midwives is compared to the population, four out of five CACs reduced the density of nurses and all CACs reduced the density of midwives between 2010 and 2023. Tajikistan has increased the nursing density from 34.0 nurses per 10 000 population (2010) to 44.0 nurses per 10 000 population (2023) (Fig. 2, Fig. 3) (7). Currently, the density of nurses in CACs is below the WHO European Region average of 79.0 nurses per 10 000 population (Fig. 2). In midwifery, Tajikistan and Uzbekistan are over the regional average of 3.9 midwives per 10 000 population (Fig. 3).

The shortage of health workers, particularly medical doctors, is acute in rural and underserved areas (23–26). In this regard, a key finding of the health labour market analysis conducted in Tajikistan is that nurses led 63.8% (1709 out of 2682) of primary health care (PHC) facilities; that is, they are the only provider of care working in most of the country's health facilities (16).

Central to primary care reforms as the first point of care are efforts to advance nurses' and midwives' roles, skills and scope of practice. This remains a functional challenge with regard to achieving universal health coverage in CACs (27). It is the reason why in Kyrgyzstan, where nurses are providing an increased proportion of care in rural health facilities, 85% of nurses have been retrained to become family health nurses in line with the current national reform to expand nursing education and roles (28). Previous evaluations of family health nurse practice have shown that there is ample room to expand the role of nurses in PHC, which is generally acceptable to other members of

Fig 2. Nursing density per 10 000 population (2010–2023, or nearest year)
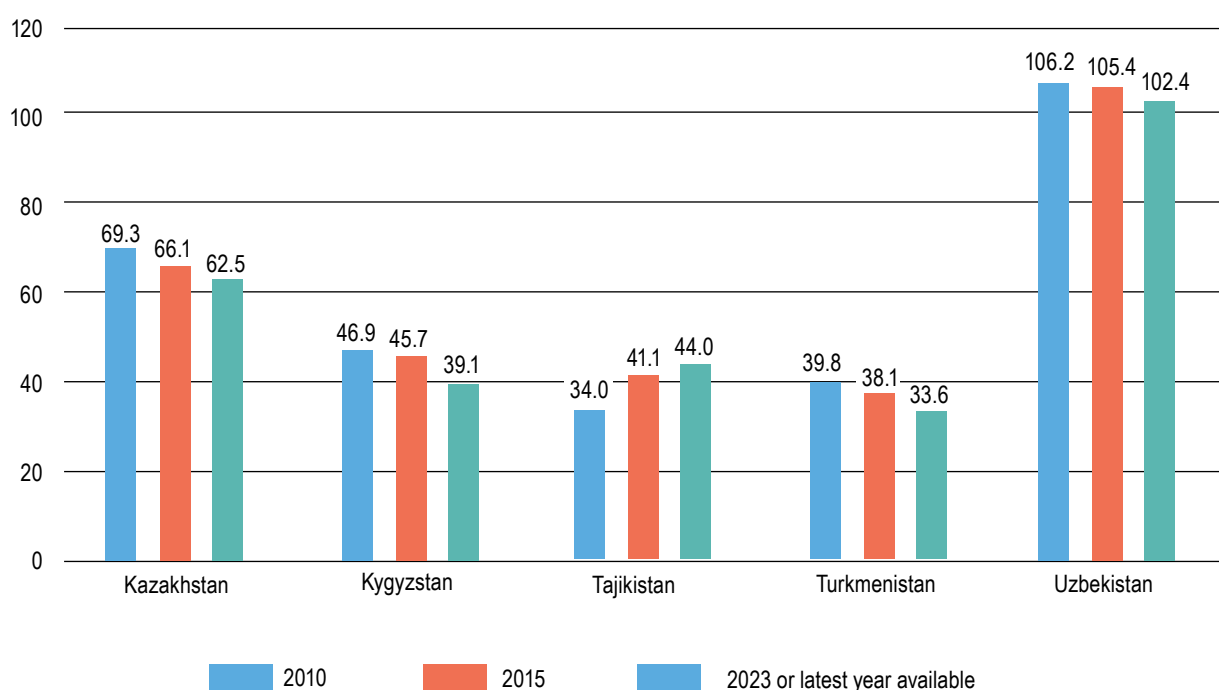
Source: National Health Workforce Accounts and WHO European Region, Eurostat and OECD Joint Questionnaire on Non-monetary Health Care Statistics (7).

multidisciplinary teams in Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan *(28–31)*. The effect is better coverage of preventive services, better tailored services and greater problem-solving capacity *(32)*. Additionally, patients' knowledge of and confidence in nurses' and midwives' roles are crucial to build the trust, expectations and acceptability which ultimately result in greater access to quality care *(33)*.

According to the available data on nursing and midwifery age and gender distribution, nurses and midwives in CACs are predominantly female and aged below 44 years *(7, 16)*. The young profile of nurses and midwives in CACs underscores the urgent need to improve retention and invest in better working conditions, salaries and efforts to protect the physical and mental health of nurses and midwives. This is necessary to reduce early departure from the nursing and midwifery workforce and attract young people into the profession, particularly in rural, remote and underserved areas. The majority of nurses and midwives are women – nurses (86%) and

midwives (98%), – which highlights the need to reduce gender disparities in pay rates, career pathways and decision-making power, which ultimately results in a reduction in inefficiencies in the distribution and retention of female health workers and improved motivation.

Migration is another factor that impacts the health labour market in CACs. In the general population of CACs, between 10% and 16% of the active population live outside their country of birth, primarily in Kazakhstan and the Russian Federation *(34)*. In-country migration from rural to urban areas is increasing; for example, internal migrants in Kyrgyzstan comprise 18% of the population *(34)*. An understanding of the professional mobility of nurses and midwives is important for effective workforce planning and management of the health labour market, and this is currently lacking. Bilateral agreements regarding migration, monitoring intention to leave or return and engagement of the diaspora to optimize current nursing capacity are among the measures that would bring improvement *(35)*.

Fig. 3. Midwifery density per 10 000 population (2010–2023, or nearest year)

Source: National Health Workforce Accounts and WHO European Region, Eurostat and OECD Joint Questionnaire on Non-monetary Health Care Statistics *(7)*.
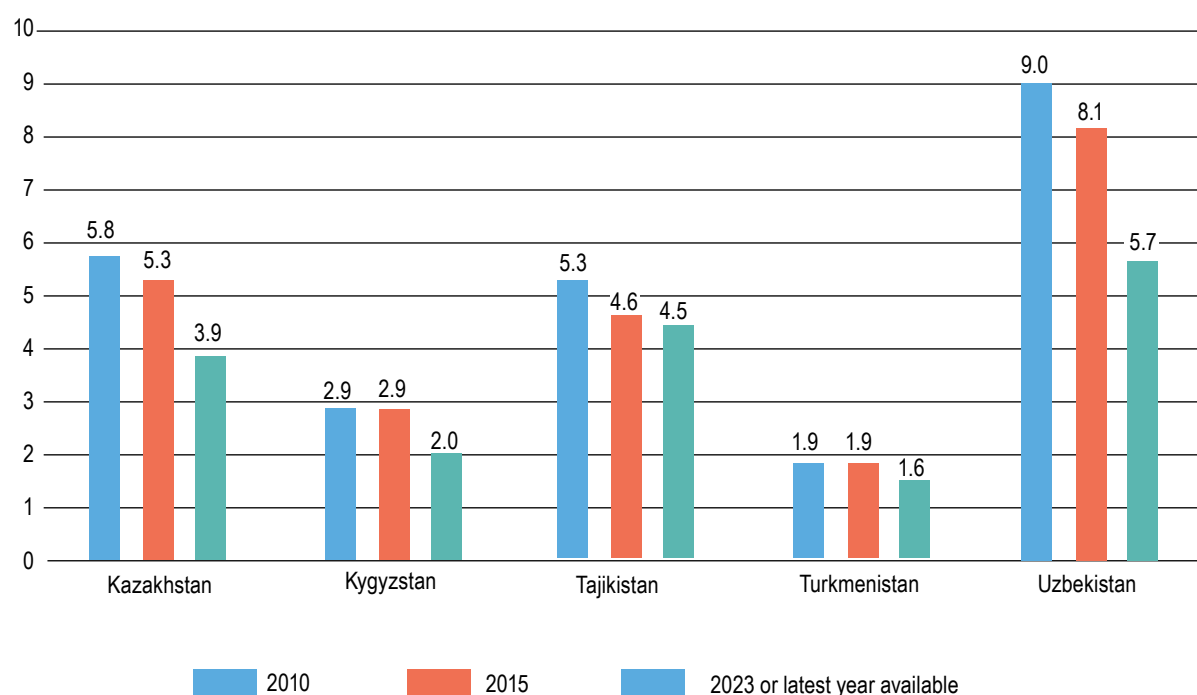
Leadership

Creating leadership opportunities is associated with the strengthening of nursing and midwifery *(8, 9)*. All five CACs have appointed a GCNMO or chief specialist in nursing care. The titles of nursing and midwifery senior leadership positions in CACs vary across the countries. Core roles of GCNMOs or chief specialists in CACs are: to identify nursing and midwifery needs related to education or clinical practice; promote systemic changes to nurses' and midwives' scope of practice by expanding their functions at different levels; and implement regulated provisions to strengthen nursing and midwifery capacity *(36)*.

The Ministry of Health of Kyrgyzstan has approved several documents regulating the nursing and midwifery professions to implement the country's programme for the development of nursing care and education for 2019–2023 and the national strategic programme "Healthy Person – Prosperous Country" *(37)*. To define clinical nursing responsibilities and improve the performance of nursing specialists to improve access to quality health services the following topics were covered in the documents, which were developed in close collaboration with the government's chief specialist in nursing care:

- functional duties of a nurse at PHC level;

- staffing norms for nursing staff, based on a corresponding order of the Ministry of Health;

- a catalogue of competencies and professional standards for nursing specialists; and

- standard operating procedures for nursing specialists.

Nursing and midwifery stakeholders, including national nursing and midwifery scientific associations, councils and academia, are key actors in promoting effective implementation. Opportunities exist – for example, in Kazakhstan – to create new management structures, which include the reorganization of care with new positions and corresponding changes in nurses' job descriptions and educational requirements introduced through legislation *(38)*.

Organizational components are essential to enable GCNMOs to work effectively. These include a mandate to carry out a full range of functions, including workforce planning, health agenda and service design, and intersectoral collaboration; access to informed decision-making and planning; and support to exercise these functions by having adequate personnel and financing and being able to authorize expenditure of funds *(36)*. In addition, developing individual leadership competencies is crucial to policy leadership roles *(36)*. Currently there are no leadership programmes for GCNMOs or senior nurses and midwives in central Asia. There are therefore opportunities for leadership development.

Jobs
(regulation and working conditions)

Fig. 4 shows that all CACs have regulations governing working hours and conditions, social protection and minimum wage. Measures are in place in three countries to prevent attacks on health workers *(12)*. The average income of nurses and midwives has increased in recent years but is low compared to the average wage of full-time employees in other public sectors in CACs and does not take into account increasing inflation *(16, 35, 39)*. In addition, a report by WHO and the International Labour Organization on the gender pay gap in the health and care sector found that globally women still face a 24% salary differential

compared with men *(40)*. Given that most nurses and midwives are women, avoiding systemic biases that result in pay penalties against women, nurses and midwives requires particular attention.

Enabling environments for midwives and nurses to provide care encompasses safe staffing, respect, collaboration with other health professionals, adequate resources, authority to perform tasks (e.g. fundamental emergency obstetric and newborn care), effective referral systems, experienced leaders and supportive facility management *(8, 9)*.

In CACs, there has been a focus on certification of nurses and midwives. Certification is a procedure for determining qualifications, professional competence and level of knowledge, practical skills and abilities in the relevant specialty, and is linked to salary scale and professional clinical progression. It is less tailored to clinical nursing learning needs for CPD. Certification is required every 3 or 5 years with variations between different categories and time from graduation *(35)*. In addition to this formal process, several international partners and nongovernmental organizations provide training for CPD in CACs.

A unified digital register of the nursing and midwifery workforce is not yet available in CACs.

Uzbekistan has made significant progress in the digitalization of its health system. Pilots of a digital health management information system have been conducted in Tashkent and Syrdarya Oblast to introduce e-health applications into state primary care clinics *(23)*. Uzbekistan has conducted a human resources for health information system assessment in order to make progress towards a unified system.

Finally, four CACs have a regulatory body under their respective ministries of health *(8)*, and the regulatory bodies of Kyrgyzstan, Tajikistan and Uzbekistan have distinct policies and processes for midwives (Fig. 4) *(10)*.

Fig. 4. Regulation of nursing and midwifery employment and working conditions in CACs
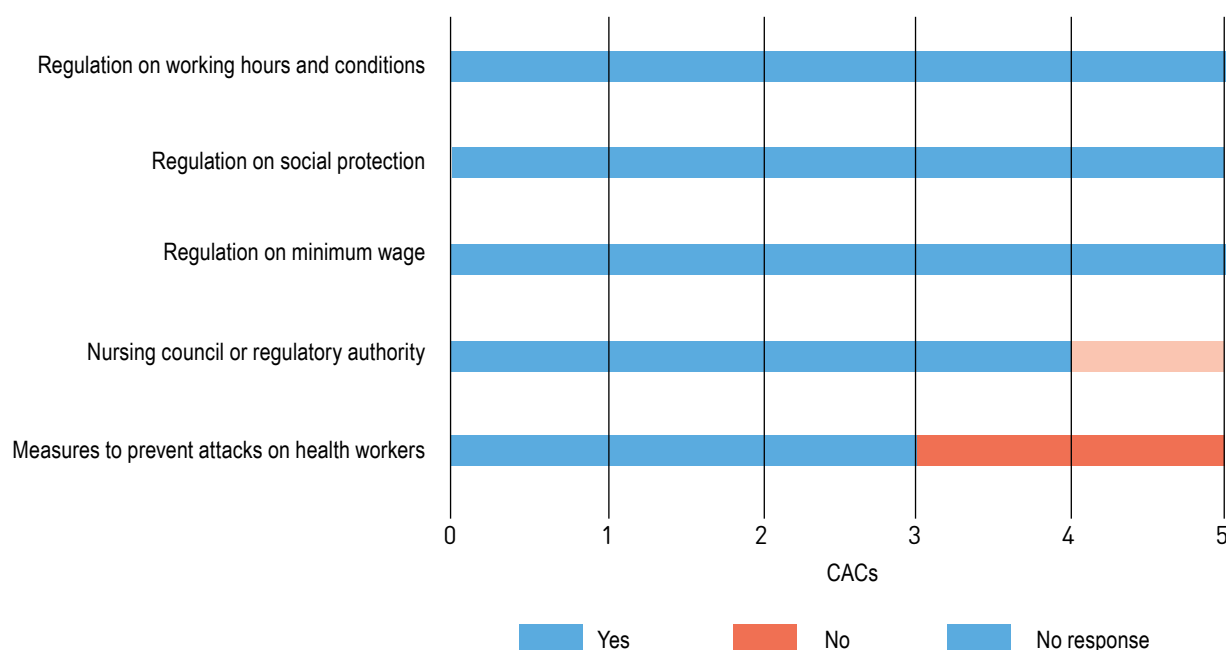
Source: National Health Workforce Accounts and WHO European Region, Eurostat and OECD Joint Questionnaire on Non-monetary Health Care Statistics *(7)*.
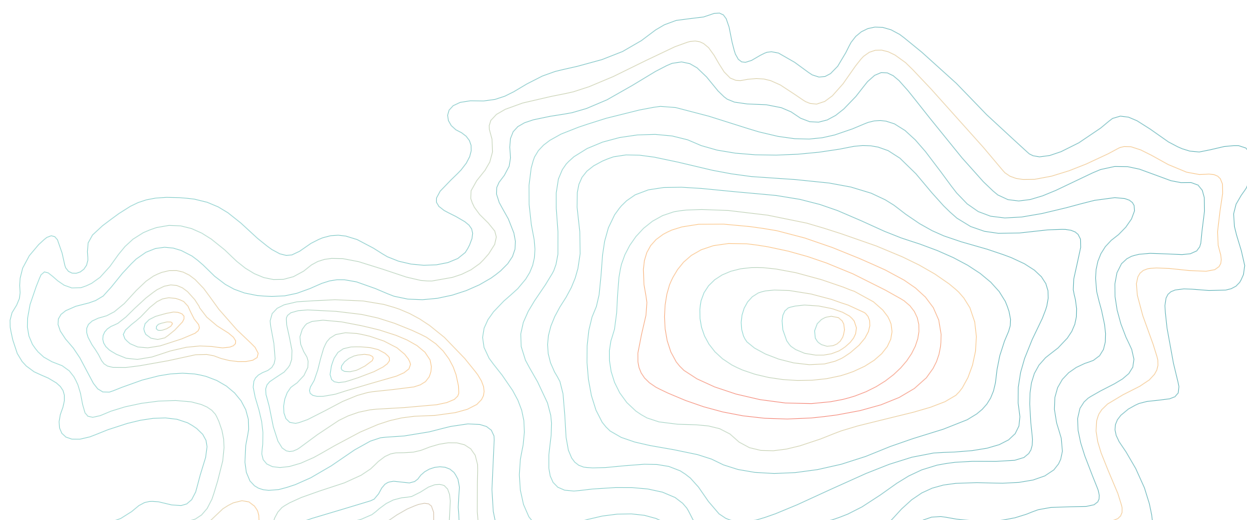
Strategic pivots for the central Asian region

The successful implementation of the strategic directions will require sustained commitment by multiple partners to policy dialogue, decision-making and investment that can ensure planned, sequenced and bundled policies.

GCNMOs are also important partners in implementation. Around the world but also in the central Asian region, they have demonstrated experience in the oversight of nursing and midwifery regulation of education and work, contributed to health decision-making and successfully brought stakeholders from strategic sectors that can benefit from nursing and midwifery input *(8, 36)*.

Below is a list of priority areas of action for each of the four strategic directions for strengthening nursing and midwifery.

Strategic pivot 1: align education with health priority areas and people's needs

Midwife and nurse graduates match or surpass health system demand and have the requisite knowledge, competencies and attitudes to meet national health priorities.

CACs account for 15.4% of nursing graduates and 9.8% of midwifery graduates of the WHO European Region. Several countries in central Asia have launched important educational reforms to improve both professional and vocational education and training *(12, 17)*. Common features of the reforms are to bring the education system more in line with the population's needs and the state of the art of nursing science, optimize utilization of available resources, and develop practical training including mentorship *(10,*

12–16). In addition, countries are working on the harmonization of standards and quality assurance to meet international standards and ultimately provide quality care to meet population needs *(21, 22)*. The approach to education reform in Kazakhstan, Kyrgyzstan and Uzbekistan is to align educational programmes with the Bologna Process established in the European Higher Education Area. Improvements in the educational environments of nurses in Tajikistan have also been documented *(19)*.

Priority areas for action

▶ Align nursing and midwifery educational levels in CACs with the requirements of high-level and competency-based education programmes able to respond to population needs and health systems demands.

▶ Revision of educational standards with the focus on nursing science, reflective practice and learning outcomes to meet population needs.

▶ Faculty development, including revision of qualification requirements, training and elimination of barriers to increase the proportion of faculty who are nurses and midwives.

▶ Development of textbooks and materials that are based on nursing and midwifery fundamentals and science, with harmonized language.

▶ Development of research in nursing and midwifery at all levels of education (bachelor, master's and doctorate (PhD)).

- Creation of a peer-review nursing journal with the aim of it being indexed in international biomedical databases.
- Strengthen accreditation of educational institutions and internal and external quality assurance.

Strategic pivot 2: optimizing the scope of nurses and midwives

Midwives and nurses work to the full extent of their education and training in safe and supportive service delivery environments.

Nurses and midwives are crucial in rural and underserved areas where they are often the only available provider of care *(16)*. Previous evaluations of family health nurse practice have shown that there is ample room to expand the role of nurses in PHC with relatively positive acceptability among other members of multidisciplinary teams in Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan *(28–31)*. Advancing nurses' and midwives' roles, skills, professional development and scope of practice is central to primary care reforms as the first point of care and achieving universal health coverage in CACs remains a functional challenge *(27)*.

Four CACs have a regulatory body under their respective ministries of health *(8)*. Of these, the regulatory bodies of Kyrgyzstan, Tajikistan and Uzbekistan have distinct policies and processes for midwives *(10)*. In addition, noticeable progress has been made in the digitalization of health systems *(23)*.

Priority areas for action

- Strengthen the professional regulatory framework to ensure consistency between areas of education and optimized roles in nursing and midwifery practice, protection of the public and harmonization of regulations across CACs.
- Implement CPD for nursing and midwifery tailored to clinical profiles.
- Optimization of the professional structure that encourages nurses and midwives to become key members of multidisciplinary and integrated teams, including clear prospects for career growth and criteria for promotion.
- Expansion of the roles of nurses and midwives, including family health nurses' role in noncommunicable disease management, mental health, reproductive, maternal, child and newborn health, and the care of older people.
- Support for cultural change regarding the acceptability of introducing advanced nursing and midwifery functions and implementing a multidisciplinary approach in hospital and primary care teams.
- Use and improvement of digital solutions in nursing and midwifery practice to record and document nursing interventions and enable communication between nursing and midwifery professionals. This should be done in consultation with nurses and midwives.
- Maintenance of local registers of nursing and midwifery functions (including nurses and midwives in specialized roles).

Strategic pivot 3: strengthening nursing and midwifery leadership across health policy, research and service delivery

Increase the proportion and authority of midwives and nurses in senior health and academic positions and continually develop the next generation of nursing and midwifery leaders.

Creating leadership opportunities is associated with strengthened nursing and midwifery workforces *(8, 9)*. All five CACs have appointed a GCNMO or chief specialist in nursing care. The titles of nursing and midwifery senior leadership positions in CACs vary. A core role of GCNMOs or chief specialists in CACs is to identify nursing and midwifery needs related to education or clinical practice, promote systemic changes to nurses' and midwives' scope of practice by expanding their functions at different levels, and implement regulated provisions to strengthen nursing and midwifery capacity. In general, the development of individual leadership competencies, as well as organizational components, is essential to enable GCNMOs to work effectively *(36)*.

Priority areas for action

▶ Creation of a coordinating council of CAC GCNMOs.

▶ Ensure the GCNMO role is resourced (human and financial), has a mandate with sufficient authority for decision-making in relation to nursing and midwifery, and contributes to health policy development.

▶ Organization of training in leadership development and skills for GCNMOs, senior nurses and midwives, and nurses and midwives at all stages of their education and career, including policy leadership.
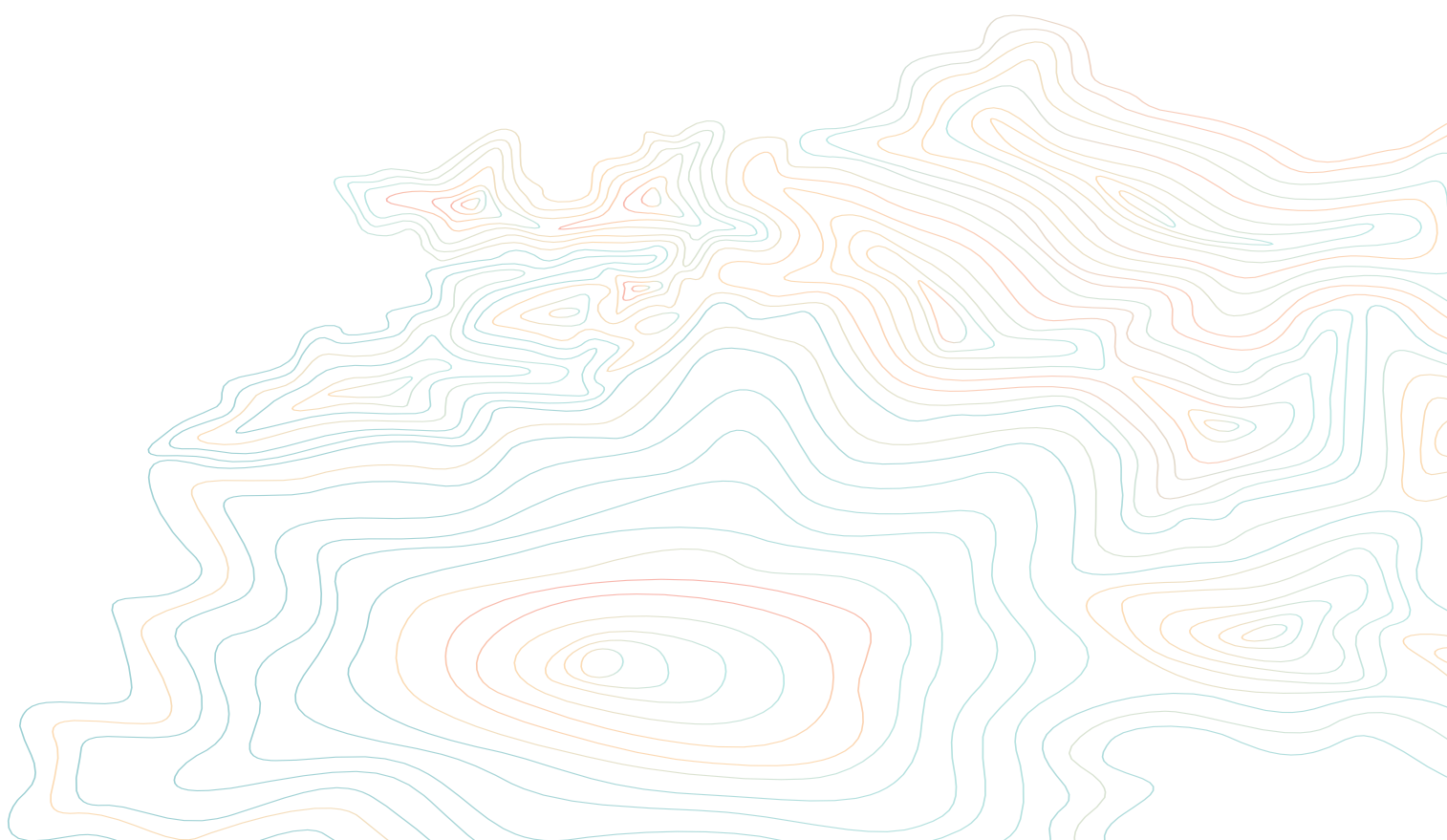
Strategic pivot 4: invest in effective retention policies to recruit and retain the future nursing and midwifery workforce

Increase the availability and sustainability of the health workforce by creating nursing and midwifery jobs, effectively recruiting and retaining midwives and nurses, and ethically managing international mobility and migration.

Four out of five CACs reduced the density of nurses and all reduced the density of midwives between 2010 and 2020 or the nearest year. According to the available data on nursing and midwifery age and gender distribution, nurses and midwives in CACs are predominantly female and aged below 44 years *(7, 16)*. The young profile of nurses and midwives in CACs, the majority of whom are women, underscores the urgent need to improve retention and investment for better working conditions, salaries and efforts to protect the physical and mental health of nurses and midwives. A better understanding of professional mobility of nurses and midwives will be important for effective workforce planning and management of the health labour market.

All CACs have regulations governing working hours and conditions, social protection and minimum wage. The average income of nurses and midwives has increased in recent years, yet it is low compared to the average wage of full-time employees in other public sectors in CACs and does not take into account inflation *(16, 35, 39)*. Enabling environments for midwives and nurses to provide care encompasses safe staffing, respect, collaboration with other health professionals, adequate resources, authority to perform tasks, effective referral systems, experienced leaders and supportive facility management *(8, 9)*.

Priority areas for action

▶ Strengthen capacity to collect and analyze data to support effective health-care needs assessment, including nursing and midwifery workforce planning and forecasting through a health workforce labour market lens.

▶ Improve the working conditions of nurses and midwives, including reducing heavy workloads and excessive working hours, providing more flexibility in contract arrangements, ensuring fair remuneration, and protection against violence and harassment.

▶ Ensure reliable staffing norms and systems are in place for the safety of nurses, midwives and patients.

▶ Improve implementation of evidence-based nursing and midwifery guidelines.

▶ Support and retention of health personnel in rural, remote and underserved areas through measures such as financial and education incentives, career pathways and decision-making power for nurses and midwives working in primary care facilities.

Monitoring and implementation

Robust human resources for health information systems able to report about nursing and midwifery workforces are fundamental to monitoring and evaluating the impact of the proposed strategic directions.

Monitoring progress will rely on pre-existing collection mechanisms through the National Health Workforce Accounts and the WHO European Region, Eurostat and OECD Joint Questionnaire on Non-monetary Health Care Statistics. Three rounds of reporting are proposed: baseline information (2025), mid-term progress (2027) and final progress report (2030). CAC information passed to WHO for the State of the World's Nursing report will help inform baseline data. Table 1 shows the proposed indicators for monitoring implementation.

The WHO Regional Office for Europe will facilitate collaboration of multiple partners in supporting implementation of the strategic directions through a package of actions that are strategic, systemic, interconnected and tailored to the local health system.

The coordinating council of CAC GCNMOs will be instrumental in guiding implementation of priority areas for action across countries, based on a strengths-based approach, to accelerate gains in the different CACs.

A monitoring and implementation plan is proposed in Annex 1.

Conclusion

Strategic directions for nursing and midwifery in central Asia 2025–2030 has been developed to support Member States in the central Asian region in realizing key priority areas for strengthening nursing and midwifery while accounting for regional specificities and policy context, and common and unique challenges. It has been developed in close collaboration with the governments of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. It serves as a very important opportunity to implement the WHO European Region *Roadmap for health and well-being in Central Asian countries (2022–2025): progress and opportunities (1)*, through strategic and very clear areas of activity of support to Central Asia's largest health workforce: nurses and midwives. The WHO Regional Office for Europe will be supporting central Asia in these areas over the next 6 years to ensure that every person in the central Asian region can benefit from the full contribution of nurses and midwives.

Table 1. Proposed indicators for monitoring the implementation of the strategic directions for nursing and midwifery in central Asia

Strategic direction	Indicators
Education	• Duration of education and training • Existence of national education programmes aligned with population health service needs • Ratio of graduates to stock • Ratio of applications to education and training capacity • Accreditation mechanisms for education and training institutions and their programmes • Standards for interprofessional education • Existence of standards for faculty qualifications
Service delivery	• Nursing and midwifery density • Nursing and midwifery density at subnational level • Nursing and midwifery distribution by age group • Nursing and midwifery distribution by gender • Share of newly active nurses and midwives in last 12 months by domestic trained and foreign trained • Nursing and midwifery distribution by place of birth • Nursing and midwifery distribution by place of training
Leadership	• Existence of chief nurse/midwife or equivalent at national level • Existence of leadership development opportunities • National nursing and midwifery scientific association for pre-licensure and/or early career professionals
Jobs	• Existence of authority for regulation of nursing and midwifery • Fitness for practice or licensure examination • Existence of a CPD framework • Regulation on working hours and conditions • Existence of advanced nursing roles

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Annex 1. Monitoring framework

Education

Table A1: Strategic direction: midwife and nurse graduates match or surpass health system demand and have the requisite knowledge, competencies and attitudes to meet national health priorities

Target	Action			Execution mechanism
	Short term (2027)	Medium term (by 2030)	Long term (2030 and beyond)	
Prepare the regulatory documents to upgrade entry-level education programmes available for nursing and midwifery; seek to harmonize with neighbouring countries	Align nursing and midwifery educational levels in central Asian countries (CACs) with the requirements of high-level and competency-based education programme able to respond to population needs and health-system demands	Align the education to Bologna requirements (1)	Application for access to the European Higher Education Area (EHEA) (1)	State standard on compulsory nursing and midwifery education
Revision of educational standards with the focus on nursing and midwifery science, reflective practice and learning outcomes to meet population needs	Review the requirements to entry nursing and midwifery programmes	Increase the proportion of practical classes to 50% of a nursing degree; Development of pedagogic textbooks and materials and training based on nursing and midwifery fundamentals and science, with harmonized language; Reduction of hours in general education subjects	Increase the number of hours in specialties	State standard on compulsory nursing and midwifery education; Creation of a working group to develop and implement new recommendations. Establishing working groups that consist of: • Government chief nursing and midwifery officers (GCNMOs) • Ministries of health and education • Educational and training institutions
Strengthening the qualifications of nursing and midwifery educators to reflect practice	Develop roadmap for incorporating more qualified nurses into faculty positions; Faculty development, including training of the trainer development programmes for nurse and midwifery educators	Development of educational programmes to improve the qualifications of faculty; Established mentoring programmes and pedagogical supports for educators	Revise the qualification requirements for nursing and midwifery faculty; training and elimination of barriers to increase the proportion of faculty who are nurses and midwives	Law change to provide access to nurses and midwives to become faculty
Strengthening nursing and midwifery research in the Central Asian Countries (CAC)	Development of research modules in nursing and midwifery at all levels of education (bachelor, master's, PhD); Establish a committee to review and propose solutions to implement research at all levels of nursing and midwifery education; Deep-dive: study visits with WHO collaborating centres on nursing and midwifery	Creation of a peer-review journal on nursing and midwifery; Establishment of nursing and midwifery centres of excellence in all countries	Introduce research curricula into all levels of nursing and midwifery education	Established Central Asian network for nursing and midwifery research

Education *(contd)*

Target	Action			Execution mechanism
	Short term (2027)	Medium term (by 2030)	Long term (2030 and beyond)	
Strengthen continuing professional development (CPD) for nursing and midwifery tailored to nurse and midwife clinical profiles	Mapping of skills and knowledge needs Mapping of trainings offered in each country	Creation of a unified CPD educational database for nurses and midwives Creation of an e-learning platform tailored to the clinical profile of nurses or midwives	Creation of a unified CPD process for nurses and midwives	Adjust regulation associated with certification system to match developments in CPD led and facilitated by: • GCNMOs • Ministries of health and education • Employers • Post graduate education centres for nursing and midwifery development
Strengthen accreditation of educational institutions and internal/external quality assurance	Assessment of current system of accreditation and internal and external quality assurance mechanisms Develop plan for improving accreditation of educational institutions	Creation or adaptation of accreditation committee in all countries		Cross country network of accreditation committees for nursing and midwifery education

Mechanisms requiring funding to facilitate regional cooperation

Established Central Asian network for nursing and midwifery research.

Develop a centre of excellence in nursing and midwifery education in CACs to serve as reference learning centre, consulting office and study site for the region.

Develop shared repository of standards to support central Asian ministries of health in implementation of the strategic directions for nursing and midwifery.

Cross country network of accreditation committees for nursing and midwifery education.

Develop a central Asian online repository for resources and tools available to faculty.

Joint publications to be uploaded to online repository for central Asian ministries of health.

Terms of reference and procedures in all countries uploaded to online repository for central Asian ministries of health.

Monitoring and evaluation framework

National Health Workforce Accounts and WHO European Region, Eurostat and Organization for Economic Co-operation and Development (OECD) Joint Questionnaire on Non-monetary Health Care statistics and indicators (2):

- duration of education and training
- existence of national education programmes aligned with population health service needs
- ratio of graduates to stock
- ratio of applications to education and training capacity
- accreditation mechanisms for education and training institutions and their programmes
- standards for interprofessional education
- existence of standards for faculty qualifications

Monitoring mechanism/monitoring frequency

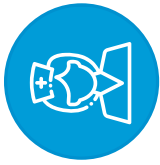CAC GCNMO coordination council, annually

Service delivery

Table A2: Strategic direction: midwives and nurses work to the full extent of their education and training in safe and supportive service delivery environments.

Target	Action			Execution mechanism
	Short term (2027)	Medium term (by 2030)	Long term (2030 and beyond)	
Creation of clear prospects for career growth; in particular, criteria for promotion and the ability to perform tasks of increased complexity	Develop and disseminate standardized clinical competency frameworks for nurses that clearly outline levels of responsibility, required skills, and promotion criteria	Introduce progressive task-shifting policies that allow nurses to gradually take on more complex clinical responsibilities (e.g., chronic disease management, triage, patient education), supported by training and mentorship from senior staff	Establish a formal career ladder system integrated into national health workforce policy, with accreditation pathways, advanced practice roles (e.g., nurse practitioner, nurse educator), and transparent links between advanced competencies and promotion/compensation	GCNMOs to organize and oversee committees for this in their respective countries
Strengthen the professional regulatory framework to ensure consistency between areas of education and optimized roles in nursing and midwifery practice and to protect the public, in addition to harmonization of regulations across CACs	Review current code of ethics for nursing and midwifery In connection to other targets, review the data to establish a nursing and midwifery register Review current mechanisms to protect nursing and midwifery interest (jurisdictional, counselling) Review current scope of certification exams to be converted into nursing and midwifery licensure examination	Establishment of national nursing and midwifery regulatory board with the purpose of protecting every citizen by ensuring that licensed nurses and midwives are competent to practice		Establishing committee that consists of : • National regulatory bodies • Professional unions • Ministries of health and justice • Regional authority • Nursing and Midwifery scientific associations • Employer organizations
Use and improvement of digital solutions in nursing and midwifery practice to record and document nursing interventions and enable communication between nursing and midwifery professionals	Consultations with nurses and midwives	Conduct study visits to explore options across the WHO European Region	Establishment of a minimum set of nursing and midwifery care data (Nursing Interventions Classification (NIC), Nursing Outcomes Classification (NOC), North American Nursing Diagnosis Association (NANDA))	Field work led by GCNMOs with support from the MOH in their respective countries
Maintenance of local registers of nursing and midwifery functions (including nurses and midwives in specialist roles)	Review of current health information system and the available data on nursing and midwifery professions	Establish a minimum set of data on nursing and midwifery workforces	Ongoing management and maintenance of nursing and midwifery registers	Leadership from GCNMOs in their respective countries

Service delivery *(contd)*

Target	Action			Execution mechanism
	Short term (2027)	Medium term (by 2030)	Long term (2030 and beyond)	
Support for cultural change regarding the acceptability of introducing advanced nursing and midwifery functions and implementing a multidisciplinary approach in hospital and primary care teams	Increase visibility of nursing and midwifery through targeted social media campaign Establish dialogs with nursing and midwifery scientific associations and other health professional groups to establish common understanding of benefits of advanced practice in Central Asian countries	Introduce and evaluate pilots in various service delivery reforms		Social media and other media stories that target the public Working closely with service delivery reform planning exercises
Improve the implementation of evidence-based nursing and midwifery guidelines	Create a multidisciplinary committee for clinical guidance review and updating	Review and update current guidelines that include nursing and/or midwifery roles	Awareness campaign and training on the new guidelines	Creation of a working group that includes: • Employer organizations • GCNMOs Guidelines approved by relevant authority

Mechanisms requiring funding to facilitate regional cooperation

Creating centres of excellence in CAR to support new models of service delivery for nurses and midwives to serve as reference learning centres, consulting offices and study sites for the region.

A repository of online webinars and courses available to nurses throughout central Asia to develop guidelines and professional standards and share best practice.

A repository of examples and publications for central Asia to share best practice in developing service models, developing CPD for improved service delivery, multidisciplinary learning and care, critical thinking in service design, and digital solutions.

Monitoring and evaluation framework

National Health Workforce Accounts and WHO European Region, Eurostat and OECD Joint Questionnaire on Non-monetary Health Care statistics and indicators (2):

• existence of authority for regulation of nursing and midwifery
• fitness for practice or licensure examination
• CPD
• regulation on working hours and conditions
• existence of advanced nursing roles

Monitoring mechanism/monitoring frequency

Coordinating council of CAC GCNMOs, meeting bi-annually

Leadership

Table A3: Strategic direction: increase the proportion and authority of midwives and nurses in senior health and academic positions and continually develop the next generation of nursing and midwifery leaders.

Target	Action			Execution mechanism
	Short term (2027)	Medium term (by 2030)	Long term (2030 and beyond)	
Creation of coordinating council of CAC GCNMOs	Launch a coordinating council of CAC GCNMOs	Approval of all necessary documents for the creation of the coordinating council of CAC GCNMOs	Coordinating council of CAC GCNMOs continue to meet regularly and work collaboratively	Office of GCNMOs within the ministry of health
Ensure the GCNMO role is resourced (human and financial), has a mandate with sufficient authority for decision-making on nursing and midwifery, and for contributions to health policy development	Identify roles and responsibilities in health workforce planning and management, data reporting and use, labour market and fiscal space analyses. Twining programmes between Member States	Reclassify the current positions of senior nursing and midwifery leaders under a structured classification of the title of government chief nursing and midwifery officer	GCNMO posts are sustainable and embedded in MOH policy making	National budget and organigrams for MOH
Organization of training on leadership development and skills for nurses and midwives for GCNMOs, senior nurses and midwives, and nurses and midwives at all stages of their education and career, including nursing policy leadership	Discussions with stakeholders and health-care organizations to establish leadership development and mentorship opportunities. Include GCNMOs in the training for capacity development of Human Resources for Health (HRH) units. Discuss a plan to strengthen National Nursing and Midwifery Scientific Associations.	Establish formal training courses for GCNMOs, and executive nursing and midwifery positions, in a sustainable manner to rapidly upskill and expand competencies in health policy, workforce planning and management. Establish formal training courses for student and early career nurses and midwives to expand competencies in health policy, workforce planning and management. Establish a central Asian region nursing and midwifery leadership network		Coordinating council for CAC GCNMOs and Ministry of Health

Mechanisms requiring funding to facilitate regional cooperation

Creation of a coordinating council of CAC GCNMOS with funding and mandate to oversee national and subregional implementation of action plan.

CAC centre for training nursing and midwifery leadership established in Uzbekistan to serve as reference learning centre, consulting office and study site for the region.

Development of a series of courses.

A repository of online webinars and courses available to nurses throughout Central Asia.

Monitoring and evaluation framework

National Health Workforce Accounts and WHO European Region, Eurostat and OECD Joint Questionnaire on Non-monetary Health Care statistics and indicators (2):

- existence of chief nurse/midwife or equivalent at national level
- existence of leadership development opportunities
- national association for pre-licensure and/or early career professionals

Monitoring mechanism/monitoring frequency

Coordinating council of CAC GCNMOs, meeting bi-annually

Jobs

Table A4: Strategic direction: Increase the availability and sustainability of the health workforce by creating nursing and midwifery jobs, effectively recruiting and retaining midwives and nurses, and ethically managing international mobility and migration.

Target	Action			Execution mechanism
	Short term (2027)	Medium term (by 2030)	Long term (2030 and beyond)	
Strengthen capacity to collect and analyze data to support effective health-care needs assessment, including nursing and midwifery workforce planning and forecasting through a health workforce labour market lens	Conduct a health labour market analysis (HLMA) to inform strategic plans and investment for the nursing and midwifery workforces	Implementation of HLMA recommendations for nursing and midwifery		Working groups established to develop and implement new recommendations Establishing working groups that consist of: • Ministries of health, labour, education and finance • National regulatory bodies • Professional unions • Ministries of health and justice • Regional authority • Nursing and Midwifery scientific associations • Employer organizations
Improve the working conditions of nurses and midwives, including reducing heavy workloads and excessive working hours, providing more flexibility in contract arrangements and ensuring fair remuneration	Creation of a multisectoral working group Scoping assessment of working conditions and establish recommendations to be implemented at national, health facility and individual level	Develop strategies to ensure fair wages, safe staffing, continuing professional development (CPD), career paths and rural retention strategies	Implementation of recommendations at individual, health facility and national level	Establishing committee that consists of: • Ministries of health and labour • Occupational health and safety department • National regulation bodies • Professional unions • Employer organizations
Ensure reliable staffing frameworks for nursing, midwifery and patient safety	Review of legislation on ensuring staffing norms and systems for patient safety	Conduct workload indicator of staffing needs (WISN) analyses	Implementation of WISN results	Establishing committee that consists of: • Ministry of health • National regulation bodies • Professional unions • Employer organizations
Expansion of the roles of nurses and midwives, including family health nurses' role in noncommunicable disease management, mental health, reproductive, maternal, newborn and child health, and care of older people	Review periodicity and process to renew professional credentials	Update and harmonize legislation and regulations to allow midwives and nurses to practise to the full extent of their education and training		Establishing committee that consists of: • Ministry of health • Centre for nursing and midwifery development • Employer organizations • Nursing and Midwifery scientific associations • Associations, including other disciplines • Education institutions • National regulation bodies • Professional unions

Jobs *(contd)*

Target	Action			Execution mechanism
	Short term (2027)	**Medium term (by 2030)**	**Long term (2030 and beyond)**	
Support and retention of health personnel in rural, remote and underserved areas, including financial and education incentives, career pathways and decision-making power for nurses and midwives working in primary care facilities		Review of working conditions, including salary of nurses and midwives Completion of the National Reporting Instrument of the WHO Global Code of Practice on the International Recruitment of Health Personnel (the "Code") (3)	Conduct bilateral discussions related to international health worker migration and mobility	Completion of the National Reporting Instrument of the WHO Global Code of Practice on the International Recruitment of Health Personnel (the "Code") (3) Bilateral agreements Establishing committee that consists of: • Ministry of health • Nursing and Midwifery scientific associations • Associations, including other disciplines • Education institutions • National regulation bodies • Professional unions • Rural practitioners

Mechanisms requiring funding to facilitate regional cooperation

Conduct HLMAs in Turkmenistan, Kazakhstan, Kyrgyzstan and Uzbekistan with GCNMO engagement.

Creation of a centre excellence in data and analysis of the health workforce in Tajikistan to serve as reference learning centre, consulting office and study site for the region.

Develop shared online repository of workforce analysis tools for central Asian ministries of health.

Joint publications on HLMA process to be uploaded to online repository for central Asian ministries of health.

Subregional dialogues on HLMA.

Subregional dialogues on WHO Global Code of Practice on the International Recruitment of Health Personnel.

Subregional dialogue on working conditions for nurses and midwives.

Massive central Asian social media campaign to recruit nurses and midwives

Monitoring and evaluation framework

National Health Workforce Accounts and WHO European Region, Eurostat and OECD Joint Questionnaire on Non-monetary Health Care statistics and indicators (2):

- health worker distribution by age group and by gender
- health worker distribution by gender
- health worker density
- share of newly active health workers in last 12 months by domestic trained and foreign trained
- health worker distribution by place of birth
- health worker distribution by place of training
- health worker density at subnational level.

Monitoring mechanism/monitoring frequency

Coordinating council of CAC GCNMOs, meeting bi-annually.

References[2]

1. The Bologna Process and the European Higher Education Area [website]. European Commission; 2022 (https://education.ec.europa.eu/education-levels/higher-education/inclusive-and-connected-higher-education/bologna-process).

2. WHO National Health Workforce Accounts and WHO/Europe-Eurostat-OECD Joint Questionnaire on non-monetary health care statistics (https://apps.who.int/nhwaportal/).

3. WHO global code of practice on the international recruitment of health personnel report by the Secretariat. Geneva: World Health Organization; 2015. A68/32 (https://iris.who.int/handle/10665/253043).

[2] All references were accessed on 15 July 2025.

The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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