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Family Medicine

ORIGINAL ARTICLE

The Evolution and Challenges of Family Medicine in Kyrgyzstan: A Health System Analysis

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ABSTRACT

Following its independence from the Soviet Union in 1991, Kyrgyzstan became a pioneer in Central Asia by implementing extensive health care reforms that introduced family medicine. Beginning in the late 1990s, these reforms strengthened primary health care by introducing family medicine as a specialty and a key component of the health care system. This approach improved the quality of medical care while reducing health care costs and gradually extended to reforms in medical education and the broader health care system, including efforts to address the rural medical workforce. However, challenges remain in fully embedding family medicine into Kyrgyzstan's medical education and health care system. This paper aims to analyze the progress made since the early reforms, assess recent developments, and explore the ongoing challenges in institutionalizing family medicine within Kyrgyzstan's health care landscape.

A full-text Russian translation of this article is available from author Paul Fonken (paul.fonken@gmail.com).

INTRODUCTION

Kyrgyzstan is a small, landlocked country in Central Asia (Figure 1).[1] Kyrgyzstan's health care system has undergone significant transformation since its 1991 independence from the Soviet Union. Collapse of the centralized, specialist-driven health care model left the country with a fragmented, inefficient system. Recognizing the urgent need for reform, the government embarked on initiatives to modernize the health care system with family medicine at the core. Over 3 decades, reforms to institutionalize family medicine as the foundation of primary health care were implemented (Appendix Table 1).

The Manas Project (1996–2005) introduced family medicine as a key component of health care reform. This project improved the quality of care while reducing health care costs.[2] Strong political will coupled with cooperation from international donors facilitated the successful rollout of a family medicine approach.[3] This approach was a critical milestone in transforming primary care in Kyrgyzstan. Subsequent projects enhanced Kyrgyzstan's health care system. The Manas Taalimi (2006–2011) and Den Sooluk (2012–2018) projects further enhanced family medicine in rural areas and improved the quality of care by targeting maternal and child health, noncommunicable diseases, tuberculosis, and HIV/AIDS. The Healthy Person/Prosperous Country (2019–2030) Program continues this path, aiming to align national health priorities with the World Health Organization (WHO) Sustainable Development Goals and improve overall health and well-being.[4]

Despite these reforms, family medicine is not fully embedded into the Kyrgyz health care system. Persistent financial constraints, uneven distribution of resources, and limitations on family physician scope of practice have hampered progress. Changes in postgraduate education that deter medical students from choosing family medicine and overvaluing narrow specialists further exacerbate the issue. This paper aims to analyze the progress made since the early reforms, assess

FIGURE 1. **Map of Kyrgyzstan**[1]

recent developments, and explore the ongoing challenges in institutionalizing family medicine within Kyrgyzstan's health care landscape.

FAMILY MEDICINE DEVELOPMENT

Health System

In 1996 Kyrgyzstan undertook major reforms of the health care system with the aims of strengthening primary care, developing family medicine, and restructuring the hospital sector. International cooperation from WHO, the US Agency for International Development, the UK Department for International Development (now the Foreign, Commonwealth and Development Office), and the World Bank supported these reforms. Key components involved retraining other specialists to become family physicians, establishing family medicine postgraduate programs, developing family medicine educators, and training family nurses to support family physicians.[3] This comprehensive approach was critical in establishing family medicine centers (FMCs) and family group practices (FGPs), which provided accessible primary care to the population.[5]

The early years of family medicine development faced resistance from other specialists who were reluctant to change from their specialized practices to family medicine. The infrastructure for training family physicians was underdeveloped, and public awareness of the family medicine model was low. Development of family medicine educators to train family physicians across the country improved the infrastructure and public awareness. A newly created Family Group Practice Association successfully advocated for family medicine doctors and helped define scope of practice. Pilot FMCs and FGPs in selected regions refined the family medicine approach before scaling it nationwide. Introduction of a single-payer system managed by the Mandatory Health Insurance Fund (MHIF) improved health care financing. By the end of the Manas Project, family medicine was established with 2,691 outpatient pediatricians, general physicians, internists, and obstetricians/gynecologists retrained as family physicians.[5] This period marked a reduction in hospital referrals and overall health care costs, and improvement in patient care.[5]

Building on the success of the Manas Project, the Manas Taalimi Project (2006–2011) aimed to further strengthen family medicine across Kyrgyzstan's health care system. This phase focused on strengthening family medicine in rural areas, improving referrals, reducing regional inequalities in access and outcomes, and raising quality of care. Cardiovascular diseases, respiratory illnesses, HIV/AIDS and tuberculosis were prioritized.[3] The program faced several obstacles. The urban-rural health care divide remained stark, with rural areas lagging behind in infrastructure, resources, and trained health care professionals. Low renumeration of health workers led to increased outflow of human resources to urban areas and other countries.[6] Nonetheless, this stage laid the foundation for further reforms to enhance the quality and scope of family medicine services.

The Den Sooluk Project, launched in 2012, shifted focus toward improving family physician quality of care and addressing the growing burden of noncommunicable diseases. Family medicine was positioned as the primary mechanism for

managing cardiovascular disease, tuberculosis, and HIV, and promoting maternal and child health. This shift was achieved by integrating services across care levels and involving primary care in the delivery of prevention, treatment, rehabilitation, and support services.[4] Public Health Committees were established in 51 cities and district centers, offering health promotion services in collaboration with primary care professionals. By early 2018, 85% of villages were covered by health promotion programs. Several nationwide health campaigns were administered through the network of Village Health Committees, a community-based volunteer group elected by residents.[4]

By the conclusion of Den Sooluk, family medicine had become a central part of the health care system. Insufficient health care human resources remained a problem in rural areas due to inadequate social and economic conditions to attract young professionals. Continuing medical education (CME) programs were not consistently available, leading to variations in care quality. Patients, especially in urban areas, continued to prefer specialist care, undermining confidence in family physicians.

The Healthy Person/Prosperous Country Program, launched in 2019, prioritizes public health, disease prevention, and the development of primary and emergency care. Similar to Den Sooluk, the goals are to improve access and coordination between care levels, improve the quality of primary care services, and promote a comprehensive, person-centered approach.[4] Key initiatives include addressing workforce shortages in remote areas, reforming medical and nursing education, and implementing e-health solutions for data integration and real-time access to health information. The Republican E-Health Center electronic medical record has strengthened the government's capacity to oversee the digital transformation of the health care system.

From 2018 to 2021, Kyrgyzstan attempted to attract and retain family physicians through bonuses based on indicators of quality and scope of care.[7] The number of medical school graduates entering family medicine did increase. Since the return to standardized salary in 2021, the number of graduates entering family medicine has been decreasing (Appendix Table 1).

Medical Education

Kyrgyzstan's family medicine education system has been shaped by this series of health system reforms. In 2012, the curriculum shifted away from a theory-focused model to a clinical, competency-based approach. With support from the Swiss Agency for Development and Cooperation (SDC) and the University of Geneva, medical training was reoriented toward preparation to practice in primary care settings. The curriculum emphasizes generalist skills, ensuring that graduates are equipped to work as family doctors.[8] The establishment of clinical skills centers and the introduction of structured assessment methods, including objective structured clinical examinations, have been instrumental in raising the standards of medical training. The introduction of decentralized clinical training sites in regions outside the capital has improved access to clinical experience for students across the country.

In 1998, the Kyrgyz State Medical Academy and the Kyrgyz State Medical Institute for Retraining and Continuing Education (KSMIRCE) established family medicine departments and residency programs. Approximately 500 family medicine residents graduated from these programs in the capital city of Bishkek over the first 20 years. A tiny fraction of graduates subsequently practiced outside the capital city. Since 2018, the government has mandated rural postgraduate family medicine education and service for doctors completing medical school on government scholarships. Decentralization of postgraduate family medicine education has improved the retention of family medicine residency graduates in rural areas, especially when family medicine residents train in their hometowns. The volume of clinical experience and level of responsibility are greater for rural residents than their urban counterparts. Rural residents usually care for their own assigned patient population, supporting development of population health skills. Urban residents primarily observe their supervisors. The quality of the supervision in rural areas varies. Clinical supervisors must care for their own patient populations without dedicated time to supervise residents. KSMIRCE has partnered with the Scientific Technology and Language Institute (STLI; https://www.stli.org) since 2019 through the Rural Health Project (RHP) to enhance postgraduate education. STLI provides volunteer expatriate family medicine consultants who conduct direct clinical mentoring in rural clinics across all oblasts (regions) supporting the clinical supervisors. These consultants, from the United Kingdom and the United States, have provided more than 1,000 hours of clinical mentoring to more than 100 rural residents and young family doctors. RHP initiated an annual 9-month faculty development program for clinical supervisors in 2021. This initiative has trained 114 clinical supervisors for family medicine residents.

Recent reforms have introduced innovative approaches to CME. The use of e-learning platforms and peer discussion groups (PDGs) learning provide decentralized approaches, making CME more accessible, particularly in remote areas. The Medical Education Reform (MER) Project, implemented by SDC and local partners, supports piloting these models. Since 2020, KSMIRCE has partnered with STLI and the University of New Mexico's ECHO program (https://projectecho.unm.edu), providing online case discussions for young family doctors and residents. The Kyrgyz Medical Association (KMA) has played a role in standardizing and delivering CME courses. KMA developed competency-based curricula, defining competencies for various specialties and involving professional associations in the certification processes. Supported by the MER Project, KMA acts as an umbrella organization for 15 professional medical associations fostering collaboration and trust. Their involvement in educational and supplementary activities, including study tours and development initiatives, has enhanced institutional capacity and the overall framework of medical education.

CURRENT CHALLENGES

Health System

Low public trust in family medicine continues, with a preference for hospital-based and specialist care. The reasons are multifactorial. Influence from the prior Soviet polyclinic structure, which emphasized care by subspecialists, remains. Limited diagnostic and treatment services are available in primary care settings, requiring referral to other specialists. Regulations and protocols limit the investigations and therapies family physicians can order without referral. While communities trust their established family doctors, family medicine is not fully utilized across the health system.

High out-of-pocket payments and gaps in mandatory health insurance coverage pose barriers to accessing care. MHIF has the potential for strategic purchasing to improve care quality and reduce costs. Recent reforms, merging primary care organizations with hospitals at the district level, shifted financial control to the hospital directors. In districts where the hospital director perceives value in primary care, funds for family medicine services improved. Where the hospital director prioritized the hospital, funding for family medicine services decreased.

Disparities in health care provision exist between rural and urban areas. Rural areas lack family doctors, subspecialists, and many specialized health services. Low government spending on health and lack of attention to factors that improve recruitment and retention of health professionals are contributors to these disparities. Efforts are in progress to increase access to subspecialty care via telemedicine.

Salaries for family physicians have increased recently, including pay differentials for working in the most rural locations. Base salaries for family doctors are now higher than salaries for outpatient specialists. Incentives are established for remaining in rural locations. Physicians who remain in a rural area for more than 3 years can receive a significant financial bonus. They may reapply every 3 years. However, salaries remain low compared to most Central Asian Republics and Russia. This discrepancy fuels emigration of doctors.[9]

Implementation of the electronic medical record nationally has been challenging and prolonged. Physicians must complete duplicate electronic and paper charting. The timeline for transition to only electronic documentation is not clear. Nurse and physician documentation are not integrated to maximize nursing documentation. Electronic prescribing is possible, but the interface between the inpatient and outpatient electronic records is less than ideal.

Medical Education

Medical schools are employing more effective education strategies and increasing clinical experiences. Class sizes have increased, resulting in more finances from tuition and fees for medical schools but overcrowding for students. The increased volume of students strains the capacity of teaching hospitals and limits the quality of hands-on training.[8] Students' interest in family medicine declines as they progress. While 24% of first-year students express interest in family medicine, this percentage drops to 8% by their final year.[10] Several factors contribute to this trend. Medical students prioritize access to advanced medical technologies, career growth, higher salaries, and opportunities to work abroad. Family medicine is viewed as a less prestigious and more difficult specialty with a broad scope of practice, offering fewer career prospects and lower financial rewards.[10] This perception is particularly true in rural regions where equipment is inadequate and resources are limited. Negative perceptions are reinforced by professors and role models who undervalue family medicine. Despite these hurdles, some students recognize the social importance of family medicine and see it as a way to serve underprivileged communities. This sense of social responsibility is stronger early in medical school and diminishes as graduation approaches.[11]

Decentralizing postgraduate medical education and ensuring comprehensive, hands-on training in primary care settings remain a top priority. The majority of postgraduate programs are based in Bishkek and Osh (the two largest cities). These programs do utilize rural training locations for some postgraduates. In 2017, legislation was introduced requiring all medical school graduates who received government scholarships to complete their mandatory 1-year internship as a general physician in a regional health care facility.[12] The internship year counts as the first year of postgraduate training for all residency programs. One additional year is required to complete the 2-year family medicine residency or 2 additional years for most other specialties. This mandate increased the number of residents training as general practitioners in rural facilities for the internship year. Some of these choose to pursue family medicine. Of those continuing as family medicine residents since 2020, 63% have chosen to do their second year of postgraduate training outside of the capital city, Bishkek (Appendix Table 1). Graduates originally from rural areas and with family support in rural areas are more likely to remain and practice in rural areas. The overall supply and distribution of family physicians is not improving due to emigration and retirement of physicians trained during the Manas Project.

Options for CME are increasing. KSMIRCE began computer-based distance education in 2005. Since 2020, KSMIRCE, STLI, and the University of New Mexico's ECHO Program have been hosting online tuition-free case discussions with family medicine residents and young rural family doctors to improve clinical reasoning. Participation and satisfaction with these interactive sessions are high, with little connectivity difficulty. In-person PDGs in rural areas are challenging due to the limited number of family doctors and the long distances participants must travel to the rayon (regional) centers. Lack of skilled facilitators hampers the quality of PDGs. Responsibility for funding CME is inconsistent. Health facilities are expected to provide funding and cover expenses. Their CME budgets are often insufficient. Doctors then must pay for courses to fulfill required credit hours. Lack of cooperation agreements among education organizations,

CME providers, professional medical associations, and health organizations limits access to training facilities for practical skill development.

FUTURE DIRECTIONS

Health System

Development of policies and initiatives proven to advance family medicine and improve the rural workforce is necessary for further progress of family medicine in Kyrgyzstan. Recruiting future family physicians from rural communities and conducting clinical training in rural locations increase the likelihood that medical students will choose family medicine and return to practice in rural communities.[13–16] An initiative that strategically recruits medical students from rural communities and connects them to existing rural postgraduate programs for training would improve the supply of rural family doctors in Kyrgyzstan. Financial incentives that include postgraduate stipends, sufficient salary, and loan forgiveness increase medical student choice for family medicine and rural practice.[16] Loan forgiveness programs are in place. Increasing postgraduate stipends and salaries for rural family physicians to be competitive for the region would improve student choice for rural family medicine as well as retention. Ensuring favorable working conditions with well-functioning facilities, including supplies, equipment, and supportive infrastructure maximizing physician-nurse collaboration, improves recruitment and retention.[13,14] Effective models exist in Kyrgyzstan. These should be identified and replicated. Policy changes are necessary to develop an infrastructure where family physicians can practice broadly without required referrals. Services and opportunities that facilitate education for children, jobs for spouses, and favorable housing are integral for recruitment and retention of rural family physicians.[15] Countrywide investment in education, job opportunities, and appealing housing in rural communities is necessary. Electronic medical records with shared physician and nurse documentation, utilization of templates, and system-wide integration can streamline recordkeeping and facilitate care. These aspects of the electronic medical record should be maximized. Duplicate paper documentation is unnecessary.

Medical Education

Educational reforms that designate family medicine as an academic specialty, integrate family medicine into medical school curricula, provide student mentorship programs, and ensure effective CME are crucial for the advancement of family medicine. Early career academic family physicians are being developed and mentored through RHP. Collaboration with supportive nonfamily medicine faculty for academic recognition of family medicine is ongoing. Integrating family medicine into the curriculum of every medical school in Kyrgyzstan is crucial. This reform requires a Ministry of Education mandate and sufficient faculty to develop and teach the curriculum. Programs that mentor students and present opportunities for professional growth and leadership roles facilitate interest in family medicine. Supporting this effort requires sufficient clinical faculty. Broader educational improvements for undergraduate and postgraduate education are needed in competency-based education, curricula, availability of medical equipment, adherence to educational requirements, and remuneration for clinical supervisors. CME is undergoing progressive development and restructuring. KSMIRCE is leading these efforts. Challenges and opportunities are defined. The next steps forward are being determined by the Ministry of Health and medical education institutions (from a conversation with I. Bolotskikh, MD, in November 2024).

CONCLUSIONS

Twenty-eight years of reforms in collaboration with international partners have established family medicine as a specialty and an integral part of Kyrgyzstan's health care system. Progress is evident in undergraduate, postgraduate, and continuing family medicine education. Strategic initiatives grounded in proven methodologies are necessary to address the remaining challenges of family medicine specialty choice, rural workforce, scope of practice, effective infrastructure, and academic recognition for family medicine. Addressing these challenges is necessary for strengthening Kyrgyzstan's health care system to fully realize improved health outcomes for its people.

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