

CASE STUDY AND LESSONS LEARNT

Improving the quality of Primary Health Care through the reform of Medical Education in Tajikistan

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ABSTRACT

Background: Tajikistan inherited a highly centralized, hospital-centred health system from the Soviet Union. Following its collapse and the ensuing civil war, a poverty reduction programme was launched, which included a major health-sector reform (HSR). The Swiss Agency for Development and Cooperation has been supporting the Government of Tajikistan in its development of health sector for over 20 years. This manuscript shares insights from the more specific task of reforming medical education, to create well-trained family doctors and nurses to deliver quality primary health care (PHC).

Approaches and Results: We describe and analyse four concurrently pursued health workforce interventions: (i) undergraduate curriculum reform to strengthen the clinical skills of both doctors and nurses; (ii) a two-year specialty training program in family medicine at post-graduate level, successfully training over 100 family doctors for rural areas; (iii) the concept of peer groups for family doctors and nurses as a low-cost, high-potential option for continuing professional development (CPD); (iv) an initiative

whereby newly trained family doctors and nurses are mentored by more experienced peers.

Conclusions: Progress has been made to reform both undergraduate and post-graduate training, and to establish a mentoring programme for family doctors and nurses. These gains, which could be of wider interest to other countries in the region working on similar reforms, nonetheless remain fragile. Securing political commitment and predictable financing in the mid to long term will be critical for ensuring the quality of medical education at undergraduate level, and making the economic case that the higher costs of running a structured, well supervised clinical post-graduate two-year programme are justified by the resulting benefits from better quality PHC. Finally, with regards to CPD, it will take more time for innovative options like self-directed learning through peer groups to gain the recognition currently bestowed on traditional CPD focusing on theoretical, specialized knowledge.

Keywords: PRIMARY HEALTH CARE, FAMILY MEDICINE, MEDICAL EDUCATION REFORM, TAJIKISTAN, HEALTH-SECTOR REFORM

BACKGROUND

The Republic of Tajikistan inherited a highly centralized, hospital-centred health system from the Soviet era, which afforded a lot of prestige to highly specialized clinicians. These specialists mainly worked in general and specialized hospitals in bigger cities, as well as at district and sub-district levels. Primary health care (PHC) was mostly provided by feldshers and midwives as the first point of contact for the rural population (1). These staff could provide basic assistance, but their main task was to triage patients for referral to the specialists. After the collapse

of the Soviet Union, and especially during the ensuing civil war (1992–1997), this system disintegrated as funding stopped, and many health care workers emigrated or left the sector. After the peace treaty in 1997, the international community started to support Tajikistan with a poverty reduction programme. This programme included a major health-sector reform (HSR), which sought to establish a PHC system based on family medicine, with family doctors and nurses as the backbone of service delivery.

The Swiss Agency for Development and Cooperation (SDC) has been a key partner over the last 20 years in supporting

the Government of Tajikistan in the development of its health sector. After an initial emphasis on creating a basic, functioning infrastructure, it became clear that the delivery of quality family medicine that was affordable, accessible and accountable could only be achieved with a well-trained workforce of family doctors and nurses, and an urgent reform of the medical education sector was therefore needed.

The SDC has been supporting the Ministry of Health and Social Protection (MoHSP) and associated institutions, as well as the Ministry of Education in the complex process of reforming the undergraduate and post-graduate education of family doctors and nurses, as well as their continuing education, since 2009. This article describes and analyses four concurrently implemented interventions as part of a comprehensive approach to strengthen the capacities of family doctors and nurses to deliver quality care at PHC level, with the aim of sharing progress made, challenges faced and lessons learnt.

APPROACHES AND RESULTS

1. UNDERGRADUATE TRAINING FOR MEDICAL AND NURSING STUDENTS

Undergraduate training in Tajikistan traditionally focused on rote learning and the acquisition of theoretical knowledge. Following a curriculum reform in 2010, the emphasis on both problem-based learning and practical, clinical skills has increased. These changes were introduced at the Tajik State Medical University (the sole provider of medical training until 2016) and included skills teaching in a clinical laboratory from the third year, leading up to practical placements at central and peripheral hospitals and polyclinics in the sixth and final undergraduate study year. Tajikistan currently has 132 clinical training bases situated at 58 medical facilities in 17 districts and towns that are accepting medical students for their practical sixth year placements. Moreover, the Tajik State Medical University has now introduced the Bologna Process credit system, added the Objective Structured Clinical Examination (OSCE) to its assessment repertoire for all clinical topics, and improved the monitoring and assessment of the training quality delivered by decentralized clinical training base tutors.

With regards to nursing, students are trained in nursing colleges, which are, albeit to a more limited extent, equipped with clinical training bases. In these colleges, the nursing and midwifery tracks follow a common curriculum in the first three years, after which the students enrol in their respective specialty training for their fourth and final year (2). Support

has focused on strengthening the teaching competencies of the nurse tutors at the colleges in the cities of Dushanbe and Kulob. This capacity-building programme has been led by nurse practitioners from Switzerland to foster greater prestige and recognition of the role of the family nurse.

2. POST GRADUATE SPECIALTY TRAINING FOR FAMILY DOCTORS

At post-graduate level, the Post Graduate Medical Institute (PGMI) has supported a two-year specialty training for family doctors since 2013. This specialty training in family medicine, [Clinical Ordinatura] comprises a theoretical component (20%) that is taught at the Institute or through its trainers at peripheral clinical training bases. Practical, clinical teaching takes place in polyclinics and rural health centres, and is delivered by trained and certified family doctors (called clinical tutors) under the supervision of the PGMI. The residents [ordinators] are integrated into the PHC team with growing responsibility over the course of the two years. Table 1 shows the number of residents that entered, and completed, this specialty training.

TABLE 1. NUMBER OF RESIDENTS ENTERING AND LEAVING THE TWO-YEAR SPECIALTY TRAINING FOR FAMILY DOCTORS

Year	Number of residents entering the two-year specialty training	Number completing the course as trained family doctors
2013–2015	20	20
2014–2016	30	30
2015–2017	30	29
2016–2018	31	26
2017–2019	37	Training on-going
2018–2020	22	Training on-going

3. CONTINUING PROFESSIONAL DEVELOPMENT

The traditional form of continuing professional development (CPD) is based on one or two months of theoretical courses that are taken every five years. These courses are primarily taught at an institution in the capital Dushanbe, but also in some other cities (Khuchand, Kulob, Khorog), and conclude with an examination. They enable doctors to gain a promotion to a higher level of income, focus on knowledge rather than competencies, and are highly prone to non-transparency and corruption. Other listed official CPD options like participation in an international conference or publications are generally beyond the scope of family doctors.

With Swiss support, the concept of peer groups has been introduced. These are groups of family doctors and/or nurses, usually from the same or neighbouring geographical districts, that meet on a regular, usually monthly, basis to discuss clinical topics and find solutions to problems faced in everyday practice. A facilitator is chosen by each peer group on a rolling basis to help coordinate meetings and thereby they require very little cost-input and have a high potential to become sustainable. Table 2 shows the number of family doctors and nurses that have been included in these groups in seven pilot districts. In 2018 the MoHSP took the step of piloting a credit-based system for CPD, which includes peer groups as a recognized option.

TABLE 2. NUMBER OF FAMILY DOCTORS AND NURSES INVOLVED IN A PEER GROUP, THE NUMBER OF PEER GROUPS, AND THE FREQUENCY OF MEETINGS (BY YEAR)

Year	Number of doctors in a peer group	Number of nurses in a peer group	Number of peer groups	Total number meetings/year
2013	200	151	31	312
2014	226	181	38	384
2015	267	196	43	456
2016	284	235	52	539
2017	292	245	56	624
2018	345	331	64	684

4. MENTORING OF NEWLY TRAINED FAMILY DOCTORS BY MORE EXPERIENCED PEERS

The mentoring of newly trained family doctors by more experienced peers initiative, where Swiss family doctors visit individual, newly certified Tajik family doctors and follow their daily activities over a three week period, was started in 2007. The main intervention is the feedback and exchange that takes place directly with the Tajik family doctor, complemented with some clinical skills teaching. This approach was very important at the outset of the intervention, when there was still a scarcity of local role-model family doctors. In recent years, this mentoring programme has been expanded to include Tajik family doctors with extensive experience and a high standing, as mentors. In January 2018 the MoHSP signed Order 186 [Polozheniye] for implementing a nationwide mentoring programme for both family doctors and nurses based on the mentoring guide developed by the Republican Clinical Centre for Family Medicine, and the experiences of this initiative.

DISCUSSION

PROGRESS AND CHALLENGES

Measuring quality changes in medical education is a notoriously difficult undertaking, with the ultimate outcome revealing itself only in the course of time through health statistics. There are, however, some useful tools. One of these is the Dundee Ready Educational Environment Measure (DREEM) which is an internationally accepted and validated generic instrument for measuring students' perceptions of the educational environment at health training institutions (3). There is also the Mini Clinical Evaluation Exercise (Mini-CEX), which is a feedback instrument that can be applied in daily clinical practice. These tools have already been implemented in the assessment of the changes in medical education in Tajikistan, in studies discussed below. For each of these studies a cited full study report is available, ethical procedures were followed and they were approved by the MoHSP.

The 2017 Demographic and Health Survey for Tajikistan already showed important improvements in health outcomes for mothers and children – indicators that are highly sensitive to capacities and quality of care at the PHC level. It indicates that under-five mortality rates have declined from 51 deaths per 1000 live births in the 2003–2007 survey to 33 deaths per 1000 live births in the new 2013–2017 survey. According to these surveys, some indicators of maternal health have also improved, including the number of antenatal care visits, or births occurring in a health facility, although there is no information regarding perinatal maternal death. This aside, most of the surrogate markers for health reported in the survey have shown an improvement (4).

1) UNDERGRADUATE, BASIC EDUCATION

a. Progress with medical students

The most important progress made in regards to the undergraduate intervention is that the Tajik State University of Medicine has introduced a transformed, modern curriculum, ready for international accreditation, as well as improved interactive teaching methods and the OSCE for skills assessment. The main improvements include the establishment of clinical skills training and the hands-on training of sixth year students in hospitals both in Dushanbe and rural districts. Moreover, a learning management system has been introduced, which allows students to access course material and digital resources.

The knock-on effect is that more broadly educated and clinically superior students graduate and enter the post-graduate specialty training. It has also had interesting consequences on the teaching institutions, as the clinical teachers received an intensive, additional education in clinical skills teaching to prepare them to act as OSCE examiners. There is also anecdotal evidence that clinical teachers now feel more challenged by the students, thereby increasing their own knowledge and strengthening their skills.

b. Progress with nursing students

The teaching skills of nursing tutors have been intensively improved at two nursing colleges in Dushanbe and Kulob. An ensuing DREEM study measured the perception of the educational environment of second and fourth year family nursing students using five subscales: learning, teaching, academic self-perception, atmosphere and social self-perception. Improvements were shown across all sub-scales; most notably regarding student perceptions of learning possibilities, student-centred teaching and pedagogical “soft” skills, quality of teaching materials and available infrastructure, fairness of examination practice and existence of a student support system (5).

c. Challenges with medical students

Unfortunately, very little clinical skills training with real patients takes place in early undergraduate years, however exposure to the university’s clinical skills laboratory is being introduced from year three and skills training in the lab continues into the final year, (year six) when students also rotate through five months of practical placements. Nevertheless there is still insufficient collaboration between training institutions, and hospitals and policlinics. Therefore, the overall exposure of students to patients is still suboptimal and needs to be monitored closely. In particular, although the final year is called the practical year, due to financial constraints and the limited number of clinical training sites, the duration of practical work is currently only five months, albeit with every effort being made to bring it to at least nine months.

In the past, the main methods used to assess students’ clinical skills were oral interviews and written test questions. While there is some progress in building faculty expertise in OSCE principles and technique, and in using the In-service Training Evaluation Report as the formative assessment of final year

students these changes will take considerable time to become fully established in this context.

d. Challenges with nursing students

In the context of the on-going reforms, the education of nurses has unfortunately received insufficient attention, with the profession largely overlooked by the medical society. The above-mentioned DREEM study showed persisting difficulties with nurse training, with for example, insufficient clinical exposure, weak faculty pedagogical competencies and only limited acceptance of competency-based learning. Family nurses also continue to lack empowered role models as they are largely taught by physicians.

However, from a societal perspective, nursing – alongside teaching – was among the first and still rare professions where women have managed to carve a role for themselves in Tajikistan. In rural areas it is mainly nurses and teachers that are selected to represent the interests of their communities in village organizations or committees.

2) POST-GRADUATE SPECIALTY TRAINING

a. Progress

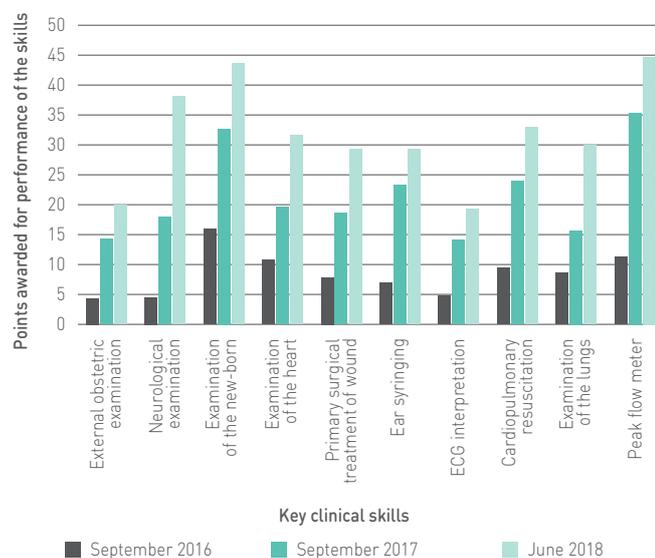
A comparison between DREEM surveys carried out among residents of the two-year *Ordinatura* and interns of the traditional one-year specialty training internship [*Internatura*] found that:

- i) The highly practical two-year specialty training in family medicine scored significantly higher than the one-year *Internatura*, especially in categories related to practical teaching and learning.
- ii) The residents in the two-year programme reported a higher satisfaction with clinical exposure, skill development and role autonomy during practical work (6).

Fig.1 shows the improvement of the 2016–2018 cohort of 26 residents in performing 10 key clinical skills at their entrance into the two-year programme, and at the end of the first and second years.

The two-year specialty training programme has been completed by 105 residents so far (Table 1), with all of them deployed by the MoHSP to work as family doctors in rural districts. Local health administrators are very pleased to have

FIG. 1 COMPARISON OF PERFORMANCE IN 10 KEY CLINICAL SKILLS BY RESIDENTS AT THE START, MID-POINT AND END OF THE TWO YEAR SPECIALTY TRAINING



young family doctors in their PHC facilities. In some districts, these trained and certified new family doctors have been the first to join the PHC workforce in over 10 years.

The MoHSP is currently establishing regulations in the area of medical education, particularly for post-graduate speciality training for all doctors, and reviewing health worker training programmes in relation to staffing needs. The two-year speciality training for doctors in family medicine is being offered as a template for similar programmes for other specialties.

b. Challenges

Unfortunately, after the change of the undergraduate curriculum that aimed at forming unspecialized, generic graduates with a basic medical education, the momentum was not immediately there to take the next logical step of updating the post-graduate specialty training accordingly. This meant that most of the new programme graduates went on to enrol onto a one-year Internatura and received the title of a specialist. This contravened the World Federation of Medical Education (WFME) standards and practice. This has now been partially addressed by the creation of the two-year speciality training in family medicine. However, this has still not been rolled out to the whole country, and furthermore, by international standards, two years is still very short for speciality training. In addition, the MoHSP has not yet taken the step of making it a requirement that all speciality training is at least two years long, although a working group has been

created at the MoHSP to develop a regulation to permit such training for all specialties. However, the concern remains that if international support were to withdraw then this two-year Ordinatura would not be sustained.

3) CONTINUING PROFESSIONAL DEVELOPMENT

a. Progress

A 2017 study found that family doctors in districts with peer groups were more involved in CPD activities and perceived the flexible choices of the content and timing of CPD meetings and types of CPD events positively. Conversely, family doctors from districts without peer groups complained about the lack of sufficient exposure to clinical updates and limited topic choices. As in other countries in the region, financial issues and the distance to CPD events were also reported to be major barriers in their participation, in the traditional CPD system (7).

b. Challenges

To build a system of CPD that meets WFME standards and applies modern adult learning theory, the MoHSP needs to introduce a transparent, nationwide credit-based CPD system for all specialties. The on-going MoHSP pilot system of credit-based CPD for family doctors and nurses that is taking place in one district will be evaluated after one year, with the view of introducing the system to the whole country. It has to be conceded however, that there is still considerable vested interest in the present and corruption-prone system whereby doctors simply pay to complete courses and in doing so retain or improve their place in the salary system. Other difficulties may lie in the reluctance of specialists to engage in protracted training, as well as the present lack of high-quality training sites and trainers. Additionally, in the long term, the role of professional associations needs to be strengthened and an independent agency of accreditation established to assure the quality of CPD provided by teaching institutions.

4) MENTORING OF FAMILY DOCTORS BY MORE EXPERIENCED PEERS

a. Progress

More than 225 family doctors were mentored at least once between 2007 and 2018. One group of family doctors that were mentored more than once between 2015 and 2017 were found to have important improvements in communication skills (history-taking and consultation skills), physical examination, therapeutic skills and especially in skills of clinical reasoning. These improvements were captured

through the repeated application of the MiniCEX feedback instrument, complemented by documentation related to the direct observation of the family doctor's daily work (8).

b. Challenges

While it is a positive development that the mentoring is now evolving to include local, trained mentors, it is critical that these mentors are well chosen and fulfil certain requirements such as ample experience in family medicine, clinical skills, and being well respected among their peers. In the somewhat punitive system found in Tajikistan, as in many other post-Soviet countries, where input from a superior is primarily associated with blame and fault-finding, there are some concerns as to whether mentoring from peers will be as well accepted as that offered by international family doctors. It is therefore also highly important to clearly separate mentoring from supervision or monitoring, as these are unfortunately deeply ingrained as controlling practices in the health sector of Tajikistan.

REMAINING CHALLENGES

Despite the MoHSP's efforts and above-discussed positive progress, the health system in Tajikistan continues to suffer the effects of chronic underfunding, resulting in distorted accountabilities and aberrant incentives. This manifests itself in the persisting view that patients are a source of income; just as the medical education system perceives students as a source of income. Controlling supervision visits from central level often result in the blaming and fining of family doctors, for example for having failed to keep pace with the high level of paper work required for each patient. Additionally, the rights of doctors need to be better protected, as blame is often placed on the family doctor for mistakes made by specialists or hospitals, which also contributes to the low number of graduates choosing family medicine.

There is a collision of vested interests and competing agendas between the Health, Education, Labour and Finance sectors. The Ministry of Trade and Economic Development expects a high number of undergraduate students as they pay fees, which provide important income for the medical universities and nursing colleges. As with other countries in the region, this makes it difficult to reduce the high numbers of students, which would be essential in improving the quality of medical education. Despite the high number of medical graduates, too few are interested in working in family medicine over selecting a narrow specialism, because of the persistently low status of family medicine and perceived onerous work and low pay in PHC. In addition, there are only limited possibilities for family

doctors to earn additional fees from patients for tests and procedures. Moreover, the issue of inter-personal relationships, trust and respect between family doctors, nurses and patients remain critical challenges in the face of the country's aspiration to achieve Universal Health Coverage. Finally, the health sector is deeply compromised by the continuing brain drain of well-qualified staff to other countries, mainly Russia, where income is much higher.

CONCLUSIONS

Strategic leadership is essential for the future of Health Care in Tajikistan, and in sustaining the reform progress that has been achieved to date. As with other countries in the region the questions of predictable and increased financing remain critical, and will require a greater involvement of the Ministries of Finance, Trade and Economic Development. Beyond the adequate financing of the health system, and particularly PHC, medical education in Tajikistan needs to continue evolving in the right direction, as highlighted in those parts of the country where good educational programmes are thriving. A nuanced approach is needed so that international standards are applied, yet adapted to Tajik realities. It is encouraging for Tajikistan and beyond, that the Tajik State Medical University has succeeded in implementing fundamental changes and the modernization of its curricula; this same progress needs to be extended with likewise vigour to the post-graduate Ordinatura and CPD programmes. This will require reinforced efforts towards good governance, through clear policies and regulations, and the strengthening of regulatory functions and mechanisms overseeing and monitoring health professional performance and the delivery of quality services. Independent accreditation agencies and professional associations in charge of professional licenses will all have important roles to play in these future developments.

Tajikistan's many years of experience with such reforms are of wider interest to other post-Soviet countries engaged in similar processes. Most notably, this experience confirms that medical education reform is a complex, generational process that requires consistent, reinforced support over decades, as well as a stepwise coordination between all institutions and professions involved. Given time and continued support, a country like Tajikistan can reap the benefits, as increased numbers of well-trained family doctors and nurses start to come through the system, embrace their professions and deliver accountable, high quality – and thus more cost-efficient – PHC services to citizens in rural areas where the need is greatest.

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¹ All references were accessed 6 December 2018.