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Review of the National Programme on the Development of Family Medicine 2011-2015 in Tajikistan



Ministry of Health and Social
Protection of Population of
the Republic of Tajikistan



Review of the National Programme on the Development of Family Medicine 2011-2015 in Tajikistan

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Health Services Delivery Programme
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Abstract

The National Programme on the Development of Family Medicine 2011-2015 in Tajikistan was established with the goal of ensuring the sustainable development of primary health care according to the principles of family medicine. In 2015, in the context of the Family Medicine Programme's final year, the Ministry of Health and Social Protection of the Population of Tajikistan embarked on a review of the achievements of the Programme and reflection on opportunities and next steps to accelerate the pace, scale and sustainability of changes. This document reports the findings of this review. Through a mixed-methods approach, information from relevant literature, semi-structured key informant interviews, roundtable discussions and health statistics have been reviewed according to the Programme's six priority areas to consider progress achieved so far in family medicine, identify opportunities for further improvement and determine next steps for the continued development of health services delivery in Tajikistan.

Keywords

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Abbreviations

AGREE	Appraisal of Guidelines for Research and Evaluation tool
ARV	antiretroviral
BBP	basic benefits programme
BMI	body mass index
CBHF	community-based health financing
CGPs	clinical guidelines and protocols
CME	continuous medical education
COPD	chronic obstructive pulmonary disorder
CPD	continuous professional development
CVD	cardiovascular disease
DOTS	Directly Observed Treatment Short course
EBMC	Evidence-based Medicine Centre
EU	European Union
GAIN	Global Alliance for Improved Nutrition
GBAO	Gorno-Badakhshan Autonomous Region
GIZ	German Corporation for International Cooperation
HPAU	Health Policy Analysis Unit
ISQua	International Society for Quality in Healthcare
JAR	Joint annual review
Khadamot	State Supervision Service over Medical Activities
LMIS	logistics management and information system
MDR-TB	multidrug-resistant tuberculosis
MOF	Ministry of Finance
MOH	Ministry of Health and Social Protection of the Population
MSM	men who have sex with men
NCD	noncommunicable disease
NGO	nongovernmental organization

PCET	Primary Care Evaluation Tool
PEN	package of essential NCD interventions
PGMI	Post-Graduate Medical Institute
PHC	primary health care
PMTCT	Prevention of Mother-to-Child Transmission of HIV Programme
PRG	peer review groups
PUST	post-university specialty-training programme
RRS	Region of Republican Subordination
STI	sexually transmitted infections
TB	tuberculosis
TOT	training-of-trainers
TSMU	Tajik State Medical University
UNFPA	United Nations Population Fund
UNICEF	United Nations Children’s Fund
USAID	United States Agency for International Development
WHO	World Health Organization

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Preface

Well-performing health systems are critical if improvements in population health and well-being are to be achieved. In 2010, Tajikistan launched the National Health Strategy for the period 2010-2020 (MOH 2010b), setting out a course of action to accelerate improvements in health and development. The National Health Strategy recognizes health system strengthening as a top priority for its successful implementation, highlighting the development of primary health care (PHC) based on family medicine practice among the main health reform priorities for Tajikistan during this period.

Over the past five years, great measures have been taken in order to establish the family medicine model as the foundation of services delivery in Tajikistan. These actions are defined in the National Programme on the Development of Family Medicine for the period 2011–2015 (MOH 2010a) [hereafter, Family Medicine Programme]. Guided by the vision put forth in the National Strategy, the Family Medicine Programme was established with the goal of ensuring the sustainable development of PHC, promoting the accessibility of services to the population, healthy lifestyle development, the broad use of diagnostics and treatment of patients at the PHC level, improvements in the level and quality of human resources, management of PHC facilities and the investment and expenditure on PHC resources relative to international standards.

The implementation of the Family Medicine Programme has called on the leadership of the Ministry of Health and Social Protection of the Population, backed by the strong support of other ministries and Republican Centres, the entire health workforce, NGOs and Development Partners. The momentum for change over the past five years is testament to the commitment and shared ownership of all actors contributing to achieving the strategic priorities of the Family Medicine Programme.

In 2015, as the Family Medicine Programme came to a close, an opportunity presented to review achievements across priority areas and reflect on next steps for family medicine in Tajikistan. With the same collaborative approach taken towards implementation, this review was developed with inputs and expertise across key actors. The result is a synthesis of the volume of reporting and documentation from recent years, the exchange of first-hand experiences shared through bilateral discussions and an analysis of performance measures against main objectives.

This document aims to continue the momentum for transforming health services delivery beyond 2015. While achievements are celebrated, the review has also worked to highlight opportunities for continued improvement in the ever-changing context of health services delivery. Keeping at-pace with national priorities, as well as the regional and global health and development agenda, the way forward puts emphasis on the importance of people-centred health systems, extending the same principles as first set out in the health-for-all agenda and introduction of PHC. At present, the guiding principles of the WHO European Region health policy framework, Health 2020 (WHO Regional Office for Europe 2013), and WHO global framework for integrated and people-

centred services delivery (WHO 2015b), continue to put forth this vision in order to truly accelerate improvements in population and individual health outcomes. This review is one step, in the sequence of many previous, towards realizing this vision and Tajikistan's greatest health potential.



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Overview

The link between the performance of health services delivery and health outcomes makes a strong case for its prioritization. What is more, strong primary health care (PHC) based on the principles of family medicine has been proven a successful approach for health systems to make significant progress towards universal health coverage, better health outcomes and economic and social development (WHO 2010), as well as wealth creation (WHO Regional Office for Europe 2008). This critical link between health services delivery and health outcomes is illustrated in Table 1, recognizing also the contribution of governance, directing the overarching vision of the health system, and the health system functions of financing and resourcing, setting the conditions within which services delivery takes shape.

Table 1. How does health services delivery contribute to health outcomes?*

Health outcomes	Health services delivery	Health system	Governance
Health status (level and distribution)	Selecting services	Human resources	Policies
	Designing care	Medicines	Institutions
	Organizing providers	Technologies	
	Managing services	Information systems	
	Improving performance	Financing	

Source: adapted from (Tello and Barbazza 2015)

*The chain of associated factors is to the exclusion of those beyond the health system, such as other sectors and the underpinning context.

In Tajikistan, these linkages between health services delivery and population health have been well recognized. This is signalled by the priority weighted to the development of family medicine within the National Programme on the Development of Family Medicine 2011-2015 and, over the past five years, a tremendous volume of activity, projects and reporting have been realized as part of its implementation.

This review aims to take stock of this period, reflecting on the progress, opportunities and lessons learned to-date, seeing this as a next step in the continued development of health services delivery in Tajikistan. The key questions guiding the review process are as follows, with the findings for each summarized:

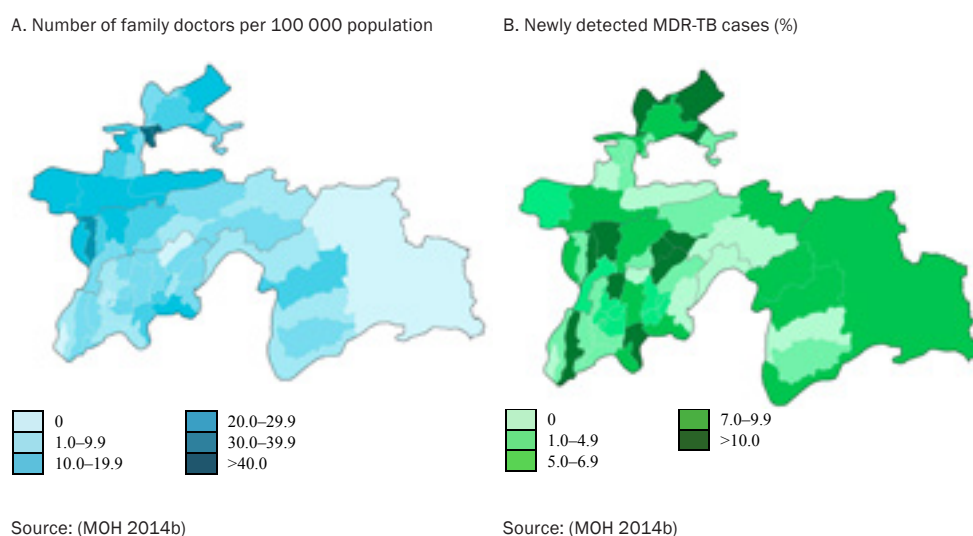
1. What are the key achievements to-date in family medicine?
2. What are the opportunities for improvement?
3. What are the key considerations moving forward for the continued development of services delivery?

1. What are the key achievements to-date in family medicine?

Gains in population health outcomes show alignment with improvements in family medicine, finding greater coverage of services in priority health areas, including the prevention and control of tuberculosis and antenatal care.

Rollled out across the country, the family medicine model shows a positive association with health trends in priority improvement areas. In a comparison between the proportion of family medicine doctors across the country (Fig. 1.A) with the prevention and control of tuberculosis (TB) (Fig. 1.B), districts with a lower proportion of family medicine doctors generally report higher numbers of newly detected cases of multidrug-resistant TB (MDR-TB); between 7.0–9.9% in 2014 (MOH 2014b). MDR-TB, arising in large part due to the improper use of antibiotics, is a strong reflection of the actions taken to administer the whole course of TB treatment and, in effect, those changes put in place under the Family Medicine Programme that have worked to strengthen TB treatment delivery in PHC. This association is drawn while also recognizing other contextual factors differing between the regions and possibly contributing to the trends identified, such as demographics and socioeconomic status.

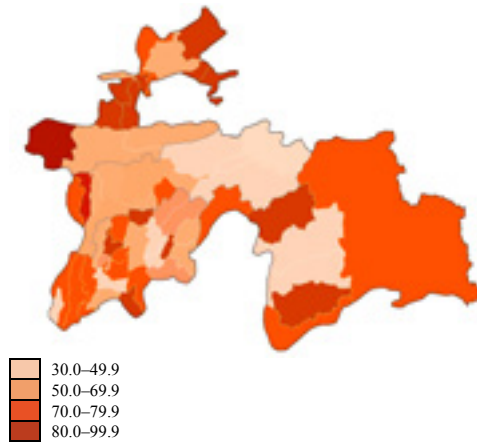
Fig. 1. Comparison between proportion of family medicine doctors and percentage of newly detected cases of MDR-TB, 2014



A positive association can also be seen between the distribution of family medicine doctors and antenatal care coverage across the country (Fig. 2.A). This finding is illustrative of the role of family medicine practice in the provision of antenatal care, with referral to specialized gynaecological services only for complicated, at-risk patients. Similar to the association observed between coverage of family medicine doctors and cases of newly detected MDR-TB, districts with lower levels of antenatal care coverage show higher rates of maternal mortality and vice versa (Fig. 2.B) (MOH 2014b).

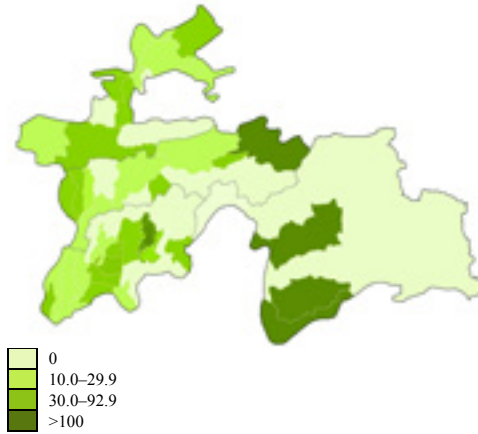
Fig. 2. Comparison between antenatal care coverage (%) and maternal mortality per 100 000 live births in 2014

A. Antenatal care coverage by district (%)



Source: (MOH 2014b)

B. Maternal mortality rate per 100 000 live births

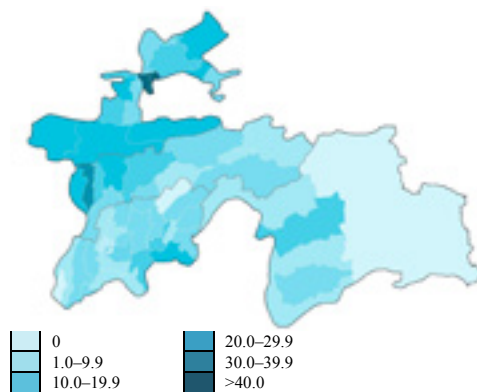


Source: (MOH 2014b)

In the area of noncommunicable diseases (NCDs), mortality due to cardiovascular disease (CVD) per 100 000 population (Fig. 3.B) shows an association with the proportion of family medicine doctors across the country (Fig. 3.A). For example, GBAO reports among the lowest proportion of family doctors and the highest mortality caused by CVD per 100 000 population. Interestingly, districts in Sughd and Dushanbe with a higher proportion of family doctors demonstrate, in general, an increased number of deaths for cardiovascular disease (MOH 2014b). This finding can be reasoned as the paradox of improved accuracy in the diagnosis and recording of deaths, where the introduction of the family medicine model benefits from existing reporting systems in place and a particular focus on the prevention and control of NCDs.

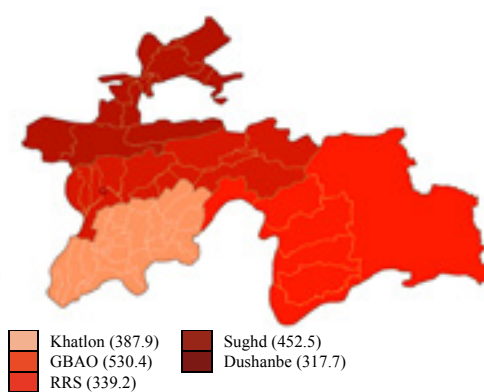
Fig. 3. Comparison between distribution of family medicine doctors (2014) and CVD mortality (2013)

A. Proportion of family doctors per 100 000 population



Source: (MOH 2014b)

B. Mortality due to CVD per 100 000 population



Source: (MOH 2014b)

Strengthening family medicine practice in PHC has achieved improvements in areas including processes for developing and standardizing care, availability of a family medicine workforce and systems for continuous quality improvement.

Upward health trends can be attributed in large part to achievements in health services delivery that have positioned family medicine as the first point of contact for both the healthy and those in need of care. Improvements notably include:

- **Updating a process for developing clinical guidelines and protocols for family medicine.** Applying an updated process and methodology for the development of clinical guidelines and protocols (CGPs), new clinical practice guidelines for 85 diseases have been developed for use in PHC.
- **Organizing a family medicine workforce.** Primary care centres now encompass family medicine practices, village health centres (doctors and nurses) and village health houses (nurses only). Changes have included the development of family medicine doctors and nurses providing PHC services as defined in the basic benefit package with ad hoc non-financial incentives in place to encourage family medicine doctors to work in rural areas (Table 2).

Table 2. Change in the number of family medicine doctors and nurses by region between 2010 and 2014

Region	Number of family medicine doctors			Number of family medicine nurses		
	2010	2014	% change	2010	2014	% change
Dushanbe	497	571	29	536	877	64
RRS	252	451	79	260	613	*136
Sughd	573	831	45	1020	1751	72
Khatlon	186	360	94	660	1013	54
GBAO	28	37	32	39	162	*315
National total	1595	2338	47	2538	4416	74

Source: (MOH 2014b)

Note: Reporting of family medicine nurses does not necessarily reflect the number of nurses retrained to work in family medicine.

*Areas where Development Partners have been particularly active in working to increase the volume and training of family medicine nurses.

- **Establishing processes for performance improvement.** A process for internal and external monitoring and evaluation of PHC performance has been put in place. This includes monitoring cards and ad hoc workplace trainings. New mechanisms for performance-based financing, linking quality and financial incentives to PHC services, have been piloted with documented success.

Updating of undergraduate and postgraduate curriculums and investments in infrastructure and resources for family medicine have paralleled improvements in services delivery. With the support of Development Partners, improvements in infrastructure and technologies for family medicine have been advanced, as well as trainings at the undergraduate and postgraduate level to prepare a future family medicine workforce. Financing reforms are also in development. In October 2015, the

introduction of capitation-based payment was approved by interministerial order. This will potentially bring additional resources to PHC, particularly family medicine.

New actors and responsibilities at the national level and advancements in policy have secured impressive gains in institutional capacity within the health system. Efforts to establish family medicine practice have included formalizing a legal framework for family medicine and numerous policies approving the organizational structure of primary care facilities and introduction of family medicine specialists. Moreover, there are a number of new macro-level family medicine actors within the health system, including the Republican Centre for Family Medicine responsible for implementation of family medicine policies. There are also new actors working across levels of the health system, such as the State Supervision Service of Medical Activities (Khadamot) and the Evidence-based Medical Centre (EBMC). This institutional capacity has built a critical mass of technical resources for health services delivery nationally.

2. What are the opportunities for improvement?

Changing health needs and growing inequities necessitate an integrated, person-facing approach to services. In the context of health trends where prevention is heavily skewed towards lifestyle interventions and adherence to treatment plans, efforts to inform the population, build health literacy and community involvement, and formalize policies for engaging patients are of critical importance. Advancing the registration of patients has been highlighted as an important and needed process for doing so.

Shortcomings in the standardization of services and organization of care across services delivery levels have compromised performance. Despite improvements in the process of developing CGPs, the absence of indicators has posed a challenge for monitoring and evaluation processes. Moreover, lack of coordination between PHC doctors and more specialized providers has constrained the flow of patients at points of transition and referrals to PHC.

Challenges relating to scaling up and rolling out health system reforms in areas including financing and resourcing. Streamlining processes including provider registration, curriculum development, licensing and a system for continuous medical education, are key health system changes needed for establishing a family medicine workforce to secure improved outcomes. This also includes maximizing outcomes of financing reforms introducing capitation with a link to demographic factors and systematized financial incentives.

Harmonizing institutional arrangements, roles and responsibilities for health services delivery across levels of the health system. In the context of the number of new actors and volume of activities initiated, there is the opportunity at present to strengthen alignment across each and streamline roles and responsibilities for more harmonized actions. Finding this alignment is vital to closing the gap between policy and practice. Moreover, investing in the institutional capacity of the health system has importance for ensuring the scale-up and sustainability of pilot projects over time.

3. What are the key considerations moving forward for the continued development of health services delivery?

Health outcomes: identifying needs, empowering communities and engaging patients

- Identifying health needs and known risk factors compromising population health.
- Developing a planned approach to empower communities (for example, by improving health literacy).
- Formalizing policies for engaging patients as active partners in health.

Services delivery: selecting services, standardizing care, organizing providers, and investing in management and quality improvement processes

- Selecting a comprehensive basic benefit package of services.
- Strengthening the standardization of services using evidence-based CGPs.
- Organizing family medicine practice with other providers and settings of care.
- Investing in facility management.
- Streamlining quality improvement processes.

Aligning health system enabling factors: financing, health workforce, medicines and technologies

- Scaling up capitation payment in PHC and aligning performance-based financing.
- Strengthening the workforce including registration, clinical competencies, conditions of practice, licensing and continuous medical education.
- Strengthening procurement practices for medicines on the essential drugs list, introducing a system of pharmacovigilance and quality of medicines, improving measures for the rational use of medicines and equalizing basic resources across facilities.

Policy: strengthening accountability structures and regulatory frameworks

- Clarifying institutional arrangements, roles and responsibilities.
- Developing a model for subnational management.
- Linking evidence to policy.

Strengthening family medicine practice is ultimately an evolving course of development, extending beyond programme-specific timeframes and improving in parallel to other health system reforms. The conclusion of the 2011-2015 Family Medicine Programme is, therefore, one milestone in the overall development of PHC based on family medicine practice in Tajikistan. The findings presented here aim, ultimately, to be put forward for the continued development of health services delivery, towards realizing the vision of PHC and Tajikistan's greatest health potential.

Background

Setting the context: overview of the Family Medicine Programme

In Tajikistan, establishing a legal framework for family medicine was initiated early in the years following independence. This includes the 1998 Order No. 236 of the MOH on the phased-in transition of health care services organization to general practice principles for 1998-2000, followed by a number of other policies including, in 2002, the introduction of family medicine specialists under Order No. 94 and the new organizational structure of PHC facilities under Order No. 525.

Over the years, the priority of establishing PHC has not wavered. The current National Health Strategy of Tajikistan 2010-2020 highlighted the development of PHC based on family medicine practice among the main health reform priorities during this period. That same year, the law on family medicine defining regulatory functions, as well as competencies, rights and obligations of family medicine specialists was enacted (Order No. 676, 29 December 2010). In accordance with the law, PHC was defined as the “first point of contact for healthy and diseased citizens, it serves as a fundamental multidisciplinary structure (providing disease prevention, diagnostics, treatment and rehabilitation services) ensuring continuum of care delivered”. The law triggered the development and further approval of the National Programme on Family Medicine development in Tajikistan for 2011-2015.

National Programme on the Development of Family Medicine 2011-2015

The Family Medicine Programme was established with the goal of ensuring the sustainable development of PHC according to family medicine principles, promoting the accessibility of services to the population, healthy lifestyle development, the broad use of diagnostics and treatment for patients at the PHC level, improvements in the level and quality of human resources, management of primary care facilities, and the investment and expenditure on PHC resources relative to international standards.

Towards these goals, the Family Medicine Programme defined six priority areas:¹

- legal and organizational framework for family medicine;
- education system (training, recertification, continuous learning) for family medicine personnel;
- information system and programme management;
- regulatory mechanisms for quality of care;
- improved health outcomes for communicable, noncommunicable and health determinants; and
- innovations in science and technologies for family medicine.

1 See Annex 1 for full overview of the Family Medicine Programme

Implementation of the Family Medicine Programme

Implementation of the Family Medicine Programme has called on action from the MOH backed by the strong support of other ministries and Republican Centres, NGOs, professional associations and Development Partners. The Programme defined the responsible organizations for the implementation of priority areas and their respective objectives. An intersectoral coordination council was established from the mentioned stakeholders and is overseen by the MOH.

The country's joint annual reviews (JAR) and an interim evaluation of the Family Medicine Programme in 2013 have tracked the achievements in family medicine thus far. These reports document substantive improvements across priority areas, including trainings for the health workforce, the review of clinical protocols, investments in needed resources and promotion of quality of care through facility accreditation. Progress has undoubtedly led to the continuously increasing capacity in family medicine, improvements in evidence-based practice and the greater availability of resources.

In 2010, the WHO Primary Care Evaluation Tool (PCET) was first applied and subsequently implemented in several stages, with the assessment completed in 2014 (WHO Regional Office for Europe 2014). The tool assessed PHC with a focus on accessibility, continuity of care, coordination of care and comprehensiveness of services. Results have offered unique insights on the perspective of the health workforce and have served to inform the continued development of services delivery.

Despite the increased reflection and progress made, there remain opportunities to improve the pace and scale of initiatives, to tighten the link between health services delivery bottlenecks and health outcomes, and to adopt a systems-perspective for assured sustainability and alignment with other priority programmes. Challenges have been flagged on a number of topics including, for example, the scope of work for doctors in family medicine, the distribution of trained family doctors across the country, the organization of mandates and authority, and an increasing tendency towards siloed or thematic activities, undermining a PHC approach.

Renewing family medicine priorities post-2015

As the Family Medicine Programme comes to a close, this presented an opportunity to review and reflect on achievements across priority areas and strategic objectives, as well as next steps for family medicine in Tajikistan. The MOH requested a reflection process to take stock of the full range of experiences to-date with the introduction and implementation of the Family Medicine Programme and final report from the WHO Regional Office for Europe.

This review process has aimed to identify achievements and opportunities for improvement, as well as possible priority focus areas in moving forward with the continued development of health services delivery in Tajikistan. The review process has also aimed to find alignment with WHO global and regional health policies, keeping at pace with priorities for health system strengthening towards greatest population health and well-being. Specifically, the review has worked to apply the principles of people-centred and integrated health services delivery as set out in the forthcoming WHO Global Framework on People-Centred and Integrated Health Services (WHO 2015b) and WHO European Regional Framework for Action on Integrated Health Services.

Structure of family medicine in Tajikistan

In Tajikistan, health services are delivered at four levels: rural (village), district (rayon) and city, oblast (regional), and republican (national) (Akkazieva et al. 2015). In villages, PHC services are provided in rural health centres with a family medicine doctor or health houses with feldshers, family medicine nurses and midwives. At the rayon and city level, health centres have family medicine doctors and narrow specialists who provide outpatient services; specific organization of providers in one building or separate practices varies across districts. Inpatient services are provided by rural health hospitals, city/rayon hospitals, oblast hospitals, and republican hospitals (tertiary-level care).

Family medicine makes up an important component of PHC and it is the expansion and strengthening of this aspect of first-contact care that the Family Medicine Programme has targeted for improvement. Types of care to be provided in family medicine, the family medicine workforce and settings of care are described in Table 3. This is to the exclusion of narrow specialists and other mid-level health professionals working in PHC and possibly the same centres as family medicine at the rayon/city level. Narrow specialists working in PHC provide services related to pulmonology, endocrinology, cardiology, stomatology, emergency aid and diagnostics (see Annex 2).

Table 3. PHC and family medicine services, providers and settings of care in Tajikistan

Types of care	Health workforce	Settings
Primary health care		
Pulmonology	Facility health managers	Rural health centres
Endocrinology	Family medicine doctors	Health houses
Cardiology	Family medicine nurses	District/city health centres
Stomatology	Narrow specialists	
Emergency aid	Other mid-level health professionals	
Diagnostics	(midwives, feldshers, nurses)	
Family medicine		
Family medicine		
Infectious diseases and parasitology	Facility health managers	Rural health centres
Oncological diseases	Family medicine doctors	Health houses
Haematological diseases	Family medicine nurses	Rayon/city health centres
Diseases of the endocrine system and metabolism disorders		
Mental and behavioural disorders		
Neurological diseases		
Otorhinolaryngological diseases		
Eye diseases		
Cardiovascular diseases		
Respiratory diseases		
Gastroenterological diseases		
Dermatologic diseases and sexually transmitted infections (STIs)		
Diseases of musculoskeletal system		
Obstetric and gynaecologic diseases		
Injuries, poisoning and burns		

Key actors contributing to PHC in Tajikistan can be organized by national, regional and local levels (Table 4). The national level relates primarily to policy, with government and republic centre actors setting the overall direction and arrangements for health services delivery. This level also includes training and education centres developing the health workforce. At the regional level are oblast health departments that coordinate services delivery for health facilities in their jurisdiction. Until 2012, rayon-level health departments executed the same functions at rayon and city levels, reporting to their respective oblast health departments; however, this structure was abolished by government decree in late 2012 and placed under oversight of local authorities known as Khukumats.

Table 4. Key institutions for PHC across levels of the health system

National level Policy	<p>Government Ministry of Health and Social Protection Ministry of Finance Ministry of Education and Science Other ministries</p> <p>Republican centres Republican Centre of Family Medicine State Supervision Service of Medical Activities (Khadamot) Republican Centre of Health Accreditation Republican Centre of Healthy Lifestyle Tajik Scientific Institute of Preventive Medicine National Centre of Nursing Other republican centres</p> <p>Research and education Evidence-based Medical Centre (EBMC) Tajik State Medical University (TSMU) Tajik Postgraduate Medical Institute Republican Medical College</p>
Regional level Administration	<p>Management of Health of GBAO Management of Health of Dushanbe Management of Health Khatlon Management of Health of Sughd</p>
Local level Services delivery	<p>Khukumats (local health authorities) Rural health centres (family medicine doctors) Health houses (midwives, feldshers, nurses) Rayon (district)/city health centres</p>

Source: adapted from (Khodjamurodov and Rechel 2010)

About this document

Review process and sources of evidence

A mixed-method approach has been applied to collect and review sources of evidence. This includes a desk review of available literature, analysis of health statistics, bilateral discussions with key informants and study of illustrative case examples documenting project-specific examples of activities.

1. Desk review of orders, documents and other reporting

Literature from the past five years in English, Tajik and Russian related to health services delivery in general and activities for the Family Medicine Programme in particular, were consulted. Types of literature reviewed include regulations and legislation, policy and action plans, and grey literature. The process of collecting reports relied on online searches and reviews of reference lists. The majority of documents were identified through specific requests of known authors and contributors. A common share point ensured relevant resources were accessible to all contributors.

2. Health statistics

MOH health statistics data by regions and districts over time were reviewed and reported by priority area. The indicators considered take direction from the Family Medicine Programme objectives and measures (see Annex 3). Statistics in the Health for All Database of the WHO Regional Office for Europe were additionally consulted.

3. Bilateral discussions and field visits

Bilateral discussions have been carried out at various stages of the review process. These meetings have served to gain first-hand insights from key stakeholders across levels of the health system, including policy-makers, representatives of republican centres, health managers, health providers and Development Partners, among others.

4. Illustrative case examples

Illustrative examples of projects or pilot programmes implemented in line with the vision of family medicine-based PHC were requested from Development Partners active in health and development in Tajikistan. Descriptions of these activities have been incorporated to highlight innovative activities, achievements and lessons learned from the process.

Structure of review

The review has been structured according to the six priority areas defined in the Family Medicine Programme 2011-2015 (see Annex 1). For each priority, evidence has been collected to report on the stated objectives and indicators where possible. Priorities have been reviewed across achievements, opportunities and recommendations for next steps (Table 5).

Table 5. Structure of approach to reviewing the Family Medicine Programme

Priority areas	Achievements (section one)	Opportunities (section two)	Next Steps (section three)
1. Legal and organizational framework	What are the key achievements to-date in family medicine?	What are the opportunities for improvement?	What are key considerations moving forward for the continued development of services delivery?
2. Education system			
3. Quality system			
4. Investing in managerial capacity			
5. Health outcomes			
6. Innovations			

Section one: achievements

Priority one: legal and organizational framework for family medicine

Improvement of legal framework, infrastructure and organizational methodological base in order to facilitate the implementation of PHC reform and development of family medicine.

Objective 1.1. Development of working standards for specialists of family medicine and professionals delivering specialized services at PHC level

Tajikistan has developed a strong legislative base to support the development and strengthening of family medicine across the country. This has included the introduction of a model for regulating the management of PHC centres in rayons and cities (Order No. 319, 14 April 2015), an approved order on the process for developing clinical protocols, a draft order on medical professionals' workload including PHC doctors and specialists and, most recently, the legislative base for the introduction of new financing mechanisms in PHC for capitation and pay-for-performance (Table 6).

Table 6. Legislation setting the legal and organizational framework for family medicine

Title	Order No.	Date
Workload of family medicine doctors and narrow specialists	584	31 October 2005
Development of permanent expert group for clinical protocols	667	18 November 2013
Approval for 85 clinical protocols in PHC	574	25 June 2014
Regulating the management of primary care in rayons and cities	319	14 April 2015
Revised clinical protocols for PHC	50	01 June 2015

The workload for family medicine doctors and narrow specialists in PHC was first developed in 2005, with the approval of Order No. 584 (31 October 2005); where 'workload' refers to a standard number of patients or caseload for health professionals. According to this document, a family doctor must serve 1200-1500 people (children or adults) per one basic rate of pay (Health Policy Analysis Unit 2013). The Order also defined key responsibilities for health facilities and staff members, staffing norms and a list of required equipment.

In the context of the Family Medicine Programme and broader Public Sector Reform Project, in early 2013, the MOH initiated an assessment to identify main gaps in human resources for health. This study was the basis for revisions on the workload of health professionals, finalized towards the end of 2014. The changes are detailed in the document Standards of staffing of the family medicine specialists and professionals delivering specialized services in primary care facilities, which has been addressed by letter to the Ministry, on 14 November 2014, Order No. 1-4/5128-4295; it continues to await approval of the relevant ministries and agencies.

Objective 1.2. Defining benefits for family medicine specialists with revisions to health protection legislation

During the last five years a set of strategies including financial and non-financial benefits for family medicine doctors have been introduced by the MOH.

Financial benefits. The salary of family medicine doctors is now 10% higher than specialists working in hospitals, with gains in the average wage of family doctors recorded from 58 somoni in 2007 to 122 somoni in 2008 to 513 somoni in 2012 (MOH 2013).

Since 2013, new performance payment mechanisms have been piloted in PHC in Tajikistan to improve the coverage and quality of PHC services, particularly maternal and child health. Moreover, 2013 saw the introduction of capitation mechanisms, piloted in select PHC facilities, aimed as a mechanism for improving the quality of services delivered in family medicine. In 2015, capitation payment was put into effect countrywide by ministerial order.

Non-financial benefits. Other benefits introduced on an ad hoc basis in some regions and rayons include the allocation of land plots for young professionals and long-term concessional loans to family medicine doctors and other health professionals willing to move to rural areas as agreed with the MOH and provided by local Khukumats. For example, in 2015 the local authority for the Sughd region allocated land plots for three specialists, and the local authority for the Khatlon region provided land plots for 49 family doctors and issued nine family doctors long-term soft loans.

Additionally, the MOH and Tajik State Medical University jointly developed a policy that new graduates with a speciality in family medicine must work in rural areas for three years before obtaining their diploma (Health Policy Analysis Unit 2013).

Objective 1.3. Development of treatment and diagnostic standards

The process of developing clinical guidelines and protocols (CGPs), established in 2002, was revised and enhanced in 2013, aiming to reduce fragmentation and duplication in this process and improve the quality of the methodology for developing CGPs. This revision was carried out following the results of two studies earlier that year looking to document the process and gaps in the development of treatment and diagnostic standards, as well as their use in the training of professionals and day-to-day use in clinical practice. The findings of these reviews signalled limitations in the development of protocols according to approved standards and based on best-available evidence.

At the end of 2013, a permanent expert group under the MOH with the role of coordinating the development and approval of CGPs was established (No. 667, 18 November 2013). The group is also responsible for evaluating CGPs against international standards. The group is composed of six experts (leading independent MOH specialists on priority diseases and the Director of the EBMC) with a rotating chair, reporting to one of the deputy ministers of the MOH.

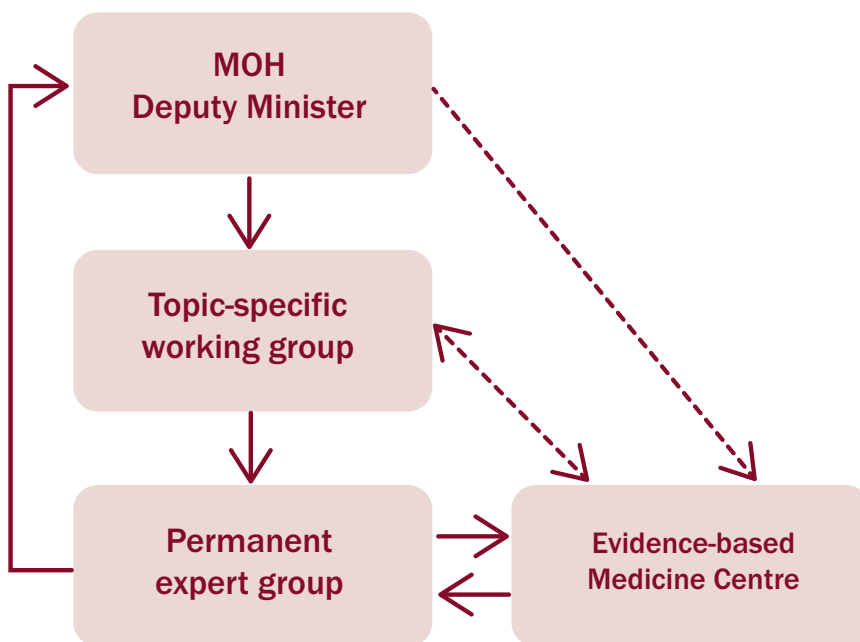
According to the revised process now in place, the development of CGPs can be described as shown in Fig. 4, with key actors and their responsibilities as listed in Table 7. The MOH initiates the development of CGPs for specific conditions based on priority health

improvement areas. Relevant health institutions and centres, together with local and international experts, form topic-specific working groups who then develop a CGP based on the stipulated area. Once developed, this is forwarded to the permanent expert group for evaluation and approval, to be completed with the support of EBMC. Nevertheless, the MOH should first make an official request to EBMC to evaluate the quality of CGPs put forward based on the methodology defined in the tool AGREE.²

The review process undertaken by EBMC typically engages closely with the topic-specific working group, clarifying issues and addressing comments. At this stage in the process EBMC, together with a topic-specific working group, finalizes the CGP which is then returned to the expert group for clearance according to a standard evaluation form. Once a decision is taken by the expert group all documents are sent to the MOH for final approval.

The Family Medicine Centre is responsible for the implementation of CGPs and the State Supervision Service of Medical Activities (Khadamot) assumes an inspectoral role, overseeing monitoring and evaluation of their use in clinical practice (see Objective 1.4).

Fig. 4. Process for the development and approval of CGPs



² The Appraisal of Guidelines for Research and Evaluation (AGREE) Instrument evaluates the process of practice guideline development and the quality of reporting.

Table 7. Key actors in the process of developing CGPs

Actor	Responsibility
MOH	Initiate development of CGPs; officiate request for review from EBMC; provide final approval of reviewed CGPs.
Topic-specific working group	Develop new CPGs; revise old CPGs to keep up-to-date with international standards and best available evidence.
Permanent expert group under the MOH	Evaluates all developed CGPs in collaboration with EBMC; provides guidance to MOH before taking final decision.
EBMC	Evaluates the quality of the methodology of CGPs based on the AGREE approach, providing comments to topic-specific working groups; may also be involved in topic-specific groups; provides trainings for topic-specific working groups during evaluation process; Director of EBMC is a member of the permanent expert group.
Republican Centre for Family Medicine	Member of topic-specific working groups developing CGPs specifically for PHC.
Development Partners	Ad hoc involvement in topic-specific working groups based on areas of expertise.

By 2014, diagnostic and treatment standards for family medicine were developed for 85 diseases (Box 1), 36 of which were developed prior to 2010. (See full list of CGPs for PHC services in Annex 2). These have been published and printed by the Family Medicine Centre in a book, approved by MOH Order No. 574, 25 June 2014). At the beginning of the following year (January 2015), 12 000 clinical guidelines were distributed to family medicine specialists according to MOH Order No. 574.

Box 1. Topics of CGPs for family medicine

- Infectious diseases and parasitology
- Oncological diseases
- Haematological diseases
- Diseases of the endocrine system and metabolism disorders
- Mental and behavioural disorders
- Neurological diseases of the nervous system
- Otorhinolaryngological diseases
- Eye diseases
- Cardiovascular diseases
- Respiratory diseases
- Gastroenterological diseases
- Dermatologic diseases and STIs
- Diseases of musculoskeletal system
- Obstetric and gynaecologic diseases
- Injuries, poisoning and burns

Objective 1.4 Extensive practical use of CGPs for diagnostics and treatment

Processes for implementing CGPs in clinical practice and monitoring and evaluating their use in family medicine are in place and over the last five years the MOH has worked to strengthen these. The Family Medicine Centre and State Supervision Service of Medical Activities (Khadamot) are the key actors in the process of implementing and monitoring and evaluating CGPs, respectively (Table 8). Additionally, the State Supervision Service for Pharmaceutical Activities also carries out inspections in PHC, assessing if prescribing practices follow recommendations of CGPs. These state agencies may carry out inspections in PHC centres together or separately. All health facilities are inspected once every two years, as well as in response to any unforeseen events (see Priority 3).

Implementation and dissemination of CGPs. The Family Medicine Centre, under the MOH, is responsible for the distribution of CGPs, including the delivery of printed guidelines and the coordination of trainings for training-of-trainers (TOT) on the application of CGPs for health professionals nationally, in oblasts and at the PHC level. Additionally, some members from topic-specific working groups are also involved in TOTs, given their close involvement in the development of CGPs. In 2015, 12 000 CGPs were distributed in print and electronic versions among family medicine doctors across the country according to the MOH Order No. 574.

Monitoring and evaluation phase. The State Supervision Service of Medical Activities has been assigned the role of monitoring and evaluating the implementation of CGPs in daily practice. The period of implementation of the Family Medicine Programme has observed efforts to gradually strengthen this monitoring and evaluation process. Before 2015, the State Supervision Service of Medical Activities, in collaboration with the Republican and Dushanbe City Family Medicine Centre, developed monitoring cards/forms based on CGPs for 36 diseases. These are to be applied during monitoring visits conducted by the State Supervision Service of Medical Activities and Family Medicine Centre. Since 2015, 10 priority diseases have been defined and one indicator for each disease has been developed based on CGPs (see Priority 3, Objective 3.1). In 2015, 87% of PHC facilities at the rayon/city level were reviewed and 78% were found to be in compliance with the CGPs.

Table 8. Key actors in the process of implementing and evaluating CGPs

Actor	Responsibility
MOH	Issue ministerial orders for the implementation of CGPs.
EBMC	Involved ad hoc in TOT on CGP implementation.
Republican Centre for Family Medicine	Lead TOT on CGP use and implementation; oversee printing and dissemination of CGPs; monitor implementation of CGPs in clinical practice; member of monitoring and evaluation team (established by the State Supervision Service of Medical Activities) to evaluate CGP implementation in PHC facilities.
State Supervision Service of Medical Activities (Khadamot)	Responsible authority since 2008 for the monitoring and evaluation of the implementation of CGPs in clinical practice at PHC facilities; develop monitoring forms to be applied during field visits in collaboration with the Family Medicine Centre.
Development Partners	Provide financial resources for dissemination of CGPs on an ad hoc basis at the request of the MOH.

Priority two: education system

Development of professional training and system of general education, retraining and continuous medical education in family medicine.

Objective 2.1. Improvements of family medicine undergraduate and postgraduate education curricula

Undergraduate medical education at Tajik State Medical University (TSMU) has undergone reforms working to increase hours of clinical practice. The six-year undergraduate education programme provided by TSMU has been revised, incorporating new learning objectives and teaching models into the curriculum (Table 9). To date, the first five years of the curriculum have been adapted, with a significant reduction in taught hours and increased focus on developing competencies through practice-based learning.

Training programmes for family medicine doctors and nursing staff are developed and approved on priority health issues (for example, respiratory diseases, ischemic heart diseases, emergency health care and organization of palliative care by family nurses). The Postgraduate Medical Institute (PGMI) supports the development of curricula, trainings and TOT for nursing practice (Table 10). A nursing faculty has also been established at PGMI and basic nursing training can be completed in three years. This can be followed by a one-year specialty training in family medicine nursing or other specialty.

A post-university specialty-training program (PUST) in family medicine was developed and is being piloted. In 2013, PUST was first piloted for 20 residents and 32 new residents started this two-year residency programme in 2014. PUST is implemented in select districts in ambulatory settings, including rural health centres and polyclinics. PUST allows new residents to be immediately immersed in the reality of family medicine practice. Local tutors have been trained to each supervise one or two residents. Residents work in local family medicine centres four days a week and participate in an additional day of training weekly provided by PGMI.

In 2014, a survey conducted with family medicine residents reported 93% of the residents rate the learning environment as good or excellent (Menges, Kasymova, and van Twillert 2015). Currently, PUST is implemented in 12 different locations. Unlike the standard one-year internatura postgraduate internship training, PUST provides full access to patients, allowing residents to gain clinical competencies and skills under close supervision for two years.

Table 9. Legislation on the training of the family medicine workforce

Title	Order No.	Date
Regulations for assignment of TSMU graduates to internship, clinical residency, master degree studies and job placements.	246	28 May 2012
Procedures for continuous training of family medicine specialists.	549	08 November 2012

Table 10. Key actors involved in training the family medicine workforce

Actor	Responsibility
TSMU	Provide a six-year undergraduate diploma in medical training.
PGMI	Oversee a one-year clinical internship and two-year clinical residency; lead TOT for family doctor and nurse trainers.
Clinical training centres	Provide six-month retraining course in family medicine offered by the Republican Centre for Family Medicine and PGMI, as well as short-term courses and preparation for two-year clinical coordinators.
Republican Nursing Centre	Developed the nursing curriculum and TOTs programme.
Tajik National University	Anticipated to begin training health providers; first cohort of doctors trained by this actor will be seen in two to three years.

Objective 2.2. Elaboration of a strategy for continuous medical education (CME) system development for family medicine specialists

Procedures of continuous training of family medicine doctors were approved by decree of the Ministry of Health on 8 November 2012, Order No. 549, setting the precedence for CME. However, this still requires further investment in order to be rolled out and achieved. The decree was issued for activities with regards to CME with the intention to introduce courses and credit hours to be completed through short-term training programmes. Implementation has been the subject of continued discussion between the MOH and Development Partners to align and advance its objectives.

Training programmes in both institutions contributing to CME – PGMI and Republican Centre for Family Medicine – have been harmonized. These programmes have worked to combine formal training to gain technical knowledge with clinical practice at local polyclinics. The harmonization of this curriculum, increasingly oriented towards NCD management in family medicine, has progressed a more standardized approach at the national level. Retraining of trainers and trainings for local mentors has helped to improve the reach of these efforts, particularly in rural and remote areas.

Objective 2.3. Training and retraining of family medicine doctors

Development of a family medicine workforce is active across the country, with an increasing number of family doctors and nurses achieved in recent years. According to MOH data, there were 2338 family medicine doctors and 4416 family medicine nurses in 2014; equivalent to 28.3 per 100 000 population and 52.9 per 100 000 population, respectively (MOH 2014b). That same year, 48.1% of the total health workforce was working at the PHC level (MOH 2014b).

Trends in the number of family medicine doctors and nurses per 100 000 population are reported in Table 11, showing a steady increase in recent years. The absolute number of family medicine doctors has increased in each region between 2010 and 2014 (Fig.

5); with the greatest percentage increases seen in Khatlon (93.5%), from 186 to 360, and RRS (79.0%), from 252 to 451 (MOH 2014b). The largest absolute numbers of family medicine doctors are reported in Sughd and Dushanbe, in line with the relative size of the population in these areas, and can be said to reflect, in part, the interest and activities of regional health managers to adopt the family medicine model. (See Annex 3 for a comparison of the total number and proportion of health workers in family medicine, PHC in general and hospitals.) The retraining of nurses for practice in family medicine is active in six rayons across the country. Over the past years more than 305 family nurses were retrained, as well as nurse tutors. The retention rate of retrained nurses in these rayons remains high at 96%.

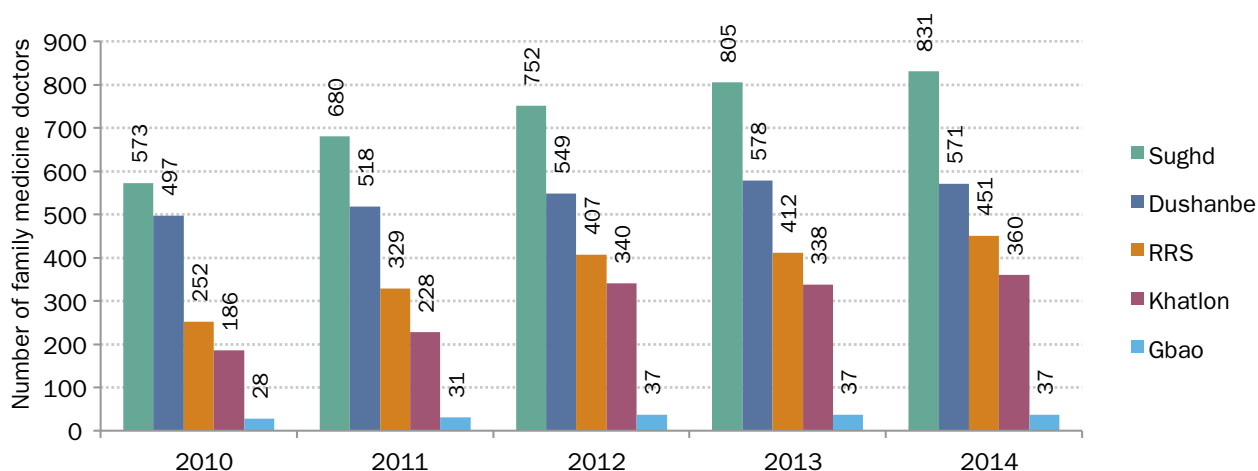
Development of a family medicine workforce was initiated with the introduction of a six-month retraining programme for family doctors since 2001. In 2015, the Family Medicine Centre, regional centres and inter-rayon departments retrained 580 health workers (171 doctors, 409 nursing staff) in family medicine, with a further 274 specialists (23 doctors and 251 nurses) currently undergoing trainings. In 2014, TSMU had 90 graduates specialized in family medicine. In 2015, medical colleges across the country had 575 graduates in general medicine with a specialization in family medicine.

Table 11. Proportion of family medicine doctors and nurses per 100 000 population between 2010 and 2014

Region	2010		2011		2012		2013		2014	
	Doctors	Nurses	Doctors	Nurses	Doctors	Nurses	Doctors	Nurses	Doctors	Nurses
Dushanbe	68.3	73.7	70.1	96.3	72.6	116.0	75.1	114.4	80.4	111.2
RRS	14.6	15.0	18.7	24.5	22.5	33.2	22.2	37.6	23.8	31.9
Sughd	25.5	45.4	29.9	48.6	33.7	61.8	33.9	66.8	34.2	72.1
Khatlon	6.9	24.6	8.4	27.1	12.1	34.0	11.8	34.3	12.3	34.5
GBAO	13.6	19.0	15.0	31.0	17.7	56.0	17.5	51.2	17.4	76.0
National	11.0	17.5	23.9	40.0	27.4	50.7	27.8	53.0	28.3	52.9

Source: (MOH 2014b)

Fig. 5. Absolute number of family medicine doctors by region between 2010 and 2014



Source: (MOH 2014b)

Objective 2.4. Repair and equipping of training facilities

Advancements in the resourcing of training facilities, including an established clinical skills centre, have been achieved. A clinical skills centre has been established at TSMU, equipped with portable mannequins and equipment for teaching basic clinical skills at the undergraduate level. A pocket guide for clinical skills teaching has been developed and distributed among faculty. Several of the key faculty members involved in clinical skills teaching have been trained by consultants from the University of Calgary in Canada. The Family Medicine Centre has overseen the dissemination of clinical resources across PHC facilities, such as the printing and distribution of CGPs (recall Priority 1).

Priority three: quality improvement system

Development and approval of the information support system for family medicine introduction.

Objective 3.1. Monitoring and evaluation of the process of the introduction and performance of family medicine doctors

Processes nationally for monitoring family medicine practice are in place and coordinated by the Family Medicine Centre. The Family Medicine Centre has developed a form for the monitoring and evaluation of clinical activities in PHC facilities. In 2014, this monitoring was conducted in Muminabad, Khovaling, Vose and Khamadoni rayons within Khatlon Oblast, all rayons within the RRS Oblast, the cities of Khujand, Isfara, Istaravshan, Kanibadam, Isfara and Penjikent within Sughd Oblast and all rayons in GBAO. The aim of this monitoring process is to provide necessary organizational and instructional assistance to facilities as needed.

Peer review groups (PRGs) have been introduced in family medicine as a practical approach to problem-solving and proactively tackling opportunities for improving clinical processes. With the support of Development Partners, PRGs have been piloted and offer a very valuable experience for quality improvement in family medicine practice (Box 2). This voluntary mechanism for performance improvement has achieved a high coverage to-date and level of enrolment among family doctors and nurses in the rayons covered by the project. PRGs aim to allow providers to openly share and discuss practical experiences in a non-punitive manner. PRGs are organized independently from traditional channels of CME, described as a softer, more informal approach to continuous learning and improvement. Experiences in one of the districts where PRGs have been implemented show it is possible to develop a sustainable system of PRGs and local conferences for continuous improvement in clinical practice at the PHC level (Loutan 2014).

Box 2. PRGs for sustainable, problem-based improvements in family medicine

Drivers for change. In Tajikistan, limitations in government resources dedicated to supporting CME combined with a lack of emphasis on continuous performance improvements undermined the assurance that quality health services were delivered. Moreover, measures put in place, such as one- or two-month training courses for health providers, were found to be too time consuming and with generally low levels of participation.

Aims. In 2007, a new model for continuous quality improvement was developed and implemented to introduce peer review groups (PRGs). PRGs work to provide a practical, problem-based approach for family doctors and nurses following six-month retraining programmes.

Activities. PRGs are led by trained facilitators tasked with organizing and overseeing discussions on topics, such as challenges associated with the use of CGPs and the diagnosis and treatment of various diseases encountered in family medicine practice. Facilitators are also responsible for evaluating meetings of PRGs with a quick tool developed by Sino Project (supporting the introduction of PRGs) to reflect on each meeting.

PRGs aim to be flexible, with members able to select topics and organize themselves as they see relevant. PRGs are complementary to other forms of CME (such as courses, conferences, workshops and seminars), focusing specifically on problem-solving based on challenges faced in daily practice, rather than teaching new skills. To-date, there are 48 PRGs involving approximately 500 family medicine doctors and nurses in the project districts of Tursunzoda, Rudaki, Shakhrinav, Vose, Hamadoni and Fayzobod. The process of discussion and review is continuous and systematic, aiming to address problems using a structured approach.

Achievements. Covering highly practical issues, PRGs can have an immediate effect on the quality of services delivered. With discussions taking place among peers, members are treated as equals, allowing PRGs to create a safe space for discussing work-related problems without concern over repercussions. By organizing providers working in similar areas, PRG-members can discuss workplace-specific challenges and propose relevant solutions. PRGs have also proven an effective way to network members by facilitating more regular dialogue.

Lessons learned

- The role of the facilitator is essential for the flow and functioning of PRGs. The facilitator should be able to guide a discussion and summarize conclusions.
- PRGs have untapped potential for doctors working in districts who do not always have access to the latest evidence-based information. Guides for facilitators or other resources may allow for a broader range of topics to be covered.
- In order for PRGs to become sustainable, they could be included in a credit-based CME system. In other countries that have PRGs, this often depends on facilitators having been trained and keeping record of meetings and participants.

Planned quality inspections (audits) in PHC facilities are carried out across the country by external inspectors reporting on adherence to CGPs for family medicine. According to ministerial order, facilities should be supervised on areas including: management and human resources; quality; clinical safety; and technology and equipment. The State Supervision Service of Medical Activities conducts reviews specifically on the area of quality and clinical safety, looking to evaluate the adherence of family medicine providers to processes approved in CGPs.

According to the regulation in place, inspections of PHC facilities should be conducted every two years (currently under consideration to extend to three) (Table 12). Unplanned inspections are also carried out at the request of the MOH in instances of adverse events,

disease outbreaks and patient complaints. In mid-2015, the methodology for inspections was renewed, simplifying inspections to review CGPs for nine priority diseases in accordance with priority areas of the Family Medicine Programme. Monitoring according to this new method reports on 10 indicators in total (reduced from between 15 to 20) looking to assess the minimum standards for quality and patient safety. Indicators and measures for assessing practice have been developed in coordination with the Family Medicine Centre and with support from EBMC for alignment with CGPs.

Inspections to-date have been carried out in cities and rayons, with plans to extend to the village level. The review process is completed using patient cards (records) by randomly selecting 10% of patients visiting in the past six to eight months. Services provided to this sample of patients are cross-checked with the CGPs in place.

At the direction of the MOH, the State Supervision Service of Medical Activities has the authority to submit an official request to a facility following assessment if performance is deemed substandard (Table 13). A list of items to be addressed is highlighted in a report following inspection and facilities are expected to address these issues within a set timeframe (on average 30 days; the time between first inspection and request for improvements averages 10 days). All shortcomings identified result in a financial penalty to be paid by the providers. A follow-up monitoring visit is conducted to review improvements on highlighted areas. If problems or compliance issues remain unaddressed, this is brought to the attention of the MOH for further action.

Table 12. Relevant legislation on the development of a quality improvement system in family medicine

Title	Order No.	Date
State service supervising medical activity	776	29 December 2012
Public health protection	380	31 September 2013
Establishing a family medicine intersectoral coordination council	416	07 December 2013
Procedures for accreditation of institutions, organizations and enterprises of health care	600	09 September 2014
Commission on the quality and safety of care in health care institutions	233	24 April 2014

Table 13. Key actors involved in quality improvement processes in family medicine

Actors	Responsibility
State Supervision Service of Medical Activities	Inspection authority responsible for the monitoring and evaluation of CGPs in practice; monitoring is completed using forms for clinical guidelines; comments are provided based on the review conducted for action by facilities to improve practices towards a minimum national standard of quality.
Family Medicine Centre	Support development of forms/cards for external audits; conduct periodic reviews of facilities for continuous performance improvement.
Republican Centre of Health Accreditation	National authority responsible for overseeing the accreditation of facilities, including adapting methods and protocols for accreditation.
Facility inspection teams	Inspection teams involve representatives from the MOH, PGMI, FMC, HPAU and Republican Centre for Information and Statistics.

A process and the capacity for the accreditation of health services has been developed and formalized nationally for hospital-based care. In 2012, approval of the regulation on state service supervising medical activity introduced a legal framework for the accreditation of health facilities (Order No. 776, 29 December 2012). In 2014, the Republican Centre of Health Accreditation was established to serve as the national reference institution for accreditation of hospital facilities, under the State Supervision Service of Medical Activities (Order No. 600, 9 September 2014). This follows approval earlier that same year introducing four sections for accreditation standards: i) management, ii) clinical safety and quality of patient care, iii) material and technical base; and iv) environmental safety (Order No. 233, 24 April 2014.).

In September 2015, the Republican Centre of Health Accreditation was approved as an accreditation authority by the International Society for Quality in Healthcare (ISQua). Staff of the Republican Centre for Health Accreditation have been trained with support of ISQua. In total, 14 specialists participated in practical courses for the accreditation of medical institutions and were trained in the neighbouring country, Kyrgyzstan.

To-date, five maternity houses have been accredited. In order to facilitate the accreditation of these, accreditation criteria were developed and capacity building carried out for both staff of the Republican Centre for Health Accreditation and external experts involved in the assessment (Box 3). During the accreditation procedure, the quality of care and the implementation of standards, inspections, treatment and other activities were assessed. Facilities which participated in the accreditation process have improved their services by mobilizing internal resources for courses for health personnel, procuring additional equipment, adding local quality improvement standards to the established national standards and establishing internal quality improvement teams.

In 2015, mandatory accreditation for central level hospitals across the country was introduced. A methodology to carry out this process is reported as in development with widespread rollout planned to follow. According to this requirement, quality improvement teams (QITs) are to be established in all central level health facilities. These teams play an important role in the facility accreditation process. According to the regulations in place, QITs are responsible for pre-assessing accreditation criteria in preparation of

the formal accreditation process. The Republican Centre of Health Accreditation offers trainings and support to QITs during this process.

Box 3. Establishing an accreditation system for maternal and child health services

Drivers for change. In Tajikistan, quality and patient safety has been put high on the policy agenda. This is evidenced by institutions established in relation to quality, as well as activities related to performance-based payment, audits, quality circles, standards and CGPs and different trainings undertaken for quality improvement. Importantly, while much emphasis has been put on the development of CGPs, efforts including the further training of health professionals within different programmes and regulation of quality standards in practice remain needed. Sustainable mechanisms for quality improvement in health services, with the development and introduction of mechanisms for continuous quality improvement, are required.

Aim: Quality assurance in maternal and child health services. Despite successful reforms in the area of sexual and reproductive health, in the late 2000s deficiencies in quality standards and quality management systems, as well as a lack of educational services for health professionals, became of increasing concern. In this context, for the period 2009–2015 German Corporation for International Cooperation (GIZ)'s Health Programme supported the development of a coherent and sustainable institutional and regulatory framework for quality assurance in maternal and child health. To this end, improvements have targeted a number of areas,³ including the introduction of a system for accreditation described below.

Activities for introducing a system of accreditation. Since 2009, GIZ's Health Programme, in close collaboration with the MOH in Tajikistan and technical support from Kyrgyzstan, has worked to implement an accreditation system for maternal and child health services in Tajikistan. Activities have targeted 15 pilot maternity houses in Dushanbe and Soghd. This has included establishing an accreditation regulatory framework with accreditation standards for maternity houses, which have been developed and approved by Government of Tajikistan (Decree No. 600) in accordance with the fourth edition of ISQua standards. The capacity of accreditation experts and accreditation users has also been a priority area of focus. Staff of the Republican Centre for Health Accreditation have been trained on monitoring the quality of services, including the application of software to analyse monitoring data. Results of external monitoring by the Centre are presented at quarterly meetings with the MOH and Development Partners.

Achievements. To-date, accreditation of five maternity houses has been conducted, certifying the quality of service provision in maternal and child health services, assessed according to the methodology and support of international experts at ISQua. In September 2015, the accreditation standards in maternal and child health services in Tajikistan were certified by ISQua. The system of accreditation has brought a new perspective and first-hand experience for quality improvement as a systematic and comprehensive process.

Moreover, the implementation of national standards and CGPs during this period has been attributed to health improvements, including reductions in preventable maternal and neonatal deaths. The utilization of standards and CGPs has also improved the management of resources at the facility level by avoiding unnecessary interventions (such as reductions in blood transfusions, caesarean sections and medicines).

³ This includes the development of a set of national standards and clinical protocols, regulation for referrals and the regionalization of services, intensive on-the-job trainings to incorporate the standards and guidelines into routine clinical practice, integrating standards and protocols in the curricula of the medical faculty and postgraduate education institutions for doctors, nurses and midwives, and ensuring comprehensive, reliable and sustainable monitoring of quality of services in maternal and child health. Quality Improvement Teams have been established at the facility level to manage the internal monitoring of services on a monthly base using assessment tools to evaluate performance of the organization, employees and specific interventions for the regular tracking the progress on established standards. An external quarterly audit is conducted by a group of experts including local authorities and insurance providers to support health facilities in improving the quality of work.

Lessons learned

- Success with the introduction of a process for accreditation of maternal and child health services has proven the potential for accreditation to be integrated into the process of overall quality improvement for health services delivery.
- Advocacy and information activities would help improve the acceptance and knowledge about the benefits of accreditation as part of continuous quality improvement.
- Incentives should be established for facilities achieving a good level of accreditation as a form of motivation and source of resources for further quality improvement.
- Sustainability of a system for accreditation can be closely linked to clear legislation that defines roles and responsibilities of involved partner institutions and stakeholders in quality improvement.
- Continuous quality improvement in services delivery relies on the health system to establish properly functioning quality improvement systems, finding linkages across stakeholders for harmonized activities, while maintaining a focus on individual and population health needs.

Objective 3.2. Establishment of family medicine intersectoral coordination council

In 2010, the MOH established the Inter-sector Coordination Board for Family Medicine for the continued strengthening of PHC, including family medicine. The deputy minister of health is chairman of this board. The board itself has representation from the MOH, local institutions and Development Partners. The purpose of this council is to promote political dialogue to further strengthen the primary care system in the country (Order No. 416, 7 December 2013). Meetings carried out to-date have mainly covered issues related to the quality of training for family doctors at pre- and post-diploma levels, development of adequate working conditions for family doctors in PHC facilities, PHC facilities management and introduction of business planning.

Objective 3.3. Review of family medicine introduction and performance of family medicine doctors in meetings of the MOH Coordination Council and Development Partners

Each year, progress on the introduction of family medicine and activities of family medicine specialists is reviewed and discussed at the meeting of collegium of the MOH and coordination meetings with the Development Partners. In addition, periodically the Republican Centre for Family Medicine, regional centres and inter-rayon departments meet for ongoing organizational and instructional assistance to all PHC facilities. This work is in line with the review of the Family Medicine Programme (recall section: About this document).

Priority four: regulatory mechanisms for access, effectiveness and quality

Implementation of mechanisms for using capabilities of family doctors and nurses to increase accessibility, effectiveness and quality of health care.

Objective 4.1. Ensuring accessibility and full use of equipment, capacity, diagnostic and therapeutic resources by family medicine doctors at the PHC level

An effort to improve the accessibility and full use of equipment, capacity, diagnostics and treatment practices for family medicine specialists in PHC has been made during implementation of the Family Medicine Programme. As of 2015, approximately 1300 medical bags for family doctors and 1450 bags for nurses had been procured and distributed across the country. The Family Medicine Centre and its offices in two rayons and one city were provided with visual aids (models) and educational literature. RSS oblast received 20 educational visual aids (models) and 200 bags for family doctors and nursing staff. Having additional equipment and materials for family medicine doctors has allowed for quality improvements in PHC.

The MOH has also put an emphasis on the standardization of infrastructure in PHC facilities, including equipment and regular maintenance. In recent years, renovations of PHC facilities (rayon health centres, rural health centres and health houses) were undertaken. Furthermore, in 2013, the MOH established a Centre on Medical Device Maintenance in order to repair and maintain equipment in health facilities procured or received from Development Partners. This Centre, however, is not yet fully operational as the legislative base has not been fully developed.

The National Health Strategy for the period 2010-2020 emphasizes the importance of PHC by allocating additional funds for PHC; at least 40% of the rayon/city budgets have to be allocated to PHC (see Objective 4.3). Additionally, the MOH ensures access to PHC services via the basic benefits programme (BBP) or Decree No. 600. PHC facilities may purchase needed drugs and equipment or refurbish their facilities using funds collected from these two interventions.

Objective 4.2. To ensure that family medicine specialists serve as a first contact for patients, determine patients' needs in diagnostics and treatment, and refer patients to other specialists

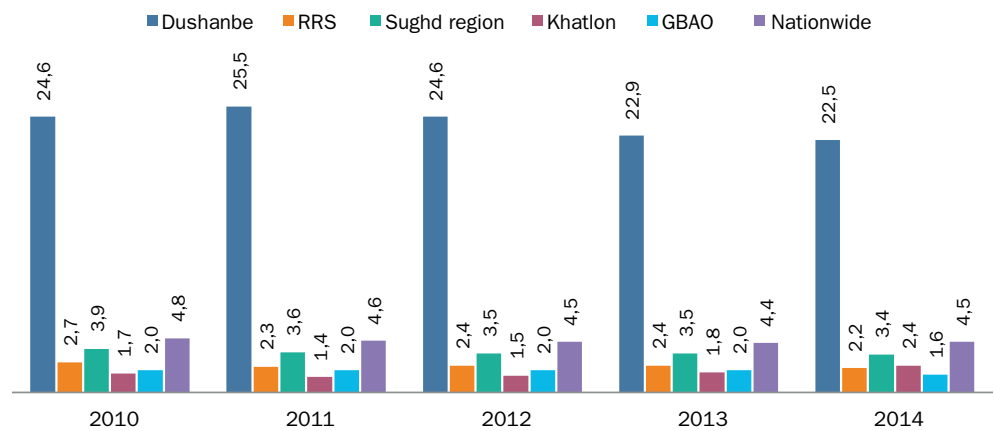
The MOH has defined family medicine doctors as the gatekeeper to health services in Tajikistan, according to the National Health Strategy 2010-2020. To realize this policy, under the BBP a new conditionality was placed on hospitalization: if a patient is referred for hospitalization by a family medicine doctor, then the patient will pay only a co-payment; whereas visiting hospitals directly means services are to be paid in full by the patient. This policy acts as an incentive for people to go to PHC and utilize services there rather than going directly to inpatient care.

In 2014, the Health Policy and Analysis Unit (HPAU) carried out a study on access to PHC as part of an analysis of bottlenecks to health system strengthening (Akkazieva et al. 2015). One of the key findings of this study highlighted that family medicine doctors typically view the coordination of patient care as their role, rather than the role of a

narrow specialist. This shared sense of professional roles is positive for services delivery in Tajikistan. With the introduction of family medicine as a gatekeeper to health care services, the referral system has been improved slightly and reinforced further by the introduction of the BBP.

Over time, PHC utilization rates (PHC visits) by oblast have remained fairly constant; on average, 4.6 visits per person annually (Fig. 6). Comparing utilization at the rayon (district) level, rates show some association with the distribution of family doctors (Fig. 7). Jamoat-level primary care centres have developed short-term inpatient wards to avoid referrals to specialized hospitals for minor treatment procedures. These centres provide patient monitoring and act as an intermediary solution to avoid expensive transfers and better manage patient needs locally.

Fig. 6. Annual PHC visits per capita by oblast between 2010 and 2014

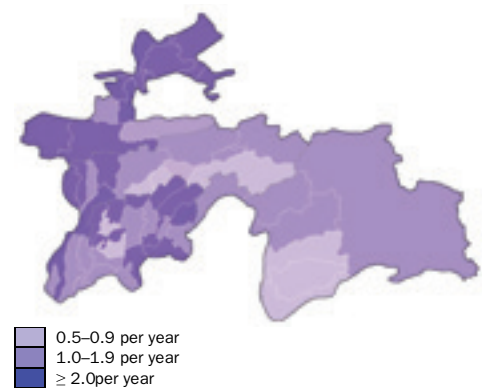
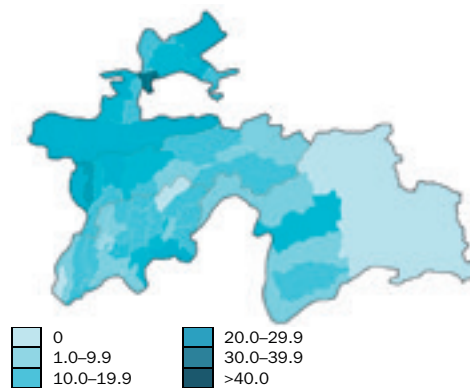


Source: (MOH 2014b)

Fig. 7. Comparing distribution of family medicine doctors (A) and PHC visits (B) in 2014

A. Proportion of family doctors per 100 000 population

B. Annual PHC visits per capita



Source: (MOH 2014b)

Source: (MOH 2014b)

Objective 4.3. Ensuring a high level of accessibility to health services for the population

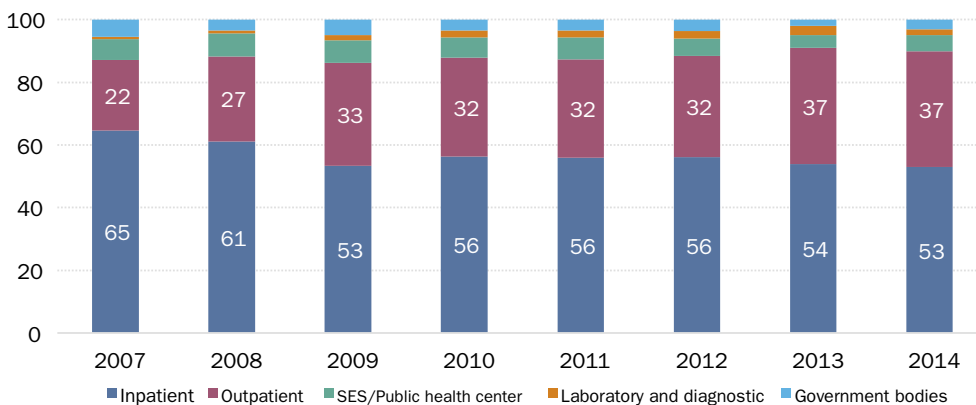
To ensure equal access to PHC health services for the population, including formalization of unofficial payments, the MOH introduced two policies prior to 2010; the BBP in 2005⁴ and Government Decree No. 600 in 2008.⁵ Both these policies have aimed to improve access to health services for vulnerable populations. Over the last five years, the MOH extended the BBP from eight to 14 rayons. In 2013, the HPAU carried out a feasibility study to explore potential expansion of the basic benefit package to six additional rayons.

The key findings of this study highlighted that existing budgetary allocations would be insufficient to cover the costs of the programme, but despite this conclusion the MOH scaled up the BBP these rayons within the standard budget provided by the Ministry of Finance (MOF).

In this context, the Ministry developed an exemption-from-payment policy for vulnerable groups and a formal co-payment mechanism for other population groups (Decree No. 600) that applies to laboratory, diagnostics, dental and high-technology services (for example, kidney transplantation and dialysis). The list of beneficiaries based on social status under Decree No. 600 includes those currently covered by the BBP and expands coverage to acute myocardial infarction and terminal cancer patients.

Public expenditure as a share of total health expenditure has been growing slightly in recent years. While it remains low in absolute and relative terms, the structure shows a favourable trend towards increased spending in PHC. For example, hospital expenditure has decreased to 53% and PHC expenditure has increased to 37% in 2014 (versus 65% and 23% in 2007, respectively) (Fig. 8). This change can be attributed to the adoption of the joint decree by the MOH and MOF in June 2008 on the management and financing structure of primary care facilities. According to this decree, at least 40% of the rayon/city health budget is to be allocated to PHC. Importantly, private expenditures continue to represent the highest share of total health expenditure; in 2012, out-of-pocket expenditures accounted for 62.5% of total health expenditures (MOH 2014a)

Fig. 8. Government expenditure by type of services delivery between 2007 and 2014



Source: System of Health Accounts, RMIC and JAR 2015

4 Government Resolution No. 237 "Provision of health services under Basic Benefit Programme" 2 July 2005.

5 Government Decree No. 600 "About the procedure of health services provision in public health facilities to the citizens of Tajikistan" 2 December, 2008.

A comprehensive process for financing reform was put forward in 2014. This followed consultations and policy dialogues with other ministries and agencies, the government and parliament, and Development Partners over the course of 2013, exploring the feasibility of introducing mandatory health insurance. As a result of this process, it was decided to develop a roadmap for the comprehensive reform of health financing, with the aim of implementing mandatory health insurance in 2017. The roadmap envisages the expansion of case-based payment for hospital care and the pooling of funds at the oblast level. A strategic plan for further reforms of health financing for the period of 2015-2018 based on the roadmap were approved by Government Resolution No. 425, 2 July 2015, and the plan has become the next health financing strategy for five years.

The allocation of funds to PHC providers based on full capitation (applies to the whole health facility budget) has been piloted since 2013 with the support of Development Partners. This was first piloted in Sughd oblast and is planned for rollout across the country in coming years. Furthermore, between 2014 and 2015, the budget formation for PHC centres was revised by applying a capitation formula. It is planned that, in 2017, the budget for PHC will be formed based on capitation and should be increased to allow improved access and quality in PHC. In parallel, a new incentive mechanism of results-based financing for PHC has been piloted since 2013. This mechanism should strengthen human resource capacity, infrastructure and technical resources in facilities, contributing to the quality of health services.

Priority five: health outcomes

Improved health outcomes.

In recent years, Tajikistan has seen a significant volume of activity and commitment from the highest level of government for improvements in priority health areas. Current disease-specific programmes in Tajikistan are listed in Table 14 and illustrate the activity nationally to prioritize actions for improved health outcomes. These programmes and their accompanying strategic plans are in close alignment with the priorities for health and development in the WHO European Region and globally. This includes, most recently, the national action plan on the control and prevention of NCDs for the period 2015-2018.

Importantly, across each programmes' efforts to strengthen the prevention, diagnosis, and treatment of specific needs (such as tuberculosis, heart disease and immunizations), strengthening health services delivery is consistently signalled as a priority area for improvement, with the role of PHC and family medicine highlighted.

Table 14. Recent national programmes for health in Tajikistan

2007	Prevention, diagnosis, and treatment of coronary heart disease 2007-2015
2010	Prevention of occupational diseases 2010-2015
	Injury prevention, diagnosis and treatment of injuries and consequences 2010-2015
	Protection of the population from tuberculosis for the period 2010-2015
2011	Prevention, diagnosis and treatment of patients with congenital and rheumatic heart diseases for 2011-2015
	National immunization programme 2011-2015
	Prevention, diagnosis and treatment of malignant tumours 2011-2015
	Break of malaria transmission 2011-2015
	Healthy lifestyle 2011-2020
2012	Prevention, diagnosis and treatment of gastrointestinal disease 2012-2016
	Prevention, diagnosis, and treatment of diabetes 2012-2017
2013	Drug addiction and improvement of drug treatment 2013-2017
2015	National action plan on the control and prevention of NCDs 2015-2018

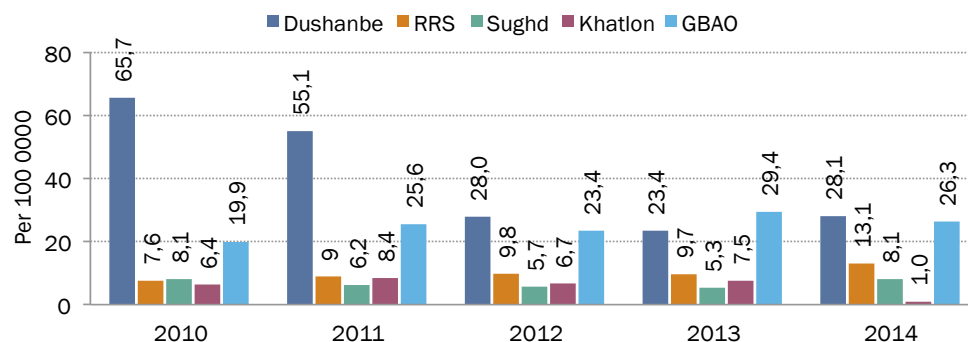
Objective 5.1. Prevention and control of communicable diseases, including preventing and reducing prevalence of viral hepatitis and waterborne infections

Improved prevention and control of hepatitis. In recent years, reported cases of viral hepatitis and waterborne infections have decreased, dropping from 10 281 cases in 2013 to 5524 cases in 2014 (MOH 2014b). The main cause for viral hepatitis A is poor-quality drinking water; of particular concern in certain regions and among children. Clinical protocols for infectious diseases and parasitology for family medicine promote the crucial role of PHC, working closely with the population, in raising awareness on the importance of safe drinking water at home and the prevention and management of waterborne diseases.

Decreasing prevalence of HIV/AIDS. Between 2010 and 2015, prevalence of HIV shows some reduction or relative stagnation across oblasts (Fig. 9). The greatest decrease in prevalence in HIV was recorded in Dushanbe, falling from 65.7 to 28.1 per 100 000 population between 2010 and 2014; with decreases also seen in Sughd and Khatlon oblasts (MOH 2014b). Increases in GBAO and RRS oblasts, however, have been reported during this period; this may be related to changes in injection drug use and migration patterns, respectively. Other contributing factors may include an increased number of voluntary testing between 2010 and 2014.

A number of achievements have supported the integration of HIV treatment and management into PHC during this period. In the process of developing CGPs described, HIV guidelines for PHC have been introduced. These guidelines reflect a comprehensive package of services for injection drug users, men who have sex with men (MSM), and sex workers. In-service training modules on HIV clinical care and prevention services have been developed based on these guidelines and integrated into postgraduate education. Pilot projects with Development Partners and NGOs have also worked to strengthen the resources available in family medicine centres and strengthen linkages between providers, NGOs, patients and the wider community.

Fig. 9. Prevalence of HIV per 100 000 population by oblast between 2010 and 2014



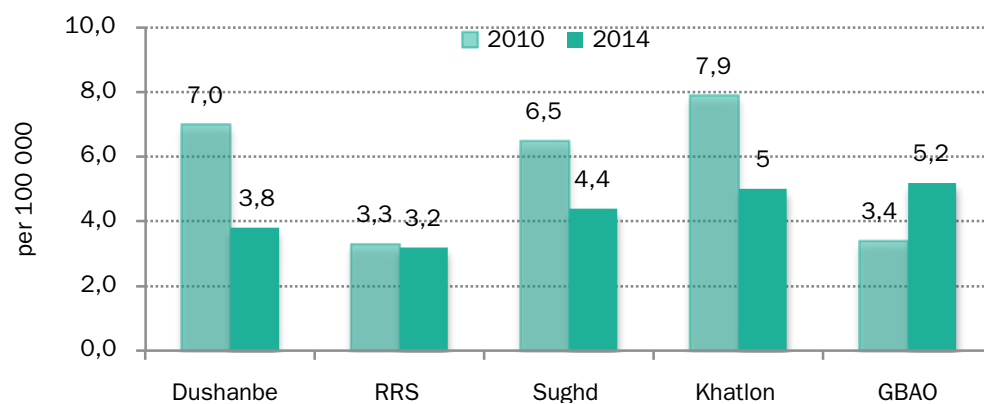
Source: (MOH 2014b)

Prevention of vaccine-preventable diseases. Throughout the course of the Family Medicine Programme, PHC centres have conducted national vaccination dates against priority vaccine-preventable diseases in children. In 2014, there were zero cases of measles recorded (MOH 2014b). Coverage of vaccination is reported as more than 93% in children over the last five years for diphtheria, pertussis, tetanus, Hepatitis B, and Haemophilus influenzae type B (delivered as a pentavalent vaccine), as well as measles, TB and rotavirus (MOH 2014b).

High coverage of vaccination in accordance with regulated vaccine schedules has led to dramatic decreases in the incidence of diseases and elimination of mortality from vaccine-preventable diseases. Family medicine practice can be credited in large part with reductions in vaccine-preventable mortality as the delivery of vaccines is managed through the channels of family medicine.

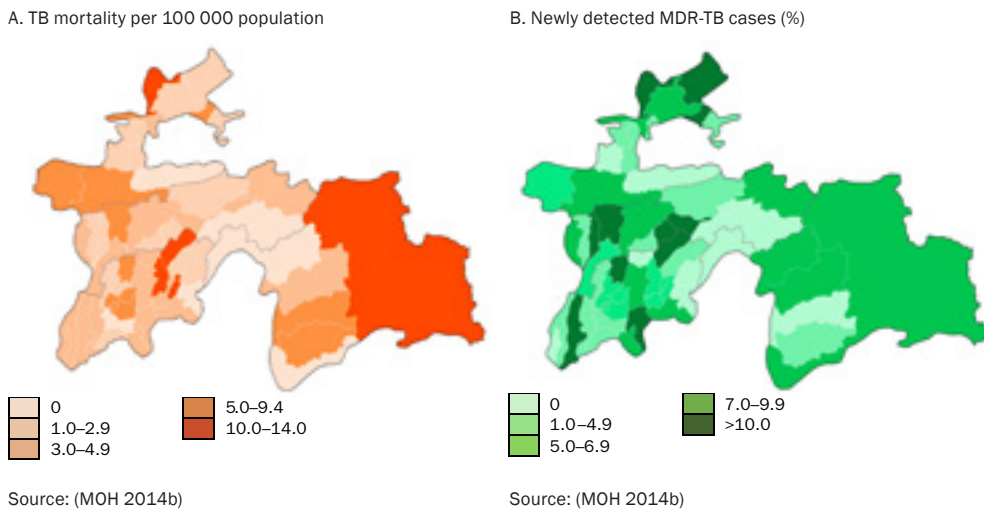
Prioritizing integrated, PHC-led TB care. There has been progress in recent years on the reduction of TB incidence and mortality. Incidence of TB nationally in 2014 was 4.3 per 100 000 population, down from 6.2 in 2010 (MOH 2014b), with a decrease reported in nearly all oblasts (Fig. 10).

Fig. 10. TB-related mortality per 100 000 population by oblast in 2010 and 2014



Source: (MOH 2014b)

Fig. 11. TB mortality per 100 000 population and percentage of newly detected MDR-TB cases in 2014



Accounting and reporting of TB cases has improved considerably; there is a policy to register all cases and reporting forms are developed and revised in accordance with WHO definitions. In PHC, efforts have focused on strengthening the integration of Directly Observed Treatment Short course (DOTS). With support of Development Partners, this has included on-the-job training to improve monitoring and evaluation using a supportive supervision approach. Doing so has demonstrated improved coordination between vertical TB systems and PHC-level health workers providing the majority of services for TB patients. Coordination efforts have also focused on improving the linkages between PHC and inpatient facilities, improving collaboration between TB specialists and family medicine doctors by introducing collaborative TB-specialists to support PHC providers and share experiences (Box 4). In 2013, nearly half (45.3%) of MDR-TB patients were treated as out-patients from the first day of treatment (Ahmedov et al. 2013).

Box 4. Integrating the delivery of TB services in PHC in Tajikistan

Drivers for change. Tajikistan has reported among the highest TB-burdened countries in the WHO European Region, with growing concern in recent years for increasing rates of multidrug-resistant TB (MDR-TB). Suboptimal delivery of TB services has been reasoned as a key contributing factor for poor health outcomes, with challenges including the concentration of TB treatment in hospitals, poor coordination between hospitals and primary care and weak monitoring systems.

Aim. Responding to rates of TB and MDR-TB, Tajikistan's national TB programmes have consecutively worked to strengthen the integration of TB services in primary care.

Activities. Over 3000 health providers have been trained on providing TB care in primary settings and accredited trainings are now in place to support these annually. The MOH and Ministry of Education have also worked to adapt the initial training and education of health workers for optimal TB service provision from the outset. Other cross-ministry partnerships have been established and a national committee brings together government officials from each ministry to collaborate on reducing TB. Reorganizing services delivery has allowed more than 70% of TB patients to now receive services through outpatient facilities.

Lessons learned

- Aligning to previous efforts having learned from prior experience and understanding the cause of persistent gaps enables a stronger approach moving forward.
- Developing a cross-sector approach involving a number of different ministries ensures government prioritization, unites stakeholders and provides stability for the initiative.
- Shifting resource allocation to support the initiative can be used as a mechanism to drive initiative momentum.

Objective 5.2. Reduction in the burden of NCDs and chronic diseases

As part of the integration of NCDs in PHC, focus has been put on disease prevention and management and a package of essential interventions for NCDs in primary care (PEN) has been implemented. Pilot regions for PEN protocols include: Dushanbe, Penjikent, Isfara, Rushan, Muminobod, Rasht, Shakhrinav, and Vakhsh. Protocols for implementation included: i) prevention of heart attacks, strokes and kidney disease through integrated management of diabetes and hypertension; and ii) health education and counselling about healthy behaviours (Box 5).

Towards the reduced incidence of NCDs, joint work plans were developed between the Family Medicine Centre, the Research and Clinical Oncology Centre and the Republican Cardiology Centre. This partnership has contributed to the development of guidelines for family doctors on the prevention of cardiovascular diseases, heart electrocardiograms, cervical cancer prevention, and breast cancer prevention.

Other activities for hypertension included the development of evidence-based CGPs, CME modules and training materials. NCDs were also included in facility-based quality improvement activities such as active screening for hypertension, determining quality improvement indicators, regular feedback meetings and improving lab services. These activities were piloted in target rayons and management of hypertension was found to improve (complications among patients with hypertension decreased). Patient support groups (hypertension and diabetes schools) have also been introduced to support adherence to treatment.

Ensuring access to health care and drugs for patients with cardiovascular disease (CVD). In 2015, the mortality rate from ischemic heart disease was reported at 1.4%; 3% lower than the previous year. Incidence of primary hypertension, however, is increasing; rising from 347 cases per 100 000 population in 2009 to 447 cases per 100 000 in 2013. The highest annual growth in the incidence of hypertension was observed in GBAO, with lowest values observed in Dushanbe where more prevention programmes have been more implemented and people generally benefit from more favourable socioeconomic conditions (Fig. 12).

Fig. 12. CVD mortality per 100 000 population in 2013



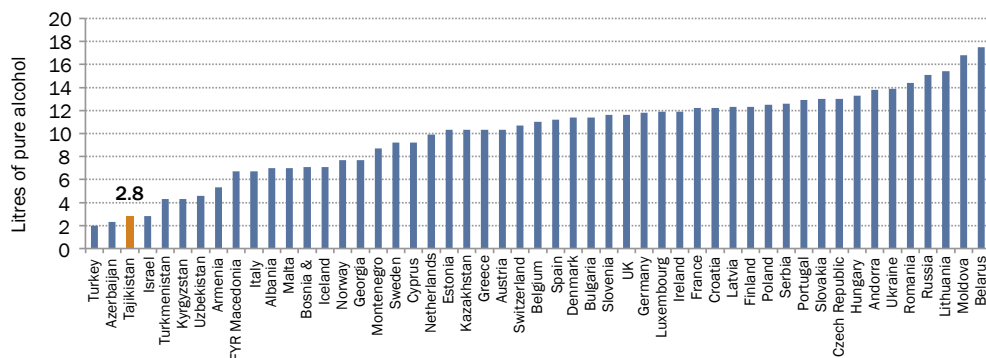
Source: (MOH 2014b)

Objective 5.3. Health determinants and promotion of healthy lifestyle

Efforts to proactively inform the public on risk factors of poor health behaviours have included sessions carried out in schools. In Dushanbe, family doctors have conducted periodic examinations among adolescents, explaining risky behaviours (relating to topics such as smoking, nutrition and physical activity). Instructions were developed and talks are conducted. Similar activities are planned aiming to secure the broad involvement of teachers, management of schools, local authorities and parents. Relative to other countries in the WHO European Region, for sociocultural factors, Tajikistan has not faced the same increasing burden and repercussions on health resulting from high levels of alcohol consumption (Fig. 13).

Raising public awareness. In order to increase public awareness on a healthy lifestyle, the Family Medicine Centre with support from Development Partners has conducted two periods of distance learning with the involvement of 60 non-health staff (for example teachers, journalists and lawyers) from different oblasts on HIV/AIDS and reproductive health. In addition, specialists in the National Centre for Reproductive Health in Sughd, Khatlon, GBAO and RRS have undergone courses on HIV/AIDS and have conducted rapid HIV testing.

Fig. 13. Total average alcohol consumption per capita across the WHO European Region, 2008-2010



Source: (WHO 2015a)

Box 5. Implementation of PEN protocol in pilot districts

Drivers for change. In 2013, backed by the government's priority weighted to the prevention and control of NCDs, efforts to introduce WHO's package of essential NCD interventions (PEN) in primary care were initiated in Tajikistan. Constraints for the effective delivery of prevention measures in PHC, namely a lack of human resource capacity (high staff turnover, low qualifications), lack of material resources (diagnostic and laboratory equipment), and sub-standard methods (outdated CGPs, lack of screening methodologies), were key drivers for the introduction of the PEN framework.

Aim. Initial piloting of PEN aimed to introduce primary prevention measures for heart attacks and strokes and secondary prevention after myocardial infarction, stroke and rheumatic heart disease. Seven rayons were selected for implementation: Muminabad, Rasht, Vaksh, Shahrinai, Isfara, Penjikent and Rushan.

Activities. In 2013, a multidisciplinary working group was established with the objective of adapting and adjusting the PEN framework for implementation in Tajikistan; specifically, developing CGPs for PEN one, two and three and a training curriculum. Trainings for practicing providers were organized with EBMC in 2014, offering training-of-trainers in Dushanbe for workshops to then be provided at training centres in pilot districts. Together with TSMU, the curriculum for undergraduates was reviewed and greater emphasis placed on NCD prevention (such as screening services).

Achievements. Survey results of providers in PEN pilot districts signal satisfaction with trainings and revised CGPs, finding these practical and easily applied. However, a monitoring process conducted in 2015 found human resources are still a main constraint for effective prevention and control services for NCDs in PHC. Availability of basic resources and medicines were also found to remain inconsistent, with CVD medicines, for example, not universally available or unaffordable in certain rayons. Nevertheless, implementation of PEN protocols has proven successful for improving the capacity for effective NCD services in PHC and the expansion of protocols to include cancer and extension of the pilot to additional rayons is planned. In clarifying services for delivery in PEN, referral processes have been streamlined towards more effective coordination between primary and secondary care.

Lessons learned

- A multidisciplinary approach to the set-up and implementation of PEN has been credited as a key contributor to the capacity of trainers and taking a practice-based approach.
- The process has underscored the importance of a strong information system, both for clinical services ensuring patients are registered for proactive prevention services and for monitoring and evaluation purposes.

Priority six: innovations in science and technology

Development of innovative science and technology in the field of family medicine.

Objective 6.1. Planning and implementation of scientific research according to sectoral programmes of health sector development and its priority areas

Developing a scientific research base on health services delivery. Over the past five years, an impressive volume of research, reporting and documentation in the area of health services delivery has been developed. This work spans scientific peer-reviewed journals, technical briefings, programme reviews and monitoring and evaluation reports. In 2015, more than 15 scientific papers in national and international journals were

published by staff. In 2014, one specialist from family medicine and two specialists from the State Institute for Post-Diploma Training of Health Workers had their dissertations approved.

Linking evidence to policy. The elaboration of policy briefs and technical notes have proven an important monitoring tool and source of information for decision-making purposes at the policy level and in oblasts. Linking evidence to policy has been supported by structures such as HPAU, developing topic-specific briefings on pertinent health topics to inform decision-making.

Cross-sector reporting and collaborations. Programme monitoring and evaluation in Tajikistan has taken place at consistent intervals, such as the joint annual review of the national health strategy for the period 2010-2020, with input and participation from actors across the health sector. Development Partners have played an important role in advancing this information base with programme reports and case studies, as well as supporting roundtable discussions, policy dialogues, conferences and coordination meetings.

Step-wise, participatory process for Family Medicine Programme review. Effective implementation of the Family Medicine Program has been strictly monitored by the MOH. In anticipation of the final year of the Family Medicine Programme, in March 2014, a first roundtable discussion on the status of health services delivery was held in Dushanbe. This event served as a focusing moment, allowing the exchange of insights with national counterparts, health managers and Development Partners.

In June 2015, a scoping mission was organized, engaging key informants in bilateral discussions to define an approach for conducting a review of the Family Medicine Programme, addressing relevant topics, sources of information and timeline. In October 2015, an assessment mission was conducted to collect information and engage key contributors. A follow-up mission was conducted in December 2015, discussing with contributors key messages and interpretations of findings. This review is the product of a collaborative process, with contributions across key partners nationally and internationally working towards health and development in Tajikistan.

Table 15. Milestones and next steps for development of health services delivery in Tajikistan

#	Milestone	Date
1	Health services delivery roundtable	March 2014
2	Scoping mission on review of Family Medicine Programme	June 2015
3	Advancement of review methodology and preliminary data collection	October 2015
4	Follow-up data collection and analysis of review	December 2015
5	Review and discussion of results at Joint Annual Review	December 2015
6	Discussion on way forward for health services delivery	February 2016

Section two: opportunities

1. Standardizing practice: workload, clinical guidelines and protocols

Process of developing CPGs. Despite efforts made to improve the process of developing CPGs, critical gaps compromising quality remain. The current diffusion of responsibility in the process of developing CPGs has posed a considerable degree of variability in the methods and quality of CPGs by topic-specific areas. Further consistency in the drafting and development of CPGs and/or additional technical assistance for actors involved in this process would prove beneficial for enabling a standardized, evidence-based process. Moreover, while the MOH has prioritized the updating and improvement of existing CPGs, many more remain to be done.

Implementation and monitoring of CPGs in practice. While efforts have been made to inform family medicine doctors on changes to CPGs and disseminate these to PHC facilities, the complete and accurate use of CPGs in practice has yet to be fully achieved. Persisting challenges compromising the success of these efforts include, in particular, a lack of local funding for complete dissemination of new or revised CPGs and an insufficient number of opportunities and variability in approaches taken to inform providers and build capacity. Of particular concern for effective monitoring of CPGs is the absence of a formal process in their development to prepare indicators necessary for assessing effective and accurate use of CPGs in health facilities. The absence of a process to develop indicators poses a significant challenge for auditing and reviewing implementation and, ultimately, a duplication of processes as indicators are prepared post-hoc by actors for implementation and monitoring.

Workload and compensation for the family medicine workforce. The existing legislation on the workload of family medicine doctors requires updating. With focus put on PHC-led services across vertical, disease-specific programmes, the role and scope of work for family medicine doctors needs close consideration. Importantly, reviewing the role and scope of practice should look across levels of the health system, anticipating referrals, transitions and care coordination processes (see 2. Preparing a competent health workforce). With the rollout of capitation-based financing across the country, clarifying an understanding of provider workload is now relevant more than ever. Moreover, reporting has highlighted family medicine nurses are not used effectively, with task duplication and varied roles in educating patients. The population's opinion on nurses is regarded as poor and expectations about nurses' ability to treat patients are low (Akkazieva et al. 2015).

2. Preparing a competent health workforce

Registration of the family medicine workforce. Registration of health professionals with regulatory bodies following certification or licensing is an important process for effectively managing and maintaining a roster of health professionals. A reliable registration system is also important for ensuring that medical licenses are up-to-date and that requirements for continuous professional development are adhered to. With the continued advancement of undergraduate and postgraduate training in family medicine practice, developing a registration system in Tajikistan has great importance

with respect to monitoring, planning and generating opportunities for continuous performance improvement. Moreover, improving a registration system across the health workforce has important potential in ensuring resources are allocated to train health workers in line with population health needs and migration of the health workforce.

Practical clinical training in the undergraduate curriculum. The continuous updating and modernization of the family medicine curriculum is necessary for the uptake of best available evidence into formal education. Bringing further alignment between training and clinical practice is also of critical importance for strengthening and sustaining a competent health workforce. The possibility to incorporate a year of full immersion in clinical practice into the current undergraduate curriculum for the final (sixth) year of study is reportedly being explored by TSMU.

Creating a rewarding practice environment. Positioning the family medicine specialty among medical graduates as a preferred area of practice requires targeted efforts to entice and motivate new graduates to work in PHC. Lack of prestige, poor working conditions in rural areas and the broad scope of activities are key factors challenging the recruitment and sustainability of a strong family medicine workforce (Akkazieva et al. 2015). Creating a positive practice environment for family medicine is an important way to ensure a motivated, available and competent health workforce.

For interns and residents, developing paid postgraduate training positions and giving interns and residents supervised access to patients have been noted as relevant measures to improve perception of family medicine practice. Moreover, non-financial benefits, such as the allocation of land plots and long-term concession loans have proven successful in encouraging family medicine in some oblasts and rayons; systematization of this may prove effective for enhancing interest in family medicine (recall Priority 1). A number of reports have also highlighted opportunities such as study trips, remote access trainings and peer mentorship programmes, as ways to overcome geographic challenges and provide opportunities for continuous clinical development.

Licensing. The current method of licensing for family doctors in Tajikistan has remained the same as that used during the Soviet period: doctors are granted their license after successfully completing their year-six examinations following the completion of undergraduate studies at TSMU. This license gives the graduate the life-long title of doctor. It does not, however, provide permission to practice medicine. Permission to practice is granted after a postgraduate qualification in a field of specialization, such as surgery or paediatrics, and is achieved following a defined number of years of supervised internship. This permission to practice is related to the field of specialization. Permission to continue to practice is given every five years via an attestation process, where doctors sit for an exam delivered by the MOH.

Updating and systematizing licensing to practice is critical as a guarantor of competencies following initial education (Langins and Borgermans 2015). Improving this process is also of particular importance for continuous medical education, regulation of professional regulatory bodies and associations, and the overall management and control of entry, exit and recertification of health professionals.

Continuous professional development (CPD) and life-long learning. It is important that an organized and structured approach to continuous learning takes place after graduation from initial education to keep up-to-date with developments in health services delivery.

Opportunities for further development need to occur as close to practical realities of the health workforce and academic centres as possible (Peck et al. 2000). They should be inquiry-, practice- and problem-based to promote reflection, problem-solving, self-directed learning and professional responsibility, as well as focused on relevant issues to the health workforce (Jungnickel et al. 2009).

New ways of learning, such as e-learning and telemedicine, can be used to facilitate CPD. E-learning is a very useful tool in training and teaching which could prove highly cost-effective in Tajikistan where practitioners are often located far away from learning centres. Pilot testing the use of e-learning in family medicine specialty training would be of value. Introducing complementary practices, including clinical mentoring and peer review groups, with more traditional forms of CPD (courses, conferences, workshops, seminars) may prove applicable. A credit-based system to keep track of CPD activities remains of critical importance.

Strengthening the role of regulatory bodies. Accreditation of training centres, courses and trainers is a key measure towards guaranteeing the quality, consistency and relevance of efforts. Reviewing responsibilities across training institutions and considering the roles of professional regulatory bodies for licensing are important steps towards a strong membership base of health professionals and streamlined process for initial training and CPD. Strengthening this network also has important potential for inter-professional collaboration in trainings and clinical practice, including collaborative CGPs and treatment plans for disease management.

3. Strengthening the quality improvement system

Availability of timely and accurate services delivery data. Despite monitoring and evaluation processes in place for PHC facilities, strengthening recording, reporting and actions for quality improvement are of critical importance. Developing indicators in line with the process of approving new CGPs (recall Priority 1) has real potential to streamline the process of identifying measures and ensuring these are in accordance with evidence-based practices. The paper-based process in place has previously been described as time consuming and a possible source of duplication (Jean-Richard 2010; Akkazieva et al. 2015).

Systemizing incentives for performance improvement. Despite the many efforts to improve financing, workforce capacity and physical infrastructure in PHC, improvements in quality have yet to be fully realized. Experiences with the introduction of incentives to encourage improvements in performance have proven effective in PHC. The performance-based financing mechanism applied in select rayons between 2013 and 2014 has real potential to improve the quality of PHC when taken to scale (Box 6).

Box 6. Piloting a performance-based financing mechanism in PHC

Drivers for change. Family medicine doctors in Tajikistan are paid a flat salary based on the regulated norms (basic wage rate), independent of the size of the population they cover. The basic wage rate was approximately 465 somoni (US\$ 97) in 2013. Under these circumstances, there appeared to be low motivation among providers to deliver quality care and be engaged in time-consuming prevention services, including patient education.

Aims. Performance-based financing is one component of the Health Services Improvement Project funded by the World Bank. It is aimed at improving the coverage and quality of basic PHC services in rural health facilities and selected rayons through the introduction of financial incentives for PHC providers based on performance indicators.

Activities. A set of approximately 14 indicators have been used to score performance attached to financial incentives to be paid quarterly. Indicators include, for example, maternal and child health targets, as well as a few on NCDs, such as taking blood pressure measurements. To date, performance-based financing has been introduced in all eight pilot rayons.

Achievements. The process of implementing performance-based payment was examined by two rounds of internal verification. As a result of its introduction, a significant difference in the amount of payments made to PHC providers between first and second quarters could be observed. During nine months of 2015, pilot PHC facilities earned 2 328 547 somoni, from which 70% was allocated as additional salary of health workers and the remaining 30% for the purpose of improving infrastructure. In terms of coverage, data on from the second quarter of 2015 showed that pilot facilities delivered 20% more PHC health services in comparison with the previous quarter. An assessment of quality indicators in the reporting period showed a 13% boost in the quality of services provided in pilot rayons in Sughd and 10% in Khatlon.

Lessons learned. Performance based incentives have proven an effective approach for strengthening the quality and delivery of services in PHC. Alongside a system for incentives, improvements in the provision of services also call for strengthening the capacity in PHC facilities (for example, through trainings and workshops), enhancing infrastructure and equipment, and involving stakeholders across levels of the health system.

Strengthening the role and participation of providers in professional associations. The participation of professional associations in the accreditation process is welcome, since they can serve as a moderator and ensure transparency of process. At present, however, there are no strong associations operating in Tajikistan that could perform this role.

Rolling out quality improvement mechanisms, such as peer review groups and quality control teams, in PHC centres. Experiences with peer review groups have proven this a successful mechanism for strengthening clinical practices in primary care. This approach is not resource intensive, requiring only the support of trained facilitators and dedicated time of family medicine doctors and nurses. With effective planning and oversight, this practice could be applied across centres, contributing not only to improvements in practice, but also a professional culture of discussion and performance enhancement. In a similar way, quality control teams could be extended to PHC centres, especially if extending accreditation to PHC.

4. Investing in managerial capacity

Planning and management capacity in PHC facilities. Concerns are consistently raised regarding the physical premises of facilities: their upkeep, maintenance and availability of onsite equipment (World Bank 2010; Ahmedov et al. 2013; WHO Regional Office for Europe 2014). While facility renewal resources are ultimately dependent on health system inputs, in health services delivery, maximizing managerial processes has a critical role in optimizing services with available resources. Strengthening practice-based planning, management and decision-making has real potential to improve the quality of services and extent to which PHC facilities are able to meet the needs of their catchment populations. Investment in the rollout of business planning across all PHC facilities and the institutionalization of these efforts in the set-up and organization of family medicine practices should continue to build upon achievements to-date (Box 7).

Box 7. Strengthening business planning capacity in PHC facilities

Drivers for change. Management is a vital process and key contributor to the overall performance of health services delivery. Capacity for planning, managing and decision-making is, therefore, essential in all health facilities. Despite Tajikistan's decentralized structure, with regional authorities and managerial positions across health facilities, managerial capacity remains limited in practice.

Aims. Since 2005, the Sino Project has implemented business planning in several rayons. In 2012, tools for improving this practice were developed and the concept of business planning was sharpened. The project aims to increase managerial capacity in health institutions, in particular PHC, to raise awareness on the appropriate use of resources and increase available information in an effort to encourage managerial decisions based on identified population health needs.

Activities. Strengthening business planning in PHC has worked to provide a number of tools for facility managers, including information on developing budgets and prioritization of resources, calculating per capita plans, and support for monitoring activities to identify problems and respond accordingly.

Achievements. To-date, strengthening business planning has been successfully introduced in 140 rural health centres and PHC management teams in the rayons of Shahrinav, Tursunzade, Vose, Hamadoni, Rudaki and Faizabad. Heads of institutions report business planning has improved general awareness of resources, increased autonomy in setting priorities and improved business planning activities. In 2014, the MOH decided on the rollout of business planning across all PHC facilities (Order No. 243, 28 April 2014); a marked success towards the institutionalization of the project's activities.

Lessons learned. In order to harmonize different activities across levels of the health system, local political engagement is very important for a successful partnership with PHC facilities. In order to increase accountability, measures to involve communities in business planning are needed. Improving the management of services at the district level requires both the capacity for management and the assignment of clear functions and tasks to effectively carryout this process.

Institutional harmonization for clear lines of accountability between the national level and regional and local facilities. Following the abolishment of rayon-level health departments in 2012, there is a critical need at present for a subnational coordinating mechanism and clarified roles and responsibilities. As previously noted, in 2013 the MOH established the PHC Coordination Council, chaired by a deputy minister of health and comprised of representatives from the MOH, national institutions and Development

Partners. While serving as a means to promote policy dialogue and coordination, this has not alleviated the need to redefine lines of accountability between levels of the health system.

In the context of new actors in services delivery and volume of activities initiated, there is the opportunity at present to strengthen alignment across each and streamline roles and responsibilities for more harmonized actions. This alignment is vital to closing the gap between policy and practice. Moreover, investing in the institutional capacity of the system has importance for ensuring the scale-up and sustainability of pilot projects over time.

Strengthening logistics management and information systems in PHC facilities.

Despite investments, the technical base for basic equipment and functionality of facilities for the provision of care is suboptimal. The introduction of PEN protocols, for example, has revealed a critical shortage of ECG machines, peak respiratory flow metres and gynaecological chairs. Similarly, in terms of primary and secondary prevention of myocardial infarction and stroke, while there is a 78-100% supply of antiplatelet agents (aspirin), acute shortages of statins (simvastatin and others) were found. Similarly, shortages in the provision of insulin have been widely reported.

With the support of Development Partners, systems for managing health commodities in PHC have been strengthened (Box 8). Advancing information systems and logistics management has proven successful for the procurement and distribution of resources, with the potential to address equity concerns particularly in resource-limited areas.

Box 8. Introducing a logistics management and information system for health commodities in PHC

Drivers for change. The majority (70%) of Tajikistan's population lives in remote, rural areas. Access to health services depends largely on the local availability of health professionals and commodities. Indicators of maternal mortality, birth complications and abortions, especially in rural districts, have been extremely high after the collapse of the Soviet health system.

Aims. In 2004 the National Action Plan on Reproductive Health and Rights 2005-2014 identified family planning services and supply of contraceptives as priority areas to be integrated in PHC. In line with this Action Plan, a reduction in unmet needs for contraceptives and increased availability of contraceptives in PHC were highlighted.

Activities. In 2005, with the support of Development Partners, a reproductive health logistics management and information system (LMIS) was introduced. UNFPA took a lead role in piloting LMIS in northern Tajikistan (Sughd oblast). Seven distribution zones with zonal warehouses were identified. UNFPA procured and handed over trucks to the MOH to transport contraceptives from central to zonal warehouses and then to primary care facilities. IT equipment to run the logistics software (CHANNEL) was procured and installed at district reproductive health facilities. Taking into account a huge number of primary care facilities in the country (over 1600), UNFPA provided a cascade approach to training family practitioners on modern methods of contraception and effective family planning counselling. New national guidelines on contraceptives have been developed and introduced along with population awareness raising campaigns. Successful integration of LMIS in pilot regions supported national rollout of LMIS.

Achievements. Improvements in maternal health outcomes have been recorded over time. In 2014, 65% of primary care facilities were found to provide at least three types of contraceptives (up from 47% in 2010). As many as eight different types of contraceptives are now available, including sub-dermal implants. Across the country, warehouses, logistic chains, computer-based systems and trained personnel are now in place and ensure the effective management of logistics and information for reproductive health services in primary care.

Lessons learned

- In resource-limited countries like Tajikistan, efforts at all levels of the health system are needed to sustain the supply chain and adequately respond to population health demands.
- Establishing a countrywide logistics management and information system supported the improved availability of family planning commodities in primary care and the integrated delivery of family planning services at facilities. This has also been supported by trainings for family medicine providers (family doctors, nurses and midwives).
- Mechanisms of social marketing, subsidized financial mechanisms or any other market approaches are applicable in situations of shortages in the supply of free contraceptives.

Strengthening financial access to PHC services. One of the key challenges for the access of services is the persistence of high levels of private out-of-pocket payments, undermining the affordability of health services, in particular for lower socioeconomic groups. At present, the state budget does not fully cover costs for the provision of services under the BBP in pilot areas. In the 2012 Demographic and Health Survey, 45% of women aged 15-49 reported getting money for treatment as a barrier to accessing health services. Financial constraints are of particular concern for the lowest wealth quintile where 69.1% of women mentioned the lack of financial resources as a problem compared to 30.8% in the highest wealth quintile. Analysis of utilization rates confirm that lower socioeconomic groups make fewer health visits and a third of households have family members who delay or do not seek help for financial reasons.

Currently, per-capita financing for PHC is applied only to the non-salary proportion of the overall budget, which represents only about 10% of total PHC spending. Expansion to full per-capita financing for PHC services in Tajikistan is currently being supported by Development Partners and piloted in one rayon. The large majority of public funds are allocated to PHC facilities via line-item budgets that do not provide incentives for quality. In the interim schemes, such as community-based financing piloted in GBAO, may offer financial relief for the population as a pre-financing mechanism alleviating part of the financial risk in accessing emergency and laboratory services (Box 9).

Box 9. Community-based health financing scheme for emergency and laboratory services

Drivers for change. Inadequate public funding for health services is a key contributor to considerable informal out of pocket payments. The financial burden of services has ultimately constrained access to health services.

Aims. In an effort to improve financial protection, a Community-based Health Financing Scheme (CBHF) was first piloted in GBAO. The pilot project also aimed to strengthen the utilization of emergency care services and laboratory services for the initial 24 hours after hospital admission.

Activities. Community-based health financing groups consist of voluntary members who make pre-agreed monthly membership payments to emergency group fund.⁶ Pooled resources are available for use by group members in cases of a health emergency. Members can access only a certain amount based on a pre-determined cap to cover costs including: transportation, physical examinations, laboratory tests, medical equipment or food. The average cost for each of these services is under 90 somoni per patient.

Pooling in communities is managed by appointed Village Organizations; these vary from village to village depending on those structures most trusted locally. Usually, a minimum amount of the emergency funds are kept with each Village Organization, with the remainder of the funds deposited in a local bank (local branch of Tajik Sodirot Bank). Local Village Organizations, family medicine centres, and community health promoters are actively involved in all aspects of the scheme: recruiting members, increasing awareness about the scheme, managing funds and collecting the membership fees.

Achievements. In 2012, Aga Khan Foundation undertook a follow up study to evaluate the progress of the programme.⁷ The evaluation reports implementation of CBHF has contributed to improvements in financial access to health services among community members and improved utilization of family medicine services. Additionally, over time scheme members have become more comfortable and trusting of family medicine specialists; an effect of the direct involvement of family medicine specialists in the scheme at the first point of contact for health services.

Engagement across key health actors locally, including Village Organizations, family medicine doctors, and community health promoters, was found to contribute to a sense of empowerment among the community and expectations for quality health services. Qualitative research with CBHF-members reports widespread appreciation for the fund, finding its coverage to manage a significant portion of the costs associated with accessing services.

Comparative data between the findings of the baseline and follow up surveys informs that the percentage of emergency cases treated in family medicine centres increased from 6% to 30% following the introduction of CBHF, while the percent of higher-level care users decreased from 81% to 56%. Similarly, referrals by family medicine doctors increased from 26% to 59%, paralleled by a decrease in the incidence of self-referrals (from 68% to 33%).

5. Strengthening an integrated, person-facing model of care

Integration of disease-specific programmes. Emphasis has been placed on PHC and the role of family medicine in the delivery of services for priority diseases, including HIV and TB. Despite improvements, scope of practice and competencies of family medicine doctors continue to be described as restrictive, with limited involvement in treatment, technical procedures and prevention services.

The modest role of family doctors continues to perpetuate the delivery of clinical procedures predominately outside of PHC. Moreover, assessments note the limited scope of practice and often underutilized role of health professionals such as midwives and nurses, contribute to an overreliance on mid-level personnel (Akkazieva et al. 2015). Recommendations have consistently recognized a need to expand the scope of practice of nurses to include, for example, patient education during appointments and assessment of health status in home care settings.

Coordination across levels and types of care, clarifying care transitions and referrals. Coordination and cross-specialty consultations have benefited from family medicine doctors working alongside other specialists and health personnel. The need for an integrated approach across disease-specific programmes (for example, HIV and TB services in PHC) is of critical importance for the realities of co- and multimorbidities. Development Partners have supported the setup of one-stop-shop centres for patients in need of multiple treatments; for example, HIV-positive patients with TB are able to receive TB drugs along with antiretroviral (ARV) drugs. The design of services and organization of providers to institutionalize processes for the delivery of a range of services for the prevention, care and treatment of all a patient's needs is vital for optimally improving outcomes.

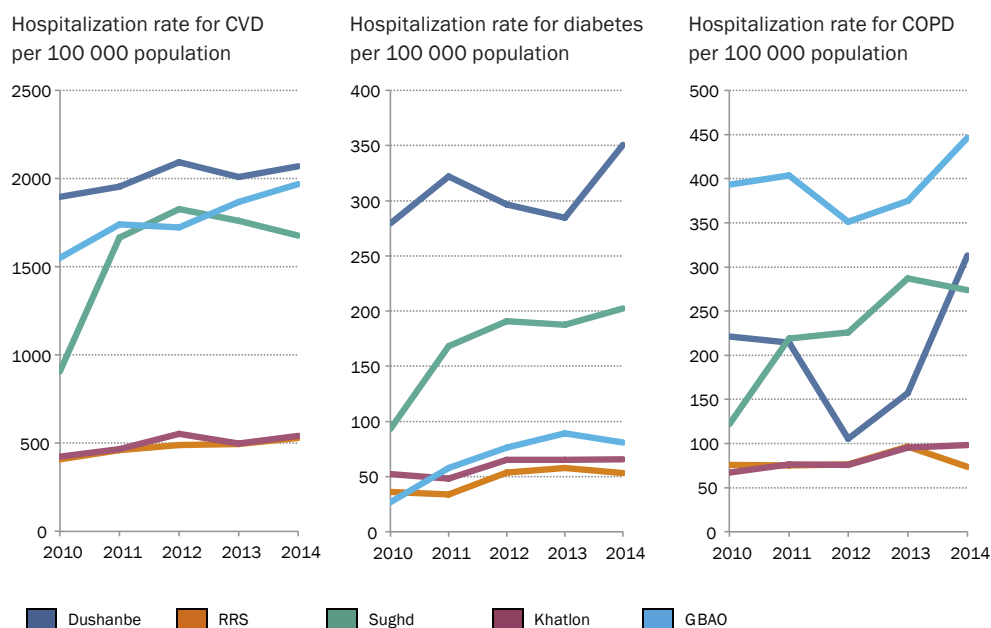
Between levels of care, fragmentation in the flow of patients presents a challenge for returning patients to family medicine doctors following specialist treatment, with patients having a tendency to get lost in the system, with discharge summaries and specialist reports containing key hospital data (such as final diagnosis and treatment recommendations) inconsistently made available for follow-up in PHC (WHO Regional Office for Europe 2014).

Gatekeeping by family medicine specialists at the primary level continues to be weak. Many patients access higher levels of care directly without referral from primary care and there is a need to strengthen systems of referral and coordination. There is also poor integration of primary and secondary care with regards to the continuity of care. Fig. 14 shows rates of hospitalization for CVD, diabetes and COPD per 100 000 population over time, where higher rates in Dushanbe and Sughd oblast likely reflect these areas as a catchment for nearby rayons. Further strengthening the role of family medicine doctors together with secondary care has the potential to ensure a patient's care is only managed at the secondary level in cases where hospitalization is required. Recommendations have noted a pressing need for family medicine to assume a coordinating role across specialists, linking prevention and treatment across the full continuum of care (Ayé et al. 2010).

6 The per-person payment typically equals 1 somoni per month and the average for the lump sum payments equaled 5.5 somoni (min=3, max=10).

7 Baseline survey on Community-based Health Financing Scheme carried out in 2010.

Fig. 14. Hospitalization rate for CVD, diabetes and COPD per 100 000 population between 2010 and 2014



Source: (MOH 2014b)

System for patient registration. The registration of patients is an important process for effective monitoring and evaluation. Information on disease frequency, progression, treatment success and survival are essential for proactively providing prevention services, early detection and treatment programmes, as well as monitoring their effectiveness. Thus, improvement of the current registration system to function as a monitoring and management tool is an important task for the country. Integration of different data sources, including impact, risk factors, health system capacity and response, is a desirable and achievable objective that could allow better monitoring of progress and targets for NCDs and greatly facilitate addressing the needs of evidence-based policies.

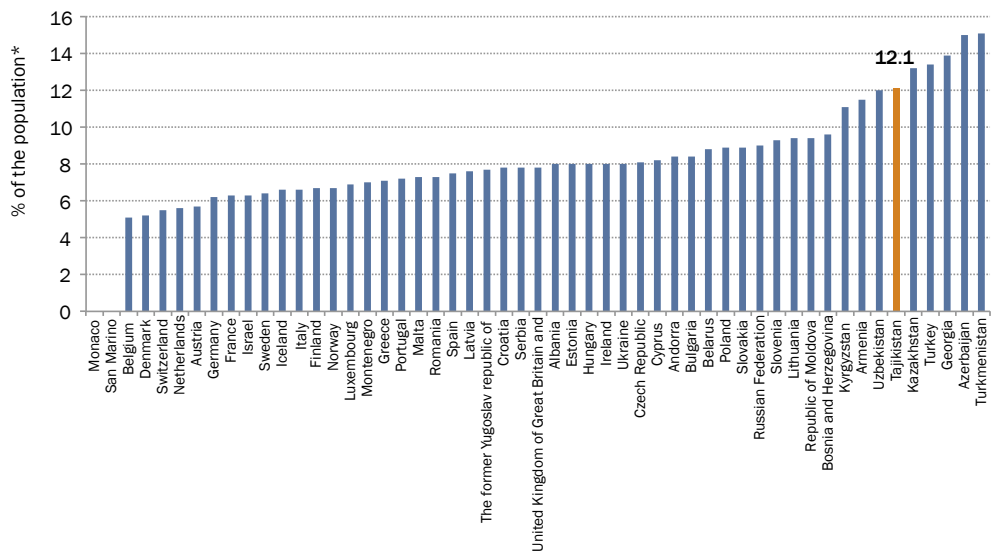
Engaging patients, families and communities as partners in health. Public education programmes and peer support services have been weighted of great importance, seeing these as a means to strengthen patient engagement and combat persisting levels of distrust, particularly towards family medicine practice (Akkazieva et al. 2015). Efforts to better engage patients have included disease-specific schools or support groups which are established and operational in select PHC centres across the country. These have served as a means to inform patients on important lifestyle interventions and improving personal health habits. These and similar efforts, however, have yet to be standardized and implemented nationally. As a result, misconceptions remain; such as a commonly held belief among patients that drug holidays from medications are needed in order to ensure medicines do not become ineffective (Ahmedov et al. 2013).

In the context of the growing burden of NCD-related morbidities, supporting lifestyle changes has taken on particular importance. Unbalanced diets, sedentary lifestyles, unfavourable working conditions and harmful habits (such as drug abuse) demand attention. As Fig. 15 illustrates, Tajikistan reports a high prevalence of raised blood

glucose levels relative to other WHO European Region countries. Similarly, both men and women have seen an increase in body mass index (BMI) over time.

Targeted advocacy activities implemented in the areas of MCH, HIV/AIDS and nutrition have proven successful for informing the public and supporting changes in care-seeking patterns. See Boxes 10 and 11 for examples of efforts combining different types of information, education and promotional materials (for example, video and radio commercials, leaflets, banners, brochures, guides and calendars). In the case of increasing the use of iodised salt, the cross-sector approach linking retailers, community leaders and PHC workers proved a key component for realizing the initiative’s aims.

Fig. 15. Prevalence of raised blood glucose levels across the WHO European Region in 2014



Source: (WHO 2015a)

Note: Percentage of population (18+ years) with a raised blood glucose (fasting glucose of 7.0 mmol/L) or on medication for raised blood glucose or with a history of diagnosis of diabetes.

Box 10. Increasing the demand and use of services through trainings and population empowerment: the case for prevention services for mother-to-child HIV transmission

Drivers for change. HIV prevalence has increased in Tajikistan by more than 25% during the past 10 years. While HIV prevalence has increased among both men and women, incidence of HIV among women tripled from 8.5% in 2005 to 28.5% in 2011. HIV incidence rate among pregnant women has increased, in part, due to better detection since the introduction of the Prevention of Mother-to-Child Transmission on HIV (PMTCT) Programme in 2008.

HIV/AIDS services are typically provided as a vertical programme, poorly integrated into primary care. PHC professionals often do not have adequate skills to provide necessary testing, counselling or care to HIV-positive pregnant women. The challenge of providing needed testing in PHC is exacerbated by a lack of funding, with only an estimated 10% of women tested for HIV in 2005.

Aims. In this context, urgent measures to strengthen antenatal care and actively involve primary care in the prevention of mother-to-child HIV transmission were widely recognized. For the period 2013-2015 a project was put forward, with support from Development Partners, targeting communicable diseases including HIV, viral hepatitis and sexually transmitted infections. In Tajikistan, reforms have targeted Dushanbe, Sughd and Khatlon oblasts, aiming at the elimination of mother-to-child HIV transmission through the expansion of HIV testing and counselling services in primary care for pregnant women.

Activities. A priority area of implementation targeted capacity building of primary care professionals (family doctors, midwives, obstetricians and gynaecologists) for quality counselling (pre- and post-test) and delivery of necessary post-test care to HIV-positive pregnant women. Trainings have been provided by nationally-certified trainers according to international standards and principles of evidence-based medicine.

Importantly, increases in prevention services have also focused heavily on increasing public awareness and education on issues related to the prevention of mother-to-child HIV transmission. Public education campaigns were carried out involving mass media, with development and dissemination of materials and videos to reach a wide audience. In addition, targeted advocacy activities were implemented to involve leaders from other sectors and local authorities. In total, 15 different types of information, education and promotion materials (television and radio commercials, leaflets, banners, brochures, guides, calendars, for example) were published.

Achievements. As a result of the comprehensive and integrated approach taken to empower the population with accessible health information, utilization of primary care services has increased sharply. This contributed to earlier detection of HIV-positive pregnant women and initiation of treatment in order to prevent mother-to-child HIV transmission. Moreover, through training efforts put in place, family physicians, obstetricians, gynaecologists and youth counsellors were trained on the prevention of mother-to-child HIV transmission. These efforts have ensured expanded coverage of antenatal care, recorded at 70.7% in 2015, and a significant increase in HIV testing for pregnant women with 80-90% tested for HIV in 2014.

Lessons learned. The project's two-way orientation, aimed at improving the knowledge of both health professionals and the community made a significant contribution to the sustainability and efficiency of this effort by changing not only the attitude of PHC professionals and improving the quality of antenatal care, but also working in parallel to increase the demand and use of services by the population. Involving youth outreach specialists in this effort also proved particularly effective given the high pregnancy rate among youth in Tajikistan.

Box 11. Community engagement for nutrition-conscious consumers: the case of universal salt iodization

Drivers for change. Although Tajikistan was among the first countries in Central Asia to adopt a national law (2002) requiring that all edible salt be iodized, iodine deficiency disorder (IDD) remained a crucial public health problem, with a particularly high prevalence observed in the south and mountainous areas. According to the 2009 Tajikistan Micronutrient Status Survey, more than half of women (58.6%) and children (52.9%) were affected by iodine deficiency. In Khatlon Oblast and Rayons of Republican Subordination (RRS), this rate exceeded 73 per cent. While use of iodised salt in households is reportedly high (84% in 2012), this varies between regions and those consuming adequate amounts of iodised salt was recorded around 39 percent, with significant variation by wealth quintile.

Aims. From 2013-2015, towards the elimination of iodine deficiency disorder, the project, “Improving access of the population of Khatlon oblast to adequately iodized salt: A step towards Universal Salt Iodization in Tajikistan” was launched⁴. The project set out three specific objectives: i) to increase the availability of adequately iodized salt in markets and village shops through the provision of rapid test kits administered by retailers and community leaders in Khatlon; ii) to improve capacity building of salt producers and inspection agencies on basic salt iodization quality assurance; and iii) to increase the awareness of consumers in Khatlon oblast on IDD and the benefits of iodized salt.

Activities. Towards these objectives, UNICEF together with the MOH, the Institute of Nutrition within the Ministry of Industry and New Technology, civil society organizations, the Global Alliance for Improved Nutrition (GAIN) and USAID, initiated a number of lines of activity. Activities included: advocacy with salt producers and policy-makers for compliance with legislation related to universal salt iodization; procurement and distribution of rapid test kits to all salt retailers and community leaders, including PHC workers in Khatlon; capacity building with salt producers and inspection agencies on iodized salt production, distribution and quality assurance (including provision of laboratory equipment); and effective communication and social mobilization interventions toward universal salt iodization.

Importantly, the project also worked to engage and train a total of 1291 village leaders and other community leaders in Khatlon for widespread implementation across communities. During trainings, a copy of the Salt Iodization Law and rapid test kits, along with instructions on their use were distributed to community leaders. Trainings aimed to emphasize leaders’ responsibility in ensuring the availability of rapid test kits in all retailers/markets in their villages and raising awareness among community members about their right to ask for iodine testing of salt before purchase. At the end of the trainings, participants prepared tailored action plans for their respective village, including distribution plans for rapid test kits. To ensure implementation of these action plans and the full coverage of rapid test kits among sellers, UNICEF collaborated with local and international NGOs (including Mercy Corps, Save the Children and Nissojon) for intensive follow-up monitoring and ongoing support at the community level. These organizations have a strong community presence and experience in the health sector and, therefore, were well-positioned to integrate IDD prevention and universal salt iodization messages into community-based activities.

Achievements. The project has achieved positive changes towards increasing the population’s knowledge and use of iodized salt. Survey data shows increases over time in the number of people aware of and regularly using iodized salt. Positive changes in salt purchasing practices were also observed. According to the 2013 survey, 46% of the respondents reported that they usually buy loose salt in large bags, but this decreased dramatically in 2015 to less than 1%. More than 77% of the salt purchased in 2015 was in one kilogram polybags with some labelling. In other words, consumers in Khatlon have almost completely abandoned the practice of purchasing loose (usually illegally produced and non-iodized) salt. This change in practice has been closely linked to increased community sensitization and regulation of production and distribution.

Lessons learned. The experiences from the project showed that partnership and multi-sectoral/stakeholder involvement are key to success for universal salt iodization, involving relevant ministries, NGOs, local government authorities, community leaders (including village heads, teachers and religious leaders), PHC workers, the business sector, consumer associations and Development Partners. Moving forward, further progress to enhance quality control and assurance systems of both major salt producers and inspection agencies is critical. At the same time, comprehensive interventions to create population demand for use of adequately iodized salt have proved vital. A synchronized approach with strong supply- and demand-side interventions is a key to success.

6. Innovations of science and technology

Prescribing practices. While a process of developing and updating the essential medicines list is in place, this is not linked to the development and updating of CGPs. There is also an absence of a central registry of protocols for reference on their status. A drug and therapeutic committee has previously been recommended as a means to address coordination, updating and implementation challenges.

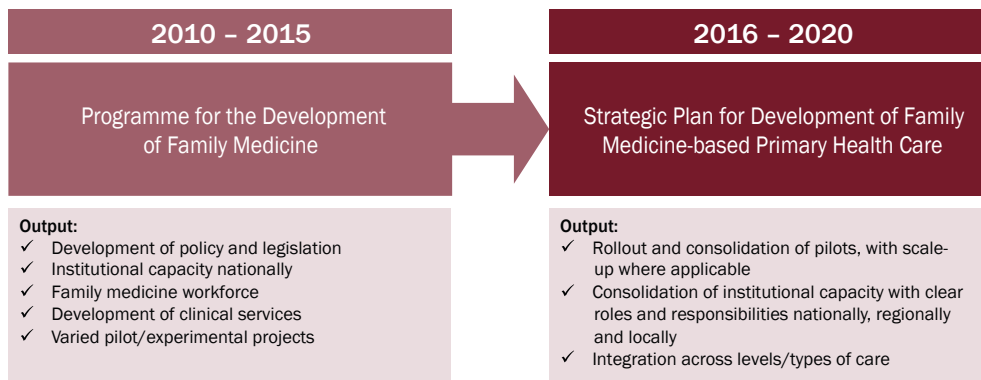
Quality of medicines. Reporting acknowledges impressive progress in recent years to improve the regulation of medicines, including the introduction of an agency for surveillance of the pharmaceutical market. There is, however, a need to increase capacity in laboratories and inspection functions in services delivery, as well as to develop a comprehensive registration system for medicines. There is also no functioning system of pharmacovigilance in place, compromising the extent to which side-effects, low effectiveness and quality of medicines are reported.

Section three: way forward

Over the past five years, a great deal has been achieved in the advancement of PHC based on family medicine practice both in terms of services and establishment of a family medicine workforce. This has also included the development of policy and legislation for family medicine, advancements in national institutional capacity for oversight and regulation of health services and numerous pilot projects offering practical insights and know-how for improving services delivery.

Building on this foundation, the next phase for PHC in Tajikistan calls attention to the consolidation of changes with a focus on sustainability and alignment with the broader health system for reforms at the scale and pace needed to accelerate improvements in health outcomes (Fig. 16).

Fig. 16. Evolution of aims for the development of family medicine in Tajikistan between 2010 and 2020



Vision: integrated PHC model

Addressing persisting health services delivery bottlenecks cannot be tackled through piecemeal changes. An integrated approach to reforms is needed, where integration of PHC is defined as the alignment of transformations for health services delivery with the necessary health system conditions and underpinning policies, while taking clear direction from the needs of the population it aims to serve.

Working towards an integrated PHC model, attention is called to four priority areas: tackling priority population and individual health outcomes; transforming processes of health services delivery; strengthening other health system enabling factors; and aligning a supportive governance and policy environment (Fig. 17).

Based on the review findings, key considerations according to these four priority areas are highlighted. These may serve as entry points for an action plan towards the continued strengthening of PHC in Tajikistan. An integrated approach to PHC working across priority areas is called for.

Fig. 17. Four priority areas for strengthening PHC in Tajikistan



Priority one: outcomes

Identifying needs, empowering communities and engaging patients

- **Identifying health needs.** Health needs are far from static and revisiting priority areas for improvement is a first and key step to accelerating health outcomes. Advancing patient registration has been highlighted as an important and needed process for achieving this, providing necessary information to proactively plan and delivery prevention services and measures for effective treatment and management of diseases.
- **Developing a planned approach to empower communities.** Efforts to inform the population have proven their importance for building health literacy and involving the population in health. Actively pursuing the systematization of actors (for example Village Organizations and health promoters) and tools (such as information campaigns and print promotional materials) is of great importance. Doing so holds real potential to increase the awareness of the public and encourage healthy lifestyle changes, as well as build trust in health services and generate a sense of shared responsibility.
- **Formalizing policies for engaging patients.** Proven success of platforms such as the introduction of hypertension schools in PHC are an important area for further scale-up. In the context of health trends where prevention relies heavily on lifestyle interventions and adherence to treatment plans for disease management, patients must be seen as active partners in their health. Formalizing services for lifestyle coaching and developing treatment plans as services for family medicine doctors and nurses will be critical for ensuring these measures are effectively and systematically carried out.

Priority two: services delivery

Selecting services, standardizing care, organizing providers and investing in management and quality improvement processes

- **Selecting a comprehensive BBP of services.** In line with health priorities, basic services for prevention, diagnosis, treatment and management need to be identified. Rollout of the BBP across the country has been anticipated in the current Health Financing Roadmap. Allocation of financial resources to cover the costs of needed services requires close coordination.
- **Strengthening the standardization of services in CGPs.** With a structured process for developing CGPs in place, efforts to streamline roles and strengthen technical content of protocols are important areas of focus. This may include identifying indicators for the implementation and monitoring of CGPs as an output of their development.
- **Organizing family medicine practice with other providers and settings of care.** Family medicine practice has been positioned at the centre of health services delivery. The strength of this role and the effective use of services across levels of care can be supported by looking across the whole pathway of care. Streamlining processes, roles and scopes of practice for providers and flow of clinical information at the local level is critical for improving the flow of patients and overall performance of services delivery.
- **Investing in facility management.** Ensuring that services are running smoothly with effective processes for planning and budgeting, updating the stock and maintenance of resources, and supervising day-to-day operations is critical for the optimal delivery of services. Efforts to strengthen managerial capacity in facilities need action to systematize processes, roles and responsibilities. In the context of financing changes, with the introduction of capitation financing and possible expansion of performance-based payment, the importance of the managerial role to effectively make use of these improvements is essential. Moreover, strengthening facility management, especially in PHC, has the potential to also support the dissemination, implementation and monitoring of CGPs.
- **Streamlining quality improvement processes.** With a structure for monitoring clinical processes in place, internal mechanisms for quality improvement stand to benefit from processes to systematize measures such as peer review groups and quality improvement teams. These efforts have proven their usefulness in pilots or at higher levels of care. PHC in particular stands to benefit from formalized processes for monitoring performance and problem-solving opportunities for improvement.

Priority three: aligning health system enabling factors

3. Aligning health system enabling factors: financing, health workforce, and medicines and technologies

Financing

- **Scaling up capitation payment in PHC.** Implementation of the approved roadmap on health financing includes the rollout of capitation across the country, with the formation of budget needs based on capitation principals. This process calls for close engagement with services delivery and the availability and equity of resources relies on the appropriate use of this approach.
- **Aligning performance-based financing.** Performance-based financing needs to be further tailored and aligned to outcomes and quality improvements with close monitoring of the results to eventually inform widespread use of this mechanism.

Health workforce

- **Health workforce registration for planning and forecasting between pre- and postgraduate training.** Policy dialogue to more tightly coordinate planning and development of human resources in the medical field is needed. Establishing the registration of health providers and a database on health workforce demographics (education, age and sex), employment status and composition, are important steps towards improved planning. A reliable, up-to-date registration will allow for improved practices, in particular for the training of health workers according to resource needs and continuity of processes between pre- and postgraduate levels.
- **Strengthening clinical competencies at the undergraduate level.** Towards the introduction of practical clinical skills in undergraduate training, affiliations with clinical training sites across oblasts should be reviewed, ensuring the capacity of local staff to mentor students. The same applies for nursing training which also lacks opportunities for students to gain clinical practice experience. Monitoring and supervision mechanisms will be needed to oversee the full immersion of students in practical-based learning.
- **Promoting family medicine specialty at the pre-graduate level.** Students should be regularly exposed to family medicine practice during their entire six years of undergraduate medical education to become familiar with this area of practice. However, without a clear policy to give priority to family medicine, the promotion of family medicine practice will remain very difficult. Known mechanisms to incentivize a positive and rewarding working environment in family medicine should be systematically implemented.
- **Licensing.** A Ministry officiated platform for mandatory licensing of graduates is integral to the continued training and development of the entire health workforce. This has important weight for the strength of CPD and lifelong learning measures, with the potential to be incorporated into a new process for relicensing.

- **Developing a comprehensive CPD strategy for Tajikistan.** Developing a national approach for CPD will help all stakeholders define their competencies and responsibilities for a clearer vision of CPD. Accreditation of facilities, training centres and trainers is needed to standardize CPD processes. A credits-based CPD system is essential to promote this and encourage uptake by practitioners, provided it is relevant and is benefiting practitioners by improving their competencies and status. CPD should become an incentive for practitioners to improve their practice. The role given to medical associations, hospitals, family medicine facilities and other stakeholders should be defined and developed. The approach to CPD should establish roles and mechanisms of accreditation, initially introduced as voluntary, then becoming mandatory.

Medicines and technologies

- **Procurement practices for medicines on the essential drug list.** While a national essential drug list is in place, the absence of price regulation and pricing policies poses challenges for procurement. Increasing purchasing power through a centralized pooling process for the most expensive medicines can help improve access. Systematic collection of evidence on volumes of publicly procured medicines is needed (WHO Regional Office for Europe Draft). Sustainability of supplies is of critical importance in family medicine for services including immunization and family planning. With a large portion of essential medicines funded externally or financed by out-of-pocket expenditures, left unaddressed this poses a key challenge for achieving sustainable long-term improvements.
- **Quality of medicines.** Evaluations and trainings in the areas of quality control (laboratories) and inspections are needed to improve surveillance of the pharmaceutical market. Establishing mechanisms to incorporate monitoring of pharmacovigilance in the system of performance improvement can support overall quality of medicines.
- **Measures to improve the rational use of medicines.** Fostering alignment between the development of CGPs and the management and availability of drugs is needed and can be further supported by mechanisms such as a national drug and therapeutic committee. In the context of increasing chronic care needs, alignment is of increasing importance for the appropriate management of medicines over longer periods of time.
- **Equalizing basic resources across facilities.** Basic resources in PHC require further investments. Strengthening information systems to itemize these resources may serve as an important first step towards a standard package of resources across facilities.

Priority four: policy

Strengthening accountability arrangements, structures and regulatory frameworks

- Clarifying institutional arrangements, roles and responsibilities. The health system's institutional capacity has increased in recent years towards a critical mass of expertise and technical resources. To make full use of these structures, there is an important need to streamline roles and responsibilities, reducing potentially overlapping tasks and making clear lines of accountability.
- Developing a model for management sub-nationally. A model for regulation and management at oblast/regional and rayon/district levels is heavily needed. Different arrangements of roles and responsibilities should be considered, along with the capacities and resources needed to carry out this role. Formalizing arrangements for countrywide implementation is of critical importance for other priority areas to be achieved.
- Linking evidence to policy. With the institutional capacity in place, clarifying roles and responsibilities should include tightening the link between policy and practice. Formalizing feedback loops between priorities, implementation, monitoring and evaluation, has an important role for ensuring the continued development of family medicine-based PHC and the services delivery system at large.

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Annex 1. Overview of family medicine programme

Priority 1. Legal and organizational framework for family medicine

Objectives	Indicators
1.1 Developing working standards for specialists of family medicine and professionals delivering specialized services at primary care level	Workloads for family medicine doctors and specialized services at PHC level are developed and examined
1.2 Defining benefits for family medicine doctors with revisions to health protection legislation	Benefits for family medicine doctors are defined during revision of health protection legislation
1.3 Developing treatment and diagnostic standards	Treatment and diagnostic standards are developed for more than 50% of patients that are managed at the PHC level
1.4 Extensively using clinical guidelines, protocols for treatment and diagnostics in practice	Extensive practical use of clinical guide-lines, and protocols of treatment and diagnostics (in 2009, 30%; 2015, 60%)

Priority 2. Development of the system of general education, retraining, continuous medical education in family medicine

Objectives	Indicators
2.1 Improvement of FM undergraduate and post-graduate education curricula	Improved family medicine undergraduate and post-graduate education curricula
2.2 Elaboration of a strategy for continuous medical education system development for family medicine specialists	Strategy for family medicine continuous education system development in Tajikistan is elaborated and approved
2.3 Training and retraining of FM specialists	Ratio of family medicine specialists is 2000 people per family doctor and 1000 people per family nurse
2.4 Repair and equipping of training facilities	

Priority 3. Development and approval of the information support system for family medicine introduction

Objectives	Indicators
3.1 Monitoring and evaluation of the process of introduction and performance of FM specialists	Monitoring and evaluation of the process of introduction and performance of family medicine doctors are performed
3.2 Establishment of FM intersectoral coordination council	Family Medicine Intersectoral Coordination Council is established
3.3 Review of family medicine introduction and performance of FM specialists at meetings of the MOH Coordination Council and Development Partners	Review of family medicine introduction and performance of family medicine doctors at meetings of the MOH Coordination Council and Development Partners is done at least once a year

Priority 4. Implementation of mechanism of using capabilities of family doctors and nurses improvement or accessibility, effectiveness and quality of care

Objectives	Indicators
4.1 Ensuring accessibility and full use of equipment, capacity, diagnostic and therapeutic resources by FM specialists at the PHC level	Accessibility and full use of equipment, capacity, diagnostic and therapeutic resources by FM specialists at the PHC level are ensured
4.2 To ensure that FM specialists serve as a first contact for patients, determine patients' needs in diagnostics and treatment, and refer patients to other specialists	For 70% until 2013 and 90% until 2015 of FM specialists serve as a first contact for patients, determine patients' needs in diagnostics and treatment, and refer patients to other specialists
4.3 Ensuring high level of accessibility of population to health services	<p>Level of accessibility of population to health services is high (number of PHC visits per patient is 4.2 in 2009, 4.4 in 2013, and 4.5 in 2015)</p> <p>Number of ambulance calls during PHC working hours is reduced (down to 30% in 2009, and to 20% in 2015)</p> <p>Hospitalization rate of patients with chronic diseases (asthma, diabetes, high blood pressure, etc.) is reduced (64% in 2009, 50% in 2015)</p> <p>Number of patients with illnesses that do not seek health care is reduced (40% in 2009; 30% in 2015; 20% in 2020)</p>

Priority 5. Improvement of health outcomes

Objectives	Indicators
5.1 Prevention and control of communicable diseases, including reducing prevalence of viral hepatitis, waterborne infections	Reduced prevalence of acute hepatitis B (3.8 in 2009; 3.0 in 2013, 2.0 in 2015 per 100 000 population)
5.1.1 Control of HIV/AIDS epidemic	HIV spread is under control (1853 in 2009; less than 1% of the total population in 2015)
5.1.2 Prevention and reduction of malaria prevalence	Tajikistan shall obtained the status of a malaria-free country until 2015
5.1.3 Prevention of vaccine-preventable diseases	Keeping rubella incidence at the level of 0.02 in 2009; 0.01 in 2015, and 0.01 in 2020 per 100 000 population)
5.1.4 Improvement of TB care	<p>Reduction of TB incidence (down to 80.4 cases in 2009; 60 cases in 2015; 40 in 2020 per 100 000 population)</p> <p>Increase in a relative weight of cured smear-positive patients, detected for the first time (82.4% in 2009; 85.0% in 2015; 87.0% in 2020)</p> <p>Reduction of TB-related mortality (6.0 in 2009, 4.0 in 2015; 3.0 in 2020 per 100 000 population)</p>
5.2 Reduction of a burden of NCD and chronic diseases: ensuring access of health care and drugs for patients with cardio-vascular diseases	Reduction of mortality related to ischemic heart diseases (23.1 in 2009; 22.5 in 2015; 20.5 in 2020 for 100 000 population)
5.2.1 Early cancer detection and timely treatment	Increased relative weight of patients with cancer detected at early stages (32.1% in 2009; 45% in 2015 per 100 000 population)

5.3	Health determinants and healthy lifestyle: well-timed health care in case of trauma	Reduced trauma-related mortality (20.4 in 2009; 10.8 in 2015; 19.3 in 2020 per 100 000 population)
5.3.1	Reduction of dangerous behavioural factors	<p>Reduced rate of trauma-related disability (40% in 2009; 35% in 2015; 30% in 2020)</p> <p>Reduced prevalence of dangerous behavioural factors: smoking (40.2% in 2009; 30% in 2015); alcohol abuse (18.4% in 2009; 15% in 2015)</p> <p>Increased life expectancy at birth (72.0 in 2008; 73 in 2015)</p>
5.3.2	Improvement of public awareness	<p>The share of population with necessary knowledge, experience and behaviour for reduction of a danger of HIV, STI and other infections is increased (3.2 in 2009, 10% in 2015)</p> <p>The share of families, capable of identifying different signs of respiratory diseases and organize proper child care at home is increased (50% in 2015)</p> <p>Increased share of families that have learned how to treat stomach disorders at home (90% in 2020)</p>

Priority 6. Development of innovative science and technology in the field of family medicine

Objectives	Indicators
6.1 Planning and implementation of scientific research according to sectoral programs of health sector development and its priority areas	Increased number of studies according to PHC priorities (% in 2015)

Annex 2. List of PHC level CGPs accepted by the MOH

#	Clinical field	Name of issue	No. of protocols	List of themes
1	Pulmonology	Management of main respiratory diseases at PHC level	5	ARI Bronchial asthma CORP Tuberculosis Pneumonia
2	Endocrinology	Prevention, diagnostics and treatment type-1 and type-2 diabetes, hypo- and hypertireosis, iodine deficiency disorders	5	Type-1 diabetes Type-2 diabetes Congenital hypothyroidism Toxic goitre Iodine deficiency disorders
3	Cardiology	Prevention, diagnostics and treatment of arterial hypertension	7	Arterial hypertension
		Medical emergencies in cardiology	9	Sudden death Tachyarrhythmia Bradyarrhythmia Unstable angina Acute myocardial infraction Cardiogenic pulmonary oedema Cardiogenic shock Hypertension strokes Acute hypertensive encephalopathy Pulmonary artery thromboembolia
4	Stomatology	Diagnostics and treatment of stomatologic diseases in polyclinics	50	Orthodontics Orthopaedic stomatology Stomatology of children Surgical stomatology Therapeutic stomatology
5	Emergency aid	Rule of rendering emergency medical services (pre-hospital level)	160	Cardiology Surgery Obstetrics and gynaecology Neurology Allergy and immunology Diabetes Acute infection Acute poisoning Abstinence syndrome Burns and electronic traumas Acute mental disorders Otorhinolaryngology Ophthalmology

6	Diagnostics	Standards of diagnostics	310	Infectious diseases and parasitology Oncological diseases Haematological diseases Diseases of endocrine system and metabolism disorders Mental and behaviour disorders Neurological diseases Otorhinolarygonological diseases Eye diseases Cardiovascular diseases Respiratory diseases Gastroenterological diseases Dermatological diseases and STIs Musculoskeletal system Obstetrics and gynaecology Injuries, poisonings and burns
7	Family medicine	Clinical protocols of polyclinic practice	85	Infectious diseases and parasitology Oncological diseases Haematological diseases Diseases of the endocrine system and metabolism disorders Mental and behavioural disorders Neurological diseases Otorhinolaryngological diseases Eye diseases Cardiovascular diseases Respiratory diseases Gastroenterological diseases Dermatologic diseases and STIs Diseases of musculoskeletal system Obstetric and gynaecologic diseases Injuries, poisoning and burns

Annex 3. PHC health workforce: number and proportion by area, 2014

Area	Population	FM doctors		Total number of HW		HW at hospital level		HW at PHC level		Other		Mid-level health worker		FM nurses	
		Total number	Per 100 000 population	Total number	Per 100 000 population	Total number	Percentage of total workforce	Total number	Percentage of total workforce	Percentage of total workforce	Total number	Percentage of total workforce	Total number	Per 100 000 population	Total number
National	82 56 573	2338	28.3	17352	28.3	6488	37.4	8348	48.1	14.5	33219	397.7	4416	52.9	
Dushanbe (capital city)	782 224	571	80.4	2835	80.4	1985	31.6	2568	40.9	27.5	3632	598.4	877	111.2	
RRS	1 898 032	451	23.8	2502	23.8	983	39.3	1422	56.8	3.9	5623	292.6	613	31.9	
Fayzabad	91 064	13	14.3	136	14.3	72	52.9	64	47.1	0.0	390	422.9	13	14.1	
Gissar	269 615	78	28.9	317	28.9	138	43.5	179	56.5	0.0	744	272.5	263	96.3	
Jirgatal	59 732	1	1.7	51	1.7	24	47.1	27	52.9	0.0	142	234.8	2	3.3	
Nurabad	71 036	2	2.8	45	2.8	19	42.2	26	57.8	0.0	141	196.0	6	8.3	
Rasht	112 448	15	13.3	124	13.3	71	57.3	52	41.9	0.8	306	268.7	27	23.7	
Rogun	39 786	2	5.0	57	5.0	21	36.8	36	63.2	0.0	103	255.7	19	47.2	
Rudaki	443 290	77	17.4	365	17.4	103	28.2	246	67.4	4.4	775	172.6	0	0.0	
Shahrinau	106 725	52	48.7	142	48.7	43	30.3	96	67.6	2.1	417	385.8	83	76.8	
Tajikabad	40 745	1	2.5	49	2.5	13	26.5	36	73.5	0.0	124	300.5	8	19.4	
Tavildara	20 912	4	19.1	24	19.1	11	45.8	13	54.2	0.0	57	269.2	0	0.0	
Tursinzade	264 418	101	38.2	470	38.2	177	37.7	285	60.6	1.7	970	362.3	82	30.6	
Varzob	71 791	22	30.6	81	30.6	15	18.5	51	63.0	18.5	169	232.5	98	134.8	
Wahdat	306 470	82	26.8	411	26.8	166	40.4	226	55.0	4.6	878	282.9	12	3.9	
SUGHD	2 428 042	831	34.2	4728	34.2	1987	42.0	2413	51.0	6.9	11122	452.9	1751	1.7	
Asht	149 511	58	38.8	196	38.8	63	32.1	133	67.9	0.0	679	449.1	123	81.3	
Ayni	76 218	26	34.1	85	34.1	26	30.6	59	69.4	0.0	257	333.4	78	101.2	
Chkalosk	32 218	14	43.5	153	43.5	79	51.6	74	48.4	0.0	210	644.6	26	79.8	
Ganchi	152 383	25	16.4	162	16.4	61	37.7	98	60.5	1.9	557	361.4	19	12.3	
Isfara	248 735	33	13.3	482	13.3	206	42.7	276	57.3	0.0	1189	472.7	15	6.0	
Istiqlo	15 793	6	38.0	28	38.0	9	32.1	19	67.9	0.0	67	419.5	0	0.0	
Kayrakum	43 390	19	43.8	105	43.8	23	21.9	49	46.7	31.4	255	581.1	36	82.0	
Khujiand	171 191	133	77.7	1424	77.7	670	47.1	583	40.9	12.0	1981	1144.3	177	102.2	
Zafarabad	66 621	17	25.5	79	25.5	29	36.7	50	63.3	0.0	375	556.6	63	93.5	

Continued

Area	Population	FM doctors		Total number of HW	HW at hospital level			HW at PHC level		Other	Mid-level health worker		FM nurses	
		Total number	Per 100 000 population		Total number	Percentage of total workforce	Total number	Percentage of total workforce	Percentage of total workforce		Total number	Per 100 000 population	Total number	Per 100 000 population
Gafurov	343 645	96	27.9	391	148	37.9	243	62.1	0.0	999	287.5	243	69.9	
Istaravshan	242 527	79	32.6	361	176	48.8	169	46.8	4.4	945	385.3	105	42.8	
Kanbadam	194 248	65	33.5	318	129	40.6	183	57.5	1.9	1068	543.7	40	20.4	
Matchoh	111 854	13	11.6	140	58	41.4	73	52.1	6.4	310	274.0	81	71.6	
Matchoi kuhi	22 528	8	35.5	19	6	31.6	13	68.4	0.0	52	228.2	14	61.4	
Pyanjekent	268 457	103	38.4	363	141	38.8	136	37.5	23.7	1137	418.8	460	169.4	
Rasulov	123 611	64	51.8	181	71	39.2	110	60.8	0.0	524	419.2	158	126.4	
Shahruston	37 992	8	21.1	48	18	37.5	30	62.5	0.0	164	426.8	0	0.0	
Spitamen	127 119	64	50.3	193	74	38.3	115	59.6	2.1	353	274.6	113	87.9	
Khathon	2 935 042	360	12.3	3361	1295	38.5	1713	51.0	10.5	10409	350.3	1013	1.5	
Nurek	54 388	8	14.7	70	23	32.9	41	58.6	8.6	255	463.1	0	0.0	
Kurgantube	102 223	18	17.6	472	216	45.8	172	36.4	17.8	761	735.3	37	35.8	
Waksh	174 323	19	10.9	125	47	37.6	75	60.0	2.4	429	243.1	42	23.8	
Khuroson	102 109	0	0.0	122	51	41.8	63	51.6	6.6	207	200.2	0	0.0	
Jilikul	99 349	19	19.1	113	45	39.8	62	54.9	5.3	250	248.6	26	25.8	
Kabadiyan	163 108	18	11.0	153	71	46.4	81	52.9	0.7	343	207.7	35	21.2	
Rumi	174 321	13	7.5	211	98	46.4	102	48.3	5.2	410	232.3	19	10.8	
Bokhtar	217 472	12	5.5	117	35	29.9	76	65.0	5.1	447	203.0	0	0.0	
Jomi	150 824	3	2.0	129	5	3.9	79	61.2	34.9	401	262.6	2	1.3	
Kumsangir	121 523	8	6.6	129	57	44.2	68	52.7	3.1	306	248.7	14	11.4	
Pyanj	103 447	5	4.8	147	68	46.3	73	49.7	4.1	533	508.9	14	13.4	
Shaartuz	112 438	9	8.0	122	53	43.4	66	54.1	2.5	294	258.3	9	7.9	
Yavan	200 659	33	16.4	169	81	47.9	77	45.6	6.5	529	260.4	108	53.2	
Kulob	100 429	6	6.0	333	139	41.7	154	46.2	12.0	974	958.0	44	43.3	
Kulyab distr	95 429	5	5.2	57	19	33.3	29	50.9	15.8	385	398.5	43	44.5	
Vose	192 650	40	20.8	155	13	8.4	86	55.5	36.1	693	355.3	0	0.0	

Continued

Area	Population	FM doctors		Total number of HW	HW at hospital level		HW at PHC level		Other		Mid-level health worker		FM nurses	
		Total number	Per 100 000 population		Total number	Percentage of total workforce	Total number	Percentage of total workforce	Total number	Percentage of total workforce	Total number	Per 100 000 population	Total number	Per 100 000 population
Dangara	134 343	17	12.7	132	50	37.9	64	48.5	13.6	682	501.4	399	293.4	
Muminabad	83 859	12	14.3	61	20	32.8	40	65.6	1.6	400	471.2	54	63.6	
Khamadoni	133 717	47	35.1	149	49	32.9	94	63.1	4.0	590	435.8	0	0.0	
Farkhor	149 939	32	21.3	179	63	35.2	106	59.2	5.6	463	305.0	61	40.2	
Timurmalik	63 234	10	15.8	42	16	38.1	24	57.1	4.8	237	370.2	0	0.0	
Khovaling	52 601	10	19.0	40	17	42.5	19	47.5	10.0	210	394.3	47	88.3	
Shurabad	49 593	9	18.1	55	22	40.0	28	50.9	9.1	258	513.9	33	65.7	
Baljoun	26 903	0	0.0	15	7	46.7	7	46.7	6.7	78	286.4	0	0.0	
Sarband	42 590	7	16.4	47	23	48.9	20	42.6	8.5	187	433.7	26	60.3	
N Khisrav	33 575	0	0.0	17	7	41.2	7	41.2	17.6	87	255.9	0	0.0	
GBAO	213 233	37	17.4	479	238	49.7	232	48.4	1.9	1346	628.0	162	27.2	
Darvaz	21 853	1	4.6	36	23	63.9	13	36.1	0.0	96	437.0	12	54.6	
Ishkashim	30 686	1	3.3	36	15	41.7	21	58.3	0.0	131	424.7	12	38.9	
Khorog	28 840	18	62.4	268	143	53.4	116	43.3	3.4	549	1893.8	36	124.2	
Murgob	14 266	0	0.0	16	6	37.5	10	62.5	0.0	164	1143.7	14	97.6	
Roshtkala	25 530	4	15.7	13	6	46.2	7	53.8	0.0	88	342.9	40	155.9	
Rushan	24 658	7	28.4	34	15	44.1	19	55.9	0.0	114	459.9	45	181.6	
Shugnon	35 596	3	8.4	32	16	50.0	16	50.0	0.0	88	245.9	0	0.0	
Vanj	31 805	3	9.4	44	14	31.8	30	68.2	0.0	116	362.8	3	9.4	

Source: (MOH 2014b)

The WHO Regional Office for Europe

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