



# Tajikistan

## Policy Notes on Public Expenditures

### Policy Note No. 2 Review of Public Expenditures on Health



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Report No. 89181-TJ

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#### Review of Public Expenditures on Health

August 2013

Poverty Reduction and Economic Management Unit  
Europe and Central Asia Region



**THE WORLD BANK**  
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**REPUBLIC OF TAJIKISTAN**  
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USD 1.00 = TJS 4.7679

TJS 1.00 = USD 0.2097

**Weights and Measures**

Metric System

## Abbreviations and Acronyms

<i>ALOS</i> Average Length of Stay	<i>OOP</i> Out-of-Pocket
<i>BBP</i> Basic Benefits Package	<i>PCS</i> Patient Classification System
<i>CBHP</i> Community- Based Health Project	<i>PER</i> Public Expenditure Review
<i>CI</i> Confidence Interval	<i>PHC</i> Primary Health Care
<i>DP</i> Development Partners	<i>PIU</i> Project Implementation Unit
<i>ECA</i> Europe and Central Asia	<i>PPP</i> Purchasing Price Parity
<i>GBAO</i> Gorno-Badakhshan Autonomous Oblast	<i>RBF</i> Results-based Financing
<i>GDP</i> Gross Domestic Product	<i>RRS</i> Region of Republican Subordination
<i>MCH</i> Maternal and Child Health	<i>SDC</i> Swiss Agency for Development and Cooperation
<i>MDG</i> Millennium Development Goal	<i>TLSS</i> Tajikistan Living Standards Survey
<i>MICS</i> Multiple Indicator Cluster Surveys	<i>WB</i> World Bank
<i>MoF</i> Ministry of Finance	<i>WDI</i> World Development Indicators
<i>MoH</i> Ministry of Health	<i>WHO</i> World Health Organization
<i>NHA</i> National Health Accounts	

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## Preface

This policy note is part of the World Bank's Programmatic Public Expenditure Review (PER) work program for FY2012–2013. It aims to provide the Government of Tajikistan with recommendations to strengthen budgetary processes and analysis. The work is led by Marina Bakanova (TTL, ECSP1), Ilyas Sarsenov (co-TTL, ECSP1) and Salman Zaidi (TTL in FY2012, SASEP).

The work is being carried out in close collaboration with a counterpart Government of Tajikistan team led by the Ministry of Finance, which includes staff from the Ministries of Education and Health, the state-owned enterprise monitoring unit in the Ministry of Finance, and Barki Tajik. An initial consultation on the proposed scope of work was held with the Ministry of Finance in late 2011.

This policy note was prepared by a Bank team led by Antonio Giuffrida (principal author, ECSH1) and comprised of Wezi Marianne Msisha (ECSH1) and Sarvinoz Barfieva (ECSH1). Takhmina Jumaeva, Tojinisso Khomidova, and Zakia Nekaien-Nowrouz provided support to the team.

The peer reviewers were Chiara Bronchi (Lead Public Sector Specialist, AFTP5) and Ekaterina Vostroknutova (Senior Economist, LCSPE). Ajay Tandon (Senior Economist, EASHD) and Caryn Bredenkamp (Senior Economist, HDNHE) provided comments on the initial draft of this note. The team benefited from the guidance and advice of Ivailo V. Izvorski (Sector Manager, ECSP1), Francisco Galrao Carneiro (Lead Economist and Country Sector Coordinator, ECSP1), Marsha M. Olive (Country Manager, ECCTJ) and Daniel Dulitzky (Sector Manager, ECSH1). The team is grateful to the participants of the workshops organized in August and November 2012 in Dushanbe where early findings of the PER were presented for the comments and feedback.

This policy note examines public expenditures on health in Tajikistan. After an introductory section, the note describes the institutional and administrative structure of the health sector. Section 3 presents health outcomes and health care utilization indicators. Section 4 describes health financing in Tajikistan and presents the main options to expand fiscal space for health. Section 5 reviews the health financing and organizational reforms implemented in Tajikistan. Section 6 concludes.



# 1. Main Messages

*Tajikistan's progress in improving health outcomes of its population during the past two decades was mixed. Insufficient and inefficient public spending on health, inequity in the provision of care and high out-of-pocket spending are the major factors behind the mixed results. At two percent of GDP, public spending on health is low. Private out-of-pocket expenditure finance three-fourths of total health outlays, increasing the risk to households of catastrophic and impoverishing health spending. Increase in public health spending is warranted to limit large out-of-pocket spending. Increases in health outlays need to come from rationalizing other parts of the overall government budget. At the same time, as argued in this Note, the Government of Tajikistan has to more decisively pursue the rationalization of public health delivery system. This should be done hand in hand with the expansion and deepening of health financing reforms and improving governance in the health sector.*

**1. Despite steady progress, health outcomes and access to basic health services in Tajikistan need further improvements.** During the last two decades, many health indicators in Tajikistan improved, including increased life expectancy and reduced infant and maternal mortality rates. Yet, under-five and adult male mortality rates remain higher than in comparator countries outside the Europe and Central Asia region. The incidence of tuberculosis is very high and growing: it has more than doubled during the last two decades. The utilization pattern of curative health services by adult population is characterized by significant income inequities and is negatively affected by capacity to pay. However, the country has been able to ensure more equitable access to maternal and child health services.

**2. Public health resources are among the lowest in the region, unevenly distributed across oblasts and rayons, and predominantly used to finance hospital care.** Public expenditures for health increased from 0.9 percent of GDP in 2000 to 2 percent in 2012 but remained one of the lowest in the region. In addition, the current system of allocation does not adequately consider health needs, but channels resources through local governments based on line-item budgets. This approach produces considerable inequality in the allocation of funds between rayons and oblasts, and perpetuates some of the inefficiency of the Soviet health system that focuses on curative hospital spending. Furthermore, because public spending is limited, the health system is financed predominantly by out-of-pocket (OOP) private spending—accounting for three quarter of total health expenditures—that increases the risk for households to incur catastrophic and impoverishing health spending.

**3. Increasing public spending on health without jeopardizing the government's long-term financial sustainability is both needed and feasible.** Currently estimated economic growth could bring an annual increase in public health spending by 6 percent during 2010–2016. Increases in health outlays need to come from re-prioritization of health and rationalizing other parts of the overall government budget. Significant efficiency gains could be also derived within the health sector from the rationalization of health delivery system in conjunction with the expansion of planned health financing reforms. On the other hand, the possibility of mobilizing external resources and generating health sector-specific resources through dedicated taxes or payroll contribution are quite low.

4. **In this context a number of health financing and organizational reforms have been piloted over the last decade in Tajikistan.** The main objective of the reforms was to improve financial sustainability of the health sector by restructuring the oversized and unaffordable hospital delivery network inherited from the Soviet period. It was absorbing an increasing share of government resources. These reforms include introduction of an explicit basic benefits package (BBP), the introduction of formal co-payments in the provision of diagnostic services and provider payment reforms, such as introduction of partial capitation in primary health care (PHC), case-based hospital payment system and result-based financing (RBF) in PHC. Additionally, the Government, with the support of Development Partners (DPs), is planning new financial mechanisms including full capitation and RBF in PHC and the pooling of all public health funds at the oblast level. RBF pilot that will include an independent verification of results will help accountability and transparency of the results. This example provides good practice in the rest of the sector and should be expanded.

5. **Notwithstanding recent reforms, the current method to finance health care provides a bad mix of incentives.** Health facilities are financed through a combination of supply-side financing (line-item budgets) in conjunction with fee for services (either formal or informal). On the one hand, health facilities receive public funds through line-item budgets that crystallize the existence of unnecessary outlays. On the other hand, fee-for-services payments (out-of-pocket spending generated from both formal co-payments and informal payments) can encourage unnecessary demand as a way to generate resources, especially in a situation when public line-item budgets are underfunded.

6. **The new financing mechanisms for Sogd oblast represent an opportunity to introduce incentives toward equity and foster rationalization of health facilities networks.** The new health financing mechanisms would allow introduction of more equitable rules for resource allocation based on population needs. They would reduce fragmentation in health financing and improve coordination between rayon, oblast, and the republican administration that funds overlapping health care networks. The new provider payment methods would promote rationalization of the health services delivery network and produce significant efficiency gains.

7. **Main policy recommendations based on the analysis are as follows:**

- Increase public health expenditures to limit large out-of-pocket expenditures. The increase should come from the rationalization of other parts of government budget and efficiency gains within the sector. This should be done hand in hand with the expansion and deepening of health financing reforms and improving governance in the health sector.
- Rationalize and optimize public health delivery system, especially hospitals. Downsize the hospital sector through the reduction in the number of hospitals and the number of general and acute beds. The resulting savings should be used for modernization of remaining hospitals.
- Reform hospital payment system through the introduction of a case-based financing for hospital care.
- Introduce full per-capita financing for primary health care (PHC), complementing capitation by results-based financing to provide additional incentives for delivery of priority health services.

- Improve the institutional capacity of PHC system, including through the establishment of an effective accounting and expenditure tracking system.
- Introduce open enrollment to increase competitiveness among PHC facilities and, hence, also the quality of care.
- After completion and analysis of pilots, expand new financing mechanisms throughout the country.

## 2. Institutional and Administrative Structure of the Health Sector

8. **The Ministry of Health (MoH) formulates health policy and is responsible for controlling the quality, safety and effectiveness of health services, pharmaceuticals, and medical equipment.** The MOH has direct managerial and financial responsibility for specialized republican health facilities and tertiary level health facilities in Dushanbe, as well as for procurement and distribution of medical supplies and equipment for priority programs. All other health facilities are financed through local governments and are under the responsibility of oblast and rayon level administrations.

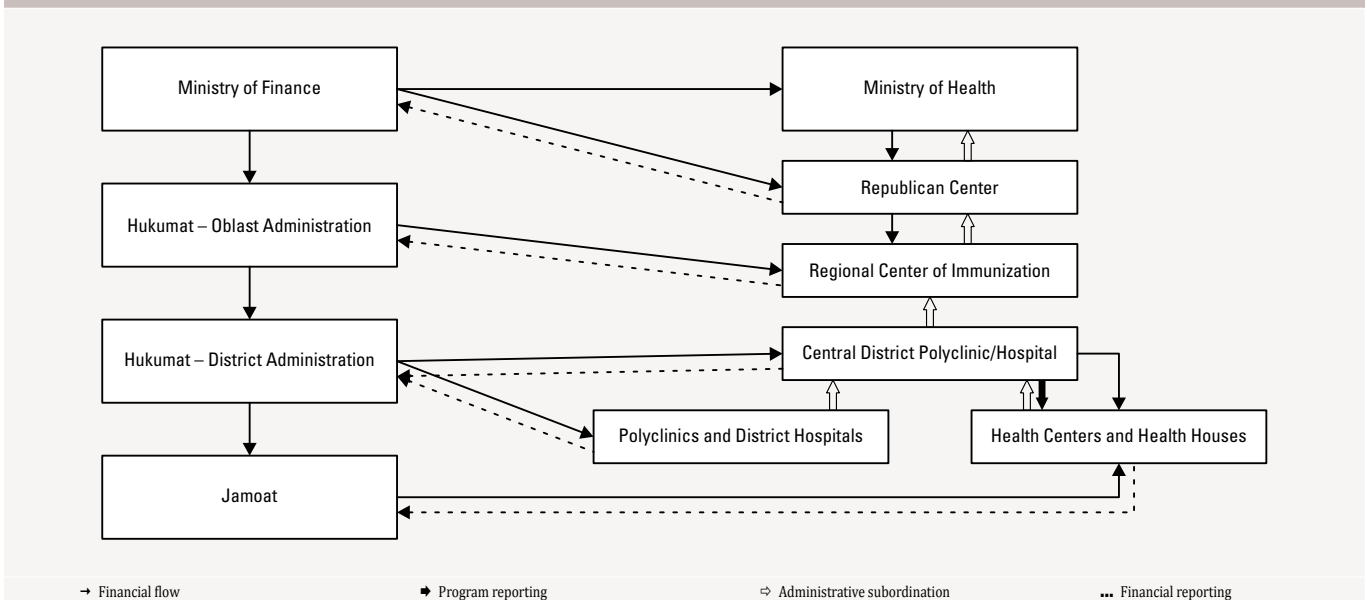
9. **Local authorities (*khukumat*) are responsible for most social services, including health.** Oblast and city administration health departments<sup>1</sup> are responsible for health care provision of oblast-owned health care facilities and, together with the executive local authorities (*hukumats*) of cities and rayons, supervise the activities of city and rayon health facilities within the respective oblasts. Oblast administration budgets include funds only for those health institutions that are under direct oblast subordination, but consolidated oblast budgets include health sector planned expenditures for rayons. An oblast health department has limited staff, mainly responsible for inspecting.

10. **Rayon health facilities are administered by central rayon hospitals and, in some rayons of republican subordination and some oblast cities, by central city hospitals.** The head physicians of central rayon hospitals and central city hospitals act as heads of rayon/city health departments and administer all health services in their respective rayon or city. They are assisted by deputies responsible for rural clinics, polyclinics, disease prevention and mother and child health services. They also have their own accountants, but work very closely with the rayon finance department on financial and accounting matters.

11. **The Ministry of Finance is responsible for the state budget, including the health sector, and MOH only plays a subordinate role in budgetary decisions.** Budgetary funds for the health sector from the central government are distributed by the Ministry of Finance to local oblast administrations and are managed by the oblast and rayon finance departments (*hukumats*). Figure 1 illustrates the administrative subordination and financial flow arrangements in the health sector.

12. **Health facilities (hospitals and polyclinics) are also run by other ministries or state agencies.** In 2010, there were 163 health facilities run by other ministries (Ministry of Defense, Ministry of Internal Affairs, Ministry of Justice, Ministry of Transport and Communication, Ministry of Light Industry) or state committees and agencies. These facilities include 8 large hospitals, such as for military personnel and prisoners. Parallel health services are directly funded by the relevant ministries or companies. The MOH coordinates the activities of parallel health services with regard to national programs and health priorities.

<sup>1</sup> In Tajikistan there are three oblast (GBAO, Khatlon and Sughd Oblast) and two city administration health departments (Dushanbe and Kulyab).

**Figure 1. Administrative Subordination and Financial Flow Arrangements in the Health Sector\***

Source: World Bank staff presentation based on the information from Ministry of Finance and Ministry of Health.

Note: \*External financing of health sector is not included in the diagram as it is not integrated in the national financial flow arrangement. External financing of health sector is described in Section D.

**13. The Tajik health system prior to 1990s adhered to the standard Soviet paradigm.** It was centrally planned and managed, with minimum discretion allowed to local managers. Distribution of resources, number of hospital beds, and doctors per population followed planning norms and standards developed by the Semashko Research Institute of Social Hygiene and Public Health in Moscow. The Soviet health system was highly inefficient, with a heavy emphasis on a large network of providers, a preference of hospital over primary care, and a focus on curative rather than preventive services. Health care was almost exclusively financed through state budgetary resources at several administrative levels.

**14. The input-based financing system contributed to expansion of the physical capacity of the health delivery network and encouraged further inefficiencies.** In addition, several line ministries, such as the Ministry of Defense and the Ministry of Interior, had their own health facilities. The financial sustainability of the Soviet Tajik health system was possible thanks to substantial budget transfers and support of the national initiatives by Moscow (Rowland and Telyukov 1991). Notwithstanding its inefficiency, the Soviet health system made tangible progress in the Tajik Republic. It provided universal access to basic health services and financial protection. It was also successful in fighting infectious diseases and improving key health outcomes (Khodjamurodov and Rechel 2010), although there is some disagreement about the extent of those achievements (Davis 2010).

**15. The Soviet model became unaffordable due to the deep economic crisis that accompanied the early years of Tajikistan's transition from a Soviet Republic to an independent country.** After independence, while the breadth of coverage stayed the same, the depth of coverage eroded, as informal out-of-pocket payments became a usual practice. The gap between de jure and de facto entitlements grew, resulting in a deep sense of disillusionment with the health system. The crisis of the sector was exacerbated by the civil war of 1993 to 1997.

## 3. Health Outcomes and Health Service Utilization

### A. Progress in Improving Health Outcomes have Been Mixed

16. **Progress in Tajikistan's population health outcomes over the past two decades has been mixed.** Life expectancy has steadily increased to about 67.5 years in 2011, up from about 63 years in 1990, when health outcomes suffered during the transition from Soviet rule. Rates of malnutrition and micronutrient deficiencies were high, with 21 percent of children under-five moderately or severely stunted, 16 percent moderately or severely underweight<sup>2</sup> and 53 percent iodine deficient<sup>3</sup>. The infant mortality rate has also declined steadily to 34 per 1,000 live births in 2012, down from 90.6 per 1,000 live births in 1990. In the same period, the under-five mortality rate also declined from 114 per 1,000 live births to 43. The maternal mortality rate was estimated at 95 per 100,000 live births in 1990 and 65 per 100,000 live births in 2010. If current trends continue, it is likely that Tajikistan will meet the Millennium Development Goal (MDG) to reduce the child mortality rate, but it is unlikely to meet the MDG of improving maternal health by 2015 (Table 1).

Indicators	Average Central Asia and Caucasus region (year)	Current Status (year)	MDG Baseline for Tajikistan 1990	MDG Target for Tajikistan 2015
MDG1: Children under 5 moderately or severely underweight (percent)	4.38 (2010) <sup>4</sup>	16 (2012) <sup>2</sup>	-	-
MDG4: Infant mortality (per 1,000 live birth)	30.1 (2012) <sup>4</sup>	34 (2012) <sup>2</sup>	89.1	-
MDG4: Under five mortality rate (per 1,000 live birth)	34.7 (2011) <sup>4</sup>	43 (2012) <sup>2</sup>	114.3	38.1
MDG4: Children 1 year old immunized against measles (percent)	93.3 (2011) <sup>4</sup>	85.2 (2012) <sup>2</sup>	-	-
MDG5: Maternal mortality (per 100,000 live births)	50.0 (2010) <sup>4</sup>	65 (2010) <sup>3</sup>	94	23.5
MDG5: Births attended by skilled health personnel (percent)	97.7 (2008–2011) <sup>4</sup>	87.4 (2012) <sup>2</sup>	-	-

Sources: 1) Tajikistan Poverty Update; 2) TDHS (2012); 3) Trends in Maternal Mortality: 1990–2010. WHO/UNICEF/UNFPA/WB (2010); 4) UN official site for MDG monitoring <http://unstats.un.org/unsd/mdg/Default.aspx>.

17. **Notwithstanding improvements over the last two decades, health outcomes and access to basic health in Tajikistan are among the worst in comparable countries of ECA region.** For instance, the infant and under-five mortality rates in Tajikistan are highest among countries in the Central Asia and Caucasus regions. Tajikistan also reports the highest maternal mortality rate according to national estimate and the lowest prevalence of birth

<sup>2</sup> Tajikistan Demographic Health Survey (TDHS) (2012).

<sup>3</sup> 2009 Tajikistan National Micronutrient Survey (NMS), UNICEF (2010).

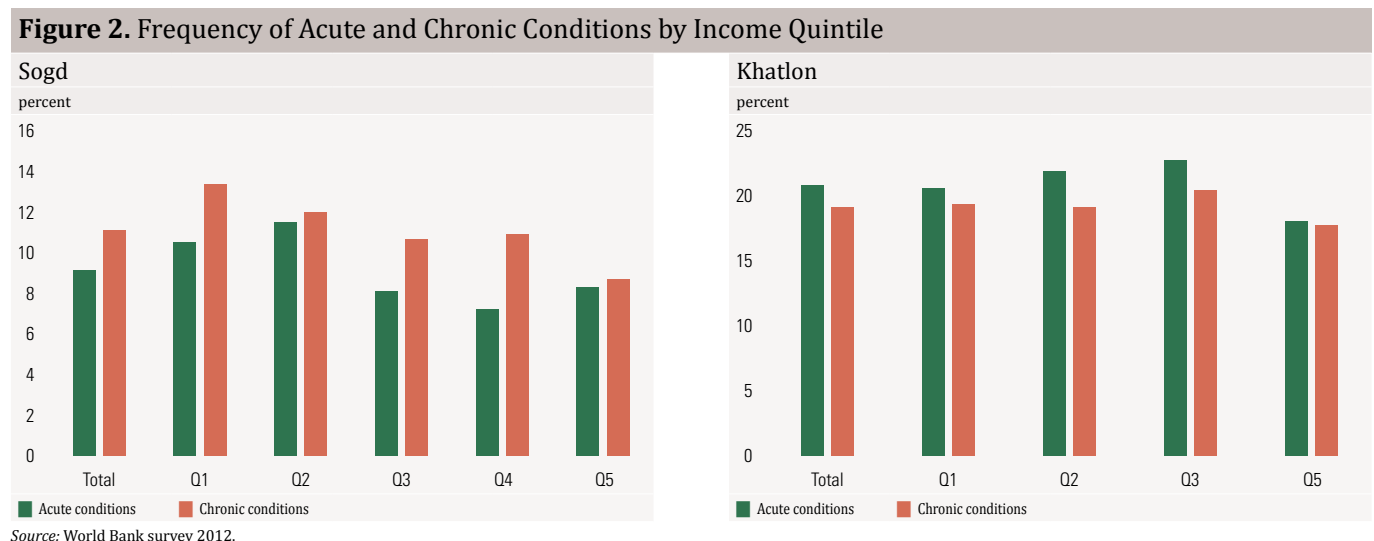


attended by skilled health staff. Tajikistan also reports the highest incidence of tuberculosis. Only Turkmenistan has a lower life expectancy than Tajikistan for the total population and for women among countries in the region (see Annex I).

**18. Tajikistan compares more favorably in health outcomes with countries with similar income per capita outside ECA region.** For instance, life expectancy and maternal and infant mortality rates are better than in most of the countries in the comparator income groups, including Pakistan, Senegal, and Cambodia. However, the under-five and adult (male) mortality rates are still high, even if adjusted for the income per capita, as well as the incidence of tuberculosis, which is more than doubled during the last two decades. These mixed outcomes are observed despite the fact that Tajikistan has much higher number of physicians, nurses and midwives as well as hospital beds per 1,000 population.

**19. A recent household survey provides some insight about the distribution of health conditions in Sogd and Khatlon oblasts.**<sup>4</sup> Overall, acute health conditions in the past four weeks were reported by 14.9 percent of the individuals interviewed with almost equal proportions being reported for men and women. Similarly, 15.0 percent reported suffering from chronic conditions, with more women (16.9 percent) reporting chronic conditions than males (12.8 percent).

**20. The prevalence of acute and chronic illnesses reported in the two oblasts is very different.** In Sogd, 9 and 11 percent of population reported acute and chronic conditions respectively, compared to 21.1 and 18 percent in Khatlon. In general, the distribution of acute and chronic conditions indicates a higher prevalence among the lowest two quintiles of income distribution compared to the highest two quintiles. However, the concentration appeared more marked in Sogd than in Khatlon (see Figure 2) and stronger for chronic conditions.



<sup>4</sup> The survey was funded by the Rapid Social Response Trust Fund and conducted by the Swiss Centre for International Health, Swiss Tropical and Public Health Institute in partnership with the Centre of Sociological Research “Zerkalo”. The survey collected information from a statistically representative sample of 1,919 households from Sogd and Khatlon oblasts between July and August 2012.

## B. Inequalities in the Utilization of Healthcare Services Persist

**21. Inequalities in the utilization of adult health care services represent an important challenge.** Table 2 shows the distribution of health utilization in 2003, 2007, 2009 and 2011 across consumption quintiles.<sup>5</sup> Overall utilization of health care has increased since 2003 for both outpatient and inpatient services. In all years analyzed, the rich utilize more outpatient and inpatient health care services than the poor. While inequality in health care utilization has decreased overall since 2003, in 2009 and 2011 it rose compared to 2007 (as demonstrated by the concentration index)<sup>6</sup>. In 2011, outpatient care utilization by the richest quintile was almost twice that of the poorest quintile, and utilization of inpatient care by the richest quintile was almost three times that of the poorest quintile.

**Table 2.** Utilization of Adult Curative Health Services

Per Capita Consumption Quintile	Outpatient services				Inpatient services			
	2003	2007	2009	2011	2003	2007	2009	2011
Q1 (lowest)	0.033	0.029	0.066	0.073	0.019	0.049	0.038	0.038
Q2	0.044	0.033	0.049	0.075	0.027	0.045	0.045	0.058
Q3	0.055	0.043	0.069	0.088	0.031	0.043	0.046	0.064
Q4	0.069	0.042	0.088	0.097	0.039	0.05	0.062	0.073
Q5 (highest)	0.097	0.046	0.127	0.136	0.052	0.054	0.062	0.100
Total	0.06	0.039	0.08	0.094	0.034	0.048	0.051	0.067
Concentration Index	0.216**	0.095*	0.169*	0.142*	0.187*	0.034*	0.113*	0.185*

Source: Authors' estimates using ADePT and data from TLSS 2003, 2007, and 2009 and 2011 Public Service Delivery Survey.  
Note: \*CI is significant at 5%; \*\*CI is significant at 1%.

**22. Utilization of maternal and child health care services is more equal.** Table 3 shows that approximately 87.5 percent of women attended prenatal consultations during their last pregnancy with an average of almost five consultations and 72 percent delivered their baby at a hospital. Only 62 percent of women, however, attended at least four prenatal consultations as recommended by the WHO. As evidenced by the positive and significant concentration indices, utilization of maternal health services (prenatal consultations and hospital deliveries) is higher among the better-off. Utilization of prenatal care is higher among women in the highest quintile compared to those in the lowest (91.2 percent and 84.6 percent respectively).

**23. The overall level of pre-natal care consultations seems to have improved, as well as the level of the procedure carried out.** In 2005, the Tajikistan Multiple Indicator Cluster Survey (MICS 2005) revealed significant regional differences, particularly between Sogd and Khatlon oblasts. The recent World Bank 2012 survey confirmed the regional difference. However, the rates of increase between 2005 and 2012 were much higher in Khatlon because the starting points were much lower compared to Sogd (see Table 4).

5 Utilization rate for outpatient services indicates whether or not an individual received any health care in an ambulatory setting during the past month. Inpatient utilization rate is based on whether or not an individual was hospitalized any time during the 12 months prior to survey. The table reports the mean values for each quintile as well as the mean values for the sample as a whole.

6 The concentration indices provide information on the extent and direction of inequality in the utilization of health services. A positive value of the index indicates that utilization is higher among the better-off, while a negative value indicates that utilization is higher among the poor. The higher the absolute value of the index, the more inequality in utilization there is.

**Table 3. Utilization of Maternal Health Care, 2007**

Per Capita Consumption Quintile	Prenatal Consultations	Four or More Prenatal Consultations	Average Number of Prenatal Consultation	Hospital Birth Delivery
Q1 (lowest)	0.846	0.651	5.108	0.743
Q2	0.877	0.620	5.003	0.693
Q3	0.879	0.586	4.498	0.677
Q4	0.854	0.558	4.611	0.701
Q5 (highest)	0.912	0.689	5.494	0.795
Total	0.875	0.622	4.948	0.722
Concentration Index	0.011*	0.006	0.011	0.015

Source: TLSS 2007.

Note: \*CI is significant at 5%; \*\*CI is significant at 1%.

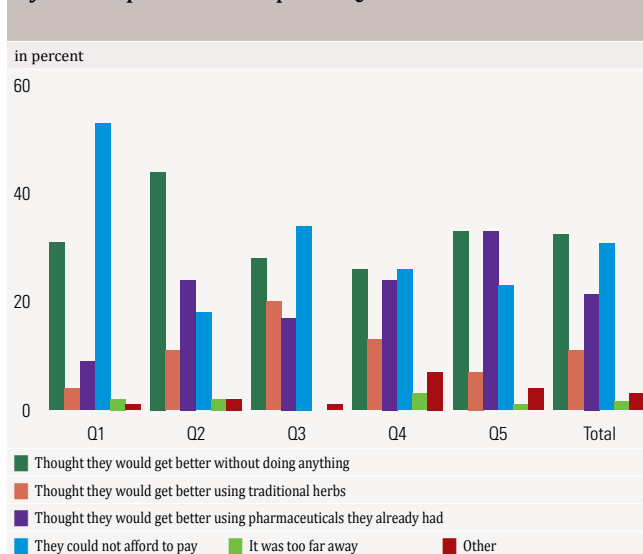
**Table 4. Antenatal Care Content – Comparison of MICS 2005 and World Bank 2012 Survey**

	MICS 2005		World Bank survey 2012	
	Sogd	Khatlon	Sogd	Khatlon
Weight measures	88.9	36.1	98.1	67.2
Blood pressure measured	91.0	56.6	99.4	90.0
Urine specimen taken	89.4	44.0	99.1	78.9
Blood sample taken	89.4	49.2	99.2	86.0
Gynecological exam performed	88.8	46.3	99.2	91.5
Pregnancy term assessed	90.8	54.8	99.3	91.2
Ultrasound exam performed	70.6	39.4	94.2	82.2

Sources: MICS (2005), World Bank survey (2012).

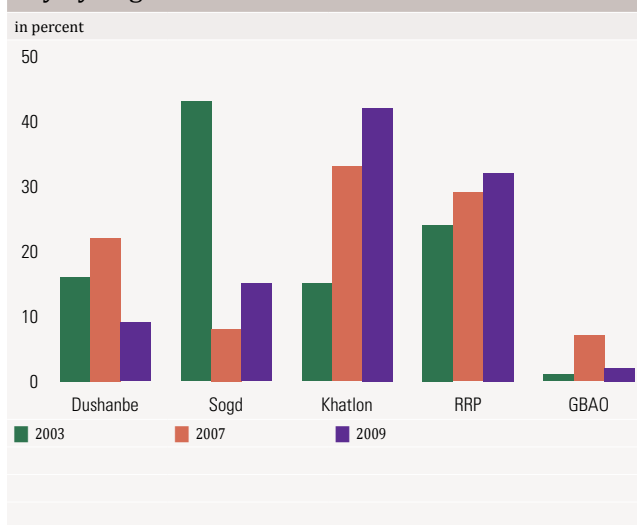
**24. A significant share of households has family members who delayed seeking help when ill for financial reasons.** In 2009, 53 percent of households belonging to the poorest quintile indicated that they did not seek healthcare due to financial reasons compared to 23 percent of those in the richest quintile. Overall, financial reasons

**Figure 3. Reason for not Seeking Help When Ill, by Per Capita Consumption Quintile**



Source: TLSS 2009.

**Figure 4. Population Indicating That They Did Not Seek Treatment Because They Could Not Afford to Pay by Region**



Source: TLSS 2003, 2007 and 2009.

were reported by about 31 percent of households, while 32 percent of households thought they would get better without doing anything (Figure 3).

**25. There are significant differences among the oblasts in the portion of the population that did not seek treatment because they could not afford.** Figure 4 shows the distribution of the population indicating that they did not seek treatment because they could not afford it by oblast. While the share of the population decreased in some oblasts, such as Dushanbe and Sogd, it rose in others, particularly Khatlon and RRP (Districts of Republican Subordination).

**26. Notwithstanding the inequalities in utilization and barriers recorded in seeking care, general satisfaction with health services is high in Tajikistan.** Overall, approximately 89 percent of respondents of the World Bank 2012 survey declared their satisfaction with the care that was provided to their child during the last visit to a health facility. While the high satisfaction rates may be surprising, the findings are in line with several studies, which show high patient satisfaction in Tajikistan and other post-Soviet states, although objectively health facilities are badly equipped and often access to services is accompanied by informal payments.

## 4. Health Financing: Composition and Trends

### A. Health Expenditures Remain one of The Lowest in the Region

27. **Total health expenditures have been increasing over the past several years, driven by high economic growth and related increases in total government spending.** In the last decade of 2000 to 2010, total health expenditures per capita increased in real terms almost three-fold, from \$40 (PPP, constant 2005 prices) to \$128, an increase from 4.6 percent to about 6 percent as a share of GDP (Table 6). On the other hand, government health expenditure as a percentage of general government expenditure decreased from 6.5 to 6 percent over the same period. Therefore, the significant increase in total health spending over the last decade has been primarily driven by an increasing GDP and the related increase in government revenue and spending.

28. **Public health expenditures as a percentage of GDP and per capita are the lowest in the region.** In 2010, per capita total health spending in real terms was only \$49 (current US\$), the lowest among the countries in Central Asia and the Caucasus, followed by the Kyrgyz Republic at about \$53 (Table 5). The public component of health spending in 2010 was just above \$13 per capita, which is by far the lowest level of public health spending per capita recorded among the comparator countries. Public health spending to GDP ratio in Tajikistan is the lowest among the ECA countries, even if adjusted for the level of income per capita (see Figure 5 and Note 1).

**Table 5. Key Health Financing Indicators: Tajikistan and Comparator Countries**

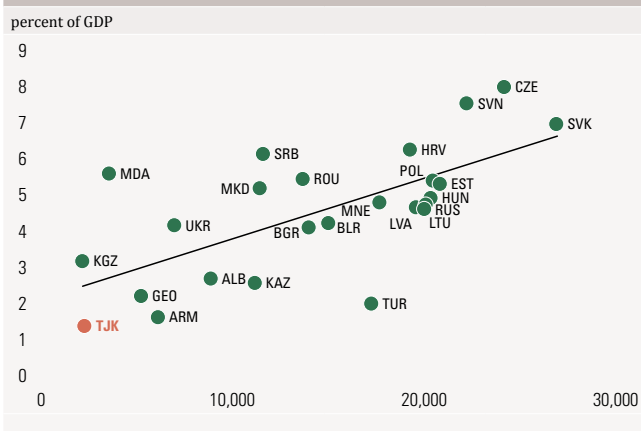
	Armenia	Azerbaijan	Georgia	Kazakhstan	Kyrgyz	Tajikistan	Turkmenistan	Uzbekistan
Total health expenditure (THE) percent of GDP	4.40	5.88	10.13	4.29	6.18	5.98	2.50	5.81
Government expenditure on health (GHE) as percent of THE	40.64	20.29	23.64	59.39	56.19	26.66	59.38	47.47
Private expenditure on health (PHE) as percent of THE	59.36	79.71	76.36	40.61	43.81	73.34	40.62	52.53
External resources on health as percent of THE	14.29	0.78	2.80	0.64	12.77	6.09	0.26	0.85
GHE as percent of total government expenditure	6.42	4.22	6.87	11.42	10.71	6.11	9.86	8.54
Out-of-pocket expenditure as percent of PHE	92.89	87.25	89.50	98.75	86.30	90.68	100.00	81.36
THE per capita (current US dollars)	133.48	331.51	271.63	393.10	53.48	49.07	106.08	82.43
GHE per capita (current US dollars)	54.24	67.26	64.20	233.46	30.05	13.08	62.99	39.13

Source: World Development Indicators, 2012.

29. **Private out-of-pocket (OOP) expenditures account for the lion's share of total health expenditures.** Private health care is largely OOP, and represents a large share of health spending even if it has decreased slightly from about 80 percent in 2000 to 73 percent in 2010. Conversely, government spending has risen from just above 20 percent of total health expenditures in 2000 to about 27 percent in 2010. Slightly more than 6 percent of government health

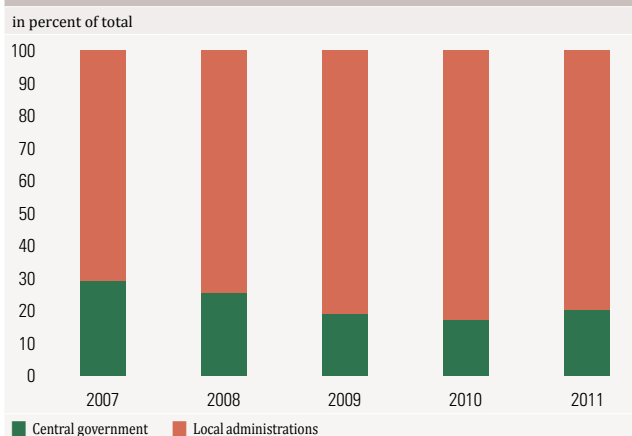
spending in 2010 was from external development assistance, therefore the government contribution was a little more than one-fifth of total health expenditure.

**Figure 5. Public Health Spending in Tajikistan is low even when income level is considered**



Sources: WDI, ECA Fiscal Data Base.

**Figure 6. Public Health Spending by Level of Government**



Source: BOOST dataset based on the MoF data.

**Table 6. Health Financing Indicators for Tajikistan, 2000–2010**

	2000	2002	2004	2006	2008	2010
Total expenditure on health (THE) as percent of GDP	4.6	4.5	4.3	4.9	5.6	6.0
Government expenditure on health (GHE) as percent of THE	20.4	20.2	21.9	23.1	24.6	26.7
Private expenditure on health (PHE) as percent of THE	79.6	79.8	78.1	76.9	75.4	73.3
External resources on health as percent of THE	2.3	7.8	11.3	9.6	7.5	6.1
GGHE as % of General government expenditure	6.5	5.6	5.3	5.9	5.0	6.1
Out of pocket expenditure as percent of PHE	99.0	98.9	97.2	97.0	95.8	90.7
THE per capita at Purchasing Power Parity (PPP)	40	48	58	80	108	128
GGHE per capita at PPP	8	10	13	18	27	34

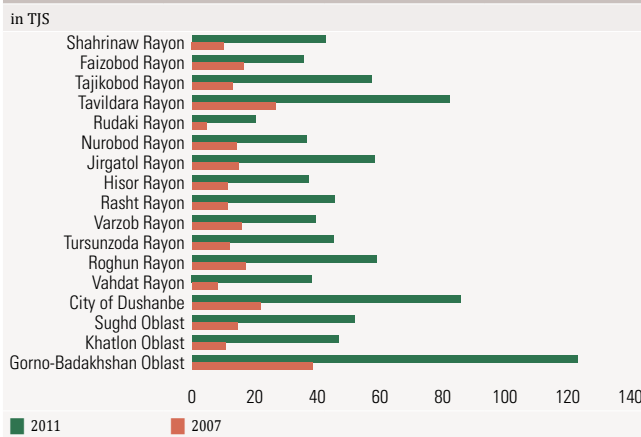
Source: World Development Indicators, 2012.

## B. Resource Allocation is Oriented on Existing Network

30. **The majority of public health expenditures are under the responsibility of local administrations.** The share of public health funds channeled through local administrations increased quite significantly from 71 percent in 2007 to about 80 percent in 2011 (Figure 7). Health sector financing and budget planning is fragmented both vertically (by level of care and budget unit) and horizontally (by territorial administration). This fragmentation reduces opportunities for coordinated decision-making and the scope for equalization of resource allocation.

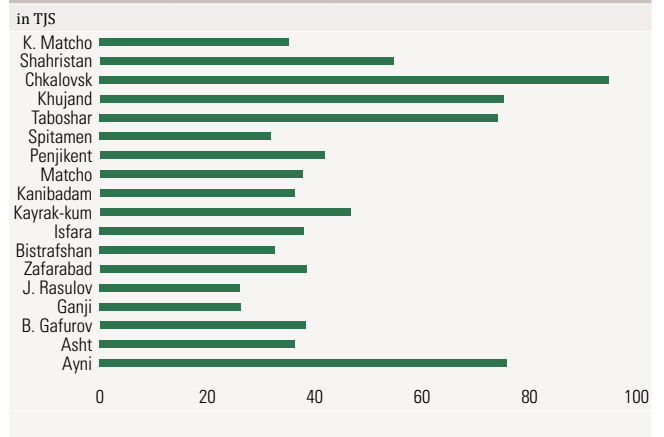
31. **Inequality in allocation of health funds between and within oblasts has increased over time.** Local administrations show marked differences in per-capita public health spending (Figure 8). The coefficient of variation, measured by standard deviation (SD), in per capita spending between the local administrations increased

**Figure 7. Health Budget Allocation Per Resident in 2007 and 2011 by Oblasts and Rayons of Republican Subordinations**



Source: BOOST dataset based on the MOF data.

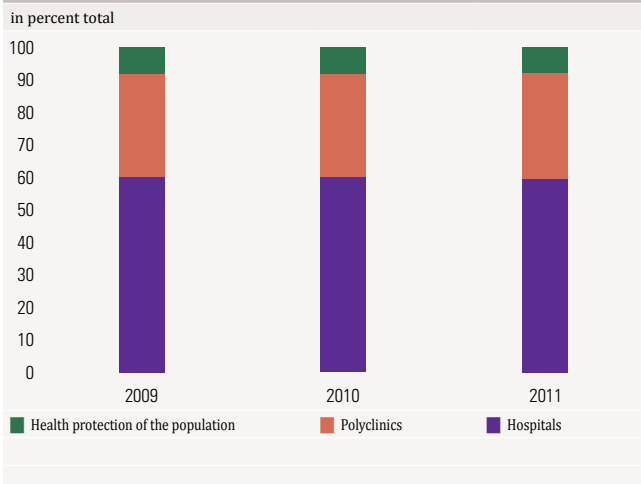
**Figure 8. Health Budget Allocation Per Resident by Rayons in Sogd Oblast in 2011**



Source: PIU of the Tajikistan CBHP.

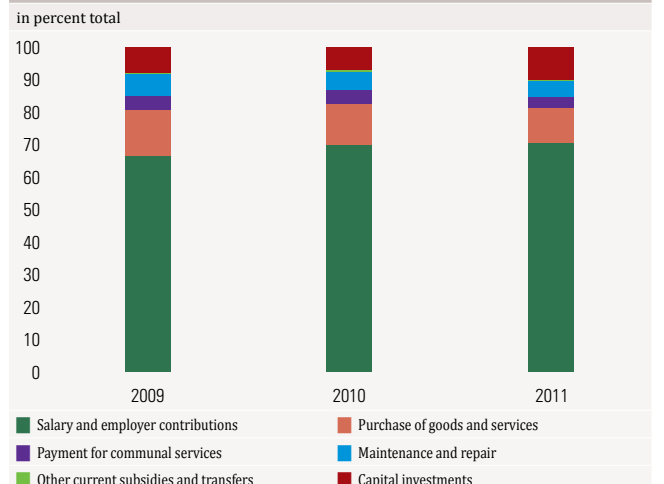
over time from 7.8 in 2007 to 24.3 in 2011. Per capita public health spending in Sogd oblast by rayons is presented in Figure 9. In Sogd oblast, the health budget allocation per resident in the various rayons varied by a factor of 3.6, from about TJS 26.3 in Ganchi and J. Rasulov rayons to TJS 95 in Chkalovsk in 2011, with an overall SD of 19.89.

**Figure 9. Structure of public health spending by facility type**



Source: BOOST dataset based on the MOF data.

**Figure 10. Structure of public health spending by economic classification**



Source: BOOST dataset based on the MOF data.

**32. The geographic allocation of public funds does not reflect the health needs of the population.** Finance planning and fund allocation mechanisms currently used in the health sector are weakly related to population size and health needs, but largely determined by historical budgets, the existing health delivery network, and the capacity of local administrations to negotiate fiscal transfers from a higher level. However, the recent efforts to introduce population-based resource allocation in the health sector appear to have had only a marginal impact (see paragraphs 42–43).

## C. Small Health Outlays are Inefficiently Allocated

**33. Hospitals and multi-profile polyclinics absorb more than three-quarters of public health spending.** More than 50 percent of public health spending is allocated to hospitals (Figure 10 and Annex II). Multi-profile polyclinics attract the large majority of resources allocated for outpatient care, while health centers and health houses, usually the only providers of health care in rural areas receive a small and declining share of public resources. This extensive reliance on hospitals as providers of health care contrasts with an international trend of allocating a larger portion of resources to more cost-effective outpatient care.

**34. Critical physical conditions of hospitals and low hospital service standards hinder adequate functioning of these facilities, as well as their effectiveness, quality, and efficiency.** Hospital care in Tajikistan is delivered by 365 hospitals with a total of approximately 34,453 beds. Additionally, 65 percent of buildings from the period 1938 to 1990 do not meet basic requirements (Ministry of Health, 2011). To summarize, the current situation is characterized by: (i) an oversupply of beds; (ii) avoidable inpatient admissions (it has been estimated that about one-third of hospital cases could have been treated as an outpatient setting);<sup>7</sup> (iii) low occupancy rates; and (iv) excessive Average Length of Stay (ALOS). As illustrated in Table 13, the indicators vary markedly across regions. Finally, it is important to mention that the relatively low ratio admission rates in Khatlon (6.57) and in RRS (5) per 100 population, are somehow a reflection of the high admission rates per 100 population in Sogd (16.5) and Dushanbe (16.6), because they correspond to the same geographic areas.

**Table 7.** Current Number of Hospital Beds, Admissions and Bed Days

	Number of beds	Ratio Bed/1000 population	Number of hospitalizations	Admission rate per 100 population	Number of bed-days	Average Length of Stay	Occupancy Rate (percent)
GBAO	1,919	9.88	19,046	9.81	198,277	10	48.00
Khatlon	10,801	4.00	177,455	6.57	1,606,827	9	41.00
RPP	4,730	2.97	79,808	5.01	711,412	8.91	41.21
Sogd	12,284	5.54	365,534	16.50	3,594,419	9.8	80.00
Dushanbe	4,719	6.73	116,404	16.61	1,107,475	9.5	64.00
TOTAL	34,453	4.65	758,247	10.24	7,218,410	9.52	57.40

Source: Strategic Rationalization Plan of Health Facilities of the Republic of Tajikistan 2011–2020.

**35. Personnel costs are the largest and growing share in health spending.** Salary and employer contributions are the largest and growing items in the public health budget, representing more than 70 percent of total health spending (Figure 11 and Annex III). Large and expanding wage bill has squeezed other expenditures beside capital investments, with a share in total health spending increased by 2 percentage points between 2009 and 2011.

**36. Rationalization of the public health delivery network without changes in incentives and financing modality is politically complex and seldom succeeds.** The current method to pay for health care in Tajikistan is a combination of supply-side financing through line-item budgets in conjunction with fee-for-services that creates a bad mix of incentives (Langenbrunner and Tandon, 2012; p.147). Health facilities receive public funds through line-item budgets that crystallize the existence of unnecessary outlays. However, fee-for-service payments (OOP

<sup>7</sup> Tajikistan Hospital Service Restructuring Concept for 2006–2010.



spending from both formal co-payments and informal payments) can encourage unnecessary demand as a way to generate resources, especially in a situation of underfunded public line-item budgets.

## D. Welfare Implications of the Health Financing Pattern

**37. Benefit incidence analysis shows the regressive incidence of government health expenditures, although there were some improvements between 2007 and 2011.** Using data from the 2007 Tajikistan Living Standards Survey (TLSS), 2011 Public Service Delivery Survey and the National Health Accounts (NHA) (Euro Health Group, 2010), the team conducted benefit incidence analysis of government health spending to determine whether its distribution across consumption quintiles is regressive (i.e. mainly benefits the rich) or progressive (i.e. mainly benefit the poor). The concentration indices provide information on the extent and direction of inequality: a positive value indicates that the variable in question is higher among the better-off, while a negative value indicates the

**Table 8.** Benefit-Incidence of Government Health Spending (2007 and 2011)

	2007			2011		
	Out-patient	In-patient	Total	Out-patient	In-patient	Total
Total subsidies (in mln TJS)	42.3	92.8	135.2	103.6	227.2	330.8
Share of total subsidy (%)	31.3	68.7	100.0	31.3	68.7	100.0
1. Constant unit cost assumption						
Q1 (lowest)	11.7	17.1	15.4	19.1	13.4	15.2
Q2	17.2	18.6	18.2	18.0	20.2	19.5
Q3	23.2	19.4	20.6	19.5	21.1	20.6
Q4	22.5	27.3	25.8	21.0	22.5	22.0
Q5 (highest)	25.4	17.6	20.0	22.4	22.8	22.7
Total	100.0	100.0	100.0	100.0	100.0	100.0
Concentration index	0.1498**	0.0194	0.0704	0.0465**	0.0971*	0.0813**
2. Constant unit subsidy assumption						
Q1 (lowest)	12.0	17.3	15.6	15.8	11.5	12.8
Q2	16.2	18.1	17.5	16.0	17.7	17.1
Q3	23.4	19.3	20.6	18.9	19.3	19.2
Q4	22.5	25.7	24.7	20.7	21.8	21.5
Q5 (highest)	25.9	19.7	21.6	28.6	29.7	29.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Concentration index	0.1570**	0.0326	0.0814**	0.1342**	0.1796**	0.1654**
3. Proportional cost assumption						
Q1 (lowest)	11.4	15.0	13.9	8.2	4.8	5.9
Q2	14.0	16.4	15.7	9.4	8.3	8.7
Q3	18.7	19.4	19.2	13.8	11.2	12.0
Q4	16.3	22.0	20.2	17.5	16.0	16.4
Q5 (highest)	39.5	27.2	31.1	51.2	59.7	57.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Concentration index	0.2809**	0.1240**	0.1822**	0.4028**	0.5237**	0.4859**

Source: World Bank staff estimates based on 2007 TLSS, 2011 Public Service Delivery Survey and NHA data.

Note: \*CI is significant at 5%; \*\*CI is significant at 1%.

converse; the higher the absolute value of the index, the more inequality there is. Subsidies to the health sector were estimated using three sets of assumptions, and were disaggregated by consumption quintile (Table 8). Regardless of what assumption was used, the poorest 20 percent receive less than 20 percent of the subsidy. Distributions are always regressive and the results are usually statistically significant. Overall, consumption of health services was more regressive in 2011 than in 2007, particularly in the case of inpatient services. Finally, the distribution of inpatient care is in general more pro-rich than outpatient care, as indicated by the relatively higher concentration indices.

**38. The large reliance on OOP spending in Tajikistan produces high risk that households incur in catastrophic health spending.** The most common definition used for catastrophic expenditures is an OOP health payment exceeding 40 percent of a household's non-food spending (O'Donnell et al., 2008). Although the total incidence of catastrophic payments using this definition has decreased since 2003, it still affects about 19 percent of households in 2011 (Table 9). Furthermore, in 2011 the incidence of catastrophic payments in the lowest quintile is the highest among all income quintiles, and the overall distribution is more concentrated among the poor as confirmed by the negative value of the concentration index.

**Table 9.** Incidence of Catastrophic Payments, More Than 40% of Non-food Consumption

Per Capita Consumption Quintile	2003	2007	2009	2011
Q1 (lowest)	29.8	14.7	21.4	26.7
Q2	29.7	18.1	17.7	15.4
Q3	32.6	19	21.3	18.9
Q4	30.6	16.1	23.8	14.1
Q5 (highest)	32.1	17.1	24.5	18.7
Total	31.0	17.0	21.7	18.8
Concentration index	0.008	0.018	0.048	-0.072

Source: TLSS 2003, 2007, and 2009; 2011 Public Service Delivery Survey.

Note: Threshold, more than 40% of nonfood consumption.

**39. The number of poor would increase significantly if health payments were taken into account.** Table 10 presents poverty measures corresponding to household expenditure both gross and net of health payments. In 2011, 42 percent of the population lived below the poverty line. If health payments are deducted from non-food expenditures, this percentage rises to 46 percent, which indicates that about 3.6 percent of the population in 2011 would actually be considered poor if health payments were taken into account.

**Table 10.** Poverty Impact of out-of-Pocket Health Spending

Year	Poverty Headcount (in percent)			
	Gross of health payments	Net of health payments	Change	Percent Change
2003	72.4	75.9	3.5	4.8
2007	54.6	57.8	3.2	5.9
2009	46.0	50.9	4.9	10.7
2011	42.2	45.7	3.6	8.5

Source: TLSS 2003, 2007, and 2009; 2011 Public Service Delivery Survey.

## 5. Health Financing and Organizational Reforms

### A. Brief Overview of Recent Health Reforms

40. **A number of health financing and organizational reforms have been initiated over the last decade in Tajikistan.** The main objective of the reforms was to improve the financial sustainability of the health sector by restructuring the oversized and unaffordable hospital delivery network inherited from the Soviet period, which was absorbing an increasing share of government resources. These reforms include introduction of an explicit basic benefits package (BBP), introduction of formal co-payments for diagnostic services, and provider payment reforms, such as introduction of partial capitation in primary health care (PHC), a case-based hospital payment system and result-based financing (RBF) in PHC. Additionally, the government, with the support of development partners (DPs), is planning new financial mechanisms, including full capitation and RBF in PHC, and pooling of all public health funds at the oblast level.

41. **The primary function of the basic benefits package (BBP) is to regulate entitlements to free medical services and to establish a transparent system of formal co-payments.** The BBP aligns entitlements to free health care with available resources and reduces informal payments by integrating copayments in the formal health financing system. The BBP was initially piloted in 2004 and 2005 in a few rayons. An evaluation of the BBP conducted in 2008 showed that the rayons implementing the BBP experienced an increase in formal payments and a decline in informal payments. In both pilot and control rayons, payments for medicines, medical supplies and laboratory tests at the hospital level declined, but the decline was more pronounced in the pilot rayons. Additionally, patient satisfaction with quality of care increased in BBP rayons (Bobokhojaeva et al., 2009). Resource constraints have limited the Ministry of Health's ability to plan for a sustainable expansion. After almost 10 years of piloting, BBP is currently implemented in only eight rayons. Because BBP introduction was not accompanied by changes in budget planning processes, rayon health budgets remain largely input-based and do not reflect population size, health needs or geography. In 2011, average per capita public expenditures on BBP were highly unequal, and varied by a factor of seven across pilot rayons. The level and targeting methods of exemptions to co-payments are inadequate, plus health facilities have strong incentives to discriminate against patients who cannot afford the required copayments. Monitoring and evaluation have not been done on a systematic basis to assess the capacity of the BBP to improve access and reduce informal payments.

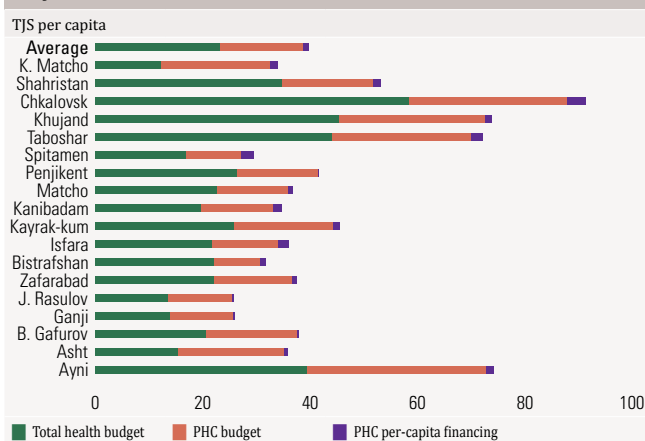
42. **Decree no. 600, approved in December 2008, introduced user charges for diagnostic services.** The main objective of the Decree was to generate additional revenue to finance health services as an alternative to widespread unofficial charges. About 150 public health facilities have been authorized by the MOH to introduce user charges. While health providers are very favorable to the introduction of user charges because of the revenue generated, DPs have expressed several concerns: (i) without an effective method to target exemptions, user charges would negatively affect access to health services and penalize the poor; (ii) user charges have been introduced without

coordination with the BBP; and (iii) the methodology for setting user charges was not transparent, therefore there was a risk that providers could focus on services that produce higher profit margins.<sup>8</sup>

**43. Partial per-capita financing of PHC services was first piloted in the rayons of Dangara and Varzob in 2005–2006.** The subsequent year, joint MOH and MOF Order no.374-65 regulated per-capita financing of PHC and expanded their use in nine rayons. In 2008, the Tajik government expanded PHC per capita financing to 15 rayons and defined some additional aspects of the new system, including: (i) at least 40 percent of a rayon health budget should be allocated to PHC; (ii) division of the budget between ambulatory and inpatient services provided by the rayon health administration; (iii) creation of a managerial position in charge of PHC; and (iv) the factors determining the level of PHC financing, including the health budget of the rayon, population size, and the role played by age and sex adjustment factors. In 2009, additional regulations issued jointly by MOH and MOF separated accounting, human resources and capital assets management of ambulatory facilities from inpatient facilities. In April 2011 per-capita financing of PHC was expanded to all 44 rayons in Khatlon and Sogd oblasts, three rayons of the Region of Republican Subordination (RRS), and one rayon in the Gorno-Badakhshan Autonomous Oblast (GBAO).

**44. Notwithstanding its rapid expansion, per-capita financing so far covers only a small fraction of total health spending.** The introduction of capitation has had a limited impact on the allocation of resources. Rayon-level data from Sogd oblast show that funds allocated according to per-capita financing represent only 4 percent of total administrations' health budget and 6 percent of the PHC budget. Therefore, large geographic variations in public health spending per resident are evident (Figure 11). As PHC providers take on more managerial independence and responsibilities, their capacity to perform new finance and management functions must be strengthened, including general management, financial management, information and monitoring functions and human resources management. The experience of the Swiss Healthcare reform and family medicine support (SINO) project financed by the Swiss Agency for Development and Cooperation (SDC) which supported the introduction and use of business planning method in PHC facilities may offer valuable lessons (Tediosi and Thompson, 2006). In addition, the institutional capacity of the PHC system should be improved, including establishing an effective accounting and expenditure tracking system. Introduction of open enrollment would likely increase competition among PHC facilities and hence the quality of care, because it would create strong incentives for providers to be more responsive to patients. However, additional quality assurance measures may be needed in some rural areas where there are currently not enough providers.

**Figure 11. Health Care Budget in Sogd Oblast by Rayon, 2011**



Source: Project Implementation Unit of the Tajikistan Community-Based Health Project.

**45. Introduction of case-based payments for hospital care is currently in a planning phase.** The current scope of preparatory work includes (i) a patient classification system (PCS) to group hospital cases into mutually

<sup>8</sup> Decree № 600 Assessment Notes; USAID/ZdravPlus Program, September 2009.

exclusive categories that are both clinically cohesive and similar in intensity of resources required (i.e., medically and economically homogeneous); (ii) a hospital cost information system to determine the relative cost of each category that usually represents treatment costs of average patients falling within the specific category; (iii) a system to convert the relative weight of each category into a monetary value, which may be adjusted for structural (e.g. teaching status, region) and case-specific factors (e.g. length of stay, use of high-cost drugs); and (iv) an administration system (information and billing) for hospitals to report their cases and be reimbursed by the purchaser.

**46. The introduction of RBF modality is planned from 2013 as part of the new World Bank operation.** RBF will focus on maternal and child health (MCH) services delivered in a PHC setting in about eight rayons of Sogd and Khatlon oblasts that meet pre-defined criteria in terms of capacity and quality of care. The introduction of RBF is fully compatible with the other health financing reforms currently planned and implemented. In particular the use of RBF would enhance the adoption of full capitation in PHC financing providing additional incentives toward delivery of priority health services. Supply-side RBF that links facility payments to service outputs and quality of priority PHC services, and also links health worker performance bonuses to results achieved by facilities could potentially:

- Create incentives to improve the coverage and quality of priority PHC services.
- Motivate health workers to use their skills and knowledge to achieve results.
- Lower informal payments by increasing payments for health workers while increasing their accountability for results.
- Improve facility functioning by giving managers autonomy to use RBF resources to procure key inputs needed to deliver health services.
- Increase resources for priority PHC services by supplementing funds and in-kind support that facilities receive through the existing mechanisms and sources.
- Increase accountability and transparency of the results and provide a good example of improved governance to the rest of the sector.

**47. Independent verification of results is critical for RBF to be effective.** Linking payments to service volumes and quality will create strong incentives for providers to overstate both services delivered and quality. RBF payments should only be released after outputs have been verified independently each quarter. The verification should include a facility visit to: (i) check records to ensure that the volumes of invoiced services are correct; and (ii) directly measure the technical quality of care of services delivered with a quality checklist. The RBF co-ordination unit at the MOH would act as the purchasing agency. It would authorize the release of appropriate RBF payments to health facilities once it has received quarterly verification results. In addition, more intensive verification activities should be conducted on at least an annual basis, and should include home visits to a sub-sample of RBF clients to assess whether services were received as reported, and to elicit beneficiary feedback.

**48. New financing mechanisms in Sogd oblast.** Government Decree no. 356, issued on November 2, 2011, approved an action plan for implementation of a new financing mechanism based on a comprehensive use of

### Box 1. International Experience with Results-Based-Financing

RBF is defined as “a cash payment or non-monetary transfer made to a national or sub-national government, manager, provider, payer or consumer of health services after predefined results have been attained and verified. Payment is conditional on measurable actions being undertaken” (Musgrove, 2010).

In Argentina the use of performance payments in the health sector resulted in halving of infant mortality rates mostly among the poor and uninsured. In the United Kingdom, the introduction of the P4P scheme for General Practitioners led to improved quality of care for patients with asthma and diabetes, as well as improved coverage for cervical cancer screening especially for the less affluent. Preliminary evidence from a number of developing countries also demonstrates that RBF can improve both coverage and quality of services. Experience from Rwanda—one of the most rigorously evaluated cases—found that RBF increased prenatal care quality, use of skilled delivery and child preventive care services. Giving facilities an equal amount of financial resources without the performance incentives did not achieve the same gain in outcomes in a second group of facilities included in the study. Finally, the Rwanda study also found that impacts were larger for skilled providers implying that both incentives as well as the level of health worker knowledge and skills are important to achieve the desired results.

Source: Result-based financing for health <http://www.rbfhealth.org>.

population-based resource allocation in Sogd oblast. The decree is key step forward effective introduction of per-capita financing in PHC. The new financing mechanisms are expected to be piloted in Sogd oblast in 2014, and an evaluation conducted in 2015 to prepare for a staged nationwide introduction of this mechanism. The new financing mechanisms are expected to produce a number of positive effects, including: (i) improved equity in the allocation of public health funds; (ii) enabling the introduction of more efficient provider payment methods; and (iii) reducing fragmentation in health financing, and improving coordination between rayon, oblast and republican administration that fund overlapping health care networks. Key principles of the new financing mechanism are:

- Minimal impact on revenue mix and fund flow arrangements, at least initially, to ensure smooth implementation and evolution.
- Negotiated commitment to budget neutrality in real terms in order to ensure that efficiency gains achieved are not taken out of the system.
- Built-in mechanisms to equalize funds allocations and move away from historical patterns linked to structures and staffing
- Built-in mechanisms to support implementation of the BBP, such as allowing efficiency gains, especially at the hospital level, and reinvesting them for improved coverage.
- Patient choice of health facilities should be respected and reflected in purchasing mechanisms.
- Proposed mechanism should be realistic and implementable with reasonable demands on staffing, capacity building and technical assistance.

## B. Creating Fiscal Space for Health

49. **The overall prospect for increasing fiscal space for health in Tajikistan is quite positive.** Fiscal space for health refers to the ability of a country to increase public spending for health without jeopardizing the government's long-term financial sustainability (Heller, 2006). This increase may come from five major sources.<sup>9</sup> Table 11 summarizes the different pillars of fiscal space within the specific context of Tajikistan. Currently estimated economic growth could bring an annual increase in public health spending by 6 percent during 2010–2016. Increases in health outlays need to come from re-prioritization of health and rationalizing other parts of the overall government budget. Significant efficiency gains could be also derived within the health sector from rationalization of health delivery system and realization of efficiency gains at the oblast, rayon, and health facility levels in conjunction with expansion of planned health financing reforms. On the other hand, the possibility of mobilizing external resources and generating health sector-specific resources through dedicated taxes or payroll contribution are quite low.

**Table 11.** Fiscal Space for Health-at-a-Glance

Fiscal Space Source	Key Information	Prospects for Fiscal Space
Macroeconomic conditions	Growth rate was 7.5 percent in 2012 and expected to be 7 percent in 2013 and about 6 percent per year afterwards. Therefore, assuming a constant share of government spending, public health spending could increase by the same rate.	Medium
Re-prioritization of health in the government budget	Despite recent increases, health is granted a low priority, representing only 8% of government budget in 2012. Increases in health outlays need to come from rationalizing other parts of the overall government budget. Progress in the implementation of health financing reforms is needed to demonstrate that additional government health spending would be used effectively to improve health outcomes.	Good
Generating health sector-specific resources	“Sin” taxes could be utilized to generate fiscal space earmarked for health, but it is unlikely that they would result in greater resources for health given the fungibility of these contributions. The introduction of social health insurance co-financed by payroll contributions is not considered feasible in the short term. Could result in greater resources for health given the fungibility of these contributions.	Poor
Mobilizing external resources	External dependence already significant in health sector. SWAp arrangement could improve coordination and alignment of external assistance and reduce volatility and fragmentation of external funds, but not considered feasible in the short term.	Poor
Efficiency gains	Significant efficiency gain could derive from the rationalization of the public health delivery system in conjunction with expansion of planned health financing reforms (e.g. provider payment reforms, BBP and pooling of health fund).	Good

<sup>9</sup> Fiscal space for health can be grouped into the following five categories: (i) a conducive macro-fiscal environment such as high levels of economic growth and increases in government revenues that, in turn, could facilitate increases in public spending for health; (ii) a re-prioritization of health within the government budget; (iii) an increase in health sector-specific resources, e.g., through earmarked taxation; (iv) health sector-specific grants and foreign aid; and (v) an increase in the efficiency of existing government health spending (Tandon and Cashin, 2010).

## 6. Conclusions

### 50. The main conclusions of this Note are as follows:

- Despite the progress during the last two decades, health sector outcomes are mixed in Tajikistan and utilization pattern of health services is characterized by significant inequalities.
- Public spending on health is relatively low and heavily skewed towards hospitals; this is in contrast with the international trend towards allocating a larger portion of resources to more cost-effective outpatient care.
- Hospital sector is characterized by oversupply of beds, avoidable inpatient admissions, low occupancy rates and excessive average length of stay with large regional variations of these indicators.
- An increase in public health expenditures since 2000 was largely driven by the expanding wage bill, while other expenditures (except for capital investments) had been compressed.
- Benefit incidence analysis shows the regressive incidence of public health expenditures. The distribution of inpatient care is more pro-rich than the outpatient care.
- The large reliance on OOP produces high incidence of catastrophic spending.
- A number of health financing and organizational reforms have been initiated during the past decade but the scope and the coverage is still limited.
- The overall prospect for increasing fiscal space for health in Tajikistan are positive with the gains coming from the rationalization of both overall budget and the public health delivery system in conjunction with the expansion of planned health financing reforms.



## Annexes

## Annex 1. Comparison of Health Outcomes

<b>Tajikistan and Central Asia and Caucasus Countries</b>						
<b>Country</b>	<b>1971</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>
<i><b>Births attended by skilled health staff (percent of total)</b></i>						
Armenia			99.7	96.8	97.8	99.5
Azerbaijan			97.3	84.1	88	
Georgia			96.6	95.7	98.3	99.9
Kazakhstan			99	98.3	99.4	99.8
Kyrgyz Republic			98.9	98.6	97.9	98.5
Tajikistan			91.95	71.1	83.4	83
Turkmenistan				97.2	99.7	99.5
Uzbekistan				95.6		99.9
Russian Federation		99.2	99.2	99.4	99.7	
<i><b>Immunization, DPT (percent of children ages 12-23 months)</b></i>						
Armenia				93	90	95
Azerbaijan				75	72	74
Georgia				80	84	94
Kazakhstan				97	98	99
Kyrgyz Republic				99	98	96
Tajikistan				83	84	96
Turkmenistan				97	99	97
Uzbekistan				99	99	99
Russian Federation			96	98	97	
<i><b>Incidence of tuberculosis (per 100,000 people)</b></i>						
Armenia			17	61	77	55
Azerbaijan			305	682	334	113
Georgia			280	256	175	125
Kazakhstan			79	351	235	129
Kyrgyz Republic			92	249	208	128
Tajikistan			70	220	200	193
Turkmenistan			101	213	172	74
Uzbekistan			125	286	233	101
Russian Federation		47	127	135	97	
<i><b>Life expectancy at birth, female (years)</b></i>						
Armenia	73.3	73.9	70.8	74.4	76.3	77.1
Azerbaijan	68.7	68.6	69.1	69.9	71.8	73.5
Georgia	71.4	73.3	74.2	75.3	76.2	76.9
Kazakhstan	67.8	71.9	73.1	71.1	71.8	73.3
Kyrgyz Republic	64.9	67.2	72.6	72.4	71.9	73.4
Tajikistan	62.8	64.8	66.1	67.7	69.3	70.6
Turkmenistan	62.3	64.5	66.4	67.9	68.6	69.1
Uzbekistan	66.7	68.9	70.0	70.2	70.5	71.2
Russian Federation	73.8	73.0	74.3	72.0	72.4	74.9

Country	1971	1980	1990	2000	2005	2010
<b>Life expectancy at birth, male (years)</b>						
Armenia	67.2	67.6	64.9	67.8	69.6	70.6
Azerbaijan	61.5	61.0	60.6	63.8	66.2	67.6
Georgia	63.7	65.7	66.5	68.0	69.1	69.9
Kazakhstan	57.4	61.6	63.8	60.2	60.3	63.5
Kyrgyz Republic	56.4	58.7	64.2	64.9	64.2	65.5
Tajikistan	58.0	59.9	59.8	60.0	62.1	64.1
Turkmenistan	55.1	57.3	59.1	60.1	60.5	60.8
Uzbekistan	59.6	61.8	63.6	63.8	64.1	64.9
Russian Federation	63.2	61.4	63.8	59.0	58.9	63.0
<b>Life expectancy at birth, total (years)</b>						
Armenia	70.2	70.7	67.8	71.0	72.9	73.8
Azerbaijan	65.0	64.7	64.7	66.8	68.9	70.5
Georgia	67.5	69.4	70.2	71.6	72.6	73.3
Kazakhstan	62.5	66.6	68.3	65.5	65.9	68.3
Kyrgyz Republic	60.5	62.9	68.3	68.6	68.0	69.4
Tajikistan	60.3	62.2	62.9	63.8	65.6	67.3
Turkmenistan	58.6	60.8	62.7	63.9	64.4	64.9
Uzbekistan	63.1	65.3	66.7	67.0	67.2	68.0
Russian Federation	68.4	67.0	68.9	65.3	65.5	68.8
<b>Maternal mortality ratio (modeled estimate, per 100,000 live births)</b>						
Armenia			46	38	34	30
Azerbaijan			56	65	52	43
Georgia			63	58	61	67
Kazakhstan			92	70	50	51
Kyrgyz Republic			73	82	77	71
Tajikistan			94	120	79	65
Turkmenistan			82	91	76	67
Uzbekistan			59	33	32	28
Russian Federation		74	57	37	34	
<b>Maternal mortality ratio (national estimate, per 100,000 live births)</b>						
Armenia					16	27
Azerbaijan					27.35	24
Georgia					23.4	52
Kazakhstan					70	37
Kyrgyz Republic					104	64
Tajikistan					97	86
Turkmenistan						12
Uzbekistan					28	21
Russian Federation		47.41	39.71	25.39	17	
<b>Mortality rate, adult, female (per 1,000 female adults)</b>						
Armenia				97.9	84.6	78.7
Azerbaijan		127.3	95.8	118.4	103.3	74.2
Georgia		93.8	90.1	76.5	70.8	66.9
Kazakhstan		140.0	136.0	171.0	159.2	147.0
Kyrgyz Republic		130.9	142.9	149.4	143.0	132.4
Tajikistan				147.3	139.4	127.7
Turkmenistan				171.5	165.9	159.0
Uzbekistan		116.1	109.2	143.4	141.7	139.0
Russian Federation	121.3	134.9	116.2	158.5	173.3	139.2

Country	1971	1980	1990	2000	2005	2010
<b>Mortality rate, adult, male (per 1,000 male adults)</b>						
Armenia				200.2	175.9	162.0
Azerbaijan		262.4	216.2	221.1	197.5	181.1
Georgia		210.1	195.3	197.2	184.2	176.9
Kazakhstan		312.1	306.0	410.6	389.3	365.5
Kyrgyz Republic		296.0	290.6	298.5	300.5	303.9
Tajikistan				266.2	247.1	224.3
Turkmenistan				313.0	310.9	303.5
Uzbekistan		219.1	207.5	249.2	246.8	243.1
Russian Federation	313.9	362.4	316.1	443.0	466.8	371.7
<b>Mortality rate, infant (per 1,000 live births)</b>						
Armenia		58.7	40.4	26.3	20.6	15.6
Azerbaijan		85.5	75.4	56.7	47.9	38.5
Georgia			40.2	28.6	23.4	18.3
Kazakhstan	64.0	56.4	48.0	36.5	30.8	25.0
Kyrgyz Republic	106.1	79.8	57.9	40.6	33.6	27.0
Tajikistan	97.1	96.4	89.1	75.5	64.2	52.8
Turkmenistan		98.1	75.2	58.7	51.9	44.6
Uzbekistan		79.3	61.6	51.0	46.6	41.5
Russian Federation	32.8	27.4	23.0	17.8	13.7	9.8
<b>Mortality rate, under-5 (per 1,000 live births)</b>						
Armenia		71.4	47.2	29.8	23.2	17.5
Azerbaijan		109.2	94.5	68.6	56.8	44.7
Georgia			46.9	32.6	26.4	20.5
Kazakhstan	78.6	68.3	57.0	42.3	35.2	28.3
Kyrgyz Republic	138.7	100.9	70.3	47.4	38.7	30.6
Tajikistan	125.7	124.7	114.3	94.7	78.9	63.3
Turkmenistan		127.1	94.3	71.4	62.2	52.5
Uzbekistan		100.2	75.3	61.0	55.1	48.6
Russian Federation	39.7	32.9	27.3	21.3	16.5	11.9

Source: World Development Indicators, 2012.

### Tajikistan and Selected Low and Lower Middle Income countries, 2011

Country Name	GDP pc, current US\$	Life expectancy at birth, total, years	Life expectancy at birth, male, years	Life expectancy at birth, female, years	U5MR	Maternal mortality ratio (national estimate)	Mortality rate, adult, female	Mortality rate, adult, male	Mortality rate, infant	Incidence of TB
Benin	802	56	54	58	106	350	271	161	68	70
Kenya	808	57	56	58	73	360	348	260	48	288
Comoros	810	61	60	62	79	280	238	368	59	34
Timor-Leste	896	62	62	63	54	300	218	108	46	498
Cambodia	897	63	62	64	43	250	217	410	36	424
Chad	918	50	48	51	169	1,100	313	456	97	151
Tajikistan	935	68	64	71	63	65	125	365	53	193
Lesotho	1,106	48	49	47	86	620	610	203	63	632
Senegal	1,119	59	58	60	65	370	235	230	47	136
Pakistan	1,189	65	65	66	72	260	157	387	59	231
Mauritania	1,190	59	57	60	112	510	217	356	76	344

Country Name	GDP pc, current US\$	Life expectancy at birth, total, years	Life expectancy at birth, male, years	Life expectancy at birth, female, years	U5MR	Maternal mortality ratio (national estimate)	Mortality rate, adult, female	Mortality rate, adult, male	Mortality rate, infant	Incidence of TB
Cote d'Ivoire	1,195	55	54	57	115	400	337	330	81	191
Cameroon	1,260	52	51	53	127	690	372	221	79	243
Lao PDR	1,320	67	66	69	42	470	162	..	34	213
Yemen, Rep.	1,361	65	64	67	77	200	182	140	57	44
Vietnam	1,407	75	73	77	22	59	87	165	17	199
Zambia	1,425	49	49	49	83	440		226	53	444
Sudan	1,435	61	60	63	86	730	208	182	57	117
Sao Tome and Principe	1,473	65	63	66	89	70	186	173	58	94
Nigeria	1,502	52	51	53	124	630	359	194	78	118
Solomon Islands	1,517	68	66	69	22	93	157	287	18	103

Source: WDI.

## Annex 2. Public Health Spending by Functional Classification

	2009		2010		2011	
	TJS	percent	TJS	percent	TJS	percent
05.1 Hospitals	155,736,815	54.4	197,000,329	55.7	265,464,015	53.8
05.1.01 Multi-profile hospitals	103,086,334	36.0	134,885,444	38.2	177,969,288	36.1
05.1.02 Specialized hospitals and centers	39,875,842	13.9	48,958,133	13.9	70,853,154	14.4
05.1.03 Maternities	5,872,593	2.1	7,039,498	2.0	8,927,679	1.8
05.1.04 Rehabilitation centers	4,460,759	1.6	3,410,859	1.0	4,387,713	0.9
05.1.05 Hospitals not included in other groups	2,441,287	0.9	2,706,395	0.8	3,326,180	0.7
05.2 Polyclinics	81,887,384	28.6	102,770,858	29.1	145,145,368	29.4
05.2.01 Multi-profile polyclinics	65,679,598	22.9	83,297,436	23.6	120,218,359	24.4
05.2.02 Dispensaries	1,193,148	0.4	1,422,660	0.4	1,828,260	0.4
05.2.03 Dental polyclinics	2,336,237	0.8	3,036,862	0.9	3,855,678	0.8
05.2.04 Health centers / houses of health	12,353,129	4.3	14,836,814	4.2	18,962,967	3.8
05.2.06 Medical services not included in other groups	325,272	0.1	177,086	0.1	280,105	0.1
05.3 Health protection of the population	21,644,743	7.6	27,037,293	7.6	36,207,899	7.3
05.3.01 Blood transfusion stations		0.0	90,503	0.0		0.0
05.3.02 Cholera control stations	160,628	0.1	200,269	0.1	338,340	0.1
05.3.03 Disinfection stations	136,685	0.0	180,539	0.1	264,663	0.1
05.3.04 Immunization stations	2,938,341	1.0	3,280,463	0.9	3,866,917	0.8
05.3.05 Sanitary and epidemiological stations	9,177,444	3.2	11,412,977	3.2	14,170,886	2.9
05.3.06 HIV/AIDS control stations	1,566,835	0.5	2,359,155	0.7	3,542,914	0.7
05.3.07 Ambulance and first aid stations	2,446,924	0.9	3,012,871	0.9	4,876,657	1.0
05.3.08 Intestinal disease control centers	145,331	0.1	186,976	0.1	248,983	0.1
05.3.09 Tropical diseases control centers	964,842	0.3	1,196,851	0.3	1,690,418	0.3
05.3.10 Family medicine centers	1,312,327	0.5	1,563,259	0.4	1,942,228	0.4
05.3.12 Healthcare promotion	1,063,785	0.4	1,112,096	0.3	1,348,780	0.3
05.3.13 Centers for promoting reproductive health	1,022,229	0.4	1,580,053	0.4	2,220,771	0.5
05.3.14 Other health protection institutions	709,372	0.2	861,282	0.2	1,696,342	0.3

	2009		2010		2011	
	TJS	percent	TJS	percent	TJS	percent
05.4 Other activities in health	27,162,277	9.5	26,671,703	7.5	46,532,538	9.4
05.4.01 Administration and oversight in healthcare	12,186,655	4.3	11,844,511	3.4	14,820,907	3.0
05.4.02 Applied and experimental research in health	1,959,986	0.7	672,169	0.2	1,461,833	0.3
05.4.03 Other medical organizations	1,903,002	0.7	178,293	0.1	202,957	0.0
05.4.04 Other health activities	11,112,634	3.9	13,976,730	4.0	30,046,842	6.1
Grand Total	286,431,219	100	353,480,183	100	493,349,820	100

Source: BOOST dataset based on MOF data.

### Annex 3. Public Health Spending by Economic Classification

	2009		2010		2011	
	TJS	percent	TJS	percent	TJS	percent
1 Salary and employer contributions	189,997,098	66.3	247,541,990	70.0	347,699,016	70.5
1.1 Salary	152,548,914	53.3	198,616,408	56.2	279,152,210	56.6
1.2 Employer contributions	37,448,184	13.1	48,925,582	13.8	68,546,806	13.9
2 Expenses for goods and services	73,132,290	25.5	79,618,349	22.5	94,582,878	19.2
2.1 Purchase of goods and services	40,502,998	14.1	43,548,380	12.3	53,062,877	10.8
2.1.01 Office supplies, books and guidelines	1,891,696	0.7	2,166,351	0.6	2,418,851	0.5
2.1.02 Business expenses and inventory	4,050,817	1.4	4,553,309	1.3	5,300,508	1.1
2.1.03 Business trips expenses	977,321	0.3	1,109,825	0.3	1,135,302	0.2
2.1.04 Soft inventory and overalls	2,465,791	0.9	2,692,248	0.8	3,314,569	0.7
2.1.06 Food	9,879,048	3.4	10,397,625	2.9	11,064,025	2.2
2.1.07 Fuel and lubricants	3,369,707	1.2	4,016,111	1.1	4,984,264	1.0
2.1.08 Rental	99,951	0.0	337,286	0.1	39,951	0.0
2.1.09 Medicines and bandaging materials	14,063,119	4.9	15,250,925	4.3	21,103,070	4.3
2.1.10 Payment for separate work and services	1,101,855	0.4	1,061,100	0.3	1,394,963	0.3
2.1.11 Training and re-training of specialists	143,730	0.1	162,633	0.0	155,580	0.0
2.1.12 Representational expenses	66,686	0.0	54,151	0.0	89,488	0.0
2.1.13 Printing and publishing services	51,898	0.0	46,016	0.0	158,389	0.0
2.1.17 Other goods and services	2,341,379	0.82	2,363,815	0.67	2,428,713	0.49
2.2 Payment for communal services	12,232,423	4.3	15,039,795	4.3	16,154,489	3.3
2.2.01 Electricity	4,690,797	1.6	6,020,437	1.7	6,464,259	1.3
2.2.02 Gas	370,694	0.1	181,850	0.1	44,693	0.0
2.2.03 Heat supply	3,523,199	1.2	4,555,815	1.3	5,164,493	1.0
2.2.04 Waste removal	524,708	0.2	509,776	0.1	740,510	0.2
2.2.05 Water	3,106,408	1.1	3,750,703	1.1	3,717,700	0.8
2.2.06 Other communal services	16,617	0.0	21,214	0.0	22,833	0.0
2.3 Maintenance and repair	19,596,220	6.8	20,190,206	5.7	24,522,114	5.0
2.4 Payment for communication services	800,649	0.3	839,968	0.2	843,398	0.2
4 Other current subsidies and transfers	355,363	0.1	421,365	0.1	509,862	0.1
5 Capital investments	22,946,468	8.0	25,898,480	7.3	50,558,063	10.2
Grand Total	286,431,219	100	353,480,183	100	493,349,820	100

Source: BOOST dataset based on MOF data.

## References

- Bobokhojaeva, Z. Mathivet B. Miraliev S. and Egamov F. 2009. *The Basic Benefit Package and Patient Financial Burden at the Hospital Level. Results after 15 months of implementation*. MOH-HPAU, Dushanbe.
- Clements, B. Coady D, Gupta S. (Eds) 2012. *The Economics of Public Health Care Reform in Advanced and Emerging Economies*. International Monetary Fund, Washington, D.C.
- Davis, C. 2010. "Understanding the Legacy: Health Financing Systems in the USSR and Central and Eastern Europe Prior to Transition." In *Implementing Health*, ed. J. Kutzin, C. Cashin, and J. Melitta. Copenhagen: WHO-Europe and European Observatory on Health Systems and Policies.
- Euro Health Group. 2010. *Technical Assistance to the Development and Institutionalization of National Health Accounts (NHA). Final Report*. Euro Health Group, Denmark.
- Government of Tajikistan and United Nations 2010. *Tajikistan Millennium Development Goals: Progress Report 2010*. Government of Tajikistan and United Nations, Dushanbe.
- Heller, P. 2006. The Prospect of Creating 'Fiscal Space' for the Health Sector. *Health Policy and Planning*, 21(2): 75–79
- Khodjamurodov, G. Rechel B. 2010. "Tajikistan: Health System Review." *Health Systems in Transition* 12 (2):1–154.
- Langenbrunner JC, Tandon A. 2012. *Health Financing Systems in East Asia and the Pacific: Early Successes and Current Challenges*. In Clements et al. (Eds), p.147. *The Economics of Public Health Care Reform in Advanced and Emerging Economies*. International Monetary Fund, Washington, D.C.
- Mahon, J. Tediosi T. 2007. *Health SWAP in Tajikistan: Prospects and Suggested Steps*. Swiss Agency for Development and Cooperation.
- Ministry of Health. 2011. *Strategic Rationalization Plan of Health Facilities of the Republic of Tajikistan 2011–2020*. Ministry of Health of Tajikistan, Dushanbe.
- Mirzoev, T. Green A, Newell J. 2010. Health SWAPs and external aid—a case study from Tajikistan. *International Journal of Health Planning and Management*. Vol. 25(3):270–86.
- Musgrove, P. 2010. Financial and Other Rewards for Good Performance or Results: A Guided Tour of Concepts and Terms and a Short Glossary. Available: <http://www.rbhealth.org>
- O'Donnell, O., E. van Doorslaer, A. Wagstaff and M. Lindelow. 2008. *Analyzing health equity using household survey data: a guide to techniques and their implementation*. Washington, D.C: World Bank.
- Rowland, D. Telyukov AV. 1991. "Soviet Health Care from Two Perspectives." *Health Affairs (Millwood)* 10 (3): 71–86.
- Savedoff, W. 2004, "Tax-Based Financing for Health Systems: Options and Experiences," *Evidence and Information for Policy Discussion Paper No. 4*, Geneva: World Health Organization.
- TDHS 2012. Tajikistan Demographic and Health Survey 2012. Preliminary Report. Statistical Agency under the President of the Republic of Tajikistan and MOH, Dushanbe, Tajikistan; Measure DHS and ICF International, Calverton, MD USA.
- Tandon, A. Cashin C. 2010. *Assessing Public Expenditure on Health from a Fiscal Space Perspective*. Health, Nutrition, and Population Discussion Paper. The World Bank, Washington, D.C.
- Tediosi, F, Thompson R. 2006. *Recent developments in health financing reforms in Tajikistan and PHC capitation payments in Varzob and Dangara*. Mission Report Sino № 43.

The World Bank. 1999. *Curbing the Epidemic: Governments and the Economics of Tobacco Control*. The World Bank, Washington, D.C.











